



***DETERMINANTS OF WEB-TECHNOLOGY AND E-BUSINESS
ADOPTION AMONG SMALL AND MEDIUM TRAVEL AGENCIES IN
MALAYSIA***

NOR ASIKIN SHAHARUDDIN

FEP 2018 44



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By

NOR ASIKIN SHAHARUDDIN

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
Malaysia, in Fulfillment of the Requirements for the Degree of
Doctor of Philosophy**

October 2018

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

**DETERMINANTS OF WEB-TECHNOLOGY AND E-BUSINESS
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NOR ASIKIN BINTI SHAHARUDDIN

October 2018

Chairman : Associate Professor Azmawani Abd.Rahman, PhD
Faculty : Economic and Management

As the backbone of the economic contributor to Gross National Products (GNP), tourism sector plays a vital role in creating employment opportunities. Travel agencies business is one of the vital sub-segments contributing to the growth of the travel and tour markets. However, there is a concern that small and medium travel agencies (SMTAs) have yet adopted and use effectively, or even have used, web-technology and e-business application. Therefore, there is a gap that lies between the ideal and the reality of the actual usage of web-technology and e-business as sources of competitive advantage among (SMTAs) in Malaysia.

This study aims to provide an explanation on how business potentials can increase capabilities via the use of effective e-business strategies to capture greater % of the market. This study investigates (a) a direct relationship between the Innovational, Organizational and Environmental characteristics (IOE) and competitive advantage (CA) of SMTAs, (b) the role of web-technology and e-business adoption (WEA) as a mediator in the relationship between IOE and CA and (c) decision makers' characteristics (DMC's) that moderate the relationship between WEA and CA. Nine hypotheses were proposed in relation to the determinants of WEA and CA. The data was then analyzed using fifteen variables of IOE context towards five WEA context, four decision makers' characteristics context, and six competitive advantage contexts.

In comparison to previous studies, this study proposes e-resources of SMTAs, data secrecy and confidentiality and training & human capital investment as the new variables for the predicting factors influencing WEA. Additionally, 4 DMC's of owners-managers age, educational level, years of experience, and ICT knowledge has been introduced in this study. In order to SMTAs to wider its business globally and remain its position in the industry, this study introduced six CA variables that were all significantly related to IOE characteristics and WEA. A total of three hundred twenty-three (323) respondents were selected through a simple random sampling technique from five regions of Malaysia. Data was gathered using structured questionnaire adopted from the previous literature and the questionnaire was administered by the researcher. The analysis was completed using statistical program for social science (SPSS) and structural equation modeling (SEM), AMOS software. The findings revealed that, the Innovational (ICs) and Organizational characteristics (OCs) have significantly contributed to WEA activities among SMTAs in Malaysia, while in contrast Environmental characteristics (ECs) do not contribute to WEA. Additionally, all IOE characteristics were reported as significantly related to CA.

Furthermore, this study was carried out to study the role of moderators that affects the decision of owner-managers (age, level of education, experience and ICT knowledge) between IOE characteristics and web-technology and e-business adoption. Age category was found to have a significant relationship between ICs and OCs and WEA. This study also revealed that the education level is the only DMCs that moderated the relationship between ICs and WEA as the other DMCs moderators were found as not significantly contribute for WEA. Additionally, WEA were found as mediated the relationship between the ICs and CA and OCs and CA. SMEs entrepreneurs must equip young managers with innovative skills and knowledge to further develop their business at a global level. Owner-managers with the higher qualification of master's degree and above have the capabilities to steer the business direction at a greater success.

As a continuation of the previous studies on the role of ICT to the development of the business of SMTAs, this research studied the relationship between IOE determinants and WEA and CA. The aspect of CA is measured in product development, quality of services, price competitiveness, accessibility and connectivity, firm branding and human resources development. This result indicated that the owner-managers of SMTAs business must exploit the web-technology and e-business function to improve their business at the innovational and organizational level to further develop its competitive advantage among SMEs business.

The findings could be utilized by a variety of stakeholders such as the Ministry of Tourism and Culture Malaysia (MOTAC), Malaysia Association of Tour and Travel Agents (MATTA), Bumiputra Association of Tour and Travel Agents of Malaysia (BUMITRA) and SMTAs in designing a systematic policies & procedure related to ICT infrastructure and online facilities to further develop Malaysia tourism industry.

Keywords: Web-technology and e-business adoption, competitive advantage, travel agencies, Malaysia, SMTAs



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PENENTU PENGGUNAAN TEKNOLOGI WEB DAN E-PERNIAGAAN
DIKALANGAN AGENSI PELANCONGAN BERSKALA KECIL DAN
SEDERHANA DI MALAYSIA**

Oleh

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Sebagai pendokong utama terhadap penyumbang kepada keluaran negara kasar (GNP), sektor pelancongan memainkan peranan penting didalam mewujudkan peluang pekerjaan. Perniagaan agensi pelancongan merupakan salah satu sub-segmen penyumbang terhadap pembangunan pasaran perniagaan agensi pengembaraan dan lawatan. Walaubagaimanapun, tidak kesemua agensi pelancongan menggunakan dengan sepenuhnya atau tidak menggunakan dengan berkesan kemudahan aplikasi teknologi web dan e-perniagaan. Terdapat jurang diantara penggunaan secara ideal dan penggunaan sebenar kemudahan aplikasi teknologi web dan e-perniagaan dikalangan syarikat berskala kecil dan sederhana (SMTAs) di Malaysia. Sehubungan dengan itu, kajian ini dilaksanakan bagi mengkaji (a) hubungan secara langsung diantara ciri-ciri Inovasi, Organisasi dan Persekitaran (IOE) dan kelebihan kompetitif (CA), (b) peranan aplikasi teknologi web dan e-perniagaan sebagai pengantara diantara ciri-ciri Inovasi, Organisasi dan Persekitaran (IOE) dan kelebihan kompetitif dan (c) peranan ciri-ciri pembuat keputusan (DMC's)-pemilik-pengurus sebagai moderator diantara penggunaan aplikasi teknologi web dan e-perniagaan.

Kajian ini mencadangkan sembilan hipotesis didalam mengkaji hubungan diantara peramal penggunaan aplikasi laman teknologi web dan e-perniagaan dan kelebihan kompetitif. Data kajian ini telah dianalisa menggunakan lima belas pembolehubah dari konteks Inovasi, Organisasi dan Persekitaran (IOE)

dikaji terhadap konteks aplikasi penggunaan teknologi web dan e-perniagaan (WEA), konteks pembuat keputusan (DMC's) dan konteks kelebihan kompetitif di kalangan agensi pelancongan di Malaysia.

Berbanding dengan kajian terdahulu, kajian ini mencadangkan dua pembolehubah baru iaitu sumber elektronik syarikat, kerahsiaan data dan maklumat sulit serta latihan dan pelaburan sumber tenaga manusia menyumbang terhadap penggunaan laman web dan e-perniagaan. Kajian tinjauan kuantitatif ini melibatkan tiga ratus dua puluh tiga (323) orang responden berdasarkan teknik persampelan rawak mudah diambil daripada lima zon wilayah di Malaysia. Data telah dianalisa dengan menggunakan soalan berstruktur yang digabungkan daripada sumber tinjauan kajian terdahulu dan soalan yang digubal oleh penyelidik bagi mencapai objektif kajian ini. Data telah dianalisa menggunakan program sains sosial (SPSS) untuk hasil deskriptif, dan permodelan persamaan stuktur (SEM) AMOS yang digunakan untuk analisa regresi.

Keputusan kajian menunjukkan bahawa ciri-ciri Inovasi dan Organisasi didapati signifikan sebagai penyumbang terhadap penggunaan aplikasi teknologi web dan e-perniagaan dikalangan agensi pelancongan berskala kecil dan sederhana di Malaysia, berbanding ciri-ciri Persekitaran didapati tidak menyumbang terhadap penggunaan aplikasi teknologi web dan e-perniagaan.

