

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

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A thesis submitted for the degree of
Doctor of Philosophy

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April 2016

Acknowledgements

My PhD journey has been long and I have faced many challenges than expected. I have encountered several emotional obstacles and demands in completing this research task. My research journey would not have been completed without support from the supervisory team, friends, and my family.

First of all, to my Principal Supervisor, Associate Professor Rene Villano, I really appreciate your kind advice, help, supervision, academic development, and inspiration during my course. Thanks also for being a friend, and at times a brother and a father who helped me overcome barriers to completing my PhD degree.

To my Co-Supervisor, Dr Sujana Adapa, a great thank you to you for being patient, and helping me to build and improve the quality and content of the manuscript, and for providing constant support, constructive criticism, and valuable suggestions to improve my conceptual reasoning.

This thesis is dedicated to my family for their patience and for coping all these years without my support. Their emotional encouragement, understanding, and sympathies served as my inspiration to successfully navigate through this arduous PhD journey. I owe them the family time they have missed while I have been away from home for the past three and half years.

To all my friends and relatives, thanks for your concern and constant support in encouraging me to pursue my journey and fulfil my dream. Thanks to Professor Abudulkadir Sayed Sajeev for providing ideas at the start of my PhD candidature.

To others who have come along and stood by me in difficult times, thanks for all your help.

Abstract

Small and Medium-sized Enterprises (SMEs) are well-known for playing a critical role in boosting the economy. Adoption of electronic commerce (EC) is perceived to be an important mechanism for providing a competitive tool for SMEs. However, there is a lack of appropriate evidence in the existing literature with regard to EC adoption in SMEs in frontier countries, such as Vietnam, due to less integration and globalisation of the economic standards.

Many theoretical models have been proposed for investigating EC adoption phenomena in SMEs. Most of these models are based on studies conducted in developed countries. The measurement of EC adoption is largely operationalised as a dichotomous variable based on the users' decision about whether to adopt or not to adopt. Thus, the existing research fails to understand the real behaviour of EC adoption amongst SMEs. The present study aims to address this gap in the existing literature by investigating the intentions to adoption EC activities amongst SMEs and the consequences of these adoptions. In order to evaluate the EC diffusion of SMEs, the conceptual framework developed is applied by combining various theoretical models, including the Diffusion of Innovation, the Technology-Organisation-Environment framework, and maturity models. The current study focuses on obtaining and analysing data from SMEs operating in Vietnam, particularly regarding the adoption of business-to-customer EC (B2C). The key goals of the research are to measure and determine the characteristics of EC adoption amongst Vietnamese SMEs, to identify barriers that prevent B2C EC adoption of SMEs, and to explore critical factors that enhance EC activities for SMEs.

A multi-stage approach is implemented in this research. First, due to lack of evidence in the identified research context, a comprehensive search in the existing literature is conducted to identify relevant theories that explain B2C EC adoption and critical success factors (CSFs) in performing online business. Second, a pilot-based survey is conducted to confirm the structure of the questionnaire that is used for the in-depth survey. The findings from reviewing the literature and the pilot study are contextualised to identify the research concepts. Finally, primary data from an in-depth survey are collected to provide further evidence to support the research objectives. Linear models and regression-based models are used to evaluate the patterns of EC adoption and examine the relationships among proposed variables in the research models.

Based on the matrix of the extent of EC activities and results from the principal component analysis (PCA), it is determined that the Vietnamese SMEs implement B2C EC in three separate stages, from the simplest to the most complicated stage. They are the advertising, transacting, and intensive stages. The application of qualitative thematic data analysis highlights some barriers in employing B2C EC amongst SMEs. Popular themes of importance that are identified from this research study include: *ability to try EC applications in some basis, level of online customer trust, product characteristics, level of infrastructure of commercial and financial organisation, level of logistic development, perceived risk of loss of important information, restrictions when doing online business, incompatibility with traditional business, financial support and advice from government, top management commitment to EC activities, and telecommunication infrastructure.*

Through the application of a logistic regression analysis, the technology-organisation-environment factors are analysed to reveal factors that impact on the extent of EC adoption. Some factors that are found to be significant in the extent of EC usage include *observability of success practices, cost of EC solutions, and legal frameworks* acting as incentive forces for developing EC activities amongst SMEs. In contrast, *updated information on products, customer relation management, top management support, and adequate finance* are identified to be the major obstacles preventing SMEs from expanding EC activities in Vietnam.

