

The Conceptual Framework for E-Commerce Adoption Model

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Abstract Although Malaysia declares “Visit Malaysia Year’ from time to time, the Malaysian tourism industry has not improved their on-line booking system. Statistical evidence indicates that only one-third of registered travel agents in Malaysia operate e-commerce websites. Hence, the main objective of the study is to examine the direct and indirect factors which affect the e-commerce adoptions by examining its key predictors in travel agents in Malaysia. The literature also identifies three probable factors (perceived risk, perceived usefulness, trust and perceived ease of use) that could be the causal factors for poor e-commerce adoptions. The proposed methodology is the quantitative approach by collecting primary data from travel agents. The data collected will be analyzed using structural equation modeling.

Keywords e-commerce, Adoption, Malaysia, Tourism, Trust, Perceived risk, Perceived usefulness

1. Introduction

Although Malaysia declares “Visit Malaysia Year’ from time to time, the Malaysian tourism industry has not improved their on-line booking system. Taking a look at the statistical evidence, e-commerce adoption in Malaysia is still very low of about only one third of registered travel agents as reported by Malaysia Association Travel Agents (MATTA, 2013).

By way of definition, e-commerce adoption is considered to be the process of buying, selling or exchanging product, services and information using computer networks [1]. E-commerce is rapidly becoming a viable means of conducting business, as evidenced by tremendous amounts of money spent online. However, most of the travel agents have websites that only contains company information but do not implement e-commerce.

Through the launching of the Economic Transformation Programme (ETP), Malaysia realizes the growth potential of tourism can become a high income by 2020. In order to propel in the economic transformation in one of the NKEAS, The Malaysia Tourism Transformation Programme (MTTP) aims to attract 36 million in terms of international tourists with an expected RM168 billion in receipts. It is hoped that Malaysia will deviate from an economy based on knowledge to one that is more competitive through the adoption of information communication technology (ICT) and

e-commerce to enhance education and health. Then, e-commerce will strengthen and increase business of travel agents.

The most crucial question now is not whether firms should adopt e-business but how to effectively employ e-business to gain competitive advantage [2]. Furthermore, as a result of high failure rates in the adoption and implementation of technological innovation, such as e-business, is arguably one of the most recent concerns and issues in marketing practice.

Findings from Ng (2000) indicated that many Malaysian companies are afraid of investing in e-commerce because it is still considered as unfamiliar territory. Therefore, they are seen as followers rather than pioneers. The low percentage of e-commerce adoption among travel agents could be attributed to inadequate e-commerce laws. Some of the legal issues that need to be highlighted are domain name disputes, infringement copyrights, protection of patent rights as well as safeguarding of trade secrets.

Similar characteristics and pattern of behavior in tourism are same in other parts of the world. The study by [3] shows that resource constraints are the reasons why is lagging behind. Some of these constraints include a lack of training, capital and business strategies as well as inadequate knowledge of the potential technology.

Other evidence in the literature indicates the importance of perceived risks in internet purchasing. The term perceived risk is viewed as the uncertainty and unfavorable terms that could results related to consumers’ expectation [4]. [5] had earlier defined this as a state that reflects the consumer’s perception of negatives outcomes. This pertains primarily to searching and choosing information [6]. Perceived risk is defined as tangible usage of a novel information system and

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can be determined by the intention to use; this in turn is influenced by the perceived use and perceived ease of use traits of the system.

For the second research issue, there have been fragmented and diverse antecedents of low adoption in e-commerce. [7], use Roger attributes of innovation adoption as the five predictors of innovation. One of the four attributes associated with the adoption behavior can be seen as risk taking. The empirical research by [4] have tried to identify the various types of perceived risk.

In order for the firm to carry out electronic transactions together with value chain activities e-commerce adoption has become a noteworthy research topic and this represents a better and additional way to integrate internet based technologies with essential business which in turn may potentially affect the whole business [8].

Other research issue is the lack of investigation on mediating effect of trust. In the past, very few studies have investigated mediating effects in trust. [9]. Trust can help buyers with high expectations to feel satisfied with the exchange relationship between buyer-seller transactions however, states that trust is the key determinant in risk inherent in a situation. IT has not addressed the role of trust in e-commerce and its application. As in traditional exchanges, trust is regarded as an important factor in online transaction especially there is no impersonal nature in the online context.

