THE TECHNOLOGY ACCEPTANCE MODEL THEORY AND UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT)

Namatullah Shuwaired Said Al-Yaqoobi[1]*, Mohd Iskandar Bin Illyas Tan[2]

[1]Ph.D., Candidate at the International Business School, Universiti Teknologi Malaysia (UTM), architect.namat89@gmail.com

[2]Dr., Senior lecturer at the International Business School, Universiti Teknologi Malaysia (UTM), iskandar@utm.my

*Corresponding Author

Abstract

This descriptive analytical study, it is part of an extensive study conducted by the researcher on: The Impact, Opportunities and challenges of using Information communication technology in Tourism Sector in Oman. It discusses the factors affecting the acceptance of the use of information and communication technology in the tourism sector, when the development of using the information technology allowed governments and tourism institutions to provide services of better quality. Though individuals and many groups of society obtained the appropriate technology; wasn't quite as effective. Despite the many benefits of communication technology applications, they are not always easily accepted by the employees of the tourist establishments. It became necessary to know what makes employees accept or resist certain computer technologies. When digital tourism opens up opportunities for companies and organizations to engage and attract audiences. The study applies the descriptive analytical method. The findings of the study showed that: The technology acceptance model occupied a distinguished position among the models that tried to explain the acceptance or failure of information systems. It was even considered a powerful theory in explaining and predicting the behavior of users of information systems. After the model has been experimentally and applied extensively and extensively. The unified theory of technology acceptance and use; It was superior to all of its previous models.

Keywords: (TAM), unified theory, technology acceptance

1. INTRODUCTION

The research topic was chosen by the researcher, within the framework of studying tourism opportunities in the Sultanate of Oman. Due to its geographical locations, its mild climate, its picturesque coastline, its diverse historical landmarks, and its enjoyment of safety and security. These together constitute the main elements, which the Sultanate of Oman considers necessary to benefit from the tourism sector, which plays a crucial role in reducing dependence on oil revenues (Omani Tourism, 2020).

The extensive study conducted by the researcher focused on the topic of the role of information and communication technology as an important tool that helps in the development of the tourism sector in Oman and strengthens the local tourism value chain. And how to take advantage of information and communication technology, to develop tourism in Oman.

In recent years, many countries with tourist potentials have shown a remarkable interest in employing

information technologies in the tourism sector, and researching ways to activate their role in the development of tourism, and thus increase their share in the international tourism movement, and this interest has appeared during many international courses and conferences, as well as through Establishing federations and organizations concerned with this aspect, the most important of which is "the International Federation for Information Technologies in Travel and Tourism" (IFITT), which was established in 1994, as this federation is the first entity with interest in tourism information technology, and it works on its development in various tourism sectors. As well as establishing "the International Organization for the E-Tourism Industry".

1.1. Statement of the Problem

The user's acceptance of any new technology; It is one of the most research areas in the literature of modern information systems (Venkatesh, et. al., 2003). Despite the large number of studies in this regard; The issue of user acceptance of information technology is still a complex issue, and at the same time, the issue is gaining great importance, given the large size of the organizations' investments in modern technology. However, employees' lack of acceptance of new technology will reduce the expected return on this investment (Cao, et. Al., 2013).

Kuzma, (2010) found that 70% of Asian governments use social media as a one-way communication channel, to disseminate data and information so they fail to take advantage of the interactive and participatory properties of social media. Similarly, a study (Kavanaugh, et. al., 2012) found that local government officials in Arlington, Virginia, and the National Capitol District around Washington, DC; Lacks practical and cognitive skills in managing social media. Baird, & Fisher, (2010) emphasized that what professional development practitioners make is that social media is used as a single information channel only wrong, the extent to which diplomats can benefit from the full benefits of social media has not been much examined.

On the other hand, the United Nations report (2020) revealed; Governments all over the world need to accelerate efforts to embrace information technology and modern means of communication after they succeeded in combating the outbreak of the Corona virus through the use of their national portals, social media platforms and mobile applications. .

Therefore, the current study seeks to verify the acceptance of the use of information and communication technology in the Omani tourism sector. Therefore, human acceptance of new media technology is important for the current study; Since many studies such as: (Loo, et.al., 2009) as well as (Kim, et.al., 2008) applied the adoption of information technology in other economic sectors, and included important factors such as the quality of information technology and perceived value. Given the lack of previous studies in the Arab region, many researchers in the field of information technology and information systems called and supported the need to study the factors that affect the acceptance of information technology.

