Chapter 7: Discussion

7.1 Introduction

This chapter will provide a comprehensive discussion about the findings that were obtained from the analyses of the primary data, the secondary data, and the pilot data. These findings are examined, compared, contrasted and integrated with prior evidences in the existing literature to answer the research questions stated in Chapter 1. The structure of this chapter is presented in the following sections: first, Section 7.2 presents the observed trends of EC adoption and usage amongst Vietnamese SMEs, then the role of entrepreneurial, technological, organisational, and environmental factors in EC adoption and usage by Vietnamese SMEs is discussed in Section 7.3, and finally, Section 7.4 presents the impact of various factors on the extent of EC usage amongst Vietnamese SMEs and the most unique features of EC practices relating to SMEs that result in different levels of EC adoption.

7.2 EC Adoption and Usage Trends in Vietnamese SMEs

The measurement techniques that were used in the present research study for exploring and understanding EC adoption provide a better explanation of EC adoption, specifically in the context of Vietnamese SMEs. The existing literature illustrates some approaches that can be used to describe the EC adoption phenomenon in different research contexts. Academic scholars view the EC adoption, as a process of implementing a cluster of IT applications, or the EC activities related to Website capacities implemented by businesses, whether or not these applications or activities are integrated into their business context. Based on the available measurement techniques, EC adoption implemented by businesses across the globe has been classified into sequential stages by models such as EC adoption model, the perceived e-readiness model, and the Rao model (APEC, 1999; Daniel et al., 2002; Molla & Licker, 2004; Rao et al., 2003; VECITA, 2013). However, the evidence gathered from the pilot study in Chapter 4 showed that Vietnamese SMEs employ EC-based activities in trial stages prior to the actual intensive usage. As a result, the extent of these activities reflects the actual usage of EC activities in Vietnamese SMEs, rather than one event of adoption or non-adoption of EC oriented to attaining specific benefits. In addition, the outcomes obtained from the pilot study provided a comprehensive understanding of EC adoption specific to Vietnamese SMEs.

The measurement of EC activities undertaken in this study had some advantages over the existing measurement techniques in the literature. Based on the nature of EC adoption measurement, a PCA revealed the most common patterns of EC activities amongst Vietnamese SMEs. This approach also had another advantage, as it allowed each individual SME to be compared with others. The analysis performed using a random sample of 207 SMEs revealed the outcomes of all EC adoption activities that were calculated for each of the SMEs included within the sample. The patterns of EC adoption highlight the fact that Vietnamese SMEs conduct online business in three stages: advertising, transacting, and intensive. The existing evidence from the literature suggests that these stages align from simple to complicated EC activities undertaken by Vietnamese SMEs. The analysis of the results obtained from the open-ended questions included in Chapter 5 also confirmed the alignment of Vietnamese SMEs EC activities to the aforementioned three stages. However, the findings suggested that the availability of limited finance and lack of skilled staff are actually preventing many Vietnamese SMEs from moving from the current EC stage to a more advanced stage to conduct complex EC activities. Consequently, the measurement approach used in the present study has been useful in classifying EC adoption patterns in Vietnamese SMEs. Also, the application of this specific type of measurement approach provided answers to the research questions stated in Chapter 1 relating to effective classification of Vietnamese SMEs' EC adoption activities and the extent of EC activities. Finally, the measurement of EC adoption was based on the actual behaviour of the ownermanagers of SMEs and how they envisage EC activities to be a strategic priority for their business. Therefore, the classification of Vietnamese SMEs on the basis of the stages of adoption of EC activities and extent of adoption is promising and worth exploring, especially in a research context like Vietnam, where there is lack of prior evidence of EC adoption.

In the *advertising stage*, Vietnamese SMEs launch a static Website merely for promotional purposes. For instance, the Website developed by Vietnamese SMEs in this advertising stage is designed to perform very basic functions like publishing information about the company and the product and/or service offerings. This finding is consistent with the existing literature, whereby Websites developed for EC activities, that is, the static Website stage (APEC, 1999; Molla & Licker, 2004; VECITA, 2013), represent the mere presence of the Website (Rao et al., 2003) that focuses only on advertising business to prospective customers.

The *transacting stage* that is commonly described in the existing literature is different in the case of Vietnamese SMEs on the basis of the specific functionalities carried out in this stage. The data analysis showed that SMEs fitting into the transacting stage employ more complicated functions, such as accepting electronic orders and providing complementary payment methods (e.g. online and offline payments). Also, SMEs falling into this particular category communicate with existing and prospective customers through social networking sites like Facebook, Twitter and Instagram, with a key emphasis on obtaining detailed feedback from customers in regard to their EC engagement. This stage demonstrates the main characteristics of the communicator stage, Web presence stage, and transaction stage in the model proposed by Daniel et al. (2002), or the interactive Web and order Web stages in VECITA's model (2013). This stage also aligns with the interactive and transactive Website stages discussed in the model of Molla and Licker (2004).

The last stage, the *intensive stage*, differs drastically from the previous two stages in Vietnamese SMEs. In this stage, SMEs decide to hire staff extensively for conducting all EC activities, and focus on integrating connections between the front-office data and back-office data located within their companies. This stage is similar to the transaction Web stage (APEC, 1999; VECITA, 2013), and the enterprise integration stage (Molla & Licker, 2004; Rao et al., 2003) as evident in some of the models proposed in the existing literature.

In understanding the unique nature of SMEs, some key characteristics of SMEs appears to influence their level of activities and engagement with respect to EC usage. For example, larger enterprises appear to be more innovative than smaller SMEs. This is consistent with the findings of Huynh et al. (2012). In addition, the existing evidence discussed in Chapter 2 shows that an increase in firm size will result in better resources and attract management abilities for conducting EC activities, and thus is a predictor of innovative enterprises. However, the most advanced EC applications are not necessarily found to be significant in aligning with the enterprise size, which implies that Vietnamese SMEs are still reluctant to invest in intensive EC activities. The results from this study also confirm that there is no significant evidence for Vietnamese SMEs adopting the transacting stage or the intensive stage in regard to the benefits gained from EC activities (Section 6.7.5). The evidence presented in Chapter 3 showed that SMEs focus on short-term benefits rather than long-term growth, as their strategic priority is to get a stable income. Therefore, it would appear that the Vietnamese SME owner-managers believe that

further investment in EC activities will not significantly affect their existing business models.

The general observation from the data obtained suggests that EC adoption is early in its development in Vietnam. This observation is in line with the existing research findings as noted in Chapter 3, and the analytical results presented in Chapter 6 also confirmed the observation. In other words, there is no significant evidence amongst young and experienced enterprises that conducting EC activities may be regarded as extremely beneficial by SMEs existing and prospective clients.

Different ownership types of SMEs impact on the extent of innovativeness in regard to conducting EC activities. This is consistent with the findings obtained from the existing research (Li et al., 2010; Rand & Tarp, 2012). The analysis revealed that proprietary limited enterprises adopt EC sooner than private enterprises, as they commonly tend to use online applications as an effective marketing tool and focus on delivering products and services to customers through online selling channels. However, the impact of the actual practices related to management ability, strategic business orientation, and innovation intent on conducting EC activities amongst these enterprises lacks sufficient evidence in the Vietnamese research context. According to the existing Enterprise Law in Vietnam (issued 2005), sections 143 and 141 note that an individual usually owns a private enterprise and is responsible for conducting all of the business activities. The proprietary limited enterprises can be owned by many individuals, as stated in sections 38, 39, 63, and 64. Therefore, private enterprises are less likely to take risks in terms of undertaking EC initiatives than proprietary limited enterprises. These differences identified in the present study in terms of firm size, firm type and stage of EC adoption are unique to the Vietnamese SME context and have not been explored by the existing research. The resulting variation in the resource base in each category of enterprise may impact on the B2C EC activity. The outcomes of hypotheses testing showing the relationships between EC maturity and EC activities to various factors identified through an extensive literature review are reported in Table 7.1.

Table 7.1: Outcomes of hypotheses tests

| Hypotheses | Results |
|---|---------------|
| H_{00} : EC maturity can be classified into a set of sequential stages in Vietnamese SMEs. | Supported |
| H_{01} : EC maturity will be positively correlated to EC benefits in Vietnamese SMEs. | Not supported |
| H ₁ : Enterprises with low capabilities perceive the relative advantage dimension of EC differently to enterprises with higher capabilities. | Supported |
| H₂: Enterprises with low capabilities perceive the compatibility dimension of EC differently to enterprises with higher capabilities. | Supported |
| H ₃ : Complexity is perceived as a barrier to EC development. | Not supported |
| H ₄ : Enterprises with lower capabilities perceive the complexity dimension of EC differently to enterprises with higher capabilities. | Supported |
| H ₅ : Enterprises with lower capabilities perceive the trialability dimension of EC differently to enterprises with higher capabilities. | Not supported |
| H ₆ : Enterprises with lower capabilities perceive the observability dimension of EC differently to enterprises with higher capabilities. | Supported |
| H₇: Enterprises with lower capabilities perceive the perceived risk dimension of EC differently to enterprises with higher capabilities. | Supported |
| H ₈ : Firm size positively influences EC maturity in Vietnamese SMEs. | Supported |
| H ₂ : Management support is a potential barrier to EC development in Vietnamese SMEs. | Supported |
| H ₁₀ : Enterprise resource availability will positively influence EC maturity in Vietnamese SMEs. | Not supported |
| H ₁₁ : Availability and support of technology vendors and consultants positively affect EC maturity in Vietnamese SMEs. | Not supported |
| H ₁₂ : Government support positively influences EC maturity in Vietnamese SMEs. | Not supported |
| H ₁₃ : Lack of support from associations is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H ₁₄ : Competition pressure positively influences the EC maturity in Vietnamese SMEs. | Not supported |
| H ₁₅ : Customers' online trust is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H_{16} : Credit card usage is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H_{17} : Poor ICT infrastructure is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H ₁₈ : Poor financial infrastructure is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H Good Internet connections positively influence the EC maturity in | Not supported |

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Table 7.1: Continued.

| Hypotheses | Results |
|---|---------------|
| H ₂₀ : Poor logistics systems are a potential barrier to EC development in Vietnamese SMEs. | Supported |
| H ₂₁ : A weak legal system is a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H ₂₂ : Costs of EC solution are a potential barrier to EC development in Vietnamese SMEs. | Not supported |
| H ₂₃ : The lack of availability of IS/IT staff is a potential barrier to EC development in Vietnamese SMEs. | Supported |
| H_{24} : Good communication channels positively influence the EC maturity in Vietnamese SMEs. | Not supported |
| H_{C0} : E-commerce success is influenced by a set of critical success factors specific to Vietnamese SMEs. | Supported |
| H _{C1} : A good EC strategy will positively influence the EC success in Vietnamese SMEs. | Supported |
| H_{C2} : A clear plan positively influences the EC success in Vietnamese SMEs. | Not supported |
| H _{C3} : Top management support positively influences EC success in Vietnamese SMEs. | Supported |
| H_{C4} : Well-prepared HR positively influences the EC success in Vietnamese SMEs. | Not supported |
| H _{C5} : A good training program positively influences the EC success in Vietnamese SMEs. | Not supported |
| H _{C6} : Offering value-added products positively influences EC success in Vietnamese SMEs. | Not supported |
| H_{C7} : Offering a great value added service positively influences the EC success in Vietnamese SMEs. | Supported |
| H_{C8} : Good marketing techniques positively influence the EC success in Vietnamese SMEs. | Supported |
| H _{C9} : Stable, secure, and easy to use systems positively influence the EC success in Vietnamese SME. | Supported |

7.3 Entrepreneurial-Technology-Organisation-Environment Activities in B2C Adoption

This section will discuss the relevance of various factors that impact on B2C EC adoption of SMEs in Vietnam. Table 7.2 summaries the results of running models. The factors are examined based on various contexts, such as those pertaining to the factors affecting adoption, including barriers and CSFs. The discussion also focuses on the salient features of the enterprises, including the size, legal status, and experience in EC business. These factors will then be reconciled with the existing literature.

| Factors | CSFs | | | Deter | minants/Ba | arriers | Extending | Barrier |
|---|---------|---------|---------|---------|------------|---------|---------------|------------------|
| | Stage 1 | Stage 2 | Stage 3 | Stage 1 | Stage 2 | Stage 3 | EC activities | to EC activities |
| Entrepreneurial Factors | | | | | | | | |
| Top management support | | х | х | | 0 | (-) | (-) | Х |
| Technological Factors | | | | | | | | |
| Co-operation of staff (TF2) | | | | 0 | | (+) | 0 | |
| Incompatibility with traditional business (TF4) | | | | | | | | Х |
| Loss of important information (TF5) | | | | | (+) | (-) | 0 | Х |
| Compatibility with existing technologies (TF12) | | | | 0 | | 0 | 0 | |
| Perceived relative advantages (TF15; TF17) | | | | | 0 | 0 | 0 | |
| Trialability (TF20) | | | | | | | | Х |
| Providing better customer value (TF21) | | | | | (+) | | | |
| Restrictions from doing online business (TF23) | | | | | | | | Х |
| Observability of benefits (TF24, TF25) | | | | 0 | (+) | | (+) | |
| Good navigation (TF26) | | | | | 0 | | | |
| Availability of Website (TF31) | Х | Х | х | (-) | | | 0 | |
| Organisational Factors | | | | | | | | |
| Adequate finance (OF1) | | | | (-) | 0 | | (-) | |
| Computer systems (OF3) | | | | (-) | (+) | | (+) | |
| Knowledge and skill of staff (OF5) | | | | | 0 | (-) | (-) | |
| Accessibility to computer (OF9) | | х | х | | | | | |
| Good strategy (OF13) | Х | х | х | | | | | |
| Openness culture (OF16) | Х | х | х | | | | | |
| Clear metrics (OF21) | | | | | (-) | | | |
| Product characteristics (OF22) | | | | | | | | Х |
| Variety of product offering (OF26) | | | | | 0 | | | |

Table 7.2: Summary of results from different empirical models

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Table 7.2: Continued.

| | CSFs | | | Deteri | ninants/Ba | arriers | Extending | Barriers |
|--|---------|---------|---------|---------|------------|---------|---------------|------------------|
| Factors | Stage 1 | Stage 2 | Stage 3 | Stage 1 | Stage 2 | Stage 3 | EC activities | to EC activities |
| Information about their products (OF24) | Х | Х | Х | | (+) | (-) | (-) | |
| Good advertising campaigns (OF29) | | Х | х | | | | | |
| Integrating online and offline marketing practices (OF30) | | Х | Х | | | | | |
| Focusing on online practises (OF31) | Х | X | Х | | | | | |
| Building brand image (OF32) | Х | Х | х | | | | | |
| Building customer trust (OF33) | Х | Х | Х | | | | | |
| Providing good post-purchase services (OF37) | Х | Х | Х | | 0 | 0 | 0 | |
| Customer relation management (OF40) | | | | (+) | | 0 | (-) | |
| Integrated EC strategies (OF43) | | | | | 0 | | 0 | |
| Flexible system (OF44) | | | | | 0 | | 0 | |
| Environmental Factors | | | | | | | | |
| Legal framework (EnF1, EnF2) | | | | (-) | | (+) | (+) | |
| Government support (EnF4, EnF5) | | | | (+) | (-) | | (-) | Х |
| Online customer trust (EnF10) | | | | | | | 0 | Х |
| Credit card usage (EnF11) | | | | | | | | Х |
| Competitive environment (EnF13) | | | | 0 | 0 | | 0 | |
| Costs for EC solutions (EnF16) | | | | | | (+) | (+) | Х |
| Cost for training (EnF17) | | | | | | | | Х |
| Costs for maintain (EnF18) | | | | | | | | Х |

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Table 7.2: Continued.

| | CSFs | | | Determinants/Barriers | | | Extending | Barriers |
|--|---------|---------|---------|------------------------------|---------|---------|---------------|------------------|
| Factors | Stage 1 | Stage 2 | Stage 3 | Stage 1 | Stage 2 | Stage 3 | EC activities | to EC activities |
| Telecommunication infrastructure (EnF19) | | | | | | | | X |
| Infrastructure of commercial and financial organisations (EnF20) | | | | | | | | Х |
| Level of logistic systems (EnF22) | | | | | | (-) | (-) | X |
| Availability of outside experts (EnF23) | | | | | (+) | 0 | 0 | |
| Support from technology vendors (EnF26) | | | | (-) | 0 | | 0 | |
| Communication channel (D10) | | | | (+) | | | | |

"x" indicates significant CSFs at various stages;
(-)" indicates a given factor is found to have a negative effect on the respective stages;
(+)" indicates a given factor is found to have a positive effect on the respective stages;
"0" indicates a given factor is found to have no significant effect on the respective stages.

7.3.1 Entrepreneurial Factors

Prior evidence presented in Chapter 3 showed that poor business conditions and lack of appropriate management skills are leading to low commitment of Vietnamese SMEs to adopt and use EC for various business activities. Existing studies revealed that top management support for EC adoption in SMEs is widely accepted as a predictor in different countries. This factor has notably shown a positive impact on EC adoption in the geographical contexts of Brunei (Seyal & Rahman, 2003), Korea (Jeon et al., 2006), Thailand (Wongpinunwatana & Lertwongsatien, 2003), New Zealand (Al-Qirim, 2005), the United Kingdom (Daniel et al., 2002), and Malaysia (Shah Alam, Ali, & Mohd. Jani, 2011). However, in the present study, top management influence is identified to be negatively related to EC development in Vietnamese SMEs. This finding is consistent with the observations of Lowry, Singh, and Scollary (1999) in Australian SMEs, and was confirmed in the results obtained from the base model, Model 2, Model 3 (Section 6.9.2), and the descriptive analysis (Section 6.8.3). On the other hand, this result contradicts the study of Huynh et al. (2012), which was conducted in the Vietnamese context. This variation is attributed to the difference in sourcing the SME sample with EC adoption. It implies that the top managers in Vietnamese SMEs lack commitment and integration abilities when they develop and expand EC activities. In particular, top managers aligning EC activities to their businesses in the transacting stage view EC as a complementary tool and as an incentive (Table 6.8). However, in the multivariate context, when other aspects are considered simultaneously, commitment of top management was found to be a barrier in the intensive stage. This implies that for a small business, a simple adoption stage is perceived by the top managers to be beneficial for running simple tasks on a day-to-day basis via a static Website. Thus, it is evident that top managers only cared a little about running online business activities in their enterprises.

In order to obtain further explanation, barriers that align with each stage of EC adoption were examined. The results from Model 2 showed that clear metrics to measure EC activities and lack of government support are specifically found to be problematic in the transacting stage. Similarly, the intensive stage faces with barriers related to lack of interest by businesses to provide updates about product and service offerings, pitfalls in logistics systems, and lack of skilled staff. These results indicated that barriers relating to the business environment act as negative forces for employing EC business, followed by lack of appropriate management skills to run the EC system smoothly. The turbulent business

environment and lack of adequate management skills in SMEs in Vietnam were also identified to hinder EC adoption and usage, as identified and elicited in Chapter 3 and Chapter 5.

Top management support is a predictor for identifying the benefits associated with EC activities. The non-parametric correlation analysis in Chapter 6 revealed that this factor has a strong impact at the transacting and intensive stages of EC adoption by Vietnamese SMEs. This finding is in line with studies conducted by Daniel et al. (2002), Horsti et al. (2005), and Lee and Cata (2005).

Therefore, from these observations gathered in the present study, it can be concluded that top management support in SMEs is vital for EC adoption and further EC usage in complex online business activities that will guarantee the real benefits from EC activities. Almost all perceived barriers to EC activities were not found to be significant to the decision of SMEs to extend EC activities. Moreover, Vietnamese SME councils, business charters and government bodies need to focus on developing special strategic frameworks for SMEs to navigate through the ever-changing turbulent and competitive business environment. Similarly, the ongoing problem of lack of skilled staff with sufficient management skills, abilities and competencies needs to be addressed so that there can be greater commitment from top managers towards embracing intensive EC activities in SMEs.

7.3.2 Technological Factors

Technological factors have been found to be promising predictors that impact on EC activities due to the nature of EC in SMEs. However, the empirical analysis of the survey data and the data obtained from the open-ended questions revealed that these factors are of less concern in carrying out EC-based business activities in Vietnamese SMEs than organisational and environmental factors. For example, the results obtained from the open-ended questions showed that 13.8% of comments from the respondents related to barriers, and 19.4% of comments from the respondents related to critical success factors that impact on Vietnamese SMEs' EC activities (Tables 5.4 and 5.5). Also, the findings from the survey data analysis confirmed that only accessibility of the Website (TF31) is identified as a CSF; however, trialability (TF20), risk of loss of important information (TF5), incompatibility with traditional business were found to be obstacles for SMEs in Vietnam engaging in EC business (Tables 6.9 and 6.11). The results of the logistic regression-based models were also in line with this observation, as only *the observability of success*

dimension was found to be significant when owners of SME decide to move from simple stages to complicated stages (Table 6.15), which indicates that EC adoption and implementation in Vietnamese SMEs is affected by organisational and environmental factors rather than technological factors. Last but not least, SMEs in the transacting stage are more active in activities related to technological themes. They are seen as confident about *loss of important information, superior customer values*, and *achieve better benefits* when adopting EC. Only *Website presence* is marked as a barrier in the advertising stage, while *collaboration of staff* was found to foster EC activities in intensive stage. A detailed explanation pertaining to variability in Vietnamese SMEs in the adoption and usage of EC for business purposes on the basis of technological factors is provided below.

It is evident that the *cooperation of staff* (TF2) factor guarantees benefits from the adoption and usage of EC activities (Lee & Cata, 2005). This dimension has also been identified in the existing research to show a positive impact on EC maturity, specifically in the context of SMEs (Morais et al., 2012). The results of data analysis in the present study, however, were only partly consistent with these observations obtained from the extant research studies. For instance, the co-operation of staff factor is not statistically significant to EC benefits and EC adoption, as the impact exerted by this factor was found to be related more to the intensive stage than other stages. The key decision makers in Vietnamese SMEs will employ extensively EC activities, including hiring more staff for EC business, setting up the data exchange between their Websites and local data within their enterprises if they can master the process collaboration of IT and business staff. As a consequence, they have to ensure secure data transfer from front-office data in their Website and back-office data in their local storage (Table 6.15 and 6.8). Additionally, this dimension is also seen to act as a disincentive to EC adoption amongst Vietnamese SMEs.