There is a lack of investigation on the mediating effects of trust with low adoption on electronic commerce especially in tourism and hospitality industry. Investigations so far have been only on mediating effects of attitude or intention and not on trust as mediating effects as found in the study. The studies discovered on the mediating effects of trust are by [5], believing that trust correspond to perceived usefulness and convenience to use. [1] conclude that perceived usefulness and convenience to use have meaningful effect on transaction objective.

2. Literature Review

E-commerce adoption can be defined as a systematic usage of the internet for ordering and purchasing goods and services [10]. The introduction of disorderly technologies like the internet and e-commerce most often is preceded by a succession of incremental inventions. Hence, the acceptance of such technologies is usually not a binary procedure rather, it is one which encompasses numerous stages [11].

From another point of view, e-commerce looks at the business transaction using the internet and this includes buying and selling of information, products and services [4].

Finding from (W@tch, 2007) shows that tourism intensive region worldwide is in the Europe region. Recently, the incessant growth in tourism industry has proven to be higher than that of the overall world economy.

This is an indicator that this industry is one of the fast growing industry of the worldwide. Nonetheless, the European Union worldwide has been declared the most tourism-intensive area. In other studies, there are three dimensions that can provide importance points when studying e-commerce adoption namely firm, environment and technology.

Proactive government policy and efficient legal system are essential in determining e-commerce adoption in environment perspective. These policies include e-commerce strategy, training, promoting and enhancing the telecommunication infrastructure and online fair tax policy for user. Essentially, active government policy and the adoption of e-commerce create positive relationship as shown by a few studies which were reviewed in southern Italy, Pakistan, China and Singapore [12, 13].

Electronic Commerce Models in Non-Tourism Industry

An electronic commerce model in non-tourism industry was also done extensively in the past. Among the studies setting taken into considerations were banking and financial [14]; SMEs [15]; [16]; online shopping. Five models were reviewed in non-tourism setting. The outcome reveals similar pattern of fragmentation, in the non-tourism setting. For instance, [17] analyzed electronic commerce toward banking by having perceived usefulness as the indirect path (perceived enjoyment, online banking information, privacy and security and internet banking quality) towards electronic commerce adoption.

The internet's World Wide Web can be an important source of competitive advantage for most business organizations. It is definitely the prime drive of modern e-commerce in small and medium sized businesses. Large firms have no doubt about the potential advantages of e-commerce. Despite that, there is a lack of e-commerce adoption in SMEs in Malaysia. This can be verified by a survey by Verizon Atlas (2003) who discovered that 37% of small businesses launched web site principally to promote their sales and production.

Studies in the past have shown that even though e-commerce is important, large firms adopt electronic commerce more rampantly than SMEs [18]. This is because generally SME's do not have large resources and technology capabilities [19]. This research generally can be considered in the following topics:-

- a. E-Readiness. This review factors concerning the potential readiness factor which is an important factor in influencing their decision [20, 21]. An e-readiness model was proposed as a basic requirement for the firm's readiness to adopt electronic commerce [22, 23]
- b. Electronic commerce adoption. The main objective was to discover what are the driving factors that encouraged the use of electronic commerce by SMEs. The first descriptive studies identify the factors that motivate as well as block the use of electronic commerce [24] and second one is the empirical studies that review the relationship between each factor and

adoption decision [25]. This shows that it is more meaningful way to explain the case.

- c. Electronic commerce diffusion investigates the extent of which electronic commerce technology assimilates into the firm's operation [26]. The diffusion effect had been viewed as either the extent of electronic commerce technologies that the firms adopted or the business functions that electronic support.

Developed nations are more accepting in adopting e-commerce as the usage and progress is more widespread have compared to developing countries. A few authors had started to carry out cross-country study [5, 27]. Whereby comparisons are made on electronic commerce practice between developed and developing countries [28].

Banking has always been very active in seeking information that relies heavily on information technology (IT) especially in acquiring, processing and delivering the essential information. Innovative technologies within banking sector throughout the last two decades had expanded in order to deal with rapid competition. Among this new technology, internet banking seems to be more promising. Clients will definitely gain from the ease, rapidity and 24/7 accessibility [20].