1.2. Research Objectives

This study aims to discuss the acceptance and use of information and communication technology in the Omani tourism sector, due to the following two objectives:

a. To examine the Technology Acceptance Model (TAM) by users.

b. To Present the Unified Theory of Technology Acceptance and Use (UTAUT) as an important development of the Technology Acceptance Model Theory.

1.3. Literature Reviews

Park and Kim, (2014) tested the effectiveness of the technology acceptance model in diagnosing the factors affecting the adoption of cloud computing. The findings showed that benefit, security, system quality, trend, and satisfaction are the determining factors for cloud adoption. Also, Burda and Kim Teuteberg, (2014) study adopted Technology acceptance model, to know the impact of trust and expected risks in the adoption of cloud storage by German university students, when the results showed that the expected risks and the expected benefit have an impact on the intention to use cloud storage.

Therefore, the technology acceptance model occupied a distinguished position among the models that tried to explain the acceptance or failure of information systems. It was even considered a powerful theory in explaining and predicting the behavior of users of information systems. After the model has been experimentally and extensively tested, by academic researchers when studying the success of information systems or adopting technology acceptance (Venkatesh, et. al., 2003: P 52).

Nasri (2015: p. 86) confirms that the technology acceptance model is one of the credible and reliable models for explaining the acceptance of information systems, and that the goal of the model is to explain the user's

behavior towards information systems.

Abdallah, (2007: 279-287) study examined the Technology Acceptance Model (TAM) on (775) United Arab Emirates university students. The study showed a positive impact of the factors of ease of use and utilization of technology on students' attitudes towards using the Blackboard Learning Management System. The results of the study Gyamfi, 2016, p 105) found that the technology acceptance model can be considered an effective tool for predicting user acceptance of systems that support electronic courses among student teachers in the Republic of Ghana. The study found the students' tendency towards using electronic courses in the future.

Cao, et. al., (2013) used The Unified Theory of Technology Acceptance, to study the adoption of cloud storage by students in China. The results confirmed that expected risks, cost, personal innovations, expected performance and expected effort, and social impact affect student adoption of cloud storage.

1.4. Methodology

In this study, the researcher adopts the application of the descriptive analytical approach, which is a method concerned with describing the phenomenon, in terms of data collection, tabulation, and statistical analysis, in order to reach an understanding of the phenomenon as it really is, and the variables affecting it, using the appropriate tool.

Data collection: In collecting the study data, the researcher relies on the descriptive approach, using the Technology Acceptance Model (TAM), and the Unified Theory of Technology Acceptance and Use (UTAUT).

2. SECTION ONE: TECHNOLOGY ADOPTION MODEL (TAM)

Davis originally proposed this model in 1989, and it became the most used model to explain user acceptance of new technologies. The technology adoption model was developed from the Theory of Reasoned Action as it provides a basis for tracing how external variables influence belief, attitude and intention to use new technologies (Wu, Li & Fu 2011). The technology adoption model reflects the fact that the actual use of a new technology depends on the attitudes of the users towards that technology, the perceived ease of use of the technology, and the perceived benefits that can be derived from its usage. It is expected that behavior using two variables are perceived usability and utility. From this model, it is concluded that when an individual perceives that using a certain technology will assist in improving performance or will bring benefits to the company, the individual will be keen to adopt it. Consequently, if the new technology is perceived to be easy to implement by users, people will not hesitate to use it. Therefore, if the owners of business understand the benefits of using social media marketing and if they have the ability to utilize it without any challenges, they could accept social media marketing more easily (Salwani et al. 2010).

The model was used to predict the acceptance of new information technology and it proved that it can be relied upon in explaining acceptance behavior in some areas of information systems (El-Gohary 2012). In this research, technology adoption model will be used to determine the factors that influence the use of social media marketing in tourism businesses.

2.1. The Technology–Organization–Environment Framework

The “Technology–Organization–Environment” is an organizational level theory used to understand the role of three important components of a firm which can affect new technology implementation decisions. After realizing the usefulness of technology adoption, Tornatzky and Fleischer proposed the TOE model to assess factors which can influence the adoption of new technology. The TOE model identifies three major factors of an organization that affects the process of technology adoption and implementation, namely, technological context, organizational context and environmental context.