Sebagai penyumbang terhadap fungsi moderator, hasil kajian mendapati bahawa kategori umur pemilik-pengurus mempunyai hubungkait yang signifikan diantara ciri-ciri inovasi dan organisasi dan teknologi web dan e-perniagaan. Sementara itu, tahap pendidikan juga mempunyai hubungkait yang signifikan. Kajian ini juga mendapati bahawa tahap pendidikan mempunyai hubungan yang signifikan dengan ciri inovasi dan teknologi web dan penggunaan e-perniagaan. Pemilik-pengurus yang mempunyai kelulusan sarjana dan ke atas mempunyai keupayaan untuk membawa perniagaan mereka ke persada global. Sebagai kesinambungan daripada kajian terdahulu mengenai peranan ICT dalam pembangunan perniagaan dikalangan SMTAs, kajian ini mengkaji hubungan antara faktor penentu IOE dan WEA dan CA. Aspek kelebihan kompetitif (CA) diukur dalam dimensi pembangunan produk, kualiti perkhidmatan, persaingan harga, kebolehcapaian, kesalinghubungan, penjenamaan yang kukuh dan pembangunan sumber manusia. Hasil dapatan kajian menunjukkan bahawa pemilik-pengurus SMTAs perlu mengeksploitasi penggunaan teknologi web dan e-perniagaan untuk meningkatkan mutu perniagaan mereka diperingkat inovasi dan

organisasi sebagai usaha membangunkan kelebihan kompetitif didalam perniagaan mereka.

Dapatan kajian boleh digunakan oleh pelbagai pihak berkepentingan didalam pembangunan industri pelancongan negara seperti Kementerian Pelancongan, Seni dan Budaya, Persatuan Ejen-Ejen Pelancongan dan Pengembaraan Malaysia, Persatuan Syarikat Pengendalian Pelancongan Bumiputera Malaysia dan agensi pelancongan tempatan sebagai sebahagian daripada usaha pembentukan pelan tindakan secara sistematik didalam merangka dan mengubal polisi dan prosedur berkaitan dengan pembangunan teknologi maklumat dan komunikasi serta kemudahan perniagaan didalam talian (online) secara kompetitif di Malaysia.

Kata kunci: Penggunaan teknologi web dan e-perniagaan, kelebihan kompetitif, agensi pelancongan, Malaysia, syarikat SMTAs

ACKNOWLEDGEMENTS

With the name of Allah the Most Compassionate and Most Merciful

Bismillahirohmanirohim, Alhamdulillah for the learning experience that Allah S.W.T had granted me in the completion of the degree of Doctor of Philosophy. The success of the completion of this thesis is with HIS blessings. This journey of knowledge was filled with triumph, excitement, hope and satisfaction.

The road to PhD is often a solitary journey, and can only be accomplished with the support of family and friends. Sincerely, my deepest appreciation is dedicated to my principal supervisor, Associate Professor Dr. Azmawani Abd. Rahman, for her valuable and continuous support, advice, guidance, encouragement and patience in bringing this research work to a successful completion. I highly praised her for her academic achievements, knowledge and experience. She inspired me to reach this completion level. In addition, I would like to thank my research comitee member, Associate Professor Dr. Yuhanis Abdul Aziz for her guidance, valuable advice, motivation and encouragement. She has been a supportive mentor throughout the completion of this study. Not forgotten, a special thanks is also to Profesor T. Ramayah for his guidance and assistance.

A special thanks is also dedicated to Associate Professor Dr. Haji Muhammad Abdullah Hemdi, Dr. Abdul Rauf bin Hj Ridzuan, Dr. Mohammad Basir Saidu and Puan Sumarni Maulan for their kind assistance, knowledge, guidance and support. The completion of this thesis would not have been possible without their direction and mentoring in reaching the end journey. Their patience is greatly appreciated. They have not only been mentors, but also friends.

I would like extend this major gratitute to my husband, Fetteley @ Badrul Khair Ramli for his continuous support and belief in my capabalities in reaching the end journey. For the precious asset of mine, Muhammad Fakhri Atiquallah for unspeakable joy and colours he brings into to my life. I appreciate their understanding and sacrifices throughout the journey. All they need to know is they have contributed to my emotional strenghts in pursuing this challenging journey. Also to both mum and dad, Hasamah Majid and Shaharuddin Udin for their prayers and word of wisdom.

My sincere thanks to the Ministry of Higher Education Malaysia (MOHE) and Universiti Teknologi Mara (UiTM) Melaka, for awarding me the scholarship and opportunity to pursue this study at Universiti Putra Malaysia (UPM).

Finally, this thesis is specially dedicated to a number of special friends and colleagues who consistently giving me support, encouragement, lending their ears listening to my grudges, and sharing bittersweet moments throughout the journey.

May Allah bless all of you !



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TABLE OF CONTENTS

	Page
ABSTRACT	i
ABSTRAK	iv
ACKNOWLEDGEMENTS	vii
APPROVAL	ix
DECLARATION	xi
LIST OF TABLES	xvii
LIST OF FIGURES	xix
LIST OF ABBREVIATIONS	xx
CHAPTER	
1 INTRODUCTION	1
1.1 Chapter Overview	1
1.2 Research Background	2
1.3 The Development of Internet in Malaysia	7
1.3.1 Travel and Tour Agencies Development in Malaysia	8
1.3.2 Successful SMTAs Performance using ICT Adoption in Malaysia	9
1.4 Problem Statement	10
1.5 Research Questions	15
1.6 Research Objectives	16
1.7 Significance of the Study	17
1.7.1 Academic contributions	17
1.7.2 Policy Makers	17
1.7.3 Practitioners	18
1.8 Definitions of Key Terms	18
1.9 Scope of the Study	20
1.10 Organization of the Thesis	20
1.11 Chapter Summary	21
2 LITERATURE REVIEW	22
2.1 Introduction	22
2.2 SMEs and ICT Adoption in Malaysia	23
2.2.1 ICT usage challenges among SMTAs in Malaysia	25
2.3 ICT adoption	27
2.3.1 Diffusion of Innovation (DOI)	28
2.3.1.1 Perceived Characteristics of Innovation	29
2.3.1.2 Characteristics of the Decision-Making Unit	29
2.3.2 Resource Based Theory	30
2.3.3 Market Competition	30
2.3.4 Network Theory	31

2.3.5	The Government support	32
2.3.6	The Upper Echelon Theory (UET)	32
2.3.7	System usage evaluation	34
2.3.8	Integrated ICT adoption Theory	35
2.4	Research on Determinants of ICT adoption	36
2.4.1	Past studies on the benefits of ICT adoption in business	40
2.5	Theories / Models Related to Innovation Adoption	43
2.5.1	Technology Acceptance Model (TAM)	43
2.5.2	Unified Theory of Acceptance and Use of Technology (UTAUT)	44
2.6	Competitive Advantage (CA)	44
2.6.1	Resource-Based View of the Firm (RBV)	45
2.6.2	Competitive Advantage dimension for tourism industry	47
2.7	Moderator / Moderating variable	52
2.8	Mediator / Mediating variable	54
2.9	Literature Review Gap	54
2.10	Chapter summary	56
3	CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT	57
3.1	Introduction	57
3.2	The Conceptual Framework	57
3.2.1	SMEs Characteristics in Malaysia context	59
3.2.2	Adoption of ICT Network	59
3.2.3	Influence of External Factors on SMEs Business	60
3.3	ICT adoption in this study	60
3.4	Hypotheses Development	60
3.4.1	Innovational characteristics (ICs)	60
3.4.2	Organizational characteristics (OCs)	63
3.4.3	Environmental characteristics (ECs)	67
3.4.4	Web-technology & E-Business Adoption and Competitive advantage	71
3.4.5	IOE characteristics and CA	74
3.4.6	Moderators effect of DMCs on IOE characteristics and WEA	78
3.4.7	Mediating variable of WEA between IOE characteristics and CA	81
3.5	Chapter summary	83
4	RESEARCH METHODOLOGY	84
4.1	Introduction	84
4.1.1	Research Philosophy	84
4.2	Research Design of the Study	87