Perceived relative advantage (TF15, TF17) related dimensions have been identified as important predictors in fostering EC activities. The results obtained from ANOVA analyses in the present study showed that SMEs in the transacting stage perceived better benefits being gained from EC activities than SMEs in the intensive stage. However, this analytical data in the multivariate context revealed that it is not significant and is not aligned to the extent of EC activities in Vietnamese SMEs. This finding was also identified to be inconsistent with the findings obtained from existing studies in the literature (Seyal & Rahman, 2003; Stylianou, Robbins, & Jackson, 2003). The studies conducted by Jeon et al. (2006), Huynh et al. (2012) have also confirmed the same findings. Similarly, the *compatibility with existing technologies* (TF12) dimension was found to have a positive impact on EC maturity. This dimension has been found in the existing studies to have a positive influence in various research contexts (Al-Qirim, 2004; Huynh et al., 2012; Seyal & Rahman, 2003; Wongpinunwatana & Lertwongsatien, 2003). Therefore, the positive contribution of the factor compatibility with existing technologies confirms the findings drawn from the existing research. However, employing upgraded and complex B2C EC was identified to pose significant challenges to the existing business activities amongst Vietnamese SMEs (TF4).

Interestingly, *availability of Website* (TF31) is obvious for conducting online business successfully (Lee & Cata, 2005). The outcome of a non-parametric correlation analysis in the survey data confirmed this result in the present study (Table 6.9). However, in the multivariate context, the result obtained from the sequential logistic model showed non-significance. This result means that the normal day-to-day EC-based business activities are not taken into account when owners of SMEs decide to extend their EC activities (Table 6.15). This finding implies that the focus of top managers on making the Website available to other businesses, and to existing and prospective customers in practise, is identified to be a potential barrier to Vietnamese SMEs particularly, in the advertising stage.

Observability of benefits (TF24, 25) is identified to be a predictor of EC adoption and usage in DOI Theory. This result has been further confirmed in many research studies in regard to EC adoption (Chong & Pervan, 2007; Seyal & Rahman, 2003). The result obtained in the present study is consistent with the results from the past research. For example, the base model determined *observability of benefits* as a facilitator in extending EC activities. The results from the model 2 and the one-way ANOVA also revealed that more SMEs in the transacting stage see implementation of more successful EC practises to be of benefit than SMEs in other stages.

The *trialability* factor (TF20) was hypothesised to have an impact on Vietnamese SMEs EC adoption. It is, however, not significant to EC maturity. In addition, the descriptive analysis showed that most SMEs do not have an option to try out EC activities on a limited basis (Table 6.11). The results obtained from the analysis also informed that adopting EC is facing *restrictions* (TF4) and *incompatibility with traditional business* models (TF23) amongst Vietnamese SMEs.

7.3.3 Organisational Factors

Organisational factors are related to existing resources and activities within an enterprise that are used to achieve business goals (Bouwman, van den Hooff, van de Wijngaert, & van Dijk, 2005). The analysis of the survey data highlighted the fact that the emergence of obstacles in the organisational theme is preventing SMEs from expanding EC activities to their day-to-day businesses. This observation was evident in the base model in the present study. For example, the *adequate finance* (OF1), *skilled staff* (OF5), *frequency* updating information about products and services on the Website (OF24), and customer relation management (OF40) factors included within the organisational factors were identified to pose severe challenges when SMEs develop EC business and when SMEs also fail to meet the demand for these activities from clients and customers. Only the *computer* systems (OF3) factor was found to be significant, thus satisfying the requirement for conducting B2C EC business. Finally, the characteristics of products (OF22) factor was identified to be a constant barrier irrespective of the EC maturity level of SMEs in Vietnam. The content analysis and prior qualitative evidence presented indicated that a majority of the Vietnamese customers rely heavily on see-and-touch behaviour and lack trust in products and services offered through online channels.

On the other hand, CSFs identified in the existing literature also aligned with those identified in the present study and dominated the organisational theme. This finding was confirmed with the results obtained through the content analysis and the correlation analysis conducted in the present research study. For instance, 52% of comments gathered from the respondents from the open-ended questions, and 71% of the CSFs in the correlation analysis of the primary data felling into the organisational category, which means that barriers to EC adoption relating to the organisational category are outweighing opportunities for success and growth in Vietnamese SMEs. In addition, most CSFs were not found to be critical for Vietnamese SMEs especially during the EC adoption stage. In other words, key factors for success are not widely publicised in terms of the extent use of EC activities in case of Vietnamese SMEs. Moreover, experienced SMEs are obviously more active in embracing organisational-based CSFs than the small-sized start-ups in Vietnam. The medium-sized enterprises are also evidently more successful in employing organisational CSFs than small-sized enterprises, except in the implementation of the *good advertising campaign* dimension (OF29) (Table 6.10).

The *finance* to run B2C EC business dimension (OF1) was identified as an obstacle for developing an Internet-based business. It was evident in the base model that available

finance is a large determinant for running EC business activities for SMEs operating in Vietnam. This finding is inconsistent with findings from the existing literature, as observed in studies conducted by Jeon et al. (2006); Al-Qirim (2005); and Alam, Khatibi, Ahmad, and Ismail (2007). Furthermore, SMEs in the advertising stage confirmed lack of appropriate finance to run EC activities. In a mono-variate context, only SMEs in the transacting stage were observed to be more satisfied with the allocation of financial resources to conduct EC-based business activities. The descriptive analysis revealed that costs relating to *EC solutions* (EnF16), *training staff* (EnF17), and *setting up and maintaining* EC (EnF18) activities were the top barriers preventing SMEs from engaging in EC-based activities. The results obtained from the one-way ANOVA and Model 3 proved that only SMEs in the intensive stage are coping better with the dimension of *cost of EC solutions* (EnF16). The results obtained from the base model also revealed that this factor is a key determinant in expanding EC-based business activities in Vietnamese SMEs.

Computer systems (OF3) integrated with WAN and LAN type of networks are found to be significant facilitators in developing EC enabled business activities in SMEs operating in Vietnam. This finding is in line with research conducted by Molla and Licker (2005b); and Huynh et al. (2012), and aligns with the research background section presented in Chapter 2. The data analysis presented in Table 6.15 revealed that the dimension of *computer systems* is a barrier to SMEs in the advertising stage, while it is a significant determinant for SMEs in the transacting stage in Vietnam. The ANOVA analysis also showed that only SMEs in the transacting stage are better equipped by computer systems for conducting their EC business activities. Therefore, SMEs in the advertising stage do not have well-equipped computer systems to develop their EC businesses to the more advanced stages.

As stated in Chapter 2, EC adoption in the existing literature has been identified as an advanced innovation that requires *knowledge and skill of staff* (OF5) to conduct enhanced online business activities. This dimension has also been identified as a determinant for enterprises to extend EC business in various research contexts (To & Ngai, 2006; Wongpinunwatana & Lertwongsatien, 2003), and in a Vietnamese study related to the intention to adopt EC conducted by Huynh et al. (2012). This dimension, however, has been identified as a barrier in the present study, particularly when Vietnamese SMEs actually expand their EC business as confirmed by the analytical results from the survey data and the open-ended survey question. For example, *skills of staff* are not met as a requirement for SMEs in the intensive stage of EC adoption. In other words, SMEs that enable *staff to access computers* (OF9) to conduct online business are found to be gaining significant benefits in the transacting and intensive stages of EC adoption (Table 6.9). This practice evidently helps staff to be equipped with the necessary skills and knowledge to conduct online business on a continued and frequent basis (Molla & Licker, 2005a). Consequently, it ensures SMEs taking advantage of EC adoption and implementation.

Evidence presented in Chapter 5 highlighted the fact that a *good strategy* (OF13) is essential to run EC-based business activities that strategically fit the SME culture in Vietnam. Strategy-led EC implementation was found to help SMEs significantly in improving their performance and reducing costs associated with running an online business in all adoption stages, while *integrating EC strategy into the whole enterprise* (OF43) was found to be non-significant in Vietnamese SMEs, irrespective of the stage of EC adoption (Table 6.9). The practice of embedding a good strategy was found to vary between SMEs in the transacting, advertising, and intensive stages of EC adoption. This finding was also found to be non-significant when comparing the merit of embracing a good strategy as a critical business activity with other business practises in a multivariate context (Table 6.19). The explanation can be associated with the top management lack of strategic vision in SMEs, as stated in Chapter 3.

The availability of a *clear plan and metrics* (OF21) in SMEs was identified as a promising CSF in Chapter 4. However, in the present research study it was evident that the presence of a clear plan and metrics dimension was identified to have a non-significant impact on outcomes of online business. This dimension was, therefore, found to be a barrier, specifically for SMEs in the transacting stage. The possible explanation is that in the transacting stage, SMEs start offering online sales channels but they do not have enough staff to conduct and monitor all of the EC-based business activities, unlike SMEs in the intensive stage. As a consequence, SMEs may use staff to complement both online and offline activities, thus making it difficult for SMEs to embrace clear metrics for all of their business activities.

The EC innovation enables enterprises to present and modify *information about their products and services* (OF24) effectively. The evidence presented in Chapter 5 showed that this particular dimension can be identified as a CSF in EC business. The correlation analysis results obtained from the primary data were in line with this evidence. For example, an active EC-based business practice was found to be significant to business outcomes for SMEs in all adoption stages. This dimension, however, was identified as an obstacle amongst organisational factors, thus limiting the extension of EC-based business activities. The findings from Model 3 and Model 2 revealed that SMEs in the transacting stage are more proactive in presenting information about their products and services than SMEs in the other stages, specifically SMEs in the intensive stage of EC adoption.

It is very clear from the existing literature that marketing practices are important for conducting a successful EC business. These include dimensions such as *providing good advertising campaigns* (OF29), *integrating online and offline marketing practices* (OF30), *focusing on online practises* (OF31), *building brand image* (OF32), *building customer trust* (OF33), and *providing good post-purchase services* (OF37). These findings were confirmed in the results obtained from the correlation of analysis. In addition, these practices are less visible in Vietnamese SMEs. Only the dimension of post-purchase service was found to be significant for SMEs in the transacting and intensive stages of EC adoption in the monovariate context. The stated hypothesis that high development in EC will have more benefits than the low ones is rejected, with the explanation that only small benefits increase in profits occurred following the implementation of EC-based activities. Therefore, focusing only on some key factors was further identified to be critical for Vietnamese SMEs, rather than embracing all of the dimensions of the organisational factors.

7.3.4 Environmental Factors

In a competitive business environment like Vietnam, although SMEs face many barriers, SMEs also have more B2C business opportunities for expansion and growth. The reason is that most large enterprises focus on the government contracts so they are not competing in the same market. Large enterprises are also not as efficient at B2C EC as SMEs. Therefore, B2C EC offers more opportunities for SMEs in the Vietnamese context. Furthermore, appropriate investment in some key business practices will bring more advantages to the enterprises themselves, and thus to the society as a whole.

As stated in Chapter 4, this research aims to explore barriers and CSFs in EC adoption amongst Vietnamese SMEs. The descriptive analysis revealed that most barriers come from the business environment, while CSFs to SMEs' EC adoption are not particularly identified. This result partly supports the results obtained from the open-ended questions, as barriers were strongly identified in the respondents' verbatim comments. In contrast, the percentage of comments about CSFs only contributed about 25.2% of the total comments provided. This finding indicates that CSFs related to the organisational category stated in respondents' comments were related to the presence of idealistic conditions to facilitate EC adoption rather than providing actual benefits in the existing practices. In

regard to the domination of obstacles relating to the environment theme, it means that the forces outside the enterprises, such as the external macro environment, pose several difficulties to Vietnamese SMEs in conducting EC-based business activities.

The *legal framework* factor is believed to play a vital role in developing EC adoption in the extant research (EnF1, EnF2). The current findings showed that the legal framework dimension is positively related to the extension of EC activities. This is in agreement with the research findings obtained by Molla and Licker (2005b). The common perceptions of SMEs in the transacting and intensive stages about privacy law to protect customers and law enforcement were found to be more influential than those of SMEs in the advertising stage. In the multivariate context, the analysis in the base model showed that a significant increase in this factor corresponds to EC maturity. It is interesting to note that the results obtained from Model 1 revealed that the legal framework factor is a barrier for SMEs with the lowest EC adoption, whereas findings from Model 3 proved that this dimension is a determinant for SMEs in the intensive stage of EC adoption. These results indicate that SMEs in the transacting and intensive stages of EC adoption understand the legal framework dimension better than SMEs in the advertising stage of EC adoption. Moreover, these findings suggest that SMEs in the lowest stage lack sufficient awareness about the legal framework, which is essential for conducting EC activities.

As mentioned in Chapter 2, Vietnamese SMEs in general need considerable help to run businesses because of a formidable business environment. Therefore, support from third parties such as the government, universities and business charters will ensure the development of EC in SMEs. This factor was found to exert a positive influence on EC adoption of SMEs in many research contexts (Huynh et al., 2012; Jeon et al., 2006; Seyal, Awais, Shamail, & Abbas, 2004). The current study found that the factor help from the government (EnF4, EnF5) for SMEs when they extend EC activities ineffective, thus contradicting the existing findings. For example, the ANOVA analysis revealed that training programs, finance and advice from the government are considered to lack quality, particularly by SMEs in the transacting stage. In the multivariate context, these findings were also confirmed, as evident from the results obtained from the application of the base model, Model 1, and Model 2. Moreover, the descriptive analysis showed that finance and advice obtained from the government are seen as barriers to enterprises' EC activities. In addition, the younger enterprises are found to attract sufficient government advice and finance in comparison to the older enterprises. These findings were in line with findings presented in the research background section in Chapter 2, which outlined the lack of skills

of assistant officers and poor quality training support programs from the Vietnamese Government. It can thus be suggested that there needs to be an improvement in the quality of the existing support programs from the Vietnamese government. This will ensure that EC adoption strategies are viewed favourably by SMEs.

The online customer trust (EnF10) and credit card usage (EnF11) dimensions were identified to be common barriers amongst Vietnamese SMEs. The descriptive analysis showed that approximately 90% and 93% of answers retrieved from the pilot study were based on customer trust and credit card usage, respectively, in an online environment. The data obtained from the survey indicated that these factors are problematic in Vietnamese SMEs' B2C EC practices. These findings are then matched to the evidence presented in Chapter 2 and Chapter 3. Only the dimension customer trust was seen to be significant amongst SMEs in the intensive and advertising stages of EC adoption. This is in accordance with the recent study conducted in Vietnam (Huynh et al., 2012) and other white paper reports from the Vietnamese government (VECITA, 2011, 2012, 2013). This result implies that in order to solve the situation related to the dimension of consumer trust, the Vietnamese Government may need to focus on obtaining enforcements and endorsements from key financial organisations in order to improve customer awareness and knowledge about SMEs' EC adoption practices. This dimension, however, was not found to be significant when comparing to other dimensions included under the environmental factors in the base model, Model 1, and Model 2.

A *competitive environment* (EnF13) is widely accepted to be an important dimension that plays a critical role in leading EC adoption in SMEs. This is evident in the existing literature in many research contexts, such as Thailand (Wongpinunwatana & Lertwongsatien, 2003), Australia (Chong & Pervan, 2007), New Zealand (Al-Qirim, 2005), and Hong Kong (Gunasekaran & Ngai, 2005). The findings obtained from the present research partly support the existing evidence. For instance, the one-way ANOVA indicated that competitive forces with SMEs in the transacting stage of EC adoption are stronger than SMEs in the advertising and intensive stages of EC adoption. SMEs in the transacting stage are known to lack skilled staff to conduct B2C EC activities and were identified to encounter poor data connection facilities from the Website to the local data to support online transaction processes. The SMEs in this stage of EC adoption may perceive stronger competitive forces when conducting their online business transactions than SMEs in the other stages of EC adoption.

The *telecommunication infrastructure readiness* (EnF19) dimension has been identified as an essential tool for conducting online business. As stated in Chapter 2 and Chapter 3, it is widely evident that this dimension is a barrier in most of the developing country contexts. The findings obtained from the present research are consistent with the findings retrieved from the existing literature. This dimension is a constant obstacle to enterprises' EC maturity levels. In addition, private enterprises were found to be significantly more satisfied than proprietary enterprises with the integration of the telecommunication infrastructure into their online business activities. The possible explanation aligns with the differences exerted in business practices, such as the availability of resources among these SMEs. However, there is no existing evidence in the research context showing that different practices amongst two legal groups of SMEs enhance their EC business activities. Therefore, further research work needs to be carried out to understand this fact.

Similarly, the *infrastructure of commercial and financial organisations* (EnF20) dimension plays a critical role in supporting online payments for online business activities. As presented in Chapter 2, prior evidence in developing countries and in other research contexts has noted that this dimension is a barrier to enterprises' EC activities. The findings obtained from the present study support the existing evidence. The findings from the descriptive analysis revealed that this dimension is a barrier that prevents EC activities by Vietnamese SMEs. Furthermore, this barrier was also identified to pose critical challenges to enterprises' EC maturity levels. This finding suggests that improving the level of infrastructure of commercial and financial organisations is needed in Vietnam in order to support SMEs' adoption of EC for business activities in Vietnam. The one-way ANOVA also showed that proprietary limited and joint stock enterprises can deal with this barrier better than private enterprises.

A unique characteristic of the B2C EC model is ensuring the employment of an effective logistics framework (EnF22). However, the literature syntheses presented in Chapter 2 and Chapter 3 showed that EC adoption of SMEs identifies a low level of *logistics systems* in developing countries, and in Vietnamese business is a significant barrier. In this study, logistics systems are identified as a barrier to adopting EC for conducting business amongst SMEs, and this finding is in line with prior evidence cited from the existing research. For instance, 84% of SMEs in the survey data claimed that this dimension is an obstacle that prevents their EC activities. Furthermore, the one-way ANOVA and Model 3 showed that those SMEs in the intensive stage of EC adoption

identified the low level of logistics systems to be more problematic for conducting EC business activities than SMEs in the advertising and transacting stages. In the multivariate context, this factor was confirmed in the base model to be a barrier to the expansion of EC activities. Medium-sized enterprises seemed to manage the existing logistics channels better than small-sized and micro-sized enterprises. Larger enterprises have a better ability to deal with the low level of logistic systems in the current research context than the smaller ones due to better resource availability. Therefore, in order to boost the development of EC in Vietnamese SMEs, there needs to be significant improvements in the existing logistics systems to cater to the specific needs of SMEs involved in EC-based business activities.

The *availability of outside experts* (EnF23) dimension contributes to EC adoption in the existing literature, as presented in Chapter 2 and Chapter 3. This dimension has been identified to be a predictor of EC development (Wilson et al., 2008). In the present study, the results of the one-way ANOVA and Model 2 showed that SMEs in the intensive stage of EC adoption have greater difficulty in finding a suitable expert than SMEs in the other stages of EC adoption. This dimension, however, was not found to be significant in the multivariate analysis. According to evidence presented in Chapter 2, there is a lack of skilled experts and staff in the Vietnamese business environment, thus creating problems for SMEs in the intensive stage that have a high level of requirement for experts and skilled staff to conduct EC activities. In other words, this finding indicates that the availability of experts on EC activities does not meet the requirements of Vietnamese SMEs when they adopt EC at the intensive stage.

The *support from technology vendors* (EnF26) dimension has also been identified as an important determinant for EC adoption. There is evidence from the existing literature that supports this notion (Caldeira & Ward, 2003; Thong, 2001) and the pilot study results presented in Chapter 4 supported this statement. The results of the one-way ANOVA in the current study further confirmed this finding. SMEs in the transacting and intensive stages of EC adoption receive more help from technology vendors than SMEs in the advertising stage of EC adoption, due to the complexity associated with the level of online business operations of SMEs. However, this factor was not found to be significant in the multivariate context for extending EC activities. In addition, the results obtained from Model 1 showed that SMEs in the advertising stage of EC adoption perceive lack of technology vendors to be critical. This finding has important implications for policy makers and other change agents when helping SMEs in various stages of EC adoption by way of developing and prioritising their EC activities. Moreover, one interesting result from Model 1 was that the *communication channel* (D10) dimension acts a determinant for SMEs in the advertising stage of EC adoption. This means that SMEs in the advertising stage of EC adoption are finding more information sources to support their EC activities. In other words, SMEs in this stage lack quality information to conduct online business transactions, so they tend to seek as much information as possible from many available outlets to reduce their uncertainty when developing B2C EC business activities.

7.4 Nature of SME EC Activities and EC Stages

Looking closely at the factors and various dimensions that determine EC maturity or the sequential order of the EC stages of adoption, it is evident that these factors and dimensions vary as SMEs move from a simple stage to a more complicated stage of EC adoption. For instance, the factors identified to be relevant for SMEs in the advertising stage of EC adoption may differ to those that are critical to SMEs moving to the transacting and intensive stages of EC adoption. Some key characteristics that encourage a SME to extend their EC activities were presented in the base model. The most important dimension that brings out the change from simple to complicated EC activities relates to the SMEs' ability to observe benefits in their existing practice and in conducting other advanced EC practices. However, results of the one-way ANOVA and the Model 2 showed that only SMEs in the transacting stage of EC adoption are found to have higher positive attitudes to this factor.

Other contributing dimensions identified in the present research are the cost of EC solutions, the legal framework, and computer system. The ANOVA showed that only SMEs in the intensive stage of EC adoption have adequate financial resources to afford the cost of EC solutions. In addition, the ANOVA revealed that SMEs in the advertising stage of EC adoption have a negative orientation towards the prevailing legal system. In contrast, Model 3 indicated that SMEs in the intensive stage of EC adoption are more confident about the existing legal framework supporting online business than SMEs in the other stages of EC adoption. Finally, based on the results of Model 1 and Model 2, computer systems with WAN and LAN networking capabilities were found to adequately integrate EC business for SMEs in the transacting stage of EC adoption, whereas these facilities were identified to be problematic particularly for SMEs in the advertising stage of EC adoption.