Furthermore, the ‘technological context’ refers to internal and external technologies that are beneficial to the company, namely “the current internal practices and equipment of the company”, including some available technologies that are outside the company. The technological context can also refer to the relevant skills needed to use that technology. In this research, technological context was described as the technical knowledge required to implement social media marketing (Matikiti, 2018).

As for the ‘organizational context’, it includes ‘resources of the company, the linking structures between employees, intra-firm communication processes, company size, and the amount of slack resources’. Therefore, organizational context describes the size and scope of an organization and the structure of management in the company (Oliveira & Martins 2011).

“Environmental context” refers to the external aspects that influence a company's decision to adopt new technologies that include competitors, customers, and government involvement. Thus, the TOE model

provides a platform for evaluating social media marketing accreditation; as it highlights both the internal (technical knowledge) and the external aspects (pressure from competitors) of an organization which can influence the adoption of new technologies in the companies (Chao & Chandra 2012).

Therefore, if an organization does not have the skills to perform social media marketing, it will be very difficult for the organization to adopt social media marketing even if there is pressure to do so from the external environment. Consequently, the external environment can also affect the social media marketing adoption. Furthermore, if an organization's competitors are adopting or have adopted social media marketing, it will be forced to adopt it to maintain its competitiveness (Wamba & Carter 2014). Therefore, the TOE and TAM models improve a framework for assessing new technology adoption like social media for example.

(Salwani et al., 2010) used TOE to investigate use of e-commerce by tourism companies. (Hoti, 2015) used TOE to investigate information systems. Moreover, TOE has been used to explain the adoption of information technologies (Chao & Chandra 2012), as well as enterprise systems and social media (Wamba & Carter 2014). All the previous studies indicated that technological, organizational and environmental factors have influenced making new decisions through technology.

ICT in general, and e-commerce in particular, have become key factors in facilitating business activities and procedures, trade in goods, services and information exchange. Not only that, but it has become a catalyst for the development of many businesses to change their structure and management methods. So, both e-commerce and e-tourism are considered one of the themes of the so-called digital economy, where the digital economy depends on the development of information technology. As IT or the information industry has helped the realistic presence of e-tourism, as IT relies on computing, communication and various technical means to carry out and manage its various activities.

All these developments have had an important impact on the tourism sector or the tourism industry, which has become widely dependent on various ICT technologies. E-tourism accounts for nearly 75% of the volume of e-commerce, accounting for the bulk of the size of the latter, with income exceeding $100 billion in 2010. So, it is expected that the volume of e-tourism will increase and its relative share in the world economy will increase (Al Attar, 2010).

Ten factors were found to have an important influence on the usage of social media marketing by small tourism businesses through the TAM and TOE. Additionally, three factors -according to TAM- were borrowed, namely perceived ease of use, perceived usefulness, and attitude, while the factors borrowed from TOE were managerial support, manager's level of education, manager's age, time, technical knowledge, pressure from customers, and competitors. The next section explains the factors and how the hypotheses were formulated, starting with the support of top management (Matikiti, 2018).

2.1.1. Top management support

The e-marketing approval process in most medium-sized enterprises is affected by the upper management because it takes all decisions related to the adoption and adoption of new technologies in the future. According to (Dahnil et al., 2014), the top management has an impact on the availability of all resources needed to implement e-commerce projects. Those who are familiar with emerging technology and "positively move towards spreading e-commerce to support innovations. The study of (Salwani et al., 2010) and (Matikiti, Afolabi and Smith, 2012) indicated that top management's support is an essential factor determining the adoption and implementation of new Internet technologies.

2.1.2. Manager Characteristics (age and level of education):

Age and level of education are the two main traits that have been reported to influence the adoption and use of new technologies (Aspasia & Ourania 2014), and one's level of knowledge and skills regarding the use of a particular technology determine one's position on that technology.