4.3	Population and Sample of the study	88
4.4	Sample Size and Sampling Procedure	89
4.4.1	Designing and Testing the Questionnaire	91
4.4.2	Measurement scale	92
4.5	Measurement instrument	94
4.5.1	Section A: Innovational characteristics (ICs) Construct	95
4.5.2	Section A: Organizational characteristics (OCs) Construct	96
4.5.3	Section A: Environmental characteristics (ECs) Construct	96
4.5.4	Section B: Web-technology & E-Business Adoption Constructs	97
4.5.5	Section C: Competitive Advantage Constructs	97
4.5.6	Section D: Respondents Profile & Company Background	97
4.6	Pilot study	97
4.7	Data Collection for Final Survey	98
4.7.1	Data Collection Methods	99
4.7.2	Data analysis	100
4.7.2.1	Descriptive Statistic	101
4.7.2.2	Exploratory Factor Analysis (EFA)	101
4.8	Structural Equation Modeling (SEM)	102
4.8.1	Confirmatory Factor Analysis (CFA)	103
4.9	Multivariate Assumption analysis	113
4.9.1	Assessment of Normality	113
4.9.2	Multicollinearity	114
4.10	Chapter summary	115
5	RESULTS AND DISCUSSION	116
5.1	Introduction	116
5.2	Preliminary analysis	116
5.2.1	Sampling Frame	117
5.2.2	Response rate	117
5.2.3	Screening the Data	118
5.3	Respondents Profile Results - Descriptive Statistic Analysis	119
5.3.1	Companies Background	120
5.3.2	Firms Web-technology and e-business Adoption Profiles	121
5.4	Research Objective 1	122
5.4.1	The WEA usage level.	122
5.5	Research Objective 2	123
5.5.1	Hypothesis 1-7: Unique Determinants of WEA and CA	124

5.6	Research Objective 3	129
5.7	Research Objective 4	130
5.8	Research Objective 5: Moderation effect DMC's	132
5.8.1	Hypothesis 8a1-8a3	133
5.8.2	Hypothesis 8b1-8b3	137
5.8.3	Hypothesis 8c1-8c3	138
5.8.4	Hypothesis 8d1-8d3	139
5.9	Research Objective 6: Mediator effect of WEA	140
5.9.1	Hypothesis 9a	141
5.9.2	Hypothesis 9b	142
5.9.3	Hypothesis 9c	142
5.10	Review of all hypotheses testing	142
5.11	Discussion of the findings	145
5.11.1	Current practice of WEA among Malaysia SMTAs	146
5.11.2	The relationship between IOE characteristics and WEA	146
5.11.3	The relationship between WEA and CA	155
5.11.4	The relationship between IOE characteristics and CA	155
5.11.5	The moderation effect of DMC's	156
5.11.6	The mediation effect of WEA	158
5.12	Chapter summary	158
6	SUMMARY AND CONCLUSION	160
6.1	Introduction	160
6.2	Summary of the study findings	160
6.3	Contribution to the Body of Knowledge	161
6.4	Contribution of the study	162
6.4.1	Theoretical contributions	162
6.4.2	Managerial contributions	163
6.4.3	Practical contributions	164
6.5	Limitations of the Study	167
6.6	Recommendations for Future Research	168
6.6.1	Recommendations to SMTAs and the industrial players	168
6.6.2	Recommendation for the policy maker's of Malaysia	171
6.7	Chapter summary	172
6.8	Conclusion	172
	REFERENCES	174
	APPENDICES	224
	BIODATA OF STUDENT	275
	LIST OF PUBLICATIONS	276

LIST OF TABLES

Table	Page	
1.1	Employment in Tourism Industries	14
2.1	Theories used for this study	23
2.2	Definition of SMEs in Malaysia	23
2.3	Dimension of ICT Adoption	27
2.4	Measurement of ICT Adoption	34
2.5	Research on Determinants of ICT Adoption in Hospitality & Tourism Industry	38
2.6	The Importance of ICT Adoption in Business	42
3.1	Summary of all design hypotheses	82
4.1	The distribution of Population in 5 regions	88
4.2	Proposed measurement scale for this study	93
4.3	Configuration of Questionnaire	95
4.4	Response from the Pilot study	98
4.5	KMO and Bartlett's Test of All Constructs	102
4.6	Unidimensionality Result of Items	107
4.7	Model Fit Indices for WEACA model	108
4.8	Reliability Coefficients for Pre-test and Final Test	112
4.9	Discriminant Validity Index Summary	113
4.10	Assessment of Normality	114
5.1	Response Rate	117
5.2	Mahalanobis distance D^2 for Outliers	119
5.3	Distribution of Companies Background Profiles (n = 323)	120
5.4	Distribution of Web-technology & e-business profiles (n=323)	121

5.5	Standardized regression weight in the hypothesized path model	131
5.6	Standardize direct Effect of Regression Weight of WEA in the hypothesized Path Model	132
5.7	Measurement Invariance Test	134
5.8	The Moderating effects of DMCs in the relationship between IOE characteristics and WEA	135
5.9	Direct Model and Indirect Model of Regression weight of WEA in the hypothesized Path Model	141
5.10	Summary of Hypothesis Testing	144

LIST OF FIGURES

Figure	Page
2.1 An Upper Echelon Perspective of Organizations	33
2.2 The Technology Acceptance Model	44
3.1 Proposed model on Determinants of Web Technology and E-Business and Competitive Advantage	58
4.1 Theory and Method in Tourism Research	85
4.2 A chart of Simple Random Sampling Technique	91
4.3 Latent construct (WEA) Measurement Model towards	109
5.1 A representation of the modified SEM for Structural Model; IOE characteristics, WEA and CA	124
5.2 Moderator Model for Hypotheses 8a,8b,8c and 8d	133

LIST OF ABBREVIATIONS

ACA	Accelerated Capital Allowances
ACCCIM	Associated Chinese Chambers of Commerce & Industry of Malaysia
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of Moment Structure
BCIC	Bumiputra Commercial and Industrial Community
BUMITRA	Bumiputra Association of Travel and Tour Agents of Malaysia
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMT	Critical Mass Theory
CRS	Customers Reservation System
CV	Convergent Validity
DOI	Diffusion of Innovation
DV	Discriminant validity
E-Business	Electronic business
ECA	Web-technology and e-business adoption
E-COMMERCE	Electronic- Commerce
EDI	Electronic Data Interchange
EFA	Exploratory Factor Analysis
E-mail	Electronic mail
EPU	Economic Planning Unit
ETP	Economic Transformation Plan

GDP	Gross Domestic Product
GDS	Global Distribution System
GFI	Goodness of Fit Index
GIT	Intervention Theory
GNP	Gross National Profit
GOF	Goodness of Fit
ICT	Information, Communication and Technology
IDPM	Innovation-Diffusion Process Model
IDT	Innovation Diffusion Theory
IMAA	Mergers , Acquisition and Alliances
IOE	Innovational, Organizational, Environmental
M	Mean
M&A	Merger and Acquisition
MATTA	Malaysian Relationship of Tour and Travel Agents
MCMC	Malaysian Communication and Multimedia Commission
Mdec	Multimedia Development Corporation
MIDA	Malaysian Investment Development Authority
MOSTI	Ministry of Science, Technology and Innovation
MOTAC	Ministry of Tourism, Arts and Culture
N	Number of Participants
NFI	Normed Fit Index
NITC	National Information Technology Council of Malaysia
NITC	National IT Council
NKEA	National Key Economic Area
NT	Network Theory

PCs	Personal computers
R& D	Research and development
RBT	Resource Based Theory
RMSEA	Root Mean Square Error of Approximation
SCM	Supply Chain Management
SCT	Social Cognitive Theory
SE	Standard Error
SEM	Structure Equation Modeling
Sig.	Significant
SME Bank	Small and Medium Bank
SME Corp	Small and Medium Enterprise Corporation
SMEs	Small and Medium Enterprises
SMHOs	Small and Medium Hospitality Organizations
SMIDEC	Small and Medium Industries Development Corporation
SMTAs	Small and Medium travel agencies
SMTE	Small and Medium-Sized Tourism Enterprises
SPSS	Social Packages for Social Sciences
TAM	Technology Acceptance Model
TFF	Technology Travel agencies Fit
TOE	Technology, Organizational and Environmental
TPB	Theory of Planned Behavior
TRA	Theory of Reason Action
TTEC	Travel & Tour Enhancement Course
TTMC	Travel & Tour Management Course
UET	Upper Echelon Theory

UNTWO	United Nation World Tourism Organization
UPM	Universiti Putra Malaysia
UTAUT	Unified Theory of Acceptance and Use of Technology
WEA	Web-technology & e-business adoption
WEU	Web-technology & e-business usage
WIMT	Wireless Mobile Technology
χ^2	Chi square
α	(Cronbach's) Alpha
ρ	Rho (Composite Reliability)
OTA	Online Travel Agent

CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

In today's competitive environment, any types of organizations, whether in sizes or scope must create an edge to strategically maintain their position to sustain and compete in the environment. Malaysia small and medium enterprises (SMEs) must be more innovative and flexible with the adaptation and implementation of technology. E-commerce is an advantage that should be grabbed by SMEs. E-commerce activities relate to servicing customers via online, strengthening business partnership, and refining the process of document exchange in the organization or individuals through online connection (Al-Somali et al., 2011 and Hunaiti et al., 2009). E-commerce supports managers in utilizing technology and Internet in decision making, investments and implementation of strategy (Fauska et al., 2013).