On the other hand, many emerging barriers are preventing SMEs from moving from a simple stage to a more complicated stage of EC adoption. The most common barriers revealed in the base model included *frequency updating of information of products/services* on the Website, employing effective customer relationship management, adequate finance for EC activities, top management supports, the existing level of logistic systems, skilled staff, and government support. The one-way ANOVA, Model 2, and Model 3 showed that updating information about products/services is significant for SMEs in the transacting stage of EC adoption. Even more, SMEs in the intensive stage of EC adoption identified publicising information related to product/service offerings to be more problematic when conducting EC activities than SMEs in the other stages. This may relate to an integration process of the data from the front-office database to the back-office database that is critical for SMEs in this stage. Another possible reason is that SMEs in this stage lack sufficient awareness of this practice. Interestingly, this factor was identified as a CSF for conducting EC activities in all adoption stages, thus SMEs in the intensive stage are missing an opportunity for success. In short, this factor ensures encouragement for SMEs to move from the simple stage to a more complicated stage, and guarantees success for SMEs when adopting online business. It means that the factor is a barrier to SMEs' extending their EC activities. If SMEs focus on overcoming this barrier, they will receive successful outcomes in terms of developing EC activities and gaining benefits from the Internet business.

Employing *effective customer relationship management* was identified as the most significant barrier to developing EC activities. Only SMEs in the advertising stage seem to be satisfied with this practice. This finding was confirmed in the results obtained from Model 1, and the ANOVA. These findings raise the possibility that customer relationship management practices are more complicated when SMEs are in the higher stages of EC adoption.

Lack of *adequate finance* to carry out EC-based activities was also identified as a significant barrier by Vietnamese SMEs. However, Model 1 and the results retrieved from the ANOVA confirmed that SMEs in the advertising stage of EC adoption identified lack of finance for conducting EC business activities as a barrier. This finding suggests a need for the Vietnamese government to develop a comprehensive framework to retrieve information related to the available financial support for these SMEs to expand EC business activities. Findings such as *top management support, the level of logistics systems,* and *lack of skilled staff* were identified to be obstacles to developing EC activities amongst Vietnamese SMEs in the present research study. In a mono-variate context, managers of SMEs in the intensive stage of EC adoption have experienced lower support for conducting EC activities than those in the other stages of EC adoption. The final barrier to extending EC activities is

attributed to the availability of government support for SMEs to run B2C EC activities. In summary, the results obtained from Model 1 and Model 2 indicated that the support of government only met the requirements of SMEs in the lowest EC development, that is, the advertising stage of EC adoption. These findings indicate that the government support requirements for conducting EC-based business activities in SMEs in the intensive stage of EC adoption are not being met.

In addition, the findings obtained from this research confirm the presence of certain unique features in Vietnamese SMEs that influence the conduction of B2C EC in each stage of adoption. The results of Model 1, Model 2, and Model 3 revealed these characteristics of SMEs in each level of EC adoption, and they are presented below.

SMEs in the advertising stage employ the Internet-based applications for only promotional purposes. These SMEs use the Website to present basic information about their company and products/services offerings. With simple functions of their Website, they are satisfied with *customer relationship* practices and existing *support from the government*. In addition, these SMEs look for as many *information sources* as possible to determine their B2C EC. It means that these SMEs are short sighted and lack quality information to identify the potential of their online business. This is partly supported due to lack of *help from technology vendors*, as well as lack of sufficient understanding of the existing *online legal system*. Moreover, their Websites are *unstable* and their *computer systems* are inadequate for the existing B2C activities.

SMEs in the transacting stage employ EC more as a distribution channel, and as a sales channel for promotional purposes. Besides conducting basic functions as outlined in the previous stage, SMEs in the transacting stage mainly focus on selling products and/or services offerings online. For instance, SMEs in the transacting stage accept orders from customers via their Website, and allow for various payment methods to support the transaction processes, including online and offline transactions. SMEs also communicate with customers through their Websites, e-mail, and social networks in order to solve and deal with customer complaints and feedback. As a result, SMEs in the transacting stage of EC adoption perceive *customer value* from EC activities to be higher than SMEs in other stages of EC adoption, find *easy successful practices* from other businesses and their existing practices, and find *suitable experts* for their online business. SMEs in this stage may handle these functions of EC applications easily, thus the degree of complexity of EC adoption tend to engage more frequently in *updating information about their products and*

services than others. SMEs in this stage are also more confident in *keeping important information* when running the Internet business than SMEs in other stages. Moreover, the *computer systems* are seen to be adequately integrated for their existing business practices. However, SMEs in the transacting stage of EC adoption face obstacles such as setting *clear metrics* and *inappropriate support from government* in conducting their day-to-day EC business activities.

In the most complicated stage, the intensive stage, SMEs adopt EC with supporting staff, integrated data systems, and some of the other practices outlined in the previous stages of EC adoption. SMEs in this stage are seen to have a comprehensive understanding of *online laws*, they can easily afford the *cost of EC solutions*, and there is integrated *cooperation amongst business and IT staff*. On the other hand, these SMEs face barriers with *frequent updating of information about products and services*, lack of *support from senior managers*, employment of *logistics processes* for conducting EC activities in an effective manner, *keeping important information* when conducting online business, and *necessary skills for staff* to conduct the Internet business.

7.5 Summary

This chapter has provided a discussion of the findings generated from the primary data, the secondary data, and the data obtained from the pilot study. This chapter analysed the data obtained from the qualitative and quantitative results chapters and aligned the results with the extent of EC adoption and usage in Vietnamese SMEs. The findings discussed were compared and contrasted with the findings from the past research in the existing literature. The most common trends of EC adoption in Vietnamese SMEs were explored in the present study. The impact of various factors that influence EC adoption, EC practices and EC usage were critically discussed. Finally, factors that determine whether SMEs move from a simple stage of EC adoption to more complicated stages of EC adoption were explained within the context of Vietnamese SMEs. The unique characteristics of Vietnamese SMEs that contribute to or hinder the adoption and usage of EC activities and EC practices were critically reviewed.

In summary, B2C EC adoption in Vietnam is still in its infancy. Vietnamese SMEs employ EC innovations in three sequential stages for their business purposes: promotion, extra transaction channels, and extensive employment of the EC system. Some characteristics attributed to SMEs in each stage were revealed. In addition, some factors were identified as barriers amongst SMEs when conducting EC activities: cost of running the EC business, triability of online activities, infrastructure of telecommunication and financial organisations, logistics systems. However, only some factors have an impact on the decision of owners of SMEs to upgrade their current online business from simple to advanced activities: *observability of successful practices, cost of EC solutions, good understanding of the legal system,* and *well-equipped computer systems.* On the other hand, when Vietnamese SMEs extend their online business they are facing obstacles of *frequent updating of information of products/services on their Websites, encouragement from top managers, adequate finance* to run the Internet business, appropriate *skilled staff* for conducting EC activities, employing appropriate *customer relationship practices,* effective *support from the government,* and appropriate *logistic systems* to conduct the EC business.

In regard to CSFs, SMEs have significant barriers when they run an Internet business, due to the low level of online customers, and the trialability of doing the business because of lack of vision amongst owners of SMEs. Therefore, effective marketing practices and provision of added value customer services are very important aspects for improving the trust of customers and encouraging them to participate in online transactions. The CSFs are online and offline marketing practices, building brand image, building customer trust, and frequent updating of information about products/services, availability of Website, and focusing on return and refund policy. Not surprisingly, commitment to providing constant support from owners of SMEs guarantees the success of the B2C EC. In addition, there are some actions that help top managers to have a clearer vision about EC business practices and ensure the success of EC projects. They can be seen in setting up a strategy-led EC implementation, and openness culture within enterprises to improve communication amongst staff, and providing adequate computer systems for all members within the enterprise, thus improving coordination among staff members and improving their skills in doing online business, and overcoming a barrier relating to lack of availability of skilled staff in the Vietnamese business.

The next chapter will provide a brief conclusion and implications of the current study to policy makers, businesses, and related stakeholders in B2C EC diffusion, adoption and usage on a continued basis. Enhancements for future research in EC adoption and usage are outlined.

Chapter 8: Conclusion, Implications and Future Research Enhancements

8.1 Introduction

The overarching aim of this study is to determine the patterns of B2C EC adoption amongst SMEs in a frontier country with Vietnam as the main research context. The purpose of this chapter is to provide a summary of the results obtained from this research, highlighting the important implications of the findings with regard to the theory, practice, methodology, and other relevant stakeholders. Suggested areas for future enhancements related to understanding EC adoption and the extent of B2C EC usage research are also provided.

8.2 Overview of the Study

There is strong evidence of the trend of increasing adoption of EC in SMEs, both in developed and developing countries. The main aim of this study is to provide an evaluation of B2C EC adoption in SMEs in Vietnam. The aim is to understand the factors that facilitate and enhance the adoption of EC activities. Likewise, the study also explores the barriers that inhibit B2C adoption in a frontier country like Vietnam.

The study used data collected from both secondary and primary sources. In order to establish the benchmark for analysis, a content analysis approach was used to examine the relevant factors that might potentially have an impact on the Vietnamese SMEs from a theoretical perspective. This step was achieved using an extensive review of the literature. A pilot-based survey was implemented to inform the development of a structured questionnaire used in the collection of the primary data. The results from the review of the literature and the pilot study were reconciled to obtain qualitative indicators of the factors affecting the adoption of B2C. Accordingly, primary data were collected using a structured questionnaire as a survey of randomly selected SMEs. The data collected from the survey were used to provide further empirical evidence with respect to the nature and patterns of B2C adoption. More specifically, regression-based models were estimated to establish these associations, thereby providing evidence to support or complement the findings in the existing literature.

The thesis was structured into eight chapters. Chapter 1 provided a brief contextual introduction to the study, while Chapter 2 provided a discussion of the relevant conceptual and theoretical frameworks underpinning this study. In Chapter 3, an overview of the SMEs in Vietnam was presented, which provided the backdrop for the empirical analysis. The

approaches implemented in the study were presented in Chapter 4. The results of the qualitative analysis were presented in Chapter 5 and analyses using quantitative models were provided in Chapter 6. In Chapter 7, all results were integrated and reconciled, with particular emphasis on the discussion of the results, their relevance and connections with the study hypotheses. The focus of Chapter 8 is to present relevant conclusions, outline the theoretical, methodological and practical implications of the present research, and present avenues for further research.

In the succeeding section, the summary of the key findings of this study is provided and the answers obtained from this study to pertinent research questions stated in Chapter 1 are highlighted.

8.3 Summary of Findings

In Chapter 7, the key findings of this study were summarised and reconciled based on the theoretical and empirical evidence. Here, the outcomes are summarised in accordance with the stated research questions outlined in Chapter 1.

Is the extent of adoption of EC in Vietnamese enterprises measurable?

This thesis was designed to explore the patterns of EC adoption amongst Vietnamese SMEs. In order to fulfil this goal, the matrix of 12 EC practices were analysed. The extent of each practice as evident in the existing literature was checked for validity in the research context. The extent of each B2C EC practice was measured based on the evidence from the pilot study, whereby each activity was set against metrics such as the enterprise's intention of *not using*, *having plans in the future*, *running in a trial*, *running after a trial of one year*, and *running after a trial of two years*.

Following the operationalisation of the dependent variables, the PCA analysis was employed to investigate the most common trends of using these B2C EC activities amongst Vietnamese SMEs. The dependent variables are the states of adoption relating to EC applications in B2C activities: employing a static Website, using a Website as a tool for promotional purposes, using Web applications to communicate with customers and to receive feedbacks from customers, accepting orders on the Website, accepting offline and online payments, employing data exchange to support transaction processes, and employing staff extensively for online business. The analysis revealed that SMEs employ these EC activities in order to satisfy three important purposes: promotion of the enterprise's business activities, offering an additional sales channel for business and individual customers, and as a measure to offer intensive employment where SMEs hire staff for conducting all EC-based activities and to install integration of data exchange to support transaction processes. Three indicators were developed to measure EC activities: *advertising, transacting,* and *intensive* indexes. By comparing these activities in the existing literature, the maturity index thus was created to assess these EC activities in a given SME.

Can Vietnamese SMEs be segmented effectively on the basis of their EC adoption practices and on the extent of EC maturity dimensions?

As stated above, the results obtained from the PCA analysis were compared and examined with evidence from the existing literature. An EC maturity index was created to compare the level of EC development in each SME. As a sequential process, EC adoption of SMEs was classified effectively into three stages: the advertising, transacting, and intensive stages of development. For example, it was identified through this research study that SMEs that employ Internet applications in the *advertising* stage have a static Website with very basic functions and present information about their product/service offerings and the enterprise's business activities mainly for promotional purposes to their customers. In the *transaction* stage, SMEs opt to embrace various Internet applications to conduct online transactions in addition to the normal promotional functions carried out as part of the advertising stage. SMEs falling into the transacting stage usually focus on accepting orders from business and individual customers by way of complementing online and offline payment methods. Additionally, SMEs in the transacting stage focus on communicating with customers via their Websites and embrace social networks to receive relevant feedback and deal with customer complaints. SMEs in the last stage of development, the intensive stage, focus mainly on to hiring more staff and installing the integration of data exchange systems to support all B2C EC activities, apart from meeting the functions of the previous stages. In this sample, there were 40.6% of SMEs in the advertising stage, 27.5% of SMEs in the transacting stage, and 31.9% of SMEs in the intensive stage.

The results of this analysis are consistent with the theory and existing literature, particularly in relation to the unique characteristics of SMEs at different stages of adoption. *Are there notable differences and/or similarities in the implementation of B2C EC amongst various enterprises in Vietnam?*

The analysis showed that medium-sized enterprises are more innovative than the small and micro-sized enterprises. Similarly, SMEs with proprietary limited legal status are found to adopt EC sooner than SMEs falling in the private ownership status. However, these findings seemed to be relevant in SMEs adopting Website applications for

promotional purposes and in SMEs presenting online sales channels. As running an EC business is new for SMEs operating in Vietnam, there seems to be a lack of sufficient evidence to draw on the similarities and/or differences between young and old enterprises. *What are the most important factors and barriers in implementing B2C EC in Vietnam?*

The descriptive analysis showed that the most common barriers that prevent Vietnamese SMEs from implementing B2C EC are costs relating to running EC systems, trialability, level of usage of credit cards, level of customer trust, product characteristics, inadequate infrastructure of commercial and financial organisations, level of logistics development, risk due to loss of important information, restrictions of doing online business, incompatibility with tradition business, finance and consultancy from government, top management commitment, and telecommunication infrastructure.

The base model employed in this research revealed that *the cost of EC solution*, *legal framework*, and *computer systems* are the major determinants for encouraging SMEs to develop their EC activities. In contrast, there exist certain obstacles that prevent EC expansion amongst Vietnamese SMEs: *frequency of updating information of products/services* on the Website, employing effective *customer relationship management*, *adequate finance* for EC activities, *top management support*, the existing level of *logistics systems*, *staff competence*, and *government support*.

Results from regression-based models showed that SMEs in a particular stage of development possess unique characteristics on the basis of the EC functions that they carry out on a day-to-day basis. For instance, SMEs in the advertising stage seem to be satisfied with basic EC-based functions such as *customer relationship* practices and existing *support* from the government. However, these SMEs face obstacles such as lack of qualified *information* for expansion of EC activities, inappropriate *help from technology vendors*, difficulty in understanding the existing online laws, unstable Websites, and inadequate computer systems for conducting B2C EC business activities. SMEs in the transacting stage opined that EC activities bring higher customer value for their business. Additionally, these SMEs are known to be more active than SMEs in the previous stage of development in terms of observability of benefits from EC activities, finding suitable experts, frequent updating of information on the Website, confidence to keep important information, and suitable computer systems. However, these SMEs in the transacting stage were identified to have problems when setting up *clear metrics* for conducting EC-based business activities, and complain of inappropriate *help from the government* to run an online business. Finally, SMEs in the intensive stage have positive attitudes about *online laws*, adequate finance to

afford *EC solutions*, and good *collaboration of staff* to conduct EC-based business activities. However, these SMEs in the intensive stage also face obstacles to their Internet-based business through *frequent updating of information* about products and services, receiving adequate *support from top management*, level of the existing *logistics systems*, storage of *important information*, and *lack of skilled staff* at times.

The correlation analysis of the survey data revealed CSFs for EC activities in Vietnamese SMEs. These critical factors include unlimited *access to the Website, strategyled EC implementation*, an *openness culture* within enterprises, *updating of information* about products on the Website, focus on *online practice, building brand image, building customer trust, return and refund policy, top management commitment, top management vision, open-mindedness* to innovation, *accessibility to computer systems, good advertising campaigns*, and integrating *online and offline marketing practices*.

How do CSFs and barriers differ between SMEs in the Vietnamese economy with different ownership, enterprise size, and age?

The analysis showed that medium-sized enterprises are more active in focusing on embracing CSFs than small and micro-sized enterprises. The key differences include *top managers' vision, open-mindedness to innovation, accessibility of Website, strategy-led EC implementation, integration of online and offline marketing practises, and return and refund policy arrangement.* Only providing a *good advertising campaign* is effective as part of the EC initiatives in micro-sized enterprises. The medium-sized enterprises seem to perceive less barriers to EC adoption and usage than small-sized enterprises due to *restrictions of doing online business, level of logistics development,* and *publicity of online product characteristics.*

Clearly, experienced enterprises are more active than young enterprises in terms of employing CSFs for conducting EC-based activities, as the t-test revealed significant observations amongst these groups. These practices are seen to be aligned with *top management commitment, vision, updating of information about products, integration of online and offline marketing practices, accessibility to computer systems, building brand image, customer trust,* and *return and refund policies.* Similarly, younger enterprises are seen to be faced with unique barriers in terms of conducting EC-based activities, including *top management commitment, incompatibility with traditional business models,* and *financial and consulting support from government.*

In addition, top managers of SMEs with private ownership status display a stronger *commitment* and *open-mindedness to innovation* than those of SMEs with proprietary

limited ownership. In regard to barriers, private enterprises can overcome inadequate *development of telecommunication infrastructure* more easily than proprietary limited enterprises. In contrast, private enterprises face more difficulties than proprietary limited and joint stock enterprises.

8.4 Theoretical Contribution

The conceptual framework of this thesis was developed based on the integration of the DOI Theory, the TOE framework, and EC maturity models. Following that, the impact of various factors on EC adoption and diffusion in Vietnamese SMEs was examined based on the contextualisation of evidence from the existing literature and from the primary data. In addition, each of the identified EC practices was measured differently on the basis of the extent of EC adoption for business activities in SMEs, rather than the usual dichotomous measurement of EC adoption (e.g. to adopt or not adopt), which is criticised in the existing literature as too simplistic to determine EC adoption. As a result, the conceptual framework developed for this research study has provided a holistic application to measure the extent of EC adoption and diffusion processes within the context of Vietnamese SMEs, thus contributing significantly to the theory building and to the existing literature.

The existing frameworks that are vastly used in the diffusion and adoption of EC studies focused heavily on exploring the individual customer's adoption and/or non-adoption of EC. The integrated model developed in this study provides a suitable framework to measure the extent of adoption of EC by Vietnamese SMEs, as this specific context has been overlooked by researchers in the existing literature. Similarly the focus of this study in exploring the extent of EC adoption by Vietnamese SMEs allows businesses to understand the distinctive effect caused by the identified critical success factors and barriers to the SMEs overall business performance. Therefore, the results and findings from this study can be translated to the context of other frontier countries in order to understand the SMEs overall adoption of EC and subsequent impact on business performance.

8.4.1 Characteristics of EC Adoption in Vietnamese SMEs

A majority of the existing studies focused on the binary coding of the EC adoption measure (e.g. Adoption or not adoption). This research study focused on the extension of this simplistic measurement technique by way of identifying the stages of EC development in Vietnamese SMEs on the basis of the extent of conducting EC-based business activities. The extent of EC-based business activities was determined on the basis of the actual behaviour of Vietnamese SMEs. By doing this, the matrix of adoption reflected more detail of the EC adoption phenomenon amongst SMEs. In addition, the PCA analysis enabled the researcher to investigate the patterns of an EC adoption matrix in Vietnamese SMEs.

8.4.2 Adoption Factors

This research study identified three EC adoption stages, and revealed factors that impact on the extent of EC maturity, apart from the identification of unique features associated with each stage. For instance, SMEs opt to conduct EC-based activities in sequential stages, namely, the advertising, transacting, and intensive stages, several reasons, as explained in Chapter 7. The findings are slightly different to the proposed stage model in chapter 4, as they indicate that SMEs will employ a cluster of simple EC activities due to their abilities to conduct EC-based activities at the same time, rather than adopting EC applications step-by-step as suggested in the literature synthesis. Also, this thesis has enriched the findings relevant to EC adoption by selecting a frontier country like Vietnam as a research context. Vietnam was identified as an understudied area by the researcher through extensive literature syntheses.

8.4.3 CSFs to EC Activities

The current study also highlighted the fact that CSFs in B2C EC are distinguished from the determinants/barriers that influence EC maturity as opposed to the findings from the existing literature. For instance, most of the CSFs identified in the present study were related to employing effective marketing practices, but these factors do not play a role in influencing the decision of SMEs to move from simple stages to complicated stages of EC development.

In addition, the current research confirmed the relative role played by each factor in EC maturity. These factors were therefore identified to be barriers or determinants on the basis of the context in which these factors were considered to be relevant, and were further examined.

8.4.4 Approaches to EC Adoption

The present study has provided a research approach to assess B2C EC adoption in SMEs. The measurement of EC adoption was based on the actual behaviour of SMEs in the existing research context, thus it is flexible and can be applied to other research contexts. In addition, the patterns of EC adoption were determined through the employment of PCA analysis, which enables comparison of EC development at the individual SME level and collective SME levels.

8.4.5 Practical Contribution

The current study has depicted the EC adoption amongst Vietnamese SMEs; identified significant barriers/determinants that impact on the extent of EC activities, and revealed critical success factors for conducting EC-based business activities. These findings clearly offer significant benefits to various stakeholders involved in the process of EC adoption and EC diffusion in Vietnamese SMEs, including owner-managers of SMEs, policy makers, technology vendors, business experts, small business councils and government officials.

The research provides a framework with which to assess the level of EC adoption in each SME and associated factors that impact on EC activities and outcomes. Appropriate assessment of the relationship of EC adoption and associated factors are essential for predicting potential adopters and associated benefits to Vietnamese SMEs.