2.1.3. Time constraints

The success of social media marketing initiatives depends on the time given to them by organizations. As time is needed to learn how the social networking site works, how other businesses in the same industry are using it for marketing, and how to present an attractive profile page. The time that businesses spend on social media sites in sending messages, attending to comments and blogging can be considerable. (Au, 2010) tested the adoption of new technologies by tourism businesses and revealed that time constraints and lack of understanding of how social media can be used for marketing strongly hinder the use of these technologies by tourism companies.

2.1.4. Perceived Benefits and Perceived Usefulness

Perceived usefulness is defined as the possibility that one is convinced that adopting a certain technology would improve the way of performing tasks. This study asserts that using social media marketing would improve the marketing performance of travel agencies and tour operators. Therefore, if a company believes that a certain technology has desirable features that could improve their performance, they tend to develop a favorable attitude towards its use. Additionally, perceived benefit can affect the intention of an organization to adopt the use of new Internet technologies (Alford & Page, 2015).

2.1.5. Perceived ease of use

(Porter and Donthu, 2006) asserted that 'individuals have specific beliefs about their performance capabilities based on a variety of individual experience and personality factors'. Perceived ease of use is associated with the 'user-friendliness' of the social website. According to (Ali, Mat and Ali, 2015), perceived ease of use is an important antecedent of users' adoption of e-commerce technologies. (El-Gohary, 2012) also stated that perceived ease of use influences decisions on the adoption of e-marketing. Perceived ease is also expected to influence the use of social media marketing.

2.1.6. External Pressure

Firms with special systems and new technology are considered a competitive tool that enables them, when competitors adopt technologies to stay ahead, from "jumping on the cart and embracing new technology". Previous studies agree that pressure from competitors is a factor affecting the use of new Internet technologies. (Wanyoike et al., 2012) explored the SMEs in Kenya and the usage of e-commerce. It was concluded that pressure from both competitors and customers determines the adoption of e-commerce.

2.1.7. Attitude towards Social Media Marketing

Understanding the reliance of tourism companies on Internet technologies needs to investigate the attitude of the owner of the owner and find out what determines their response to those technologies (Shen, 2015). If the owner or manager has an e-'vision' they will not hesitate to adopt and implement new Internet technologies.

Resistance to change is one of the most common defects in any attempts to initiate technological change, and e-commerce is no exception. It should be said that the behavioral intention to adopt a new technology is influenced by the attitude towards that technology. (Praveena and Thomas, 2014) and (Shen, 2015) concluded that attitude is an important aspect which influences intention to continue using Internet.

It is recognized that technical knowledge or technical know-how will temper the relationship between using social media marketing and the intention to continue using social media marketing. According to (El-Gohary, 2012) insufficient technical knowledge is one of the major inhibitors of e-commerce adoption among SMMEs (Matikiti, 2018).

3. SECTION TWO: THE UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT)

The theory is one of the well-known studies of technology acceptance in many sectors, including tourism.

Venkatesh, et, al., (2012) created the UTAUT 2 model to explain the acceptance and use of technology particularly by the consumers. UTAUT 2 is an extension of Unified theory of acceptance and use of technology (UTAUT) introduced by (Venkatesh et al., 2003) that focused on determining the adoption and usage of technology by employees. (Venkatesh et al., 2003) However, after reviewing eight predominant theories of technology acceptance including TRA, TAM, the motivational model, TPB, the PC utilization model (MPCU), IDT, the social cognitive theory (SCT), and an integrated model of technology acceptance and planned behavior (TAM-TPB), identified four main constructs i.e (1) performance expectancy, (2) effort expectancy, (3) social influence, and (4) facilitating conditions influencing behavioral intentions and usage behavior of Individuals towards a particular technology. However, the extended UTAUT or UTAUT 2 added three new constructs namely Hedonic motivations, Price value and Habit to the original UTAUT to determine the behavioral intentions and usage behavior of consumers (Gupta & Dogra, 2017).

UTAUT 2 model has been applied in several contexts, and its hypothetical relationships have been extensively proven by various researchers such as: (Baptista and Oliveira 2015; Escobar-Rodríguez and Carvajal-Trujillo 2014).