This study draws on previous research on the issue related to web-technology and e-business adoption among SMTAs in Malaysia, Indonesia, (Alam et al., 2009). The investigations of this study are underpinned by a theoretical framework that draws upon a combination key ICT adoption determinant factors of Innovational, Organizational and Environmental (IOE) characteristics, decision makers characteristics (DMCs) and competitive advantage attributes. These key determinants are integrated based upon their significant influence on ICT adoption and competitive advantage studies by previous researchers (Moore and Benbasat, 1991; Rogers, 2003; Tornatzky and Klien , 1982; Carlson and Zmud, 1999; Kendall et al.,2001 and Thong,1999; Gono et al.,2009; Tan et al., 2008;Yietman ,2011; Brock, 2000 and Yap et al., 1992, Thong & Yap,1995; King et al.,1994; Khemthong and Roberts, 2006; and Kilangi,2012).

This study was founded on two models, the DOI model or Factors Diffusion of Innovation Model by Rogers (2003), and TAM, the Technology Acceptance Model by Davis (1989) and the dimensions in these models were used to prove any influences of web technology and e-business adoption among Malaysian SMEs. Hence, this study also provides an insight on the level of ICT adoption among SMTAs in Malaysia and which IOE characteristics contribute to improved adoption.

This chapter gives a general introduction of the research subjects discussed in this thesis. Among the sub-topics are the background of the study, the problem statement, the research questions, the research objectives, the significance of the study, definitions of key terms and the scope of the study. Lastly, the organization of the thesis is also covered in this chapter.

1.2 Research Background

In the previous literature review, the significance of SMEs contribution for economy development is well defined. SMEs are the backbone of the national economy, as Poorangi et al., (2013); state that 39.9 % companies in the USA is SMEs based and 99 % of business in the UK is made up by (Kilangi, 2012). In Malaysia, the Department of Statistic Malaysia reported that SMEs account for 36.6 % of the total Gross Domestic Product (GDP) contributions (SME Corp, 2016). The Services sector contributed to 40.2 % which dominated by the wholesale & retail trade, food & beverage and accommodation sub-sector. There is a substantial tourism agency that operates under SMEs and has contributed to Malaysia economy.

The Malaysia government has played a major role for the development of tourism industry via various and continuous tourism-specific initiatives started with the establishment of the Sixth Malaysia Plan (1991-1995) and the establishment of the first National Tourism Policy (NTP) to provide interest party with guidelines to plan and grow the Malaysian tourism industry. Aiming to develop the tourism industry further and to establish the Malaysian tourism products and services, the Malaysia government then established tourism specific policies for each tourism-sub segment in collaboration with its working agencies. The acknowledgement also been given on improving the position of small and medium tourism enterprises in tourism performance and to increase business longevity with the provision of financial and non-financial programmes.

Thus, it shows that the government of Malaysia has taken several proactive approaches to enhance the competences and effort in helping the development and sustain growth of SMEs in Malaysia. Following the trend of the development of SMEs, somehow there is a still limited number of research conducted in SMEs in Malaysia. This view is seconded by Set, (2013) that proposed that most of the studies focus on manufacturing industry. A review of SMEs characteristics, which in this study refer to SMTAs will help to provide better insight on SMEs development, in travel agencies sub-segment in Malaysia. To enrich the literature, this study seeks to investigate the influence of WEA and CA based on IOE characteristics among SMTAs in Malaysia.

With the guidelines established by international organization such as the United Nations World Tourism Organization (UNWTO), Eurostat, and the Organization of Economic Co-Operation and Development (OECD), the Malaysian Government applies the Tourism Satellite Accounts (TSA) to boost tourism-specific products from suppliers' perspectives.

The Malaysian economy has benefited from the tourism industries. According to Tourism Satellite Account - TSA Report (2016), the contribution of the tourism industry expanded to 14.8 % (RM 182.4 billion) with the Value Added of Tourism Industries grew at 9.4 %. The travel agencies sub-segment shared the last portion of the inbound tourism expenditure, for only 1.6 % compared to other sub-segment activities.

In 2016, Malaysia's tourism industry employed 3.2 million employees, contributed to 22.7 % of total employment. (TSA, 2016.) To improve the tourism SMEs performance, the government have taken many initiatives such as the followings: (a) strengthening the Key Performance Indicators (KPI) effort under National Key Economic Areas (NKEA) for Tourism and enhancing the public-private partnership program and (b) allocating RM 9 million for the tour operator segment for the year 2020 (ETP Report, 2014). This allocation is seen as necessary as the travel and tour sub-segment has recorded a growth with 5,247 firms were registered for Tour Operating Business and Travel Agency in 2015, (DOS 2015). Tallud (2014) states that SMTAs must find a way to distinguish themselves from one another. Taking Tallud (2014) idea into account, each agency must be willing to learn and exploit the usage of web-technology & e-business activities to gain competitive advantage.

In Malaysia, travel agents usually operate in the SMEs segment (Standing et al., 1999; Gammack et al., 2004 & Karanasios, 2008), which in this study refers to SMTAs faces greater challenges than some of other major industries in the country (Set, 2013). SMEs are either not aware or are not ready to tap the benefit of the Internet in developing their markets, and enhancing the companies' performances (Karanasios, 2008). The future development and growth of the tourism industry depend largely upon the management practices at the enterprise level and other internal and external factors that underpin the performances of tourism enterprises (Set, 2013). Therefore, it is crucial for the management to grasp the benefit of the Internet to their advantage. As for Malaysia, this movement needs to be hastened as the awareness of using the Internet among SMEs is still relatively low.

The ICT adoption in Malaysia was established in the 8th Malaysian Plan (2001-2005) with an agenda to encourage SMEs in all industry tourism to get on-line and ICT competencies where majority of TSMEs adopted the Internet (Set,2014). The Internet penetration among SMEs in Malaysia only represents 14 % of the total SMEs establishments in the country (BERNAMA, 2012). This indicates the level of awareness and readiness to adopt ICT is still low among Malaysia SMEs (Set, 2013). A study by Thong et al., (2008) on owner/managers of SMEs in the southern region found Malaysian SMEs are often in a dilemma whether to adopt IT in their businesses. Review from the past literature summarizes (Khuja & Manaf, 2012; Mazhatul et al., 2000) that Malaysia SMTAs are less likely to use technology to achieve competitive advantage in the business operation. Due to the internal and external problem, SMTAs tend to hold their decision for ICT adoption. Furthermore, limited capital, has also hindered them to plan and remodel their business to adopt web-technology and e-business. It is crucial for SMEs to start implementing Internet in their businesses since Internet can offer opportunities for growth, new market and development.

The presence of ICT can transform the SMTAs business into a new league as the Internet offers a new distribution channel for unlimited travel and tour products. The current scenario is seeing that the industry players are aggressively moving towards online business practices with the application of ICT and e-business facilities. ICT advancement provides everyone an access to a rapid Internet connection worldwide, promising for a secured, reliable, cost saving and instant business transactions.

The Internet offers a way for tourism suppliers to sell their products to prospective customers anywhere on the globe regardless of time. The Internet provides platform for companies to develop websites that can be used to promote and market their products. It also offers a direct communication between suppliers and customers pertaining to any arrangement regarding request for information and purchasing products and services (Omelda & Sheldon, 2001). Internet also serves as a new distribution channel for e-travelers and for the industry players as well as improves firm competitiveness and performances (Rob Law et al., 2004).