Investigations from the present study shed light on the identification of some key factors that ensure EC-based business success amongst Vietnamese SMEs. For example, marketing practices such as the introduction of online and offline techniques, and good strategy in the implementation of the EC-based business are identified to be the major CSFs that motivate SMEs to engage in conducting EC-based business activities.

The results obtained from this research suggest several courses of actions for top managers of SMEs. The findings from the present study help SME owner-managers to compare their existing EC development to their competitors. Also, these findings provide a strategic tool for assessing their present readiness to adopt potential EC activities and identify key factors to guarantee beneficial outcomes for their businesses. The key factors are marketing practices, post-purchase services, facilitating conditions within their enterprises like an *openness culture, accessibility to computer systems for all staff*, and the *unlimited availability of their Website*. These practices will enrich a strategic EC plan for SME owner-managers who intend to conduct online business. As a result, this will significantly reduce the risk for Internet projects within the SME context in Vietnam and help them to gain confidence and enjoy the benefits from engaging in EC-based business activities.

In addition, the current findings offer useful insights and guidelines for policy makers, which will help them to plan and grant further support and thus guarantee the success of SMEs' EC adoption in Vietnam. In other words, the findings obtained from the current study will help government agents such as VECITA and VCCI to create effective strategies to boost EC adoption. For example, the policy makers can provide appropriate

incentives for programs such as supporting finance, opening up markets where skilled staff can meet potential SMEs, or training vocational organisations or universities who are able to have contacts with online business start-up enterprises. The policy makers also need to improve logistics systems to ensure the development of B2C EC usage in Vietnam. Furthermore, the agents should design adequate programs that suit SMEs' needs and characteristics as opposed to the 'one size fits all' approach for determining the level and extent of EC development, due to different barriers associated with each stage. Consequently, SMEs need to be open to receiving adequate help to expand their existing EC related business activities. For example, providing suitable finance and clear guidelines to online laws is appropriate information to help SMEs, particularly in the advertising stage. Furthermore, by removing these obstacles, it will encourage owners of SMEs to extend and develop EC in their existing business online, as stated in Chapter 7. In other words, this will invigorate B2C EC activities for Vietnamese SMEs. Relevant policies and approaches to address these obstacles will need to consider the different SMEs characteristics, including legal status, and enterprise age, size and stage of EC development.

Similarly, the findings in this study benefit change agents such as technology vendors and experts. For example, providing clear, consistent and detailed information is seen to be important for encouraging SMEs in the advertising stage to move to the higher stages of EC development. Furthermore, clear metrics to integrate EC solutions into all business activities is identified as a key barrier of SMEs in the transacting stage, and updating information on products/services is a major obstacle of SMEs in the intensive stage. Therefore, change agents should provide technical advice for these SMEs in these stages so that they can to conduct Internet business in an effective manner.

The current research revealed that SMEs who are active in some marketing practices and customer services are more successful. They are engaged in *online, and offline marketing practices, integration of these techniques, good advertising campaigns, building brand image* and *customer trust, updating of information of products/services on Websites*, ensuring *availability of Websites*, and *focusing on the return and refund policy*. It implies that Vietnamese customers with a low level of trust for conducting online transactions and usage of online payment tools will be encouraged to become involved in B2C EC sales using these practices. In other words, good marketing techniques and services to customers will improve the willingness of customers to undertake online transactions.

8.5 Methodological Contribution

The current study provided information on some advantages of the existing methodologies described in the literature. The qualitative research conducted by reviewing the theoretical evidence to explain EC adoption and diffusion, in combination with the meta-analysis of the existing studies, will provide a strong theoretical research framework for studies focusing on B2C EC, especially in determining the CSFs in EC activities. In addition, the results obtained from the present research study are robust due to the application of a mixed methods approach by way of combining qualitative descriptive research with quantitative objective research. Last but not least, the process of integration of theoretical and empirical evidence leads to the presentation of a holistic picture of EC adoption and diffusion processes in an understudied research context like Vietnam.

8.6 Enhancements to Future Research

The findings showed that SMEs in the higher stage of EC adoption, that is, the transacting and intensive stages, need not necessarily gain more benefits than SMEs in the lower stage of EC adoption, that is, the advertising stage. For example, there was no significant observation amongst SMEs in the intensive and transacting stages in terms of gaining benefits from EC activities. This is partly inconsistent with the assumptions outlined by the maturity stage model in the existing literature. Therefore, in order to support or contradict this finding obtained from this research, there is a need for researchers in the future to explore this dimension further.

In addition, the analytical results and findings obtained from this research study also revealed that there are different levels of employing EC activities amongst Vietnamese SMEs on the basis of different legal statuses. However, this finding lacks considerable evidence in the extant literature. Therefore, the impact of SMEs' legal status on the adoption and diffusion of EC-based business activities needs to be explored in further research.

Measurement of EC adoption is based on key business activities conducted within SMEs in Vietnam. The measurement employed in the present study did not necessarily reveal the details of EC applications that SMEs employ in each stage of adoption. Therefore, future researchers may use other EC maturity models, like the EC Adoption Model proposed by Daniel et al. (2002), to examine the effectiveness of various Internet applications for conducting day-to-day business activities in SMEs on the basis of the stages of EC development.
The regression-based analyses used the different stages as the dependent variable. Here, each of the stages has been treated as fully independent. Given data availability and proper monitoring of SMEs, it is best to examine the pathways of movement from one stage to the other. However, there needs to be further research to improve the independent variables that possibly impact on EC development and EC benefits, which will provide more evidence for a stable model in the case of Vietnam.

In addition, this thesis is limited to SMEs in Vietnam and explores only B2C EC activities. Therefore, the findings obtained from this study cannot be generalised to other research contexts. Similarly the findings obtained from this study were based on the analysis of data obtained from a cross-sectional sample. Thus, future studies may focus on employing research frameworks related to B2B or B2G EC diffusion in the frontier countries in general, and extend the theoretical framework to other research contexts. Data need to be obtained through longitudinal studies by drawing out comparisons of the state of SMEs before and after the implementation of extensive EC-based networks.

8.7 Concluding Comments

The present research study focused on exploring B2C EC adoption practices within SMEs operating in the frontier country of Vietnam. The integration of the DOI Theory, the TOE framework, and maturity stage models was used to develop a conceptual framework for this study. The operationalisation of the various variables in the study was based on methodological rigour. The impacting factors were examined through the contextualisation process. The results and findings obtained from the present research study depicted the detail of B2C EC adoption and performance in SMEs operating in Vietnam. These findings were derived on the basis of the actual adoption of Internet business amongst SMEs in Vietnam and the stages of EC development. Finally, this study has provided significant contributions, as far as theoretical, practical and methodological aspects are concerned, with respect to understanding the complexity of EC adoption pathways.

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Appendices

Appendix A1: Consent form

CONSENT FORM for PARTICIPANTS

Research Project: CRITICAL SUCCESS FACTORS AND BARRIERS FOR BUSINESS - TO-CUSTOMER (B2C) E-COMMERCE: EVIDENCE FROM VIETNAM

| I,, have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction. | Yes/No |
|---|--------|
| I agree to participate in this activity, realising that I may withdraw at any time. | Yes/No |
| I understand that research data gathered for the study will not be presented in any form that will allow me to be identified | Yes/No |
| I understand that my responses will be recorded on the survey form. | Yes/No |
| I am older than 18 years of age. | Yes/No |

Participant

Date

NGUYEN TAT NHIEN Researcher

Date

Appendix A2: Information sheet for participants



 Nhien Tat Nguyen

 UNE Business School

 University of New England

 Armidale

 Australia

 Phone
 02 6773 2815

 Fax
 02 6773 3596

 @une.edu.au

| INFORMATION SHEET | |
|--------------------------|--|
| for | |
| PARTICIPANTS | |

My name is Nguyen Tat Nhien, a PhD student from the UNE Business School at the University of New England. My supervisors are Associate Professor Rene Villano and Dr Suiana Adapa. I wish to invite you to participate in my research project as described below: **CRITICAL SUCCESS FACTORS AND BARRIERS FOR BUSINESS - TO- CUSTOMER** Research Project (B2C) E-COMMERCE: EVIDENCE FROM VIETNAM Aim of the The main aim of the project is to explore the barriers and critical success factors in business to customer (B2C) e-commerce in Small and Medium research Enterprises (SMEs) in Vietnam. Survey The survey will take about 35 minutes of your time. You will be required to answer set of questions relating to B2C ecommerce using a structured questionnaire. The responses will be coded, collated and analysed. Following the survey, a copy of the report will be made available upon request. Confidentiality Any information or personal details gathered in the course of the study will remain confidential. Your name or any form of identity will not be revealed or recorded in any form of publications, reports, presentations emerging out of this research project. Participation is Please understand that your involvement in this study is voluntary and I Voluntary respect your right to withdraw from the study at any time. You may discontinue without consequence and you do not need to provide any explanation if you decide not to participate or withdraw at any time. Questions The relevant questions pertain to the adoption of B2C ecommerce in your company or organisation. Most of the questions are in the form of scale and ranking regarding general information, challenges and opportunities in conducting B2C ecommerce. All participants in the survey will be asked exactly the same questions. Use of I will use information from the survey as part of my doctoral thesis, which I information expect to be completed in October 2015. Information from the survey may also be used in journal articles and conference presentations before and after this date. At all times, your identity will be kept strictly confidential and will not be known in any of these undertakings. Upsetting It is unlikely that this research will raise any personal or upsetting issues. Nonetheless, if there are any concerns you wish to contact the Family issues Medical Practice Vietnam. Address: 298 I Kim Ma Street, Van Phuc Compound, Ba Dinh District, Hanoi, Vietnam

www.une.edu.au/

| | Tol: +94 4 29 42 07 49 | |
|----------------------------|--|--|
| | | |
| | Fax: +84 4 3846 1750 | |
| | Email: hanoi@vietnammedicalpractice.com | |
| Storage of information | I will keep hardcopies of the questionnaire in a locked cabinet at the researcher's office at UNE Business School. Any electronic data will be kept on a password protected computer in the same School. Only the research team will have access to the data. | |
| Disposal of information | All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer files, and destroying or confidential shredding hardcopy materials. | |
| Approval | This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No, Valid to//). | |
| Contact details | Feel free to contact me with any questions about this research by email at <u>tnguye80@myune.edu.au</u> or by mobile on +61 413109529. | |
| | You may also contact my supervisors. A/Prof Rene Villano on <u>rvillan2@une.edu.au</u> or +612-67732027 and Dr Sujana Adapa on <u>sadapa2@une.edu.au</u> or +61 2 67732915. | |
| Complaints | If you have any complaint about the research or research team, you may contact a local person whose name is MSc. Nguyen Manh Tien , as a director of The Science and Technology department of Ha Nam, through the email address nguyenmanhtienskh64@gmail.com or phone number +84 3513 854 577 or at business address | |
| | The Science and Technology department of Ha Nam | |
| | Ngo Quyen Street, Quang Trung ward, Phu ly City, Ha Nam province | |
| | Should you have any complaints concerning the manner in which this research is conducted, please contact the Research Ethics Officer at: Research Services University of New England Armidale, NSW 2351 Tel: (02) 6773 3449 Fax: (02) 6773 3543 Email: ethics@une.edu.au | |
| | Thank you for considering this request and I look forward to further contact with you. Regards, Nguyen Tat Nhien. | |

Appendix A3: Ethics certification



Ethics Office Research Development & Integrity Research Division Armidale NSW 2351 Australia Phone 02 6773 3449 Fax 02 6773 3543 jo-ann.sozou@une.edu.au www.une.edu.au/research-services

HUMAN RESEARCH ETHICS COMMITTEE

| MEMORANDUM TO: | A/Prof Renato Villano, Dr Sujana Adapa & Mr Nhien Nguyen | | | |
|--|--|--|--|--|
| | UNE Business School | | | |
| This is to advise you that the Human Research Ethics Committee has approved the following: | | | | |
| PROJECT TITLE: | Critical success factors and barriers for business - to customer (B2C) e-commerce: Evidence from Vietnam | | | |
| APPROVAL No.: | HE14-268 | | | |
| COMMENCEMENT DA | TE: 30 October, 2014 | | | |
| APPROVAL VALID TO | 30 October, 2015 | | | |
| COMMENTS: | Nil. Conditions met in full | | | |

The Human Research Ethics Committee may grant approval for up to a maximum of three years. For approval periods greater than 12 months, researchers are required to submit an application for renewal at each twelve-month period. All researchers are required to submit a Final Report at the completion of their project. The Progress/Final Report Form is available at the following web address: http://www.une.edu.au/research/research-services/rdi/ethics/hre/hrec-forms

The NHMRC National Statement on Ethical Conduct in Research Involving Humans requires that researchers must report immediately to the Human Research Ethics Committee anything that might affect ethical acceptance of the protocol. This includes adverse reactions of participants, proposed changes in the protocol, and any other unforeseen events that might affect the continued ethical acceptability of the project.

In issuing this approval number, it is required that all data and consent forms are stored in a secure location for a minimum period of five years. These documents may be required for compliance audit processes during that time. If the location at which data and documentation are retained is changed within that five year period, the Research Ethics Officer should be advised of the new location.



Jo-Ann Sozou Secretary/Research Ethics Officer

08/10/2014

A14/24
Appendix A4: Questionnaire

CRITICAL SUCCESS FACTORS AND BARRIERS FOR BUSINESS-TO-CUSTOMER (B2C) E-COMMERCE: EVIDENCE FROM VIETNAM

INTERVIEW SCHEDULE

RESPONDENT ID:

BUSINESS TYPE:

LOCATION:

Part A. Demographic Questions:

| D1. Please indicate your gender | | |
|--|--|--|
| Male | Female | |
| D2. What is your age? Please tick ($$) t | he most appropriate box. | |
| $\Box 18 - 21$ | $26 - 30^{-1}$ | 41-50 |
| $\overline{\Box}$ 22 – 25 | $\overline{1}$ 31 – 40 | $\overline{1}$ 51 - 60 |
| — | — | 61 or over |
| D3. What is the highest level of educat | ion you have completed? Please tick ($$) th | e most appropriate box. |
| Primary school | Vocational education and training (T | AFE) |
| Secondary (or High) school | Higher education (University) | |
| D4 Please estimate your average mont | hly wage? Please tick $()$ the most appropriate | riate box |
| \square 2.5 million VND and under | $\square 35 - 75$ million VND | |
| \square 2.5 million VND | \square over 7.5 million VND | |
| D5 What is yours job position in your | company? Please tick ($$ the most appropriate | riate box |
| \square Director | Frecutive | Trainees |
| General Manager | | Administrators |
| | | $\square \text{ Others } \text{ please specify}$ |
| D6 Please indicate the length of your of | company in the current business | |
| \Box Less than 5 years | \square 11-15 years | |
| \Box 5-10 years | \square More than 15 years | |
| D7 Please indicate number of company | v employees | |
| \square 1-9 employees | $\int 50 - 299 \text{ employees}$ | |
| \square 10-49 employees | \Box Over 300 employees | |
| | | |
| D8. Please indicate the type of ownersh | ip that is most relevant to your company? | |
| \square Private | Proprietary limited | |
| Joint stock | Partnership | |
| | Others, please specify | |
| D9. Which one of the following best de | escribes your company's primary business | |
| Clothes, shoes, and beauty products | ☐ Food | Music/ Video/Game |
| Electronic devices | Books, and office equipments | Spa services |
| Home appliances | Movies, and music concert tickets | Specialist services (training, consulting est.) |
| Flight tickets | Hotel/Tour orders | Others, please specify |
| D10. Which outside sources of advice | s would your company use for identificati | on or supply of information about |
| EC? (you may tick more than one box | (): | |
| Trade & industry association | Universities or college | Personal contacts |
| Professional bodies | Small business advisory centres | Financial institutions, banks |
| Research organizations | Consultants | Government depts. or agencies |
| Public libraries | Suppliers | Others, please specify |
| art B· Electronic commerce (EC |) canacities | |

 Part B: Electronic commerce (EC) capacities

 The following statements represent the existing EC activities and/or planned EC activities for your company. Please indicate your response with each statement by placing a tick ($\sqrt{$) in the most appropriate box.

 Ves

| | | res | | INO | | |
|---|--------|---------|--------|---------|-------|--|
| | Less | From 1- | More | Have a | Never | |
| | than 1 | 3 years | than 3 | plan in | have | |
| | year | | years | near | plan | |
| | | | | future | | |
| EC1. Our company publishes information on the company's Website. | | | | | | |
| EC2. Our company uses internet for marketing and advertisements. | | | | | | |
| EC3. Our company publishes information about product descriptions | | | | | | |
| including prices on the Website. | | | | | | |
| EC4. Our company communicates with customers through our | | | | | | |
| company's Website. | | | | | | |
| EC5. Our company communicates with customers through social | | | | | | |
| media sites such as facebook, twitter etc. | | | | | | |
| EC6. Our company gets feedback from customers through the | | | | | | |
| company's Website. | | | | | | |
| EC7. Our company allows customers to place orders through the | | | | | | |
| company's Website. | | | | | | |

| EC8. Our company fulfils payments manually by bank transfer, COD, mobile credit. | | | |
|--|--|--|--|
| EC9. Our company accepts online payments and other methods (COD, bank account, master or credit cards, e-wallet, scratching cards) | | | |
| EC10. Our company allows for a back-office data to support e-transactions. | | | |
| EC11. Our company provides a link between online front-end and back-end systems. | | | |
| EC12. Our company has dedicated IT staff and business staff to manage EC activities. | | | |
| EC13. Our company places orders with our suppliers over the Internet. | | | |

What do you think are the main barriers that prevent your company from not adopting/using specific EC activities?

| ••••• | | •••••• | ••••• | ••••• | ••••• | | | ••••• | | ••••• | ••••• | | ••••• | | |
|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-----------|
| ••••• | | •••••• | ••••• | ••••• | ••••• | | | | | | | | | | |
| ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | | | | ••••• | ••••• | ••••• |
| ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | | ••••• | | ••••• | ••••• | ••••• | | |
| | | •••••• | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| ••••• | | | | | | | | | | | | | | | |
| ••••• | | | | | | | | | | | | | | | |
| ••••• | | | | | ••••• | | | | | | | | | | |
| | | | | | ••••• | | | | | ••••• | | | | | |
| ••••• | | •••••• | ••••• | ••••• | | | | | | | | | ••••• | | |
| | | | | | | | | | | | | | | | |

Part C: Adoption Factors

1. Entrepreneurial Factors

The following statements represent your perceptions about the important entrepreneurial factors outlining management's involvement in the adoption and use of e-commerce (EC) in your company. Please indicate the degree of your agreement or disagreement with each statement by placing a **tick** ($\sqrt{}$) in the most appropriate box. The scale below defines the response number for you.

| | Agree | Agree | Agree Nor Disagree | Disagree | Disagree | to rate |
|--|-------|-------|--------------------------|----------|----------|------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| EF1. Our leaders are committed towards EC initiatives. | | | | | | |
| EF2. Our leaders have a clear vision on EC. | | | | | | |
| EF3. Our leaders communicated widely about vision of EC activities | | | | | | |
| within our company. | | | | | | |
| EF4. Our leaders are open to accept changes within our company. | | | | | | |
| EF5. Our leaders have a realistic view of EC investment in our company. | | | | | | |
| EF6. Our leaders support the role of various technological changes. | | | | | | |
| EF7. Our leaders play a critical role in preparing the work force for changes in the company. | | | | | | |
| EF8. Our leaders take an active role in implementing the EC strategy. | | | | | | |
| EF9. Our leader has successfully communicated EC strategies to the staff working in our company. | | | | | | |
| EF10. Our leaders manage challenges associated with the integration changes effectively. | | | | | | |
| EF11. Our leaders have sufficient support in educating the staff working in our company about the EC implementation. | | | | | | |
| EF12. Our leaders have sufficient support in providing advice to the staff about the EC implementation. | | | | | | |
| EF13. Our leaders have sufficient financial support for EC activities. | | | | | | |
| EF14. Our leaders have adequate human resources support for implementing EC activities. | | | | | | |
| EF15. Our leaders have technical support for conducting EC activities. | | | | | | |

2. Technological factors The following statements represent your perceptions about the important technological factors related to the adoption and use of e-commerce (EC) in your company. Please indicate the degree of your agreement or disagreement with each statement by placing a **tick** ($\sqrt{1}$) in the most appropriate box. The scale below defines the response number for you.

| | Strongly Agree Agree | | Neither Agree Nor | Disagree | Strongly Disagree | Unable to Rate |
|---|-------------------------|-----|-------------------------|----------|----------------------|-------------------|
| | 1 | 2 | Disagree | 4 | 5 | I I R |
| TF1.Our company's reengineering business processes are efficient. | | - Ĺ | - Ň | | | |
| TF2. Our company's business to technology alignment is efficient. | | | | | | |
| TF3. Our company's coordination between business to technology and people is efficient | | | | | | |
| TF4 Our company's EC initiatives are not compatible with the | | [| | | | |
| traditional mode of business. | | | | | | |
| important information. | | | | | | |
| TF6. Our company believes that EC adoption damages the social relationship of the enterprise. | | | | | | |
| TF7. Our company believes that EC adoption is highly risky for us and our customers | | | | | | |
| TF8. Our company believes that EC adoption results wastage of our | | | | | | |
| company's finances. | | | | | | |
| TF10. Our company's EC activities are compatible with the suppliers. | | | | | | |
| values and objectives. | | | | | | |
| TF11. Our company's EC activities are compatible with the experience of other EC adopting enterprises in the same sector. | | | | | | |
| TF12. Our company's EC activities are compatible with the existing technology | | | | | | |
| TF13. Our company believes that adopting EC will reduce our | | | | | | |
| expenses. | | | | | | |
| customer relationship management practices. | | | | | | |
| TF15. Our company believes that adopting EC will help provide better customer services | | | | | | |
| TF16. Our company believes that adopting EC will enhance the | | | | | | |
| TE17. Our company believes that adopting EC will increase market | | | | | | |
| enterprise revenue. | | | | | | |
| TF18. Our company has no fear of losing time when experimenting with EC. | | | | | | |
| TF19. Our company faces no financial constraints in experimenting with EC | | | | | | |
| TF20. Our company perceive EC can be tried on a limited basis | | | | | | |
| before the actual commitment. | | | | | | |
| TF21. Our company believes that the use of EC will provide greater customer value. | | | | | | |
| TF22. Our company thinks that a majority of the firms will benefit from adoption and usage of EC. | | | | | | |
| TF23. Our company does not face any limitations to use EC for conducting business. | | | | | | |
| TF24. Our company can clearly see the success of other companies | | | | | | |
| TF25 Our company finds that the usage of EC will become essential | | | | | | |
| for conducting day to day business. | | | | | | |
| TF26. Our company's Website have the best navigation options. | | | | | | |
| TF27. Our company's Website is attractive for customers. | | | | | | |
| TF28. Our company's online transactions are secure. | | | | | | |
| TF29. Our company's Website is protected from hackers. | | | | | | |
| TF30. Our company's Website offers 24/7 services to customers in any platform. | | | | | | |

| TF31. Our company's Website can be accessed at peak time or off time. | | | |
|---|--|--|--|
| TF32. Our company's software and hardware facilities are stable. | | | |