Based on literatures on internet banking in Greece, banks in Greece have been offering online banking since 1997, the implementation rate of pertinent services amongst internet user is still behind from the respective figures of other European Union countries (Eurostat, 2008). Among them most common approach is the innovation diffusion theory and technology acceptance model. This is a very positive approach that has never been used in the internet banking. It is combined with TAM and IDT. By using this approach, it will explain how customers decide in accepting or rejecting the new technology. The same approaches have already been used in other environment such as mobile commerce payment, broadband acceptance, e-commerce and new IT tools in the healthcare industry [28].

Internet banking in Greece versus Europe Union

Eurostat (2008) recently reported that only 12 per cent of its residents use online banking despite European Union having 30% penetration rate. The Netherlands and Scandinavian countries have the highest access rate of online banking rate (>70 percent of internet users) in Europe. This is because of high dissemination of innovative technologies there, follow by Western European countries (between 40 and 60 percent) and Southern European countries (between 30 and 40 percent).

According to current research, conduct by AC Nielsen in collaboration with Phaistos Networks customers with online banking have improved by 14 percent amongst internet user including the previous in 95 famous Greek web sites (E-Metrics, 2008).

The essential reasons for the online banking are cost savings for the bank when customers use online banking service and the online banking channel which is the cheapest channel for banking products [29]. Secondly by

reducing their branch networks and downsize the number of staff by having self-service channels Thus the three causal of the acceptance of online banking services are cost savings and also the freedom [30].

By 2015, it is estimated that there will be an increase of three billion internet consumer globally, from two billion in 2011. E-commerce sales worldwide had reached USD950 billion in 2013 as compared to USD600 billion in 2010. The proportion of internet shopping in Europe is about 60% of the internet user while it is 70% in the United Kingdom. Nevertheless, some Eastern European countries such as Romania (9%), Serbia (7%) and Macedonia (21%) have revealed low usage of e-commerce for planning holiday packages (European Commission 2012). Malaysia seems to fair moderately.

Online services are used in our daily lives for internet shopping, online banking, purchasing cinema tickets and booking hotels. In airline context, internet services include reservation, e-ticketing, diet or seat selection, online or kiosk check-in services which lift the challenges of traveling. Developing a system that is adaptable and usable should be looked into closely. This help to create further benefits for the organization.

Through Web 2.0, the users can obtain and offer information to various sector especially tourism where users can prepare and choose their own destination. Through the web they can visualize their ideas of what their destination would be like as they are able to obtain the relevant information and personalized these information tailor made to what they like and prefer [5]. These make preparation and planning quicker and more efficient in finding about accommodation or the itineraries [31]. The fact that the use of internet has been surmountable as a valuable travel tools makes hospitality and business industries to critically consider looking at online environment for their customer service.

Study by [32] view that e-shopping can be enriching shopping experience which offer consumer value in terms of time, place convenience and price comparisons.

Tour companies that is able to explore, contrast prices and make reservations online have more control and flexibility to offer customized tailor holiday packages. Travel agents also need to start using the information technology in order to maintain their competitive and efficiency. With the adoption of information technology travel industry are faced with lots of challenges. This include looking for specific ways to attract and maintain customers for special tour packages customized needs travel needs for example limousine rental, and hotel transfers. Thus, online travel agents such as Lastminute, Agoda.com and Booking.com will have to compete with traditional high street travel agents.

Based on the above discussions, online marketing have definitely transform traditional business transaction. At the same time they have changed the perceptions of the consumers concerning travel packages services. It has also transformed the behavior processes when comes to planning,

booking and payment processes. E-commerce is able to provide virtual airfare prices, hotel, destination directions map and auto rental. This helps consumers to reduce the travel hazards and insecurity on the prospective journey.

Perceived Risk and E-Commerce adoption

The definition of perceived risk is subjective perception of the possibility in reaching the unexpected consequences [33]. Perceived risks also had impact towards online purchasing as shown in study by [25]. However study by [34] show that even though perceived risk is noted as an important barrier to e-commerce usage it does not stop people from buying online travel services. Research in tourism industry proves to be negative significant at one end [35] but positive at the other end [36, 37], although both are from different industry. A study in mobile industry incorporated perceived risk into the TAM to evaluate consumer's adoption and revealed that potential risks of online transaction in process affect consumer's attitudes. Hence, this study postulates the following hypothesis:

H1: Perceived risk will have a significant positive relationship with e-commerce adoption.