Internet has been used in exploring the future potential growth of travel agencies e-business segment. Nonetheless, Internet usage amongst the travel agencies is still at an early stage, and the rate of WEA practices is still at a low rate (Mazhatul, 2000). King & Teo (1994); and Alam & Noor, (2009), also noted that most of the empirical research is based on large companies, and usually SMEs are characterized as having lack of knowledge about the possible actual advantages that WEA could provide to the business. Integrating Internet in

tourism industry must be seen as a crucial aim as tourism is a valuable asset towards the nation economic growth.

There is a lack of academic research focusing on web-technology and e-business adoption in SMTAs segment. Even though there are literatures that discuss the trends and issues of web-technology and e-business in tourism sectors, the studies were done outside Malaysia and its relevancy is still unclear. Nevertheless, there were studies that examine e-business adoption for Malaysia travel agencies focusing on the adoption rate and potential growth (Refer to Hashim J., 2007, Alam, 2009, Hamid, 2011, K. Tan et al., 2012). In addition, there are also other studies on the determinants of WEA among SMTAs (Alam, 2012; Khuja & Manaf, 2012; Mazhatul et al., 2000; and Set, 2014). The lack of literature shows that more studies in Malaysian context is needed to see how the adoption of the Internet can benefit the tourism industry.

Working in parallel with the government initiatives in developing human intellectual, and to increase the demand for travel and tour segment in the global competitive markets, it is important to stream the Malaysia economy founded on knowledge to a global competitive industry through the WEA adoption. To create a competitive workforce, it is important for SME firms to create the environment that provides knowledge, motivation and engagement that would be difficult for competitors to imitate (Afiouni F. 2007; Agarwal R., & Karahanna, 2000; and Luftman, J., & Kempaih, R.M., 2007). An assessment of ICT potential is required to assist local SMTAs to further strategize their future business to compete in the global market. Utilizing e-business will help these company to stand firm in their business.

Rouse, M. (2015) describes e-business as activities involving the act of buying, selling, servicing customers and collaborating with business partners over the Internet platform with the ability of exploiting the convenience, availability, and world-wide coverage (Rouse, M., 2005). Yomnak (2007) states the importance of e-business due to its accessibility and time saving features without sacrificing spending and quality. Utilizing e-business can help the company to get competitive advantages.

According to Clark, W., (2006), competitive advantage is described as any types of features that the customer feels is better from the other rivals. Measures of competitive advantage include superior quality, lower price and better customer service. Having competitive advantage can help company in many ways such as increasing sales volume, business growth and sustainable

growth. SMTAs can increase their competitive advantage with the use of the Internet.

The worldwide Internet use is increasing exponentially (Santana, L. 2010), and the level of awareness of people on the benefit of the Internet remains high (Set, 2014). Hence, it is critical to illuminate the competitive advantage of SMTAs that adopt web-technology and e-business platform in terms of their product development, quality of the services, prices competitiveness, accessibility and connectivity, firm branding and human resources development. SMTAs firms must obtain the competitive advantage strategy in order to increase their business performances. By understanding the competitive advantage of utilizing the Internet, it will engage more SMTAs to utilize it in their business.

The Internet has the ability to affect the market and determined the success of firm to compete in their environment (Othman, et.al, 2010). Many aspects of company's strategies, including competition strategy (Strauss, E., and Raymond, 2003) and innovation strategy and organizational strategy (Tang et. al., 2007) will include the use of the Internet. The quick use and easy features of the Internet is becoming more relevant in today's world as the world is operating on a rapid phase and competition strategy is vital in ensuring success (Yan, S., 2010) and competitive advantage (Strauss, E., and Raymond, 2003). Internet has changed how the tourism market compete in the industry and it is important that the local SMEs businesses adapt to these changes.

To increase local SMEs business performances, part of this study addressed on how current Malaysia SMTAs gained competitive advantage in terms of six aspects proposed in this study. To compete in the global market of the growing travel and tour segment, this study aims to provide a picture on how business potentials can increase capabilities by adopting superior e-business strategy to gain bigger shares in the market.

This study argues that web-technology and e-business technologies present unique opportunities for SMTAs and achieving their organizational mission and objectives. The outcome from this study can help the SMTAs to improve their current state and to be able to move flexibly to changes in trends and events. It is also hoped that this study will increase their awareness on the relevance of e-business operations and give them insights on the proper application for their future business development and strengthening the SMEs through several programs and facilities provided. (Abdullah et al., 2006) maintains that to enhance SMEs performance and competitiveness, it is important for business owners to have awareness on the importance of web-

technology and e-business function and understand its application in today's SMEs business.

1.3 The Development of Internet in Malaysia

The history of Internet development in Malaysia started in 1990 when the main Internet Service Provider was introduced by the Malaysian Institute of Microelectronic launched Joint Advances Integrated Network (JARING) to introduce Malaysian with worldwide Internet access (S.Que, 2004). Then, in 1996, the government started to use ICT for future development and provide opportunity to three companies to be involved to the telecom market in 1996 and the Internet started to pick up. In 1998, the Malaysian Communication and Multimedia Commissions was created that carry responsibilities to established govern and create policy in telecommunications and multimedia meanwhile the Ministry of Energy, Communications and Multimedia was established to implement laws and regulations in correspondence to Internet policy in Malaysia. The national IT Agenda (NITA) was established in 1996 to provide ICT framework in Malaysia use, and to monitor the development of ICT from the view of people, infrastructure and applications (R.Hashim and A.Yusof, 2009).

To regulate and increase convergent communication and multimedia industry in Malaysia, in 1998, the Communications and Multimedia Act was established (MCMC Law and Legislation,2004). According to Que (2005), compared to China, Malaysia has a more integrated Internet that is aimed to improve the economy and social from the utilization of Internet and ICT, and also encourage collaborations between public and private sectors. The emphasizes have been given into developing the content and application of the Internet facilities. According to UNESCO's recommendation, to assist the development of information policy, it is important to investigate the several components of competitiveness, better education and training system, opportunities to all, better health, cultural identity and cultural diversity.

Based on the survey conducted by Malaysian Communications and Multimedia Commission (MCMC,2017) reported 76.9 % of Internet users in 2016 (24.5 million) shown an increase to 48.8 % compared to 35.3 % of internet users for e-commerce participation. On top of that, to NST Online 2018 report, the ICT is experiencing a rapid growth in Malaysia as the e-Commerce activities count for 23 % for the purchases of goods and services in 2015.

Despite the reasons for stopping them to shop online due to lack of confidence or skills to engage in in online business activity, worried about e-commerce security and privacy, concern on the vulnerability of online banking services. Overall it is concluded that the development of online business in Malaysia has positively growth across all sectors as the demand and supply on e-commerce will be tailor-made to capture key statistics on e-commerce volume, values of purchase and activities offers via online platform by Malaysian businesses.

1.3.1 Travel and Tour Agencies Development in Malaysia

Malaysia Association of Travel and Tour Agents (MATTA) and Bumiputera Association of Travel and Tour Agents of Malaysia (BUMITRA) are among important professional associations that promote the highest professional practice and interest of all travel agents, tour and ground operators in Malaysia. Based on the employment record in travel agency and other reservation services (refer to Table 1.1), there was a decrease (4.97 %) in the employment in travel agencies and other reservation service industry from 19.47 million in 2014 to 14.5 million in 2015. In parallel with the development of information technology in today's business, it is important to develop and upgrade online facilities. Businesses nowadays are commonly conducted via online platform to meet the needs of the modern travelers; and there is a need to study the utilization of web-technology & e-business among tourism industry.

To make full use of the digital technology without costing too much, all tourism players need to use creativity and innovation to attract more tourist to the country. Focusing on developing a better provision of service, Malaysia travel providers have taken initiatives to develop their ICT application to better improve the provision of travel & related services to the end users.

Bernama (2013) reported that according to the Global Travel Intentions Study in 2013, nine out of ten Malaysians preferred to bring gadgets while travelling to find information and to share their experiences with friends and family. The top choice of holiday companions for Malaysian travellers are smartphones, cameras, computers, and entertainment devices. The emerging trend showed that 80 % of Malaysian travellers share their holiday experiences online after returning from their trips.