3. Organisational factors The following statements represent your perceptions about the important organisational factors related to the adoption and use of e-commerce (EC) in your company. Please indicate the degree of your agreement or disagreement with each statement by placing a tick ($\sqrt{}$) in the most appropriate box. The scale below defines the response number for you.

| | Strongly Agree | Agree | Neither Agree | Disagree | Strongly Disagree | Unable to Rate |
|---|-------------------|-------------------|------------------|----------|----------------------|-------------------|
| | | | Nor Disagree | | | |
| | 1 | 2 | 3 | 4 | 5 | UR |
| OF1. Our company has sufficient finance to invest in EC activities. | Ē. | $\overline{\Box}$ | Ū. | | Π | $\overline{\Box}$ |
| OF2. Our company has experience with network-based applications. | | | | | | |
| OF3. Our company is computerised with LAN and WAN. | | | | | | |
| OF4. Our company has a high bandwidth connectivity to the Internet. | | | | | | |
| OF5. Our employees are qualified enough for conducting EC | | | | | | |
| activities. | | | | | | |
| OF6. Our employees have experience with network- based | | | | | | |
| applications. | | | | | | |
| OF7. Our employees and staff are knowledgeable about EC. | | | | | | |
| OF8. Our employees and staff are competent with the technological | | | | | | |
| advancements. | | | | | | |
| OF9. Our employees have unrestricted access to computers. | | | | | | |
| OF10. Our company follows a systematic process for managing | | | | | | |
| change issues as a result of EC implementation. | | | | | | |
| OF11. Our company is capable of dealing with rapid organisational | | | | | | |
| changes. | | | | | | |
| OF12. Our company has a policy that encourages grass roots EC | | | | | | |
| OE12 Our commune's EC investories are startered to t | | | | | | |
| OF13. Our company's EC implementations are strategy-led. | | <u> </u> | | | | <u> </u> |
| OF14. Our company's staff and and trust each other. | | | | | | |
| OF15. Our company's stan are open and trust each other. | | | | | | |
| or ro. Our company's curture anows for open communication with | | | | | | |
| OE17 Our company's culture allows for information sharing | | | | | | |
| OF18 Our company has clearly defined roles and responsibilities | | | | | | |
| within each EC initiative | | | | | | |
| OF19. Our company's EC accountability is extracted via on-going | | | | | | |
| responsibility. | | | | | | |
| OF20. Our company defines a business case for each EC initiative. | | | | | | |
| OF21. Our company has clearly defined metrics for assessing the | | | | | | |
| impact of our EC initiatives. | | | | | | |
| OF22. Our company's EC initiatives are restricted by the nature of | | | | | | |
| product offering. | | | | | | |
| OF23. Our company must present various and relevant product | | | | | | |
| information. | | | | | | |
| OF24. Our company presents up-to-date information about | | | | | | |
| products. | | | | | | |
| OF25. Our company presents accurate information about products. | | | | | | |
| OF26. Our company offers a variety of products. | | | | | | |
| OF27. Our company's product offerings are of great value. | | | | | | |
| OF28. Our company targets, understands, and satisfies the right | | | | | | |
| customer through the online database. | | | | | | |
| OF29. Our company has a good advertising campaign about our | | | | | | |
| EC initiatives. | | | | | | |
| OF30. Our company focuses on the integration of online and offline | | | | | | |
| marketing practices. | | | | | | |
| OF31. Our company must promote online marketing activities. | | | | | | |
| OF32. Our company must build better brand image. | | | | | | |
| OF33. Our company must build customer trust. | | | | | | |

| OF34. Our company responds quickly to online customers' requirements. | | | |
|--|--|--|--|
| OF35. Our company must provide exceptional online delivery services. | | | |
| OF36. Our company provides high quality online customer service. | | | |
| OF37. Our company must provide post-purchase service for the refund and return of products and services. | | | |
| OF38. Our company provides variety of payment options. | | | |
| OF39. Our company provides value-added EC service such as comparing price, free shipping, etc. | | | |
| OF40. Our company must focus on online customer relationship management practices. | | | |
| OF41. Our company is able to manage revenue and expenditure relating EC activities. | | | |
| OF42. Our company must be sensitive to product or service to price competition on the Internet. | | | |
| OF43. Our company integrates EC strategy to the whole company strategy. | | | |
| OF44. Our company must have flexible system to adapt to the technology change. | | | |

4. Environmental factors

The following statements represent your perceptions about the important environmental factors related to the adoption and use of e-commerce (EC) in your company. Please indicate the degree of your agreement or disagreement with each statement by placing a **tick** ($\sqrt{}$) in the most appropriate box. The scale below defines the response number for you.

| | Strongly Agree | Agree | Neither Agree Nor Disagree | Disagree | Strongly Disagree | Unable to Rate |
|--|-------------------|-------|-------------------------------------|----------|----------------------|-------------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| EnF1. Our company believes that there are effective laws to protect customers' privacy. | | | | | | |
| EnF2. Our company believes that there are effective law enforcements to combat cyber crime. | | | | | | |
| EnF3. Our company believes that the legal environment is conducive to conduct business on the Internet. | | | | | | |
| EnF4. Our company receives exceptional government support for training programs and seminars. | | | | | | |
| EnF5. Our company receives adequate government advise for providing EC initiatives. | | | | | | |
| EnF6. Our company receives sufficient government support for providing finance to EC initiatives. | | | | | | |
| EnF7. Our company receives plenty of government support for providing human resources to EC initiatives. | | | | | | |
| EnF8. Our company receives extensive support from the local business community for EC initiatives. | | | | | | |
| EnF9. Our company receives information about leaders and laggards of EC initiatives from the trade associations. | | | | | | |
| EnF10. Our company believes that the existing level of consumers' trust in performing online transactions is low. | | | | | | |
| EnF11. Our company believes that the current level of consumer usage of credit cards as a key barrier for online shopping. | | | | | | |
| EnF12. Our company believes that our business partners are ready to conduct EC. | | | | | | |
| EnF13. Our company believes that there is a strong rivalry in the business environment in terms of EC implementation. | | | | | | |
| EnF14. Our company's strategic orientation allows for the adoption of EC initiatives. | | | | | | |
| EnF15. Our company believes quality and speed of the Internet in Vietnam is good enough to conduct online transactions. | | | | | | |
| EnF16. Our company thinks cost associated with EC solutions is high. | | | | | | |
| EnF17. Our company thinks training for EC initiatives is costly. | | | | | | |

| EnF18. Our company thinks setup and maintenance for EC initiatives is costly. | | | |
|---|--|--|--|
| EnF19. Our company believes that the existing telecommunication infrastructure is reliable and efficient to support EC. | | | |
| EnF20. Our company perceives that the existing technology infrastructure of commercial and financial institutions is not capable of supporting EC transactions. | | | |
| EnF21. Our company believes that the existing online payment options are easy to use. | | | |
| EnF22. Our company believes that the existing logistics system in Vietnam is very weak. | | | |
| EnF23. Our company can find quality and affordable expert help readily. | | | |
| EnF24. Our company can easily find suitable technology vendors. | | | |
| EnF25. Our company can easily hire necessary IS/IT staff. | | | |

What do you think are the key benefits for your company from engaging in EC activities?

| ••••••••••••••••••••••••••••••••••••••• |
|---|
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| |

If you are interested in receiving a copy of the analysis report, please provide the following information.

Name:

Contact Number:

E-mail:

Thanks for participating in the survey!

Appendix A5: The Vietnamese version of consent form

BẢN THỎA THUẬN CHO NGƯỜI THAM GIA KHẢO SÁT

Tên Đề Tài: NHỮNG NHÂN TỐ THÀNH CÔNG THIẾT YẾU VÀ CẢN TRỞ TRONG HOẠT ĐỘNG THƯƠNG MẠI ĐIỆN TỬ BÁN LẢ: BẰNG CHỨNG TỪ VIỆT NAM

| Tôi,, đã đọc thông tin trong bản "thông tin tới người trả lời" và các câu hỏi, tôi đã hỏi và được trả lời thỏa đáng | |
|---|-----------|
| the for those during. | Có/Không |
| Tôi đồng ý tham gia vào hoạt động này và hiểu rằng tôi có thể từ bỏ bất kỳ lúc nào. | Có/Không |
| Tôi hiểu rằng những thông tin thu thập từ cuộc khảo sát này sẽ không được nêu danh tính của tôi. | Có /Không |
| Tôi hiểu rằng câu trả lời được ghi ở dạng bảng khảo sát | Có/Không |
| Tôi trên 18 tuổi. | Có/Không |
| | |

Người tham gia

..... Ngày

NGUYỄN TẤT NHIÊN Nghiên cứu viên

Ngày

Appendix A6: The Vietnamese version of information sheet to participants



Nguyễn Tất Nhiên Khoa Kinh tế Trường đại học New England Armidale NSW 2351 Úc

 Điện thoại
 02 6773 2815

 Fax
 02 6773 3596

 @une.edu.au
 www.une.edu.au/

THÔNG TIN TỚI NGƯỜI TRẢ LỜI

Kính thưa quý doanh nghiệp, tên tôi là Nguyễn Tất Nhiên, tôi đang làm nghiên cứu sinh ở trường Đại học New England, khoa kinh tế.Giáo viên hướng dẫn của tôi là Phó giáo sư Rene Villano, Tiến sĩ Sujana Adapa.

Tôi mong muốn quý doanh nghiệp tham gia vào một phần chương trình nghiên cứu của tôi, nội dung của nghiên cứu xin trình bày cho quý doanh nghiệp đưới đây:

| Tên đề tài | NHỮNG NHÂI HOẠT ĐỘNG NAM | N TỐ THÀNH CÔNG THIẾT YẾU VÀ CẢN TRỞ TRONG THƯƠNG MẠI ĐIỆN TỬ BÁN LỄ: BẰNG CHỨNG TỪ VIỆT | | | | | | |
|---|---|--|--|--|--|--|--|--|
| Mục đích của nghiên cứu | Nghiên cứu nhằm xác định những nhân tố thành công thiết yếu và cản trở trong hoạt động thương mại điện tử (TMDT) bán lẻ ở các doanh nghiệp vừa và nhỏ ở Việt Nam. | | | | | | | |
| Cuộc khảo sát | Trả lời bảng câu hỏi liên quan tơ hóa, so sánh, sắ sẽ được gửi cho | Trả lời bảng câu hỏi có thể mất 35 phút. Đề nghị quý doanh nghiệp trả lời bảng câu hỏi liên quan tới hoạt động TMDT. Câu trả lời của quý doanh nghiệp sẽ được mã hóa, so sánh, sắp xếp, và phân tích. Sau cuộc khảo sát, một bản sao của nghiên cứu sẽ được gửi cho quý doanh nghiệp nếu quý doanh nghiệp yêu cầu. | | | | | | |
| Mức độ bảo mật | Bất kì thông tin giữ bí mật. Dan này. | Bất kì thông tin về cá nhân và doanh nghiệp thu thập trong cuộc khảo sát sẽ được giữ bí mật. Danh tính của quý doanh nghiệp sẽ được giữ bí mật trong nghiên cứu này. | | | | | | |
| Tham gia vào cuộc khảo sát là tự nguyện | Xin quý doanh r tôn trọng quyền nào khi tham gia | nghiệp hiểu rằng sự tham gia của quý doanh nghiệp là tự nguyện, tôi của quý doanh nghiệp. Quý doanh nghiệp có thể từ bỏ bất cứ lúc a mà không cần nêu lý do hay giải thích. | | | | | | |
| Những câu hỏi | Câu hỏi khảo liê nghiệp. Hầu hết chung, những th lẻ. Tất cả những một câu hỏi. | ền quan tới quá trình áp dụng thương mại điện tử trong quý doanh các câu hỏi ở dạng thang điểm và xếp loại liên quan đến thông tin ách thức và cơ hội để thực hiện hoạt động thương mại điện tử bán người tham gia trong cuộc khảo sát sẽ được yêu cầu chính xác cùng | | | | | | |
| Sử dụng thông tin | Tôi sẽ sử kết quả khảo sát như một phần vào luận án tiến sĩ của tôi kết thúc v tháng 10/2015. Kết quả từ cuộc khảo sát có thể được sử dụng trong các bài ba hội nghị trước hay sau thời gian đó. Tôi sẽ luôn luôn bảo vệ thông tin về quý nghiệp, những thông tin sử dụng trong nghiên cứu sẽ giữ bí mật danh tính củ doanh nghiệp. | | | | | | | |
| Những vấn đề khó chịu | Sẽ có ít khả năn nghiệp, nhưng tr Medical Practio | g cuộc khảo sát sẽ mang lại những vấn đề khó chịu cho quý doanh rong trường hợp có xin hãy liên lạc với Phòng khám Family ce Vietnam . | | | | | | |
| | Địa chỉ: Nội, Việt Nam | 298 I Kim Mã, Khu ngoại giao đoàn Vạn Phúc , Quận Ba Đình, Hà | | | | | | |
| | Điện thoại: | +84 4 3843 0748 | | | | | | |
| | Fax: | +84 4 3846 1750 | | | | | | |

| | Email: hanoi@vietnammedicalpractice.com |
|--------------------|---|
| Lưu giữ thông tin | Tôi sẽ những bản câu trả lời trong một phòng được khóa kín ở văn phòng nghiên cứu ở khoa kinh tế trường Đại học New England. Bất kỳ dữ liệu điện tử được giữ trong máy tính có bảo vệ bằng mật mã trong khoa kinh tế. Chỉ có các thành viên của đội nghiên cứu mới được phép truy cập vào dữ liệu. |
| Tiêu hủy thông tin | Mọi dữ liệu thu thập trong nghiên cứu này sẽ được giữ tối đa 5 năm sau khi nộp bản luận án. Sau đó tất cả các dữ liệu, bao gồm các files trong máy tính và các bản ghi chép bằng giấy sẽ bị tiêu hủy. |
| Phê chuẩn | Cuộc khảo sát này đã được phê chuẩn bởi hội đồng đạo đức nghiên cứu con người của trường đại học New England (Số, Có giá trị tới//). |
| Thông tin liên lạc | Nếu quý doanh nghiệp có gì thắc mắc xin hãy liên lạc với tôi qua email tnguye80@myune.edu.au hoặc qua số di động +61 413109529. |
| | Quý doanh nghiệp có thể liên lạc với giáo viên hướng dẫn của tôi. |
| | Phó giáo sư Rene Villano địa chỉ email: <u>rvillan2@une.edu.au</u> hoặc điện thoại bàn +612-67732027. Tiến sĩ Sujana Adapa email: <u>sadapa2@une.edu.au</u> số điện thoại bàn +61 2 67732915. |
| Phàn nàn | Nếu quý doanh nghiệp có bất kỳ lời phàn nàn nào liên quan tới cuộc khảo sát xin hãy liên lạc với người đại diện của nhóm nghiên cứu, Thạc sĩ Nguyễn Mạnh Tiến giám đốc sở Khoa học và Công nghệ Hà Nam qua email nguyenmanhtienskh64@gmail.com hoặc điện thoại bàn +84 3513 854 577 hay tại địa chỉ: Sở Khoa Học và Công Nghệ Hà Nam, đường Ngô Quyền, phường Quang Trung, thành phố Phủ Lý, tỉnh Hà Nam. |
| | Nếu quý doanh nghiệp có bất kỳ lời phàn nàn liên quan tới cách thức nghiên cứu của cuộc khảo sát này, xin vui lòng liên hệ với văn phòng đạo đức nghiên cứu tại địa chỉ: Research Services University of New England Armidale, NSW 2351 Tel: (02) 6773 3449 Fax: (02) 6773 3543 Email: ethics@une.edu.au |
| | Xin trân thành cảm ơn quý doanh nghiệp đã xem xét yêu cầu này, tôi mong muốn được tiếp tục liên lạc với quý doanh nghiệp. Trân trọng. Nguyễn Tất Nhiên |

Appendix A7: The Vietnamese version of the questionnaire

NHỮNG NHÂN TỐ THÀNH CÔNG THIẾT YẾU VÀ CẦN TRỜ TRONG HOẠT ĐỘNG THƯƠNG MẠI ĐIỆN TỪ BÁN LẼ: BÀNG CHÚNG TỪ VIỆT NAM

BẢNG KÊ KHAI NGƯỜI TRẢ LỜI

MÃ NGƯỜI TRẢ LỜI:

LOẠI HÌNH KINH DOANH:

VỊ TRÍ ĐỊA LÝ:

Phần A. Những câu hỏi về cá nhân: D1. Xin vụi lòng chỉ rõ giới tính của ban

| 🗌 Nữ | |
|---|---|
| v tích (√) vào ô phù hợp với bạn. | |
| □ 26 - 30 □ 31 - 40 | □ 41 - 50 □ 51 - 60 □ hon 60 |
| ng hãy tích (√) vào ô phù hợp với bạn. | |
| Trường nghề Từ đại học trở lên | |
| ập của bạn hàng tháng? Xin vui lòng hãy tíc | ch (√) vào ô phù hợp với bạn. |
| ☐ Từ 3.5 - 7.5 triệu đồng ☐ Hơn 7.5 triệu đồng | |
| anh nghiệp là gì? Xin vui lòng hãy tích (√) | vào ô phù hợp với bạn. |
| Giám đốc điều hành Nhân viên tin học | Nhân viên thực tập Giám đốc quản trị Nếu khác, xin chỉ rõ |
| loanh của quý doanh nghiệp tính đến thời đ | iểm hiện tại. |
| ☐ Từ 11-15 năm ☐ Hơn 15 năm ☐ làm việc trong quý doanh nghiệp hiện nay. ☐ 50 - 299 người ☐ Hơn 300 người | |
| lộng của quý doanh nghiệp? □ Công ty TNHH □ Công ty hợp danh □ Nếu khác, xin chi rõ | |
| h nghiệp cung cập là gì? h nghiệp cung cập là gì? Sách và các thiết bị văn phòng Vé xem ca nhạc Đặt chỗ khách sạn,tour du lịch ý doanh nghiệp đang dùng để xác định và ô một lúc): Trường đại học Trung tâm tư vấn cho doanh nghiệp Nhà tư vấn Nhà cung cấp | □ Đĩa nhạc, video, game □ Dịch vụ Spa □ Tr vấn dịch vụ (đào tạo, tr vấn vv.) □ Nếu khác, xin chỉ rõ cung cấp cho hoạt động thương mại □ Mối quan hệ cá nhân □ Tổ chức tài chính hoặc ngân hàng □ Các tổ chức chính phủ Nếu khác, xin chỉ rõ |
| | □ Nữ r tích (√) vào ô phù hợp với bạn. □ 26 – 30 □ 31 – 40 ng hãy tích (√) vào ô phù hợp với bạn. □ Trường nghề □ Từ đại học trở lên ầp của bạn hảng tháng? Xin vui lòng hãy tích □ Từ 3.5 - 7.5 triệu đồng □ Hơn 7.5 triệu đồng □ Giám đốc điều hành □ Nhân viên tin học loanh của quý doanh nghiệp tính đến thời đ □ Từ 11-15 năm □ Hơn 15 năm □ Hơn 300 người lộng của quý doanh nghiệp? □ Công ty NHH □ Công ty hợp danh □ Nếu khác, xin chi rõ |

Phần B: Những mức độ hoạt động thương mại điện tử

Những nhận định sau có thể liên quan tới những hoạt động TMDT trong quý doanh nghiệp bạn. Xin vui lòng hãy **tích** ($\sqrt{}$) vào ô phù hợp với quý doanh nghiệp bạn đang làm việc.

| | | Có | | Không | | | |
|--|---------------|---------------|--------------|---|-------------------------|--|--|
| | Dưới 1 năm | Từ 1-3 năm | Hơn 3 năm | Có kế hoạch trong tương lai | Không có kế hoạch | | |
| EC1. Doanh nghiệp chúng tôi giới thiệu thông tin trên trang Web . | | | | | | | |
| EC2. Doanh nghiệp chúng tôi dùng Internet cho mục đích marketing và quảng cáo. | | | | | | | |
| EC3. Doanh nghiệp chúng tôi giới thiệu bản miêu tả và giá của sản phẩm trên trang Web. | | | | | | | |
| EC4. Doanh nghiệp chúng tôi giao tiếp với khách hàng thông qua trang | | | | | | | |

| Web. | | | |
|--|--|--|--|
| EC5. Doanh nghiệp chúng tôi giao tiếp với khách hàng thông qua mạng | | | |
| xã hội như facebook, twitter vv. | | | |
| EC6. Doanh nghiệp chúng tôi tiếp nhận thông tin phản hồi của khách | | | |
| hàng thông qua Website của công ty. | | | |
| EC7. Doanh nghiệp chúng tôi chấp nhận đơn đặt hàng thông qua | | | |
| Website. | | | |
| EC8. Doanh nghiệp chúng tôi thanh toán hầu hết qua chuyển khoản, trả | | | |
| tiền sau khi đưa hàng (COD), thẻ cào điện thoại. | | | |
| EC9. Doanh nghiệp chúng tôi chấp nhận thanh toán online và các hình | | | |
| thức khác như Master, Credit card, COD, vv. | | | |
| EC10. Doanh nghiệp chúng tôi có sơ sở dữ liệu nội bộ để hỗ trợ thanh | | | |
| toán. | | | |
| EC11. Doanh nghiệp chúng tôi cho phép trao đổi dữ liệu từ trang Web | | | |
| tới cơ sở dữ liệu nội bộ. | | | |
| EC12. Doanh nghiệp chúng tôi cung cấp nhân viên IT và các nhân viên | | | |
| kinh doanh để vận hành hoạt động TMDT. | | | |
| EC13. Doanh nghiệp chúng tôi cho phép đặt hàng với nhà cung cấp | | | |
| thông qua mang Internet. | | | |