3.1. Performance Expectancy

(Venkatesh et al., 2012) stated that performance expectancy is “the degree to which the usage of technology will provide benefits to consumers in performing certain activities”. Performance expectancy has proved to be a strong antecedent in consumer e-commerce travel adoption studies. (San Martin and Herrero, 2012) used the UTAUT model in their study and established that performance expectancy positively influences online travel purchase intentions. (Amaro and Duarte, 2013) conducted a meta-analysis of online travel purchasing adoption research and found that performance expectancy was a significant variable. It should be noted that performance expectancy is one of the most important predictor of technology usage in tourism settings. (Im, Hong and Kang, 2011) examined the impacts of culture on UTAUT variables. It has been shown that Performance Expectancy was the most efficient antecedent of behavioral intentions and no significant variation was observed.

3.2. Effort Expectancy

Effort expectancy can be defined as the “degree of ease/effort associated with the use of modern technology by consumers” (Venkatesh et al. 2012). As a matter of fact, consumers prefer a user-friendly technology with maximum efficiency (Godoe and Johansen 2012). (Curtis et al., 2010) asserted that PR practitioner’s intention to adopt social media was influenced by the ease and self-adequacy of the forum. The current literature confirmed that the efforts to understand a technology are low, and the intention to adopt the technology is the same (Kang, 2014). Technology that is easy to use in the adoption phase has positive impact on the consumer’s attitude towards using the technology (Satama, 2014). The expected effort is supported in the case of the adoption of online shopping. (Amaro and Duarte, 2013).

3.3. Social Influence

(Venkatesh et al., 2003) identifies social influence as the “degree to which an individual perceives that important others believe he or she should use the new system”. Social influence concentrates on the role and opinions of important people like friends, family and colleagues, etc. (Tan, Ooi, Chong and Hew 2014).

The study of (Yang, 2010) on adoption of mobile shopping services stated that consumer’s intentions to engage in mobile shopping are affected by the nearby people’s perspectives. Additionally, the study of (Tan, et. al., 2014) adopted the topic of adoption of online banking and mobile credit card and wireless mobile data services respectively. Another study on mobile app usage intentions dedicated to (Hew et al., 2015) has also confirmed a positive relationship between social influence and behavioral intentions.

3.4. Facilitating Condition

Facilitating Conditions are known as “the consumers’ perceptions of the resources and support available to perform a certain behavior” (Venkatesh et al. 2003). Therefore, UTAUT model imposed that the user’s perception of facilitating conditions influences the acceptance of technology in a direct manner, as it was affirmed that surrounding environment either encourages or restricts the adoption (Venkatesh et al. 2003). The known studies in this topic supported that facilitating conditions have considerable implications on actual usage and behavioral intent. (Alwahaishi and Snášel, 2013).

3.5. Hedonic Motivation

The Hedonic drive is defined as "the pleasure or pleasure derived from the use of technology" (Venkatesh et al. 2012). The study of (Zhang et al. 2012) determined that the consumer's intention to use the technology increases if the recreational value of the technology is relatively more. When looking at studies in information systems, we find that the hedonic motivation positively affects technology adoption and use behavior. In addition to that, previous studies in the field of electronic banking and e-commerce also revealed that the Hedonic motive is the main determinant of the user's intentions to adopt the new technology. (Baptista and Oliveira 2015).

3.6. Price Value

The UTAUT 2 was used to study the behavioral intentions of usage in consumer context. Price value was the variable in the extended UTAUT model in its new approach. It was developed as consumers are more sensitive to prices as compared to corporate employees, since the monetary cost involved in using the technology is paid by the consumers which is different in case of corporate employees (Venkatesh et al. 2012). If the perceived benefits of the technology are greater than monetary cost, then the price value is positive, which has an impact on the behavioral intentions in every situation (Venkatesh, Thong, and Xu 2012).

3.7. Habit

Habits are known as “the extent to which people tend to perform behaviors automatically as a result of learning”. Habit introduces the results of past behaviors or experiences (Venkatesh et al. 2012). Repetition of past behavior is one of the main precedents for current actions. The tendency to use technology has also been found. It can be inferred from the previous use of information technology, and previous studies have shown that habit is a key factor for technology acceptance. (Lewis et al., 2013) It is known that habit has an impact on the intentions to adopt classroom technology. Hence it can be inferred that propensity to use technology is directly proportional to the habits that were performed in later stages.