Using a binary logistic regression, some unique features associated with each level of EC development are revealed. SMEs in the advertising stage are seen as being satisfied with *the support from government and online customer management*, as evident through the expansion of *communication channels* to determine their online business models. On the other hand, *legal framework, support from technology vendors, and adequate finance* are identified to be critical barriers to conducting EC business in Vietnam. In addition, SMEs in the transacting stage are more active than SMEs in other stages, such as in providing *updated information about products, observability of success, and in providing better perceived customer value.* These SMEs, however, are faced with setting up *clear metrics* for EC activities and *adequate support from the government.* Similarly, factors such as *the legal framework, cost of EC solutions, and collaboration of staff* are found to act as incentives for SMEs in the intensive stage. By contrast, these SMEs seem to perform poorly in embracing some activities like *updating information of products/services, logistics systems, and top management support.*

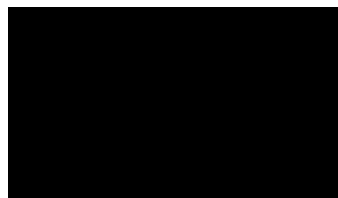
Further analysis emphasises the vital role played by some CSFs for SMEs in guaranteeing success in the B2C business environment. These factors are related to the characteristics of top managers, such as *top management commitment*, *vision*, and *open-mindedness to innovation*. Some of the CSFs align with organisation category, including *strategy-led EC implementation*, *culture of open communication*, *updated information about products*, *focus on online marketing practices*, *building brand image*, *building customer trust*, *return and refund policy*, *accessibility of staff to computer systems*, *good advertising campaigns*, and *integrating online and offline marketing practices*. Only one technological factor, *accessibility of Websites*, is identified as a CSF that is relevant to SMEs operating in Vietnam for conducting online business.

Finally, this study provides some theoretical and managerial implications. The integration of various theories provides a holistic picture that reflects the real status of EC adoption in SMEs. The application of the mixed methods research approach, along with various evidences from existing theories and practices, is vital for understanding the context-specificity of B2C EC adoption in Vietnam. Moreover, through the application of mixed methods, the validity of the research is guaranteed, and this approach is promising for investigating in a research context where there is less prior evidence. The study also provides some suggestions for change agents to boost B2C EC development in Vietnam, by outlining relevant implications for policy makers, technology providers and experts. In regard to Vietnamese SMEs, the study offers a useful tool for assessing the level of EC development, and identifies key factors that need to be focused on to ensure success in conducting online business activities in a B2C environment.

Certification

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that to the best of my knowledge, any help received in preparing this thesis, and all the sources used, have been acknowledged in this thesis.



Nhien Tat Nguyen

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Abbreviations

ABS	Australian Bureau of Statistics
APEC	Asia-Pacific Economic Cooperation
B2B	Business to Business
B2C	Business to Customer
B2E	Business to Employees
B2G	Business to Government
C2C	Customer to Customer
CLUR	Certificates of Land-User Rights
COD	Cash on Delivery
CRM	Customer Relationship Management
CSFs	Critical Success Factors
DOI	Diffusion of Innovation
EC	Electronic Commerce
E-CAM	E-commerce Adoption Model
ECB	E-commerce Benefits
ECM	E-commerce Maturity
ERP	Enterprise Resource Planning
FDI	Foreign Direct Investment
FDIEs	Foreign Direct Investment Enterprises
FTSE	Financial Time Stock Exchange
G2G	Government to Government
GDP	Gross Domestic Product
GSO	General Statistics Office
ICT	Information and Communication Technologies
IDC	International Data Corporation
IS	Information Systems
IT/IS	Information Technologies/Information Systems
MSCI	Morgan Stanley Capital International
ODA	Official Development Assistance
ROA	Return on Assets
SCM	Supply Chain Management
SMEs	Small and Medium Enterprises
SMS	Short Message Service
SOCB	State-Owned Commercial Banks
SOEs	State-Owned Enterprises
SOG-E	Stages of Growth for e-Business
SPSS	Statistical Package for Social Sciences
TAFE	Technical and Further Education
TAM	Technology Acceptance Model
TOE	Technology-Organisation-Environment
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
VCCI	Vietnam Chamber of Commerce and Industry
VECITA	Vietnam E-commerce and Information Technology Agency
VNCT	Vietnam Cluster Initiative
VND	Vietnam Dong
VNNIC	Vietnam Internet Network Information Centre
WTO	World Trade Organisation
WWW	World Wide Web

Statistical Abbreviations

ANOVA	Analysis of Variance
BTS	Bartlett Test of Sphericity
EFA	Exploratory Factor Analysis
KMO	Keiser-Meyer-Olkin
K-S test	Kolmogorov-Smirnov Test
MSA	Measure of Sampling Adequacy
PCA	Principal Component Analysis
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factor