Theo bạn những nhân tố nào khiến quý doanh nghiệp bạn không áp dụng những hoạt động TMDT trên?

| ••••• | ••••• | ••••• | ••••• | | ••••• | ••••• | | ••••• | ••••• | ••••• | ••••• | ••••• | ••••• | •••••• | ••••• | ••••• | ••••• | ••••• |
|-------|-----------|-------|-----------|------|-------|-------|------|-------|-----------|-------|-------|-------|-------|--------|-----------|-------|-------|-------|
| | | | | | | | | | | | | | | ••••• | | | | |
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| | | | | | | | | | | | | | | ••••• | | | | |
| | | | | | | | | | | | | | | ••••• | | | | |
| | | | | | | | | | | | | | | ••••• | | | | |
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| | | | | | | | | | | | | | | ••••• | | | | |
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Phần C: Nhân tố ảnh hưởng

1. Nhân tố lãnh đạo

Những nhận định sau có thể liên quan tới quan điểm của bạn về những nhân tố lãnh đạo quan trọng liên quan tới hoạt động TMDT trong quý doanh nghiệp bạn. Xin vui lòng tích (v) vào ô phù hợp. Thang đo dưới đây sẽ tự động đánh số giúp bạn.

| | Hoàn toàn đồng ý | Đông ý | Không có ý kiến | Không đồng ý | Hoàn toàn không đồng ý | Không đánh giá được |
|--|------------------------|--------|-----------------------|-----------------|---------------------------------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| EF1. Lãnh đạo của doanh nghiệp rất tận tâm với hoạt động TMDT. | | | | | | |
| EF2. Lãnh đạo của doanh nghiệp có tầm nhìn rõ ràng về hoạt động TMDT. | | | | | | |
| EF3. Lãnh đạo của doanh nghiệp phổ biến rộng rãi tầm nhìn về hoạt động TMDT trong doanh nghiệp. | | | | | | |
| EF4. Lãnh đạo của doanh nghiệp có thái độ cời mở chấp nhận thay đổi trong doanh nghiệp. | | | | | | |
| EF5. Lãnh đạo của doanh nghiệp có cái nhìn thực tế về đầu tư cho hoạt động TMDT. | | | | | | |
| EF6. Lãnh đạo của doanh nghiệp ủng hộ vai trò liên quan tới sự thay | | | | | | |

| đổi công nghệ. | | | |
|---|--|--|--|
| EF7. Lãnh đạo của doanh nghiệp đóng vai trò thiết yếu trong việc | | | |
| chuân bị nhân lực cho sự thay đôi trong doanh nghiệp. | | | |
| EF8. Lãnh đạo của doanh nghiệp đóng vai trò tích cực trong việc thiết | | | |
| lập chiến lược cho hoạt động TMDT. | | | |
| EF9. Lãnh đạo của doanh nghiệp rất thành công trong việc phổ biến | | | |
| chiến lược TMDT trong doanh nghiệp. | | | |
| EF10. Lãnh đạo của doanh nghiệp quản lý một cách hiệu quả các | | | |
| thách thức liên quan tới quá trình lồng ghép, kết hợp hệ thống TMDT. | | | |
| EFF11 Lãnh đạo của doanh nghiệp hỗ trợ hiệu quả việc đào tạo nhân | | | |
| viên khi triển khai hoạt động TMDT. | | | |
| EF12. Lãnh đạo của doanh nghiệp cung cấp lời khuyên hiệu quả tới | | | |
| nhân viên khi triển khai kinh doanh TMDT. | | | |
| EF13. Lãnh đạo của doanh nghiệp cung cấp đầy đủ tài chính cho hoạt | | | |
| động TMDT. | | | |
| EF14. Lãnh đạo của doanh nghiệp cung cấp đầy đủ nhân lực cho hoạt | | | |
| động TMDT. | | | |
| EF15. Lãnh đạo của doanh nghiệp hỗ trợ vấn đề kỹ thuật khi thực hiện | | | |
| hoạt động TMDT. | | | |

2. Nhân tố công nghệ

2. Trình to cong nguỹ
 Những nhận định sau có thể liên quan tới quan điểm của bạn về những nhân tố công nghệ quan trọng liên quan tới hoạt động TMDT trong quý doanh nghiệp bạn. Xin vui lòng tích (√) vào ô phù hợp. Thang đo dưới đây sẽ tự động đánh số giúp bạn.
 Hoàn bồng ý Không Hoàn Không toàn không toàn bản không toàn bản bảng với bản bản bảng với bản bản bảng trong trong

| | toan đồng ý | | co y kiến | dong y | toan không đồng ý | danh giá được |
|---|----------------|---|--------------|--------|-------------------------|---------------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| TF1.Tái cấu trúc quy trình kinh doanh trong doanh nghiệp diễn ra rất hiệu quả. | | | | | | |
| TF2. Liên kết giữa bộ phận kinh doanh và công nghệ trong doanh nghiệp rất chặt chẽ. | | | | | | |
| TF3. Sự phối hợp giữa nhân viên kinh doanh và công nghệ nhịp nhàng đồng bộ. | | | | | | |
| TF4. Hoạt động TMDT trong doanh nghiệp không phù hợp với mô hình kinh doanh truyền thống của doanh nghiệp. | | | | | | |
| TF5. Doanh nghiệp chúng tôi nghĩ khi áp dụng TMDT rất nguy hiểm do dễ bị mất những thông tin quan trọng. | | | | | | |
| TF6.Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ ảnh hưởng tới mối quan hệ xã hội của doanh nghiệp. | | | | | | |
| TF7. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ gây rủi ro cho doanh nghiệp và khách hàng. | | | | | | |
| TF8. Công ty chúng tôi tin rằng áp dụng TMDT sẽ gây lãng phí tài chính. | | | | | | |
| TF9.Hoạt động TMDT trong doanh nghiệp chúng tôi phù hợp với những nhà cung cấp. | | | | | | |
| TF10. Hoạt động TMDT trong doanh nghiệp chúng tôi phù hợp với giá trị và mục tiêu của doanh nghiệp. | | | | | | |
| TF11. Hoạt động TMDT trong doanh nghiệp chúng tôi phù hợp với kinh nghiệm của các doanh nghiệp áp dụng TMDT khác cùng ngành. | | | | | | |
| TF12. Hoạt động TMDT trong doanh nghiệp chúng tôi phù hợp với công nghệ có sẵn trong doanh nghiệp. | | | | | | |
| TF13. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ giúp giảm chi phí kinh doanh. | | | | | | |
| TF14. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ tăng cường mối quan hệ với khách hàng. | | | | | | |
| TF15. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ giúp cung cấp dịch vụ tốt hơn cho khách hàng. | | | | | | |
| TF16. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ giúp nâng cao thị phần. | | | | | | |
| TF17. Doanh nghiệp chúng tôi tin rằng áp dụng TMDT sẽ tăng doanh | | | | | | |

| thu từ thị trường. | | | |
|---|--|--|--|
| TF18. Doanh nghiệp chúng tôi không sợ lãng phí thời gian khi thử nghiệm với TMDT. | | | |
| TF19. Doanh nghiệp chúng tôi không bị hạn chế về mặt tài chính khi thừ nghiệm với TMDT. | | | |
| TF20. Doanh nghiệp chúng tôi cho rằng cần được thử trong vài phạm vi trước khi thực sự triển khai và sử dụng TMDT. | | | |
| TF21. Doanh nghiệp chúng tôi tin rằng sử dụng TMDT sẽ tăng giá trị cho khách hàng. | | | |
| TF22. Doanh nghiệp chúng tôi tin rằng rất nhiều doanh nghiệp sẽ có lợi khi sử dụng TMDT. | | | |
| TF23. Doanh nghiệp chúng tôi không hề bị hạn chế nào khi sử dụng TMDT để kinh doanh. | | | |
| TF24. Doanh nghiệp chúng tôi thấy rõ thành công của các doanh nghiệp khác thông qua áp dụng TMDT. | | | |
| TF25. Doanh nghiệp chúng tôi nhận thấy rằng sử dụng TMDT sẽ trở nên cần thiết để thực hiện công việc hàng ngày. | | | |
| TF26. Trang Web của doanh nghiệp chúng tôi giúp khách hàng dễ dàng sử dụng. | | | |
| TF27. Trang Web của doanh nghiệp chúng tôi trông hấp dẫn với khách hàng. | | | |
| T28. Giao dịch trực tuyến của doanh nghiệp chúng tôi là an toàn . | | | |
| TF29. Trang Web của doanh nghiệp chúng tôi được bảo vệ khỏi tin tặc. | | | |
| TF30. Trang Web của doanh nghiệp chúng tôi cung cấp dịch vụ 24/7 cho khách hàng trong bất kỳ nền tảng, thiết bị nào. | | | |
| TF31. Trang Web của doanh nghiệp chúng tôi có thể truy cập được dù tại thời gian cao điểm hoặc thời gian nghi. | | | |
| TF32. Phần mềm và phần cứng của doanh nghiệp chúng tôi chạy ổn định. | | | |

3. Nhân tố doanh nghiệp Những nhận định sau có thể liên quan tới quan điểm của bạn về những nhân tố doanh nghiệp quan trọng liên quan tới hoạt động TMDT trong quý doanh nghiệp bạn. Xin vui lòng **tích** (√) vào ô phù hợp. Thang đo dưới đây sẽ tự động đánh số giúp bạn.

| | Hoàn toàn đồng ý | Đồng ý | Không có ý kiến | Không đồng ý | Hoàn toàn không đồng ý | Không đánh giá được |
|---|------------------------|--------|-----------------------|-----------------|---------------------------------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| OF1. Doanh nghiệp chúng tôi có đủ tài chính để đầu tư vào hoạt động TMDT. | | | | | | |
| OF2. Doanh nghiệp chúng tôi có kinh nghiệm với các ứng dụng trên mạng. | | | | | | |
| OF3. Doanh nghiệp chúng tôi được trang bị máy tính với kết nối nội bộ. | | | | | | |
| OF4. Doanh nghiệp chúng tôi có kết nối băng thông cao với Internet. | | | | | | |
| OF5. Nhân viên của chúng tôi có đủ tiêu chuẩn cho hoạt động TMDT. | | | | | | |
| OF6. Nhân viên của chúng tôi có kinh nghiệm với những ứng dụng trên mạng. | | | | | | |
| OF7. Nhân viên của chúng tôi có kiến thức về TMDT. | | | | | | |
| OF8. Nhân viên của chúng tôi thành thạo với công nghệ hiện đại. | | | | | | |
| OF9. Nhân viên của chúng tôi có thể truy cập không hạn chế máy tính. | | | | | | |
| OF10. Doanh nghiệp chúng tôi quản lý một cách hệ thống những vấn đề liên quan tới sự thay đổi khi áp dụng TMDT. | | | | | | |
| OF11. Doanh nghiệp chúng tôi có khả năng đối phó với thay đổi nhanh diễn ra trong doanh nghiệp. | | | | | | |

| OF12. Doanh nghiệp chúng tôi có những chính sách khuyến khích sử dung TMDT ở tất cả các mức đô hoat đông trong doanh nghiệp. | | | |
|---|--|--|--|
| OF13. Triển khai TMDT trong doanh nghiệp chúng tôi được định bướng chiến lược | | | |
| OF14. Văn hóa trong doanh nghiệp chúng tôi cho phép đối phó với những thất bại liên quan tới án dụng TMDT | | | |
| OF15. Nhà viện của doanh nghiệp của chúng tôi cởi mở và tin trởng lẫn nhau | | | |
| OF16. Văn hóa trong doanh nghiệp chúng tôi cho phép mọi người | | | |
| OF17. Văn hóa trong doanh nghiệp chúng tôi cho phép mọi người chủa cả thếng tin trới nhau | | | |
| OF18. Doanh nghiệp chúng tôi xác định rõ vai trò và trách nhiệm | | | |
| OF19. Giải trình hiệu quả của hoạt động TMDT trong doanh nghiệp | | | |
| chúng tối được đanh giả liên tục dựa trên trách nhiệm được giao. OF20. Doanh nghiệp chúng tối xác định tình huống kinh doanh với | | | |
| mỗi kê hoạch TMDT. OF21. Doanh nghiệp chúng tôi có thang đo định lượng rõ ràng để | | | |
| đánh giá hiệu quả hoạt động TMDT. OF22. Hoạt động TMDT của doanh nghiệp chúng tôi bị hạn chế do | | | |
| đặc thù của sản phẩm chúng tôi cung cấp. OF23. Doanh nghiệp chúng tôi cung cấp thông tin liên quan và đa | | | |
| dạng về sản phẩm. OF24. Doanh nghiệp chúng tôi luôn đảm bảo thông tin sản phẩm | | | |
| được cập nhật liên tục. OF25. Doanh nghiên chúng tôi luôn trình bày thông tin chính xác về | | | |
| sản phẩm. OF26 Doanh nghiên chúng tôi cung cấn rất nhiều các cản nhằm khác | | | |
| nhau. | | | |
| tốt và giá rẻ . | | | |
| OF28. Doanh nghiệp chúng tối xác định, hiểu rõ, và thóa mẫn yêu cầu của khách hàng tiềm năng thông qua cơ sở dữ liệu trực tuyến. | | | |
| OF29. Doanh nghiệp chúng tôi có một chiến dịch quảng cáo tốt vê hoạt động TMDT. | | | |
| OF30. Doanh nghiệp chúng tôi rất chú trọng kết hợp kỹ thuật tiếp thị online và offline. | | | |
| OF31. Doanh nghiệp chúng tôi thúc đẩy hoạt động tiếp thị online một cách hiêu quả. | | | |
| OF32. Doanh nghiệp chúng tôi xây dựng hình ảnh thương hiệu rất tốt. | | | |
| OF33. Doanh nghiệp chúng tôi tập trung cao vào xây dựng lòng tin của khách hàng | | | |
| OF34. Doanh nghiệp chúng tôi phản hồi rất nhanh yêu cầu của khách hàng trực tuyến | | | |
| OF35. Doanh nghiệp chúng tôi cung cấp dịch vụ giao hàng nhanh và chính xốc | | | |
| OF36. Doanh nghiệp chúng tôi tập trung cung cấp dịch vụ khách | | | |
| OF37. Doanh nghiệp chúng tõi cung cấp tốt dịch vụ sau mua hàng | | | |
| như hoàn lại tiên và hoàn trà san phẩm. OF38. Doanh nghiệp chúng tôi cung cấp nhiều lựa chọn thanh toán | | | |
| rât thuận tiện cho khách hàng. OF39. Doanh nghiệp chúng tôi cung cấp dịch vụ TMDT gia tăng giá | | | |
| trị cho khách hàng như so sánh giá cả, miễn phí vận chuyển, vv. OF40. Doanh nghiệp chúng tôi rất chú trong vào các biên pháp | | | |
| quản lý quan hệ khách hàng trực tuyến. OF41 Doanh nghiên chứng tội có khả năng quản lý thụ chỉ liên | | | |
| quan tới hoạt động TMDT. | | | |
| OF42. Doanh nghiệp chúng tôi phải phản ứng rất nhanh với giá | | | |

| sản phẩm hoặc dịch vụ cạnh tranh trên Internet. | | | |
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| OF43. Doanh nghiệp chúng tôi lồng ghép chiến lược TMDT vào chiến lược toàn công ty. | | | |
| OF44. Doanh nghiệp chúng tôi có hệ thống linh hoạt để thích ứng với sự thay đổi công nghệ. | | | |

4. Nhân tố liên quan tới môi trường Những nhận định sau có thể liên quan tới quan điểm của bạn về những nhân tố môi trường quan trọng liên quan tới hoạt động TMDT trong quý doanh nghiệp bạn. Xin vui lòng tích (√) vào ô phù họp. Thang đo dưới đây sẽ tự động đánh số giữp bạn.

| | Hoàn toàn đồng ý | Đồng ý | Không có ý kiến | Không đồng ý | Hoàn toàn không đồng ý | Không đánh giá được |
|---|------------------------|--------|-----------------------|-----------------|---------------------------------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | UR |
| EnF1. Doanh nghiệp chúng tôi tin rằng có những luật hiệu quả để bảo vệ thông tin riêng tư của khách hàng. | | | | | | |
| EnF2. Doanh nghiệp chúng tôi tin rằng việc thực thi pháp luật đủ hiệu quả để chống lại tội phạm mạng. | | | | | | |
| EnF3. Doanh nghiệp chúng tôi tin rằng môi trường pháp lý thuận lợi cho hoạt động kinh doanh trên Internet. | | | | | | |
| EnF4. Doanh nghiệp chúng tôi nhận được hỗ trợ hiệu quả thông qua các chương trình đào tạo và các buổi hội thảo của chính phủ. | | | | | | |
| EnF5. Doanh nghiệp chúng tôi nhận được những tư vấn hữu ích từ chính phủ cho hoạt động TMDT. | | | | | | |
| EnF6. Doanh nghiệp chúng tôi nhận được sự hỗ trợ tài chính đầy đủ từ chính phủ cho hoạt động TMDT. | | | | | | |
| EnF7. Doanh nghiệp chúng tôi nhận được sự hỗ trợ hiệu quả về mặt nhân sự từ phía chính phủ cho hoạt động TMDT. | | | | | | |
| EnF8. Doanh nghiệp chúng tôi nhận được hỗ trợ rộng rãi từ hiệp hội doanh nghiệp. | | | | | | |
| EnF9. Doanh nghiệp chúng tôi nhận được thông tin về hoạt động TMDT của những doanh nghiệp đi tiên phong cũng như doanh nghiệp tụt hậu từ hiệp hội doanh nghiệp. | | | | | | |
| EnF10. Doanh nghiệp chúng tôi tin rằng mức độ tin tưởng của khách hàng trong các giao dịch trực tuyến vẫn còn thấp. | | | | | | |
| EnF11. Doanh nghiệp chúng tôi tin rằng mức độ sử dụng thẻ tín dụng của khách hàng vẫn là một rào cản chính cho việc mua sắm trực tuyến. | | | | | | |
| EnF12. Doanh nghiệp chúng tôi tin rằng đối tác kinh doanh của chúng tôi đã sẵn sàng để tiến hành kinh doanh TMDT. | | | | | | |
| EnF13. Doanh nghiệp chúng tôi tin rằng có một sự cạnh tranh mạnh mẽ trong môi trường kinh doanh khi áp dụng TMDT. | | | | | | |
| EnF14. Định hướng chiến lược của doanh nghiệp chúng tôi khiến chúng tôi áp dụng TMDT. | | | | | | |
| EnF15. Doanh nghiệp chúng tôi tin rằng chất lượng và tốc độ Internet ở Việt Nam đủ tốt để thực hiện giao dịch trực tuyến. | | | | | | |
| EnF16. Doanh nghiệp chúng tôi thấy rằng chi phí liên quan với các giải pháp TMDT vẫn còn cao. | | | | | | |
| EnF17. Doanh nghiệp chúng tôi thấy rằng chi phí đào tạo cho hoạt động TMDT vẫn còn cao. | | | | | | |
| EnF18. Doanh nghiệp chúng tôi thấy rằng chi phí cho cài đặt và duy trì hoạt động TMDT vẫn còn cao. | | | | | | |
| EnF19. Doanh nghiệp chúng tôi tin rằng cơ sở hạ tầng viễn thông đủ tin cậy để hỗ trợ hoạt động TMDT. | | | | | | |
| EnF20. Doanh nghiệp chúng tôi nhận thấy rằng cơ sở hạ tầng công nghệ của các tổ chức thương mại và tài chính hiện tại không có khả năng hỗ trợ giao dịch TMDT. | | | | | | |
| EnF21. Doanh nghiệp chúng tôi tin rằng các phương pháp thanh toán trực tuyến hiện nay rất dễ sử dụng. | | | | | | |
| EnF22. Doanh nghiệp chúng tôi tin rằng hệ thống kho bãi và vận chuyển hàng hóa(logistics) ở Việt Nam rất thiếu và yếu. | | | | | | |

| EnF23. Doanh nghiệp chúng tôi có thể dễ dàng tìm thấy chuyên gia giỏi phù hợp cho hoạt động TMDT của chúng tôi. | | | |
|---|--|--|--|
| EnF24. Doanh nghiệp chúng tôi có thể dễ dàng tìm thấy các nhà cung cấp công nghệ phù hợp cho hoạt động TMDT. | | | |
| EnF25. Doanh nghiệp chúng tôi có thể thuê nhân viên công nghệ tin học phù hợp cho hoạt động TMDT của chúng tôi. | | | |

Theo bạn những hoạt động quan trọng nào đóng góp vào thành công cho hoạt động TMDT ?

| Nêu quý doanh nghiệp muôn nhận kêt quả báo cáo phân tích, xin vui lòng cung câp thông tin cá nhân. |
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Tên:

| c á | 4.0 | | |
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| Sol | fien | thoar | |
| 30 0 | uiçii | uloai. | |

Email:

Xin chân thành cảm ơn quý doanh nghiệp đã tham gia vào cuộc khảo sát!

| Variables and coding names | Categories | Codes |
|-------------------------------|--|-------|
| D1: Genders | Female | 2 |
| | Male | 1 |
| D2: Respondent age | 18—21 | 1 |
| | 22—25 | 2 |
| | 26—30 | 3 |
| | 31—40 | 4 |
| | 41—50 | 5 |
| | 51—60 | 6 |
| | 61 or over | 7 |
| D3: Education level | Primary school | 1 |
| | Secondary (or High) school | 2 |
| | Vocational education and training (TAFE) | 3 |
| | Higher education (University) | 4 |
| | Masters | 5 |
| | Doctor or higher | 6 |
| D4: Income | 4 million VND and under | 1 |
| | 4—6 million VND | 2 |
| | 6—10 million VND | 3 |
| | over 10 million VND | 4 |
| D5: Job position | Director | 1 |
| | General Manager | 2 |
| | Executive | 3 |
| | IT staff | 4 |
| | Trainees | 5 |
| | Administrators | 6 |
| | Others, please specify | 7 |
| D6: Enterprise age | Less than 5 years | 1 |
| | 5—10 years | 2 |
| | 11—15 years | 3 |
| | More than 15 years | 4 |
| D7: Enterprise size | 1—9 employees | 1 |
| | 10—49 employees | 2 |
| | 50—299 employees | 3 |
| | Over 300 employees | 4 |
| D8: Ownership type | Private | 1 |
| | Joint stock | 2 |
| | Proprietary limited | 3 |
| | Partnership | 4 |
| | Others, please specify | 5 |
| D9: Product/service offerings | Clothes, shoes, and beauty products | 1 |
| | Electronic devices | 2 |
| | Home appliances | 3 |