Thus, as an effort to understand and fulfill the traveling needs for the modern travelers, it is important to focus on the determinants of WEA adoption in SMTAs. The use of WEA helps SMTAs to provide options on hotel facilities,

cheap flight ticket & holiday packages and qualified and experienced tour guides. In addition, it is essential to consider the readiness level of SMTAs in providing WEA to speed up the process of purchasing travel and tour related services and to enter the competitive online platform to attract more tourists. It is also predicted that it is important to hire managers with sufficient knowledge and capabilities to steer the direction of the firm to the development of human capital investment. By assessing the IOE characteristics as a drive for WEA and CA, the results of this study can assist the SMTAs to identify the most important determinants of WEA contributing to CA. The results can also assist the SMTAs owner-managers to focus on developing the competitive advantage aspects to further develop their business in the future.

1.3.2 Successful SMTAs Performance using ICT Adoption in Malaysia

Information and communication technologies (ICT) have created opportunities for today's SMTAs business to perform online business of travel and tour products and services (Zare, 2015). ICT also allows a direct contact with suppliers, and the vertical integration put pressure on traditional travel agencies to compete. Scholars posit that the existence of online platform such as web page and e-business put pressure on traditional travel agencies business. Zare (2015) states that for those who failed to adopt ICT in their current business are said to left behind and are facing the threat of being disintermediated (Khuja & Bohari, 2012) and will decline in traditional travel agencies business (MATTAs, 2012). This is a concerning issue as the tourism industry remains as the major foreign income earners (Tourism Malaysia, 2012). The past literature shows very little academic research was done in associating the use of ICT in Malaysia scenario.

For the disintermediation issues, several authors (Zhu & Zhao, 2011; Bakos, 1998; Sarkar, Butler & Steinfield, 1998) argue that the travel agencies will not be pushed away but need to reposition themselves by embracing the novel technology and come out as the cybermediaries, a new term of travel intermediaries (Ramos & Rodrigues, 2013; Sen & King, 2003). The cybermediaries would operate completely online and act as a broker between the customer and supplier. The traditional travel agencies can re-enter, reintermediate and sustain their position for competitive advantage. Travel agencies should specialize in niche markets and become experts in specific area as quoted by previous researchers (Zare, 2013; Vasudavan & Standing, 1999). Other writers also propose that players must adapt to the Internet by offering tailor-made packages for various niche markets and also surviving on the rise of the technologies and increasing consolidation of travel industry (Ionnides & Daughtrey, 2006). Internet will wipe out high street vendors (Del

Chiappa, 2012) as the market is now conquered by online cybermediaries such as Expedia, Orbitz and Priceline (Yoo & Gretzel, 2012).

In Malaysia there is no specific figure reporting on the successful travel agencies business who adopt ICT in their business. Zare (2015) finds that the traditional travel agencies should focus on the effort in developing market specialization, reputation management, new distribution strategies and online marketing in order to stay competitive in their business.

Discovered from thirty two successful stories on Malaysia SMEs, according to the business owner-managers in SMEs companies among the strategies taken is by developing the expertise role of the owner in the specific field, the renewal of business model, offering a wide range of products opportunity to grow the business segment, developing niche market segment, re-strategizes marketing plan, re-look business operation aspects, collaboration with the government agencies, building networking with various agencies (SME Annual Report 2016/2017). In responding to the usage of technology in improving the business activities, SMEs can use website as a platform for customers to make online orders and purchase.

1.4 Problem Statement

This first issue addressed in this study focus on developing SMTAs performances to gain competitive advantage as it plays a significant role to the country income generation. This study integrates several innovation theories related to ICT adoption framework of how Malaysia SMTAs could improve their businesses performance via a comprehensive usage of web-technology & e-business application. To exploit the full potential of ICT facilities via network technology, a clear strategy of the web-technology & e-business function is needed to further stimulate the growth of the tourism industry. To go beyond Kilangi's (2012) effort, this study introduces three new variables, namely e-resources, data secrecy & confidentiality and training & capital investment as the determinant factors contributing to WEA.

Moreover, this study presents the Decision Makers characteristics (DMCs) which serve as moderators to better enhance the WEA. It is important to access the characteristics of the decision makers to better strengthen the adoption of WEA. In specific, this study examines the factors of owner-managers age category, education level, years of experience and ICT knowledge; and whether these variables could enhance or slow down the adoption of WEA. To close the gaps exist between the IOE characteristics, web-technology and e-business adoption and competitive advantage, this study suggested on the

proposition that, in order to achieve competitive advantage, SMTAs require to effectively adopt web-technology and e-business strategy based on the potential of IOE characteristics as an enabler to remain its significant position in the 21st century business. Hence, this study also expands Kilangi's (2012) work by introducing a new set of competitive advantage dimension which will lead SMTAs to develop their competitiveness. Thus, the Network Theory (NT), the Resource Base Theory (RBT) and Institutional Interventional Theory (IIT) were added to the framework in explaining the relationship between IOE determinants, WEA and CA.

From the industrial perspectives, this study attempts to access the current WEA among SMTAs in Malaysia. Bhutan, Turkey, Egypt and some of the European nations are experiencing a lower ICT adoption. There are a number of issues among SMEs such as the low number of travel agencies have interactive websites as SMEs do not adopt Internet at the same speed as the large firms, SMEs neither have websites nor interactive features for Internet marketing, underutilization of Internet facilities, SMEs are lagging behind for Internet penetration and SMEs are reluctant to fully utilize ICTs (Intrapairot & Shivihok, 2003 ; Tatoglu, 2003; Vrana & Zafirooulos, C, 2006; Dorji, 2011 ; Law & Leung, 2000 and Usoro, 2007). The similar case can be seen in Malaysia.

Malaysian SMEs are seen as slacking in web adoption. About 70 % of SMEs owners are IT illiterate and out of 90 % SMEs, less than 15 % have adopted e-business. SMEs sector has not reached the mark yet as the biggest obstacle that hampers the growth and progress is funding and more than 50 % of SMEs collapse within the first five years of operation (Alam, 2009; Tan & Eze, 2008; Chin, 2010; Hashim, 2007). Only 30 % of SMEs have a web presence and use IT extensively in business which reflects a poor rate of IT adoption among local SMEs. SMEs are tasked on huge issue due to their passiveness in adopting technology (Hashim & Wafa, 2002; Muhammad et al., 2010; Lee, 2005; Reiss, 2006; and Ahmad & Seet, 2009). Compared to big organizations, SMEs are relatively small in some areas (i.e., organization, administration, technological, staffing and surrounding). Therefore, ICT adoption in Malaysia SMEs can help to improve their competitive advantage in tourism sector. This is particularly difficult for service-based SMEs due to lesser competitive advantage because most consumer prefer to buy gadgets/ electronic items, prolxly affecting the service industry (Tallud., 2014).

The second issues to be addressed is that Malaysia SMEs are not gaining competitive advantage from its operation by conducting their businesses in a conventional way and only focusing on the domestic markets as the major sources of income generation. In a survey conducted by the Associated Chinese Chambers of Commerce & Industry of Malaysia or ACCCIM, (2012),

only 28 % entrepreneurs were involved in e-commerce activities. This may be due to its e-commerce among SMEs is still at infant stage and the lack of readiness among Malaysian SMEs toward e-commerce business practice. The main obstacles in achieving competitive advantage through ICT adoption are the poor bandwidth, escalating cost, the concerns on e-payment security, lack of intellectual capital, social barriers, lack of knowledge on marketing techniques, branding, customer loyalty and lack of contacts between enterprises (ACCCIM, 2012; Khalique et al., 2011; Alam et al., 2011; Hashim and Wafa 2002 and Muhammad et al., 2010).

The intellectual capital is gradually replacing the physical assets in modern enterprises as the market is driven by products innovations, marketing channels, market & services, research & development effort and the focus is put on the management of the enterprise (Ding & Li, 2010). Other authors also argue that intellectual capital is a vital factor for the organization success to move for competitive advantage (Khalique et al., 2011; Shaari et al., 2010; Leitner, 2011; and Bataineh & Zoabi, 2011). Based on the given literature, it is seen that to have competitive advantage, firms need to develop the intellectual capital as an asset to survive and compete in the open global markets. Malaysia must turn from the traditional input-driven growth strategy to knowledge-driven to achieve the vision 2020 of becoming a developed nation (Abdullah, 2004; Bhatiasevi, 2010).