3.8. Behavioral Intentions

Intentions can be defined as the person's desire to engage in a certain behavior. In addition, behavioral intent is known as the ancestor of the behavior, and it can be said that intentions have a significant impact on the use behavior, and that relationship has been verified experimentally. It is necessary to add that individuals tend to engage in a certain behavior if their intention towards this behavior is positive and vice versa, so the positive intention affects the individual's acceptance of innovation and its use. Intention is an important determinant of using mobile services and use behavior (Gupta & Dogra, 2017).

REFERENCE LIST

Abdalla, I. (2007). Evaluating effectiveness of E-Blackboard system using TAM framework: A structural analysis approach. AACE Journal, 15(3), p 279-287.

Al Attar, Azza. (2010). *E-Commerce between Construction and Application.* Arab Academy of Science, Technology and Shipping.

Alford, P. & Page, S.J. (2015). *Marketing technology for adoption by small business*. The Service Industries Journal 35(11/12).

Ali, N.M., Mat., N.K.N. & Ali, N.M. (2015). *The conceptual framework for e-commerce adoption model.* American Journal of Economics 5(2).

Alwahaishi, S. and Snásel, V. (2013). *Acceptance and use of information and communications technology: a UTAUT and flow based theoretical model.* Journal of technology management & innovation 8(2).

Amaro, S. and Duarte, P. (2013). *Online travel purchasing: A literature review*. Journal of Travel & Tourism Marketing 30(8).

Aspasia, V. & Ourania, N. (2014). *Social media adoption and managers’ perceptions.* International Journal on Strategic Innovative Marketing 1.

Au, A. (2010). *Adoption of Web 2.0 by tourism businesses in NSW’*. Tourism New South Wales. Viewed 20 may 2021.

Baird, D. E., & Fisher, M. (2010). Pedagogical mash up: Gen Y, social media, and learning in the digital age. *In Social Computing: Concepts, Methodologies, Tools, and Applications*, 2023-2044 IGI Global.

Baptista, G. and Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior (50).

Burda, D., & Teuteberg, F. (2014). The role of trust and risk perceptions in cloud archiving— Results from an empirical study. The Journal of High Technology Management Research, 25(2), pp.172-187

Cao, Y., Bi, X., & Wang, L. (2013, December). A Study on User Adoption of Cloud Storage Service in China: A Revised Unified theory of Acceptance and Use of Technology Model. In Information Science and Cloud Computing Companion (ISCC-C), 2013 International Conference on (pp. 287-293). IEEE

Chao, C.A. & Chandra, A. (2012). Impact of owner’s knowledge of information technology (IT) on strategic alignment and IT adoption in US small firms. Journal of Small Business and Enterprise Development 19(1).

Curtis, L., Edwards, C., Fraser, K.L., Gudelsky, S., Holmquist, J., Thornton, K. & Sweetser, K.D. (2010). Adoption of social media for public relations by nonprofit organizations. Public Relations Review 36(1).

Dahnil, M.L., Marzuki, K.M., Langgat, J. & Fabeil, N.F., (2014). Factors influencing SMEs adoption of social

media marketing. Procedia – Social and Behavioral Sciences 148.

El-Gohary, H. (2012). Factors affecting e-marketing adoption and implementation in tourism firms: An empirical investigation of Egyptian small tourism organizations. Tourism Management 33(5).

Escobar-Rodríguez, T. and Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. Tourism Management 43.

Godoe, P. & Johansen, T.S. (2012). Understanding adoption of new technologies: Technology readiness and technology acceptance as an integrated concept. Journal of European Psychology Students 3(1).

Gupta, Anil & Dogra, Nikita. (2017). Tourist adoption of mapping apps: A UTAUT2 perspective of smart travellers. Tourism and Hospitality Management. Vol. 23. No.2.

Hew, J.J., Lee, V.H., Ooi, K.B. and Wei, J. (2015). What catalyses mobile apps usage intention: an empirical analysis. Industrial Management & Data Systems 115(7).

Hoti, E. (2015). The technological, organizational and environmental framework of IS innovation adaption in small and medium enterprises: Evidence from research over the last 10 years. International Journal of Business and Management 3(4).

Im, I., Hong, S. and Kang, M.S. (2011). An international comparison of technology adoption: Testing the UTAUT model". Information & management 48(1).

International Trade Centre (2011) *Tourism: It's About Managing Competitiveness Too.* ITC, International Trade Forum [online] (Accessed on 5 October 2019).