Appendix B1: The coding questionnaire

| Variables and coding names | Categories | Codes |
|---|--|----------|
| D9: Product/service offerings | Flight tickets | <u> </u> |
| Dy. 110uucuservice onerings | Food | 5 |
| | Books and office equipments | 6 |
| | Movies and music concert tickets | 7 |
| | Hotel/Tour orders | 8 |
| | Music/Video/Game | 9 |
| | Sna services | 10 |
| | Specialist services (training, consulting, | 10 |
| | etc.) | 11 |
| | Others, please specify | 12 |
| D10: Communication channels | Trade & industry association | 1 |
| | Professional bodies | 2 |
| | Research organisations | 3 |
| | Public libraries | 4 |
| | Universities or college | 5 |
| | Small business advisory centres | 6 |
| | Consultants | 7 |
| | Government depts. Or agencies | 8 |
| | Technology suppliers | 9 |
| | Personal contacts | 10 |
| | Financial institutions, banks | 11 |
| | Research on the Internet | 12 |
| | Others, please specify | 13 |
| E-commerce capacities | Never have a plan | 0 |
| From EC1 to EC13 | Have a plan in near future | 1 |
| | Running in trial | 2 |
| | Running after trial 1—2 years | 3 |
| | Running after trial 2 years | 4 |
| E-commerce benefits | Unable to rate | 0 |
| From B1 to B12 | Strong disagree | 1 |
| Entrepreneurial Factors | Disagree | 2 |
| From EF1 to TF32 | Neither agree nor disagree | 3 |
| Technological factors | Agree | 4 |
| From TF1 to EF14 | Strongly agree | 5 |
| Organisational factors From OF1 to TF44 | | |
| Environmental factors | | |
| From EnF1 to EnF26 | | |
| Invert factors | Unable to rate | 0 |
| TF5, TF20, | Strong disagree | 5 |
| OF22, | Disagree | 4 |
| EnF10, EnF11, EnF16, EnF17, EnF18 | Neither agree nor disagree | 3 |
| EnF20, EnF22 | Agree | 2 |
| | Strongly agree | 1 |

| code Part A. Demographic questions D3 What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training (TAFE) □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Master (TAFE) □ Secondary(or □ Higher education (University) □ Doctor or higher □ Secondary(or □ Higher education (University) □ Doctor or higher □ D10 Which outside sources of advice would your company use for identification or |
|---|
| Part A. Demographic questions D3 What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training (TAFE) □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Secondary(or □ Higher education (University) □ Doctor or higher □ High) school □ Doctor or higher □ High) school □ Doctor or higher □ High) school □ Doctor or higher |
| D3 What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training (TAFE) □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Brimary school □ Vocational education and training □ Primary school □ Vocational education and training □ Doctor or higher □ Doctor or higher □ High) school □ Doctor or higher □ High) school □ Doctor or higher □ High) school □ Doctor or higher |
| most appropriate box. □ Primary school □ Vocational education and training (TAFE) □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Master (TAFE) □ Secondary(or □ Higher education (University) □ Doctor or higher High) school D10 Which outside sources of advice would your company use for identification or □ |
| □ Primary school □ Vocational education and training (TAFE) □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Primary school □ Vocational education and training □ Primary school □ Vocational education and training □ Secondary(or □ Higher education (University) □ Doctor or higher High) school |
| □ Secondary (or High) school □ Higher education (University) Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Master (TAFE) □ Secondary(or □ Higher education (University) □ Doctor or higher High) school D10 Which outside sources of advice would your company use for identification or |
| Change to What is the highest level of education you have completed? Please tick (√) the most appropriate box. □ Primary school □ Vocational education and training □ Master (TAFE) □ Secondary(or □ Higher education (University) □ Doctor or higher High) school D10 Which outside sources of advice would your company use for identification or |
| most appropriate box. Primary school Vocational education and training Master (TAFE) Secondary(or Higher education (University) High) school |
| Primary school Vocational education and training Master (TAFE) Secondary(or Higher education (University) Doctor or higher High) school High outside sources of advice would your company use for identification or |
| (TAFE) Secondary(or Higher education (University) High) school D10 Which outside sources of advice would your company use for identification or |
| Secondary(or Higher education (University) Doctor or higher High) school High outside sources of advice would your company use for identification or |
| High) school D10 Which outside sources of advice would your company use for identification or |
| D10 Which outside sources of advice would your company use for identification or |
| which outside sources of advice would your company use for identification of |
| supply of information about EC? (you may tick more than one box): |
| Change to When your company is adopting and implementing EC, which information sources |
| has your company accessed? (you may tick more than one box): |
| Part C. E-commerce capacity |
| EC4 Our company communicates with customers through our company's Website |
| Change to Our company usually chats and e-mails to customers through our company's |
| Website |
| EC6 Our company gets feedback from customers through the company's Website |
| Change to Our company usually solve complaints and received feedback from customers |
| through our company's Website |
| Part D: Factors |
| Entrepreneurial Factors |
| EF3, EF5 EF3. Our leaders communicated widely about their vision of EC activities within |
| our company. |
| EF5. Our leaders have a realistic view of EC investment in our company. |
| Removed due to having the same meaning as EF2 |
| EF2. Our leaders have a clear vision on EC. |
| EF4, EF8 EF4. Our leaders are open to accept changes within our company. |
| Bemoved due to having the same meaning as EE1 |
| EF1 Our leaders are committed towards EC initiatives |
| EF7 EF7 Our leaders play a critical role in propering the work force for changes in the |
| company |
| Is merged with FF11 to have a clearer meaning |
| FF11: Our company's leaders always provide training to improve staff skills for |
| employing e-commerce activities |
| EF12 EF12 Our leaders have sufficient support in providing advice to the staff about the |
| EF15 EC implementation. |
| EF15. Our leaders have technical support for conducting EC activities. |
| Not valid in SME practices |

Appendix B2: Summaries of changes in the questionnaire

Appendix B2: Continued.

| Question | Original and modified questions |
|------------|--|
| code | |
| EF13 | EF13. Our leaders have sufficient financial support for EC activities. |
| | Removed due to having the same meaning as OF1 |
| | OF1. Our company has sufficient finance to invest in EC activities. |
| Technologi | cal Factors |
| TF3 | TF3. Our company's coordination between business, technology and people is |
| | efficient. |
| | Removed due to having the same meaning with TF2 |
| | TF2. Our company's business to technology alignment is efficient. |
| TF6 | TF6. Our company believes that EC adoption damages the social relationship of the |
| | enterprise. |
| | Unable to rate (this information was only able to be revealed by some key people) |
| TF7 | TF7. Our company believes that EC adoption is highly risky for us and our |
| | customers. |
| | Removed due to having the same meaning as TF5 |
| | TF5. Our company believes that EC adoption creates a risk of losing important |
| | information. |
| TF8, | TF8. Our company believes that EC adoption results in wastage of our company's |
| TF10, | finances. |
| TF11 | TF10. Our company's EC activities are compatible with the existing values and |
| | objectives. |
| | TF11. Our company's EC activities are compatible with the experience of other EC |
| | adopting enterprises in the same sector. |
| | Unable to rate (this information only revealed by some key people) |
| TF9 | TF9. Our company's EC activities are compatible with the suppliers. |
| | Not valid in SME practices |
| TF13 | TF13. Our company believes that adopting EC will reduce our expenses. |
| | Removed due to having a similar assessment in ECB1 |
| TF14 | TF14. Our company believes that adopting EC will improve customer relationship |
| | management practices. |
| | Merged with TF15 due to having a similar meaning to TF15. |
| | TF15. Our company believes that adopting EC will help provide better customer |
| | services and improve customer relationships. |
| Organisati | onal Factors |
| OF2 | OF2. Our company has experience with network-based applications. |
| 0.54 | Unable to rate (this information only revealed by some key people) |
| OF4 | OF4. Our company has a high bandwidth connectivity to the Internet. |
| | Removed due to being a part of EnF19 and EnF15 |
| | EnF19. Our company believes that the existing telecommunication infrastructure is |
| | reliable and efficient for supporting EC. |
| | EnF15. Our company believes quality and speed of the Internet in Vietnam is good |
| | enough to conduct online transactions. |

Appendix B2: Continued.

| Ouestion | Original and modified questions |
|-----------|--|
| code | |
| OF6, OF7, | OF6. Our employees have experience with network-based applications. |
| OF8 | OF7. Our employees and staff are knowledgeable about EC. |
| | OF8. Our employees and staff are competent with the technological advancements. |
| | Removed due to having the same meaning as OF5 |
| | OF5. Our employees are qualified enough to conduct EC activities. |
| OF10 | OF10. Our company follows a systematic process for managing change issues as a |
| | result of EC implementation. |
| | Unable to rate (does not exist in practice) |
| OF15, 17 | OF15. Our company's staff are open and trust each other. |
| | OF17. Our company's culture allows for information sharing. |
| | Removed due to having the same meaning as OF16 |
| | OF16. Our company's culture allows for open communication with each other. |
| OF36 | OF36. Our company provides high quality online customer service. |
| | Unable to rate (information is too general) |
| Environme | ntal factors |
| EnF6, | EnF6. Our company receives sufficient government support for providing finance |
| EnF7 | to EC initiatives. |
| | EnF7. Our company receives plenty of government support for providing human |
| | resources to EC initiatives. |
| | Merged with TF15 due to having a similar meaning to EnF5 |
| | EnF5. Our company receives adequate government supports for EC activities like |
| | finance, consultants, etc. |
| EnF9 | EnF9. Our company receives information about leaders and laggards of EC |
| | initiatives from the trade associations. |
| | Removed due to being part of EnF8 |
| | EnF8. Our company receives extensive support from the local business community |
| | for EC initiatives. |
| EnF15, | EnF15. Our company believes quality and speed of the Internet in Vietnam is good |
| EnF19 | enough to conduct online transactions. |
| | EnF19. Our company believes that the existing telecommunication infrastructure is |
| | reliable and efficient to support EC. |
| | Merging to EnF19 |
| | EnF19: Our company hardly has any problems with telecommunication |
| | infrastructure |
| EnF22 | Our company believes that the existing logistics system in Vietnam is very weak. |
| Changed | Our company believes that the existing logistics systems in Vietnam cannot support |
| to | our online business. |
| EnF26 | Our company receives sufficient help from technology vendors. |
| was added | |
| | |

| | | a | 10 | | - | a' |
|------|----------------|----------------|-----|-------------|-------|------|
| | | Sum of Squares | df | Mean Square | F | Sig. |
| EF1 | Between Groups | 11.806 | 2 | 5.903 | 8.982 | .000 |
| | Within Groups | 132.091 | 201 | .657 | | |
| | Total | 143.897 | 203 | | | |
| EF2 | Between Groups | 4.223 | 2 | 2.112 | 3.199 | .043 |
| | Within Groups | 132.654 | 201 | .660 | | |
| | Total | 136.877 | 203 | | | |
| EF9 | Between Groups | 11.683 | 2 | 5.841 | 5.573 | .004 |
| | Within Groups | 213.834 | 204 | 1.048 | | |
| | Total | 225.517 | 206 | | | |
| EF11 | Between Groups | 7.129 | 2 | 3.564 | 3.686 | .027 |
| | Within Groups | 197.287 | 204 | .967 | | |
| | Total | 204.415 | 206 | | | |

Appendix C1: ANOVA test for entrepreneurial factors among adoption groups

Appendix C1: Post hoc test for entrepreneurial factors among adoption groups

Multiple Comparisons

| Dependent Variable | (I) ECMaturity | (J) ECMaturity | Mean Difference (I- | Std. Error | Sig. | 95% Confide | nce Interval |
|--------------------|-------------------|-------------------|---------------------|------------|------|-------------|--------------|
| | | | J) | | | Lower Bound | Upper Bound |
| EF1 | Advertising group | Transacting group | 44639* | .14015 | .007 | 7920 | 1008 |
| | | Intensive group | .15488 | .13443 | .516 | 1766 | .4864 |
| | Transacting group | Advertising group | .44639* | .14015 | .007 | .1008 | .7920 |
| | | Intensive group | .60128* | .14658 | .000 | .2398 | .9628 |
| | Intensive group | Advertising group | 15488 | .13443 | .516 | 4864 | .1766 |
| | | Transacting group | 60128* | .14658 | .000 | 9628 | 2398 |
| EF2 | Advertising group | Transacting group | 35348* | .14045 | .044 | 6998 | 0071 |
| | | Intensive group | 11504 | .13471 | .695 | 4473 | .2172 |
| | Transacting group | Advertising group | .35348* | .14045 | .044 | .0071 | .6998 |
| | | Intensive group | .23844 | .14689 | .270 | 1238 | .6007 |
| | Intensive group | Advertising group | .11504 | .13471 | .695 | 2172 | .4473 |
| | | Transacting group | 23844 | .14689 | .270 | 6007 | .1238 |
| EF9 | Advertising group | Transacting group | 24561 | .17569 | .378 | 6788 | .1876 |
| | | Intensive group | .36364 | .16841 | .100 | 0516 | .7789 |
| | Transacting group | Advertising group | .24561 | .17569 | .378 | 1876 | .6788 |
| | | Intensive group | .60925* | .18513 | .005 | .1528 | 1.0657 |
| | Intensive group | Advertising group | 36364 | .16841 | .100 | 7789 | .0516 |
| | | Transacting group | 60925* | .18513 | .005 | -1.0657 | 1528 |
| EF11 | Advertising group | Transacting group | 43609* | .16876 | .037 | 8522 | 0200 |
| | | Intensive group | 05411 | .16176 | .946 | 4530 | .3448 |
| | Transacting group | Advertising group | .43609* | .16876 | .037 | .0200 | .8522 |
| | | Intensive group | .38198 | .17782 | .102 | 0565 | .8204 |
| | Intensive group | Advertising group | .05411 | .16176 | .946 | 3448 | .4530 |
| | | Transacting group | 38198 | .17782 | .102 | 8204 | .0565 |

Scheffe

*. The mean difference is significant at the 0.05 level.

| | | Sum of Squares | df | Mean Square | F | Sig. |
|--------|----------------|----------------|-----|-------------|--------|------|
| TF2 | Between Groups | 5.514 | 2 | 2.757 | 3.577 | .030 |
| | Within Groups | 157.249 | 204 | .771 | | |
| | Total | 162.763 | 206 | | | |
| TF5_rv | Between Groups | 23.252 | 2 | 11.626 | 5.519 | .005 |
| | Within Groups | 417.116 | 198 | 2.107 | | |
| | Total | 440.368 | 200 | | | |
| TF12 | Between Groups | 18.194 | 2 | 9.097 | 10.349 | .000 |
| | Within Groups | 179.323 | 204 | .879 | | |
| | Total | 197.517 | 206 | | | |
| TF15 | Between Groups | 5.230 | 2 | 2.615 | 3.901 | .022 |
| 1115 | Within Groups | 136.751 | 204 | .670 | | |
| | Total | 141.981 | 206 | | | |
| TF17 | Between Groups | 7.143 | 2 | 3.571 | 5.504 | .005 |
| | Within Groups | 132.374 | 204 | .649 | | |
| | Total | 139.517 | 206 | | | |
| TF24 | Between Groups | 11.667 | 2 | 5.834 | 8.528 | .000 |
| | Within Groups | 139.550 | 204 | .684 | | |
| | Total | 151.217 | 206 | | | |
| TF25 | Between Groups | 15.278 | 2 | 7.639 | 8.089 | .000 |
| | Within Groups | 192.645 | 204 | .944 | | |
| | Total | 207.923 | 206 | | | |

Appendix C2: ANOVA test for technological factors among adoption groups

| Scheffe | | × | L | | | | |
|--------------------|-------------------|-------------------|---------------------|------------|------|-------------|--------------|
| Dependent Variable | (I) ECMaturity | (J) ECMaturity | Mean Difference (I- | Std. Error | Sig. | 95% Confide | nce Interval |
| | | | J) | | | Lower Bound | Upper Bound |
| TF2 | Advertising group | Transacting group | 19549 | .15066 | .432 | 5670 | .1760 |
| | | Intensive group | 38528* | .14442 | .030 | 7414 | 0292 |
| | Transacting group | Advertising group | .19549 | .15066 | .432 | 1760 | .5670 |
| | | Intensive group | 18979 | .15875 | .491 | 5813 | .2017 |
| | Intensive group | Advertising group | .38528* | .14442 | .030 | .0292 | .7414 |
| | | Transacting group | .18979 | .15875 | .491 | 2017 | .5813 |
| TF5Keep | Advertising group | Transacting group | 47354 | .25316 | .177 | -1.0979 | .1508 |
| _ | | Intensive group | .42063 | .24190 | .223 | 1760 | 1.0173 |
| | Transacting group | Advertising group | .47354 | .25316 | .177 | 1508 | 1.0979 |
| | | Intensive group | .89418* | .26917 | .005 | .2303 | 1.5580 |
| | Intensive group | Advertising group | 42063 | .24190 | .223 | -1.0173 | .1760 |
| | | Transacting group | 89418 [*] | .26917 | .005 | -1.5580 | 2303 |
| TF12 | Advertising group | Transacting group | 57268* | .16089 | .002 | 9694 | 1759 |
| | | Intensive group | 62771 [*] | .15422 | .000 | -1.0080 | 2474 |
| | Transacting group | Advertising group | .57268* | .16089 | .002 | .1759 | .9694 |
| | | Intensive group | 05502 | .16953 | .949 | 4731 | .3630 |
| | Intensive group | Advertising group | .62771* | .15422 | .000 | .2474 | 1.0080 |
| | | Transacting group | .05502 | .16953 | .949 | 3630 | .4731 |
| TF15 | Advertising group | Transacting group | 32895 | .14050 | .067 | 6754 | .0175 |
| | | Intensive group | .05303 | .13467 | .925 | 2791 | .3851 |
| | Transacting group | Advertising group | .32895 | .14050 | .067 | 0175 | .6754 |
| | | Intensive group | .38198* | .14804 | .038 | .0169 | .7470 |
| | Intensive group | Advertising group | 05303 | .13467 | .925 | 3851 | .2791 |
| | | Transacting group | 38198* | .14804 | .038 | 7470 | 0169 |
| TF17 | Advertising group | Transacting group | 25815 | .13824 | .177 | 5990 | .0827 |
| | | Intensive group | .22511 | .13250 | .239 | 1016 | .5518 |
| | Transacting group | Advertising group | .25815 | .13824 | .177 | 0827 | .5990 |
| | | Intensive group | .48325* | .14566 | .005 | .1241 | .8424 |
| | Intensive group | Advertising group | 22511 | .13250 | .239 | 5518 | .1016 |
| | | Transacting group | 48325* | .14566 | .005 | 8424 | 1241 |
| TF24 | Advertising group | Transacting group | 57393* | .14193 | .000 | 9239 | 2240 |
| | | Intensive group | 33550* | .13605 | .050 | 6710 | .0000 |
| | Transacting group | Advertising group | .57393* | .14193 | .000 | .2240 | .9239 |
| | | Intensive group | .23844 | .14955 | .283 | 1303 | .6072 |
| | Intensive group | Advertising group | .33550* | .13605 | .050 | .0000 | .6710 |

Appendix C2: Post hoc test for technological factors among adoption groups

Multiple Comparisons

| | | Transacting group | 23844 | .14955 | .283 | 6072 | .1303 |
|------|-------------------|-------------------|---------------------|--------|------|---------|--------|
| TF25 | Advertising group | Transacting group | 43170 [*] | .16676 | .037 | 8429 | 0205 |
| | | Intensive group | .27165 | .15984 | .238 | 1225 | .6658 |
| | Transacting group | Advertising group | .43170 [*] | .16676 | .037 | .0205 | .8429 |
| | | Intensive group | .70335* | .17571 | .000 | .2701 | 1.1366 |
| | Intensive group | Advertising group | 27165 | .15984 | .238 | 6658 | .1225 |
| | | Transacting group | 70335* | .17571 | .000 | -1.1366 | 2701 |
| | | Transacting group | 30463 | .19580 | .300 | 7874 | .1782 |

*. The mean difference is significant at the 0.05 level.

| | | Sum of Squares | df | Mean Square | F | Sig. |
|------|----------------|----------------|-----|-------------|-------|------|
| OF44 | Between Groups | 7.438 | 2 | 3.719 | 3.998 | .020 |
| | Within Groups | 186.969 | 201 | .930 | | |
| | Total | 194.407 | 203 | | | |
| OF1 | Between Groups | 12.782 | 2 | 6.391 | 6.789 | .001 |
| | Within Groups | 189.218 | 201 | .941 | | |
| | Total | 202.000 | 203 | | | |
| OF3 | Between Groups | 10.410 | 2 | 5.205 | 8.012 | .000 |
| | Within Groups | 131.229 | 202 | .650 | | |
| | Total | 141.639 | 204 | | | |
| OF5 | Between Groups | 7.605 | 2 | 3.802 | 3.736 | .026 |
| | Within Groups | 204.567 | 201 | 1.018 | | |
| | Total | 212.172 | 203 | | | |
| OF43 | Between Groups | 6.855 | 2 | 3.427 | 3.477 | .033 |
| | Within Groups | 198.140 | 201 | .986 | | |
| | Total | 204.995 | 203 | | | |
| OF24 | Between Groups | 7.442 | 2 | 3.721 | 6.513 | .002 |
| | Within Groups | 116.539 | 204 | .571 | | |
| | Total | 123.981 | 206 | | | |
| OF37 | Between Groups | 9.445 | 2 | 4.723 | 5.252 | .006 |
| | Within Groups | 180.726 | 201 | .899 | | |
| | Total | 190.172 | 203 | | | |
| OF40 | Between Groups | 4.458 | 2 | 2.229 | 3.570 | .030 |
| | Within Groups | 127.368 | 204 | .624 | | |
| | Total | 131.826 | 206 | | | |