The next dominant issue addressed in the travel agency segment is the impact of ICT and e-commerce on the disintermediation of travel agencies. The easier access to information on travel and tourism has led to effort of reshuffling the traditional delivery channels (Buhalis, 2004).

As the 21st century practice is dominated by the arrival of new technological developments, they pose a threat to the industry players especially travel agencies. The presence of the Internet forces travel agencies to extinction and it compels the travel agencies to quickly keep up with the technological demand or perish. Today, online travel agencies sites such as Travelocity.com, www.Tripadvisor.com.my or Expedia.com.my are popular among Internet users and they have offered online services for travelers, which have reformed the construction of the industry and threat on traditional travel agencies (Chircu et al., 2001). Internet has changed travel agencies and the relationship between key suppliers and travelers may be abolished through digital networks.

Despite of the bigger opportunities and better technological in the tourism, the Malaysian tourism industry is still stalled in on-line booking system, in specific, only 1/3 of Malaysian registered travel agents use e-commerce websites (Ali et al., 2015). The global tourism market has changed the business practice into commission cuts and the evolution of the Internet and changing consumers' demand and expectation are shifting the ways Malaysia SMTAs operates their business.

The growth of the online booking system by airlines; at a cheaper price with a wide selection of tickets offering, offers a direct connection between the providers and the travelers. Over the past few years, the number of travel agents has declined (Khuja, 2012). Among the contributing factors of the shrinking of demand for travel agencies is the availability of online travel agencies (OTAs) that has shifted the conventional practice to online business transaction.

As an effort to reduce the risk of disintermediation and enhancing business performances, travel agencies need to restructure their operations and to look over their main strategies (Khuja, 2012). To further survive in the industry, local travel agents must be able to re-intermediate by investing into the ICT potentials such of e-commerce and e-business application. It is believed that SMTAs should be more creative and innovative in creating e-commerce as a new platform to stimulate the interaction among the travelers, providers and suppliers to improve the development of travel and tour service. Although there are many researchers focusing on ICT adoption theme as discussed in Table 2.6 such as (Shouk et al, 2012, Garkavenko,2009, Vrana et al, 2006, Bigne et al., 2008) and the impact of the Internet on today's travel agencies operation, there has been little work carried out on the assessment of the current implementation of WEA among SMTAs in Malaysia.

The next important issue called for this study is the requirement for tourism professionals and the industry to create a new platform of ICT business to close the gaps that exists between the travel providers and the travelers. Based on the employment record in tourism industry (refer to Table 1.1), there was a decrease (4.7%) in the employment for travel agencies and other reservation service segments from 37.4 million in 2014 to 32.7 million in 2015 which clearly indicated that there is less demand of manpower in the travel and tourism businesses. This reduction indicates that ICT tools and facilities have widely replaced the human skills in running the travel agencies operation.

Table 1.1 : Employment in Tourism Industries

Year	2010	2011	2012	2013	2014	2015
Travel agencies and other reservation services	22.8	33.5	28.0	31.7	37.4	32.7
Annual % change	1.1%	1.4%	1.1%	1.2%	1.3%	1.1%

(Source : Tourism Satellite Account 2015, DOS, Malaysia)

Most of the previous research investigated this issue from the perspective of the supply of the operating sectors such as e-business and B2B application and proposition of integrated model of employee's behavior-refer to Table 2.5 (Bigne et al., 2008; Mpofu et al., 2007; Vrana et al., 2006; Karanasiosis et al., 2008; Cheng et al., 2010; Kim et al., 2009 and Islam et al., 2004). In a different view, there were limited studies conducted by researchers from the perspectives of demand. For instance, only Shouk et al., (2012) & Garkavenko, (2009) assess business to customers (B2C) context. Therefore, with the aim to close the mentioned gaps in Table 1.1 and to improve the services provided by travel agencies which in this study refer to SMTAs segment, the results of this study are vital to update the current implementation of WEA as well as suggesting ways of how WEA could be an influence on competitive advantage in today's SMTAs business.

Based on several related studies in the tourism industry discussed earlier, it is observed that technology is an important strategic asset for tourism organizations to improve organizational performance and strategic competitiveness. Adopting technology is a complex process in nature and it is affected by a number of internal and external factors. To the researcher's understanding, there are limited studies conducted to examine ICT adoption, web-technology and e-business, from B2C perspectives. It is also found that there is little research done on measuring the variables of IOE and WEA and CA from B2C perspective.

This study adopts several innovation theories such as Diffusion of Innovation Theory (DOI) by Rogers (2003), Technology Acceptance Model (TAM) by Davis (1989), Technology, Organization, Environment Theory (TOE) by Tornatzky & Fleischer's (1990), Resource Based Theory (RBT) by Caldeira & Ward (2003); Penrose (1959), The Institutional Interventional Theory by King et.al (1994), The Upper Echelon Theory by Hambrick & Mason (1984) and The Network Theory by Abrahamson & Rosenkoff (1997) to address the key research questions. The main theories that govern the relationship between IOE characteristics and WEA are the DOI Theory, TOE Theory, the Network Theory and the Upper Echelon Theory. While the main theories that govern the WEA to CA are the RBT by Caldeira & Ward (2003); Penrose (1959) and

IIT by King et al (1994). This research refers to ICT adoption in business as higher level of business application as referred to by previous authors like Molla & Licker (2005a) and Stone, (2003); Ali et al., (2015); Khuja, (2012) on e-business adoption.

This study examines a regression analysis among the dimension of SMEs characteristics, WEA and CA. Tourism industry has proven to be relevant for ICT adoption due to its dependency on the supply and exchange of information throughout the production and distribution chains (Anckar & Walden, 2000) and an assessment in the current implementation of WEA is required to exploit its potentials among SMTAs. Since travel agencies are considered as SMEs and the fact that the use of ICT is paramount to the tourism sector, a study of ICT adoption is important. An understanding of the current WEA is essential to discover the reasons why SMTAs are still left behind in integrating, developing and measuring WEA as a CA potential.

1.5 Research Questions

The research questions propose the need to further understand the IOE characteristics' effects on WEA & CA and the need to examine DMCs as the moderating effect on WEA. This study also addresses the role of WEA as a mediator on the relationship between the IOE characteristics and the CA. Hence, this study attempts to answer the following research questions:

1. What is the current level of web technology and e-business adoption level among SMTAs?
2. Is there any significant relationship between IOE characteristics and web- technology and e-business adoption among SMTAs?
3. Is there any significant relationship between web technology and e-business adoption and competitive advantage among SMTAs?
4. Is there any significant relationship between IOE characteristics and competitive advantage among SMTAs?
5. Is there any moderation effect of decision maker's characteristics on the relationship between IOE characteristics and web technology and e-business adoption among SMTAs?
6. Is there any mediation effect of web technology and e-business adoption on the relationship between IOE characteristics and competitive advantage among SMTAs?

1.6 Research Objectives

The main objective of this study is to investigate the key IOE determinants of web technology and e-business adoption and competitive advantage contribution among SMTAs in Malaysia. This is significant since there is a lacking insight into technological adoption and low ICT usage among SMEs in developing countries (Kilangi, 2012; and Kamuzora F.K, 2006).

This study adopts relevant innovation theories (DOI, TOE, UET, Network Theory) to further explain the determinants of WEA. The basic concept of this study is in the current business environment and addressing the direct effect of the major determinants of WEA in Malaysia based on the TOE model by Tornatzky & Fleischer (1990). To support the model, a moderating and mediating factor of DMCs adopted from UET by Hambrick & Mason (1984) was introduced to measure the indirect effect of web-technology & e-business adoption on the CA of SMTAs in Malaysian context. This study is designed to achieve the following specific objectives:

1. To describe the current web-technology and e-business adoption among SMTAs.
2. To examine the relationship between IOE characteristics (ICs, OCs and ECs) and web-technology and e-business adoption (usage, level, purpose, frequency, reasons for not adopting ICT).
3. To examine the relationship between web-technology and e-business adoption (usage, level, purpose, frequency, reason for no adoption) and competitive advantage (product development, quality of products & services, price competitiveness, accessibility & connectivity, firm branding and human resources development).
4. To examine the relationship between IOE characteristics (ICs, OCs and ECs) and competitive advantage (product development, quality of products & services, price competitiveness, accessibility & connectivity, firm branding and human resources development).
5. To examine the moderation effect of decision makers characteristics (age, education, years of experience and ICT knowledge in the relationship between IOE characteristics correspondence) on web-technology and e-business adoption (usage, level, purpose, frequency, reasons for not adopting ICT).
6. To determine the mediation effect of web-technology and e-business adoption (usage, level, purpose, frequency, reasons for not adopting ICT) on the relationship between IOE characteristics competitive advantage.