Kang, S. (2014). Factors influencing intention of mobile application use. International Journal of Mobile Communications 12(4).

Kavanaugh, A. L., Fox, E. A., Sheetz, S. D., Yang, S., Li, L. T., Shoemaker, D. J., & Xie, L. (2012). Social Media use by government: From the routine to the critical. Government Information. *Quarterly*, *29*(4), 480–491.

Kim, T. G., Lee, J. H., & Law, R. (2008). An empirical examination of the acceptance behaviour of hotel front office systems: An extended technology acceptance model. *Tourism Management*, *29*(3), 500–513.

Kuzma, J. (2010). Asian government usage of Web 2.0 social media. *European Journal of EPractice*, *9*, 1–13.

Lewis, C.C., Fretwell, C.E., Ryan, J. and Parham, J.B. (2013). Faculty Use of Established and Emerging Technologies in Higher Education: A Unified Theory of Acceptance and Use of Technology Perspective. International Journal of Higher Education 2(2).

Loo, W. H., Yeow, P. H., & Chong, S. C. (2009). User acceptance of Malaysian government multipurpose smartcard applications. Government Information. *Quarterly*, *26*(2), 358–367.

Matikiti, R., Afolabi, B. & Smith, W. (2012). An empirical evidence on the usage of internet marketing in the hospitality sector in an emerging economy and its relationship to profitability. International Review of Social Sciences and Humanities 4(1).

Matikiti, Rosemary, Mpinganjira, Mercy, and Roberts-Lombard, Mornay. (April 2018). Application of the Technology Acceptance Model and the Technology–Organisation–Environment Model to examine social media marketing use in the South African tourism industry. South African Journal of Information Management 20(1).

Oliveira, T. & Martins, M.F. (2011). Literature review of information technology adoption models at firm level. The Electronic Journal of Information System Evaluation 14(1).

Porter, C.E. & Donthu, N. (2006). Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics. Journal of Business Research 59.

Praveena, K. & Thomas, S. (2014). Continuance intention to use Facebook: A study of perceived enjoyment and TAM. International Journal of Industrial Engineering and Management 4(1).

Salwani, M.I., Marthandan, G., Norzaidi, M.D. & Chong, S.C. (2010). E-commerce usage and business performance in the Malaysian tourism sector: Empirical analysis. Information Management & Computer Security 17(2).

San Martín, H. and Herrero, Á. (2012). Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework. Tourism Management, 33(2).

Satama, S. (2014), "Consumer Adoption of Access-Based Consumption Services – Case AirBnB". Unpublished Marketing Master's thesis, Aalto University School of Business". Retrieved August 10, 2016.

Shen, G.C. (2015). How quality of life affects intention to use social networking sites: Moderating e of self-disclosure. Journal of Electronic Commerce Research 16(4).

Tan, G.W.H., Ooi, K.B., Chong, S.C. and Hew, T.S. (2014). NFC mobile credit card: the next frontier of mobile payment?. Telematics and Informatics 31(2).

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003). User acceptance of information technology: Toward a unified view. MIS quarterly.

Venkatesh, V., Thong, J.Y. and Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS quarterly 36(1).

Wamba, S.F. & Carter, L. (2014). Social media tools adoption and use by SMEs: An empirical study. Journal of End User and Organizational Computing 26(2).

Wanyoike, D.M., Mukulu, E. & Waititu, A.G. (2012). ICT attributes as determinants of e-commerce adoption by formal small enterprises in urban Kenya. International Journal of Business and Social Science 3(23).

World Tourism Organization (UNWTO) Affiliate Members. AM-reports – Technology in Tourism (Vol. 1, 2011) [Online] (Accessed on 7 November 2019)

Wu, I.L., Li, J.Y. & Fu, C.Y. (2011). The adoption of mobile healthcare by hospital's professionals: An integrative perspective. Decision Support Systems 51(3).

Yang, K. (2010). Determinants of US consumer mobile shopping services adoption: implications for designing mobile shopping services. Journal of Consumer Marketing 27(3).

Zhang, L., Zhu, J. and Liu, Q. (2012). A meta-analysis of mobile commerce adoption and the moderating effect of culture. Computers in Human Behavior 28(5).