Appendix C3: ANOVA test for organisational factors among adoption groups

| Scheffe | | | Ī | | | | |
|--------------------|-------------------|-------------------|---------------------|------------|-------|-------------|--------------|
| Dependent Variable | (I) ECMaturity | (J) ECMaturity | Mean Difference (I- | Std. Error | Sig. | 95% Confide | nce Interval |
| | | | J) | | | Lower Bound | Upper Bound |
| OF44 | Advertising group | Transacting group | 43990 [*] | .16674 | .033 | 8511 | 0287 |
| | | Intensive group | 03479 | .15993 | .977 | 4292 | .3596 |
| | Transacting group | Advertising group | .43990* | .16674 | .033 | .0287 | .8511 |
| | | Intensive group | .40510 | .17439 | .070 | 0250 | .8352 |
| | Intensive group | Advertising group | .03479 | .15993 | .977 | 3596 | .4292 |
| | | Transacting group | 40510 | .17439 | .070 | 8352 | .0250 |
| OF1 | Advertising group | Transacting group | 60979 [*] | .16923 | .002 | -1.0271 | 1924 |
| | | Intensive group | 12662 | .15959 | .730 | 5202 | .2670 |
| | Transacting group | Advertising group | .60979 [*] | .16923 | .002 | .1924 | 1.0271 |
| | | Intensive group | .48316* | .17803 | .027 | .0441 | .9222 |
| | Intensive group | Advertising group | .12662 | .15959 | .730 | 2670 | .5202 |
| | | Transacting group | 48316* | .17803 | .027 | 9222 | 0441 |
| OF3 | Advertising group | Transacting group | 55744* | .13938 | .000 | 9012 | 2137 |
| | | Intensive group | 20409 | .13293 | .310 | 5319 | .1237 |
| | Transacting group | Advertising group | .55744* | .13938 | .000 | .2137 | .9012 |
| | | Intensive group | .35335 | .14644 | .057 | 0078 | .7145 |
| | Intensive group | Advertising group | .20409 | .13293 | .310 | 1237 | .5319 |
| | | Transacting group | 35335 | .14644 | .057 | 7145 | .0078 |
| OF5 | Advertising group | Transacting group | 16980 | .17312 | .619 | 5967 | .2571 |
| | | Intensive group | .32143 | .16814 | .164 | 0932 | .7361 |
| | Transacting group | Advertising group | .16980 | .17312 | .619 | 2571 | .5967 |
| | | Intensive group | .49123* | .18442 | .031 | .0364 | .9460 |
| | Intensive group | Advertising group | 32143 | .16814 | .164 | 7361 | .0932 |
| | | Transacting group | 49123* | .18442 | .031 | 9460 | 0364 |
| OF43 | Advertising group | Transacting group | 40852^{*} | .13590 | .009 | 7306 | 0864 |
| | | Intensive group | .00000 | .18986 | 1.000 | 4505 | .4505 |
| | Transacting group | Advertising group | .40852 [*] | .13590 | .009 | .0864 | .7306 |
| | | Intensive group | .40852* | .17013 | .048 | .0031 | .8140 |
| | Intensive group | Advertising group | .00000 | .18986 | 1.000 | 4505 | .4505 |
| | | Transacting group | 40852* | .17013 | .048 | 8140 | 0031 |

Appendix C3: Post hoc test for organisational factors among adoption groups

Multiple Comparisons

Appendix C3: Continued.

Multiple Comparisons

| Scheffe | | - | - | | | | |
|--------------------|-------------------|-------------------|---------------------|--------------------------------|------|-------------|--------------|
| Dependent Variable | (I) ECMaturity | (J) ECMaturity | Mean Difference (I- | Mean Difference (I- Std. Error | | 95% Confide | nce Interval |
| | | | J) | | | Lower Bound | Upper Bound |
| OF24 | Advertising group | Transacting group | 28070 | .12970 | .099 | 6005 | .0391 |
| | | Intensive group | .21212 | .12432 | .236 | 0944 | .5187 |
| | Transacting group | Advertising group | .28070 | .12970 | .099 | 0391 | .6005 |
| | | Intensive group | .49282* | .13667 | .002 | .1558 | .8298 |
| | Intensive group | Advertising group | 21212 | .12432 | .236 | 5187 | .0944 |
| | | Transacting group | 49282* | .13667 | .002 | 8298 | 1558 |
| OF37 | Advertising group | Transacting group | 34259 | .16539 | .120 | 7505 | .0653 |
| | | Intensive group | .21970 | .15597 | .373 | 1649 | .6043 |
| | Transacting group | Advertising group | .34259 | .16539 | .120 | 0653 | .7505 |
| | | Intensive group | .56229* | .17399 | .006 | .1332 | .9914 |
| | Intensive group | Advertising group | 21970 | .15597 | .373 | 6043 | .1649 |
| | | Transacting group | 56229* | .17399 | .006 | 9914 | 1332 |
| OF40 | Advertising group | Transacting group | .06704 | .13560 | .885 | 2673 | .4014 |
| | | Intensive group | .33658* | .12997 | .037 | .0161 | .6571 |
| | Transacting group | Advertising group | 06704 | .13560 | .885 | 4014 | .2673 |
| | | Intensive group | .26954 | .14288 | .171 | 0828 | .6218 |
| | Intensive group | Advertising group | 33658* | .12997 | .037 | 6571 | 0161 |
| | _ | Transacting group | 26954 | .14288 | .171 | 6218 | .0828 |

*. The mean difference is significant at the 0.05 level.

| | | Sum of Squares | df | Mean Square | F | Sig. |
|----------|----------------|----------------|-----|-------------|--------|------|
| EnF1 | Between Groups | 24.580 | 2 | 12.290 | 14.971 | .000 |
| | Within Groups | 165.008 | 201 | .821 | | |
| | Total | 189.588 | 203 | | | |
| EnF2 | Between Groups | 16.743 | 2 | 8.371 | 8.946 | .000 |
| | Within Groups | 190.909 | 204 | .936 | | |
| | Total | 207.652 | 206 | | | |
| EnF4 | Between Groups | 11.127 | 2 | 5.563 | 3.750 | .025 |
| | Within Groups | 293.749 | 198 | 1.484 | | |
| | Total | 304.876 | 200 | | | |
| EnF5 | Between Groups | 16.036 | 2 | 8.018 | 5.081 | .007 |
| | Within Groups | 312.451 | 198 | 1.578 | | |
| | Total | 328.488 | 200 | | | |
| EnF10_rv | Between Groups | 13.518 | 2 | 6.759 | 5.653 | .004 |
| EnF10_rv | Within Groups | 243.912 | 204 | 1.196 | | |
| | Total | 257.430 | 206 | | | |
| EnF13 | Between Groups | 6.657 | 2 | 3.328 | 5.672 | .004 |
| | Within Groups | 119.701 | 204 | .587 | | |
| | Total | 126.357 | 206 | | | |
| EnF16_rv | Between Groups | 9.075 | 2 | 4.537 | 6.379 | .002 |
| | Within Groups | 145.109 | 204 | .711 | | |
| | Total | 154.184 | 206 | | | |
| EnF22_rv | Between Groups | 12.060 | 2 | 6.030 | 4.151 | .017 |
| | Within Groups | 274.560 | 189 | 1.453 | | |
| | Total | 286.620 | 191 | | | |
| EnF23 | Between Groups | 13.604 | 2 | 6.802 | 4.941 | .008 |
| | Within Groups | 276.685 | 201 | 1.377 | | |
| | Total | 290.289 | 203 | | | |
| EnF26 | Between Groups | 10.031 | 2 | 5.016 | 4.740 | .010 |
| | Within Groups | 209.531 | 198 | 1.058 | | |
| | Total | 219.562 | 200 | | | |

Appendix C4: ANOVA test for environmental factors among adoption groups

Appendix C4: Post hoc test for environmental factors among adoption groups

| Games-Howell | | | | | | | |
|--------------------|-------------------|-------------------|---------------------|------------|-------|-------------|--------------|
| Dependent Variable | (I) ECMaturity | (J) ECMaturity | Mean Difference (I- | Std. Error | Sig. | 95% Confide | nce Interval |
| | | | J) | | | Lower Bound | Upper Bound |
| EnF01converted | Advertising group | Transacting group | 75251 [*] | .17061 | .000 | -1.1575 | 3475 |
| | | Intensive group | 65476* | .13720 | .000 | 9797 | 3299 |
| | Transacting group | Advertising group | .75251* | .17061 | .000 | .3475 | 1.1575 |
| | | Intensive group | .09774 | .15923 | .813 | 2812 | .4767 |
| | Intensive group | Advertising group | .65476* | .13720 | .000 | .3299 | .9797 |
| | | Transacting group | 09774 | .15923 | .813 | 4767 | .2812 |
| EnF02converted | Advertising group | Transacting group | .00501 | .18025 | 1.000 | 4229 | .4329 |
| | | Intensive group | 60823* | .14773 | .000 | 9580 | 2585 |
| | Transacting group | Advertising group | 00501 | .18025 | 1.000 | 4329 | .4229 |
| | | Intensive group | 61324* | .17066 | .001 | -1.0192 | 2073 |
| | Intensive group | Advertising group | .60823* | .14773 | .000 | .2585 | .9580 |
| | | Transacting group | .61324* | .17066 | .001 | .2073 | 1.0192 |
| EnF04converted | Advertising group | Transacting group | .59104* | .21410 | .019 | .0805 | 1.1015 |
| | | Intensive group | .19264 | .20209 | .608 | 2871 | .6724 |
| | Transacting group | Advertising group | 59104* | .21410 | .019 | -1.1015 | 0805 |
| | | Intensive group | 39840 | .24830 | .248 | 9883 | .1915 |
| | Intensive group | Advertising group | 19264 | .20209 | .608 | 6724 | .2871 |
| | | Transacting group | .39840 | .24830 | .248 | 1915 | .9883 |
| EnF05converted | Advertising group | Transacting group | .67787* | .19873 | .003 | .2061 | 1.1497 |
| | | Intensive group | .43723 | .22095 | .122 | 0868 | .9612 |
| | Transacting group | Advertising group | 67787* | .19873 | .003 | -1.1497 | 2061 |
| | | Intensive group | 24064 | .23102 | .552 | 7892 | .3079 |
| | Intensive group | Advertising group | 43723 | .22095 | .122 | 9612 | .0868 |
| | | Transacting group | .24064 | .23102 | .552 | 3079 | .7892 |
| EnF10Keep | Advertising group | Transacting group | .15476 | .20167 | .724 | 3242 | .6337 |
| | | Intensive group | .59416* | .16838 | .002 | .1955 | .9928 |
| | Transacting group | Advertising group | 15476 | .20167 | .724 | 6337 | .3242 |
| | | Intensive group | .43939 | .19869 | .074 | 0330 | .9117 |
| | Intensive group | Advertising group | 59416* | .16838 | .002 | 9928 | 1955 |
| | | Transacting group | 43939 | .19869 | .074 | 9117 | .0330 |
| EnF013converted | Advertising group | Transacting group | 41416* | .10767 | .001 | 6693 | 1590 |
| | | Intensive group | 03139 | .14204 | .973 | 3681 | .3054 |
| | Transacting group | Advertising group | .41416 [*] | .10767 | .001 | .1590 | .6693 |
| | | Intensive group | .38278* | .12903 | .010 | .0758 | .6897 |

Multiple Comparisons

| | Intensive group | Advertising group | .03139 | .14204 | .973 | 3054 | .3681 |
|-----------------|-------------------|-------------------|---------------------|--------|------|---------|--------|
| | | Transacting group | 38278* | .12903 | .010 | 6897 | 0758 |
| EnF16Keep | Advertising group | Transacting group | .03759 | .13665 | .959 | 2862 | .3614 |
| | | Intensive group | 43290* | .14528 | .009 | 7770 | 0888 |
| | Transacting group | Advertising group | 03759 | .13665 | .959 | 3614 | .2862 |
| | | Intensive group | 47049* | .14142 | .003 | 8061 | 1349 |
| | Intensive group | Advertising group | .43290* | .14528 | .009 | .0888 | .7770 |
| | | Transacting group | .47049 [*] | .14142 | .003 | .1349 | .8061 |
| EnF22Keep | Advertising group | Transacting group | .05204 | .23869 | .974 | 5149 | .6189 |
| | | Intensive group | .55250* | .18955 | .012 | .1031 | 1.0019 |
| | Transacting group | Advertising group | 05204 | .23869 | .974 | 6189 | .5149 |
| | | Intensive group | $.50047^{*}$ | .20913 | .049 | .0014 | .9995 |
| | Intensive group | Advertising group | 55250 [*] | .18955 | .012 | -1.0019 | 1031 |
| | | Transacting group | 50047* | .20913 | .049 | 9995 | 0014 |
| EnF023converted | Advertising group | Transacting group | 37698 | .17568 | .085 | 7933 | .0393 |
| | | Intensive group | .29978 | .21140 | .334 | 2011 | .8007 |
| | Transacting group | Advertising group | .37698 | .17568 | .085 | 0393 | .7933 |
| | | Intensive group | .67677 [*] | .19537 | .002 | .2126 | 1.1409 |
| | Intensive group | Advertising group | 29978 | .21140 | .334 | 8007 | .2011 |
| | | Transacting group | 67677 [*] | .19537 | .002 | -1.1409 | 2126 |
| EnF026converted | Advertising group | Transacting group | 47269* | .15930 | .010 | 8503 | 0951 |
| | | Intensive group | 43615* | .18232 | .047 | 8679 | 0044 |
| | Transacting group | Advertising group | .47269* | .15930 | .010 | .0951 | .8503 |
| | | Intensive group | .03654 | .15830 | .971 | 3395 | .4126 |
| | Intensive group | Advertising group | .43615* | .18232 | .047 | .0044 | .8679 |
| | | Transacting group | 03654 | .15830 | .971 | 4126 | .3395 |

*. The mean difference is significant at the 0.05 level.

Appendix D1:CSFs against e-commerce stages

| No. | CSFs | Improve | business perfo | ormance | Re | duce business co | st |
|-----|---|---------|----------------|---------|---------|------------------|---------|
| | | Stage 1 | Stage 2 | Stage 3 | Stage 1 | Stage 2 | Stage 3 |
| 1. | Top management commitment (EF1) | | .351** | .452** | | .526** | .683** |
| 2. | Top management vision (EF2) | | .425** | .436** | | .662** | .605** |
| 3. | Open-mindedness to innovation (EF6) | | .554** | .545** | | .357** | .489** |
| 4. | Top manager understanding (EF9) | | | .334** | | | .737** |
| 5. | Managing change (EF10) | | .323* | | | | .690** |
| 6. | Providing training to staff (EF11) | | | .391** | | | .428** |
| 7. | Providing work-power for EC adoption (EF14) | | .612** | .358** | | .422** | .441** |
| 8. | Re-engineering business processes (TF1) | .346** | | .479** | | | .606** |
| 9. | Collaboration between IT & business staff (TF2) | | .345** | .638** | | | .443** |
| 10. | Compatibility with traditional business (TF4) | | | .672** | | | .345** |
| 11. | Technology compatibility (TF12) | | | .538** | | | .393** |
| 12. | Perceived better services (TF15) | | | .439** | | | .678** |
| 13. | Perceived expanding market sections (TF16) | | .553** | .619** | | | .325** |
| 14. | Perceived more income from market (TF17) | | .717** | .444** | | | .522** |
| 15. | Loss of time (TF18) | | .482** | .417** | | | .421** |
| 16. | Perceived benefit from observation of others (TF22) | | .446** | .413** | .458** | | |

| 17. | Restriction of doing EC business (TF23) | .345** | | | | | .454** |
|-----|--|--------|--------|--------|--------|--------|--------|
| 18. | Benefit from observation of other enterprises (TF24) | | | .460** | | | .328** |
| 19. | Reliability of EC benefits (TF25) | | .469** | | | | .391** |
| 20. | Service Website availability (TF30) | | | | | .580** | .301* |
| 21. | Accessibility of Website (TF31) | .435** | .548** | .417** | | .479** | |
| 22. | Flexible EC system (OF44) | | .442** | .463** | 373** | .332* | .385** |
| 23. | Adequate finance (OF1) | .463** | | .642** | .300** | | |
| 24. | Staff skills (OF5) | | .318* | | | .419** | .519** |
| 25. | Accessibility to computer system (OF9) | | .699** | .672** | | .357** | .468** |
| 26. | Fast reaction to business change (OF11) | | | .580** | | | |
| 27. | Encourage EC adoption policy (OF12) | | | .512** | | | .722** |
| 28. | Strategy lead in implementation (OF13) | .389** | | .432** | | .457** | |
| 29. | Integrate EC strategy (OF43) | | | .584** | | | |
| 30. | Culture to deal with failure (OF14) | .428** | | .474** | | | .584** |
| 31. | Openness of culture to communication (OF16) | | .379** | .375** | .391** | | .814** |
| 32. | Clearly defined roles and responsibilities (OF18) | | .484** | .617** | | | .435** |
| 33. | EC accountability (OF19) | | | | | | .782** |
| 34. | Managing revenue and expenditure (OF41) | | | .441** | .431** | | .360** |
| 35. | Clear defined business case (OF20) | | | .515** | | | .525** |
Appendix D1: Continue.

| No. | No. CSFs Improve busin | | business perfe | isiness performance | | Reduce business cost | |
|-----|---|---------|----------------|---------------------|---------|-----------------------------|---------|
| | | Stage 1 | Stage 2 | Stage 3 | Stage 1 | Stage 2 | Stage 3 |
| 36. | Clear metrics (OF21) | | .345* | .429** | | | |
| 37. | Rich information about products (OF23) | .439** | | .393** | .300** | | .328** |
| 38. | Updated information about product (OF24) | .305** | | .319** | | .565** | |
| 39. | Correct information about products (OF25) | | .356** | $.308^{*}$ | | .375** | .374** |
| 40. | Variety of products (OF26) | .305** | | .521** | | | .415** |
| 41. | Good quality products (OF27) | | | .387** | | | .382** |
| 42. | Sensitive to online price (OF42) | | .532** | .458** | | | |
| 43. | Online customer data mining (OF28) | .304** | | | | | .678** |
| 44. | Good advertising campaign (OF29) | | .516** | .507** | | | |
| 45. | Integrating online and offline marketing practices. | | .688** | .552** | | | |
| | (OF30) | | | | | | |
| 46. | Focus on online marketing practises (OF31) | | .362** | .646** | .347** | .360** | .301* |
| 47. | Building brand image (OF32) | .397** | | .303* | | .330* | .547** |
| 48. | Building customer trust (OF33) | .414** | .403** | .465** | | | |
| 49. | Quick response to customer (OF34) | .419** | | | | | .502** |
| 50. | Fast delivery OF35 | .460** | | .306* | | | |
| 51. | Return and refund policy (OF37) | .417** | | | | .334* | .541** |
| 52. | Providing value-added service (OF39) | | | | | | .648** |
| 53. | Privacy Law about customers EnF1 | | | .485** | | | .317* |

| 54. | Law enforcement (EnF3) | | | | | .702** |
|-----|---|--------|--------|-------|-------|--------|
| 55. | Training and conferences from government (EnF4) | | .450** | 307** | .332* | |
| 56. | Partner readiness (EnF12) | | .515** | | 295* | |
| 57. | Financial, consultants from government (EnF13) | .346** | .446** | | | .527** |
| 58. | Strategic orientation (EnF14) | .478** | .556** | | | |
| 59. | Expert availability (EnF23) | | .305* | 571** | | |
| 60. | Availability of technology vendor (EnF24) | .322* | .423** | | | |
| 61. | Availability of IT staff (EnF25) | .303* | .364** | | | |

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Stage 1: Advertising group Stage 2: Transacting group Stage 3: Intensive group

Appendix E1: Validity of factors in the logistic models

Top manager support

| Reliability Statistics | | | | |
|------------------------|------------------|------------|--|--|
| Cronbach's Alpha | Cronbach's Alpha | N of Items | | |
| | Based on | | | |
| | Standardized | | | |
| | Items | | | |
| .843 | .851 | 4 | | |

Doliability Statistic

Perceived advantage

| Reliability Statistics | | | | |
|-------------------------------|------------------|------------|--|--|
| Cronbach's Alpha | Cronbach's Alpha | N of Items | | |
| | Based on | | | |
| | Standardized | | | |
| Items | | | | |
| .780 | .780 | 2 | | |

Observability

Reliability Statistics Cronbach's Alpha Cronbach's Alpha N of Items Based on Standardized Items .612 .618 2

Legal framework

Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha | N of Items |
|------------------|------------------|------------|
| | Based on | |
| | Standardized | |
| | Items | |
| .674 | .674 | 2 |

Government support

Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha | N of Items |
|------------------|------------------|------------|
| | Based on | |
| | Standardized | |
| | Items | |
| .775 | .776 | 2 |

Appendix E2: The goodness-of-fit and validity of the logistic models BASE MODEL

| Test of Parallel Lines ^a | | | | | | |
|-------------------------------------|----------------------|---------------------|----|------|--|--|
| Model | -2 Log | Chi-Square | df | Sig. | | |
| | Likelihood | | | | | |
| Null Hypothesis | 273.888 | | | | | |
| General | 247.838 ^b | 26.050 ^c | 23 | .299 | | |

The null hypothesis states that the location parameters (slope coefficients) are the

same across response categories.

a. Link function: Logit.

b. The log-likelihood value cannot be further increased after maximum number of step-halving.

c. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model. Validity of the test is uncertain.

MODEL 1

Hosmer and Lemeshow Test

| Step | Chi-square | df | Sig. |
|------|------------|----|------|
| 1 | 6.515 | 8 | .590 |

MODEL 2

| Hosmer and Lemeshow Test | | | | | |
|--------------------------|------------|----|------|--|--|
| Step | Chi-square | df | Sig. | | |
| 1 | 5.371 | 8 | .717 | | |

MODEL 3

Hosmer and Lemeshow Test

| Step | Chi-square | df | Sig. |
|------|------------|----|------|
| 1 | 11.332 | 8 | .184 |