1.7 Significance of the Study

This study attempts to bridge the gap that exists in the previous literature review since this study examines the relationship between dimension of IOE characteristics and CA, the moderation effect of DMCs and mediation effect of WEA in the relationship between IOE characteristics and CA which have not been studied in the previous research. The present study would be significant in two aspects namely theoretical development and practical implications.

1.7.1 Academic contributions

This study updates on the knowledge of the latest level of usage of WEA particularly in SMTAs segment. This study hopes to serve as a tool to collect and analyze information about WEA by SMTAs in Malaysia context; the reasons for adoption, how WEA is used in the current business operation as well as discovered on the effects of WEA on CA.

This study also addresses the expansion of the Upper Echelon Theory (UET) model with the introduction of a moderating variable of DMCs as means of improving the WEA. The intention of the research is to examine the degree of importance of selecting the right managers with potential criteria to further develop the CA strategy for the firm's survival, as the manager plays important roles in shaping the direction of the firm's growth and survival. Due to the rapid ICT's changes in today's competitive business, the findings of this study expanded the current body of knowledge in ICT and tourism industry. As discussed in the literature review, there are limited studies found to investigate potential moderating effects of DMC's on the influence of IOE context on WEA among SMTAs. Most of the previous studies concentrated on the tourism industry in general. This study extends the existing research (Kilangi, 2012) on the general tourism industry to a specific study focusing on SMTAs segment.

1.7.2 Policy Makers

The outcome of this study also provides input for the government institutions, whom are the policy makers to review and update the current policy related to WEA implementation in SMTAs segment. The findings of this research also would assist ICT consultants and vendors to strengthen their promotion efforts with positive ICT adoption characteristics. Simultaneously, the findings are expected to assist those SMTAs that have not yet adopted WEA or have lower levels of WEA in making decision for future investment. Apart

from that, this study provides a better understanding of the role of tourism stakeholders in facilitating WEA among the SMTAs.

1.7.3 Practitioners

As an effort to enhance the SMTAs businesses in Malaysia, the results of this study will provide input for the travel agencies owner-managers to consider the role of WEA towards the growth of their business. In fulfilling the needs to reduce the industrial gaps, the results of this study can assist SMTAs to focus on web-technology & e-business investment for their future planning as a way to upgrade the quality of services provided to the modern tourists.

In addition, the findings of the study are helpful to validate and strengthen the argument in adopting ICT to conduct their businesses especially in reservation & ticketing department and tour department to improve the business performances.

Finally, this research provides some important determinants of WEA which would be useful in Malaysia, especially for the policy makers and travel agencies owner- managers to use technology. The results of this research can provide some solutions for developing successful ICT adoption practice and the goal will be to inspire Malaysia SMTAs entrepreneurs to adopt WEA as a tool to generate income and become competitive in the market. Generally, this research might also be relevant to other developing countries in the region.

1.8 Definitions of Key Terms

Small and Medium Enterprises (SMEs): Refers to firms employing 5 to <30 full -time employees and obtaining a sales turnover from RM 300,000 thousand and not exceeding RM 3 million, (SME Corp,2016).

Travel agent: Travel agent is referred to “a company which is licensed by the (MOTAC) and promotes, arranges and sells land, sea or air transportation, hotel accommodation and travel related services in Malaysia or outside of Malaysia for commission” (Section 2, Act 482, Tourism Industry Act, 1992).

ICT Adoption: Refers to business activities that mainly rely on the Internet technology to function and consisted of the Internet, the World Wide Web, e-business and wireless transmissions. Types of business transaction:

- a. Online - has access to the Internet facilities as a medium for sales services
- b. Offline - does not provide any online medium for sales services
- c. Both - involved with both online and offline activities

Innovation: Innovative technologies and business models have transformed the service environment (Sorescu et al., 2011). For the purpose of this paper, innovation is defined broadly as SMTAs development and implementation of new services development via web-technology & e-business platform.

Innovational characteristics (ICs): Refer to characteristics of innovation (relative advantage, compatibility, complexity and social influence) in their relation to the degree of adoption of that innovation is a social system (Roger, 1995).

Organizational characteristics (ICs): Organisational factors refer to the availability and use of internal resources (training, location, e-resources, top management support, data secrecy & confidentiality, and training & human capital investment) for ICT adoption among SMEs. (Molla & Licker, 2005, Al-Qirim, 2007).

Environmental characteristics (ECs): Refer to Khemthong and Roberts (2006), Brock (2000) and Yap et al (1992), Thong & Yap (1995); King et al (1994); Kilangi (2012). With relevance to travel and tour sub-segment which involve the roles of the government, suppliers and customers, this study investigated four constructs of competitive pressure, external support and the government support in the relationship with web -technology and e-business adoption and competitive advantage.

Competitive Advantage: Competitive advantage is obtained when an organisation develops or acquires a set of attributes (or executes actions) that allow it to outperform its competitors (Wang, 2014). CA dimension investigated in this study including the aspects of product development, quality of tourism products & services offered, price competitiveness, accessibility & connectivity, firm branding and human resource development (Dupeyras & N. MacCallum., 2013).

1.9 Scope of the Study

This study to cover the five regions of Malaysia. The study only covered SMEs owner-managers views of three determinants of IOE characteristics and their relationship with WEA and six dimensions of CA. Therefore, the findings of this study may only be generalized on population of Malaysian small and medium scope of operation as stipulated by SME Corp, since the characteristics of the small and medium enterprises respondents may be different from the population of large firms. Among the characteristics mentioned by SME Corp are referring to the annual sales turnover and a total number of full-time workers hire by the selected firms surveyed in this study. The findings of this study may not suit the big scale travel agencies due to the variation of nature of respondent's business activities and business operation.

The travel agencies business can be divided into nine business types, which are the Inbound and Ticketing; Inbound; Outbound; Inbound, Outbound & Ticketing; Inbound; Inbound & Ticketing; Inbound & Outbound; Ticketing; Outbound & Ticketing as stipulated by MOTAC, (2015) that was selected as the target respondents. The respondents were selected using the simple random sampling technique since the target population is heterogeneous (various types of travel agencies business scope). This study also discovers the social and behavioral science, the survey method is therefore the most appropriate method in collecting data compared to observation technique (Pope, Royen & Baker, 2002). The quantitative survey method was deployed using questionnaire as the primary instrument for the data collection effort.

1.10 Organization of the Thesis

This research employs a quantitative research design method which comprises of six chapters. Chapter 1 highlights the background of the study, statement of the problem, research questions, research objectives, significance of the study, definition of key terms, and scope and organization of the study.

Chapter 2 discusses the literature review which includes the theoretical and conceptual framework of the study. This research reviews related theories to ICT adoption in the organization context which include DOI theory, UET the RBT theory as the basic models guiding the design of the proposed framework.

Chapter 3 describes the conceptual framework and hypothesis development. The methodology is discussed in chapter 4 consisting of research design, population and sample of the study, sample size and sampling procedure, the

measurement instrument, pilot study, data collection for final survey, SEM and multivariate assumption analysis.

Chapter 5 discusses the results which mainly discuss the preliminary analysis, respondents profile results, research objective, hypotheses summary and discussion of the findings. Chapter 6 reaches the end of the study that consists of summary of the findings, contribution of the study, recommendation, limitations and directions for future research.

1.11 Chapter Summary

Overall, this chapter highlights the background of the study, statement of the problem, research questions, and research objectives, significance of the study, definition of key terms, scope of the study, organization of the thesis and chapter summary.

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