Perceived Usefulness and E-Commerce Adoption

Perceived usefulness is defined as the possibility in which a person feels that using a particular system will improve his/her performance [22]. The rationale for using the perceived usefulness is as an antecedent to adoption based on Theory of Reasoned Action (TRA) which has been found in electronic banking [22, 11, 1]. In the context of internet banking, perceived usefulness might refer to convenience, efficiency, time saving, easy accessibility and cost effectiveness. From the perspectives of e-commerce in tourism perceived usefulness may be defined as the prospective traveler's that using the internet will facilitate his/her purchasing tourism and travel service/product [38]. Consumer generally have favorable attitudes towards products or services that they believe have an adequate level of desirable attributes. The low costs of information search online also contribute to perceived usefulness of shopping from an online store. For example, AirAsia.com allows consumers to save time and search for flight information online. Purchase online can provide convenience, and the ease of comparisons across options to select the most useful option. Based on the above discussion, this study proposes hypothesis 2 as:

H2: Perceived usefulness will have a significant positive relationship with e-commerce adoption.

Perceived Ease of Use and E-Commerce Adoption

Perceived ease of use represents the level of difficulty the user expects to have in integrating the tool into his or her routine. However past research on consumer adoption of online services found that PEOU is an important antecedent of user's adoption of new Web technology [27, 21]. Findings from online banking in Malaysia showed that perceived ease of use is a significant barrier in banking

industry which was supported by prior studies by [39-41].

Other context in internet banking perceived ease of use refer to appeal of the site, easily accessible, easy to navigate and easy to understand. If the appropriate skills and understanding of the technology are in place, the use of e-commerce will be easier and easily accepted by user.

It also shows a negative sign in SMEs in Malaysia when it comes to e-commerce adoption in the business [16]. In most studies, it suggests that the more complex new technology is perceived to be, the less likely it is to be adopted. The possible reason is that SMEs in Malaysia and developing countries are still reluctant to use the e-commerce in their business operation. Hypothesis three is as follows:

H3: Perceived ease of use will have a significant positive relationship with e-commerce adoption.

Trust and E-Commerce adoption

[42] present the model that concludes trust is the mediating belief of the relationship among the determinants of e-commerce acceptance. This model was based on trust in internet banking whereby privacy and data integrity have a significant impact on trust. From the table, trust has often been recognized to have a strong influence on perceived usefulness especially in online environment as trust allows users to become vulnerable to the e-vendor [43]. [33] find perceived ease of use to have a positive influence on trust especially in the initial adoption of the system. Many researchers have found both trusting perceptions and PU and PEOU significantly contribute towards the behavioral intentions in e-commerce environment [44, 45].

There are some studies done on e-commerce tourism concerning the trust factor in online purchases for general tourism products and services. Study on trust and satisfaction in empirical test that will influence loyalty. In comparison a study by [46], trust in travel is more related to websites where virtual store, customers' trust strongly affects his/her attitude when using the e-store. Due to this, trust in hospitality website can be perceived to be reliable because of favorable attitudes if tourists used it to conduct online shopping for tourism and travel products. Subsequently, hypothesis 4 is proposed as follows:

H4: Trust will have significant relationship with e-commerce adoption.

Other hypotheses postulated based on the framework are as follows:

H5: Perceived risk will have significant relationship with trust.

H6: Perceived usefulness will have significant relationship with trust.

H7: Perceived ease of use will have significant relationship with trust.

H8: Trust mediates the relationship between perceived risk and e-commerce adoption.

H9: Trust mediates the relationship between perceived

usefulness and e-commerce adoption.

3. Methodology

This study will use quantitative analysis by empirically testing the prevailing research questions through primary data collections in order to achieve the research objective. The data will be collected using structured questionnaires on the local travel agents for bookings online for travelers going abroad and domestic in Klang Valley before proceeding with analysis via structural equation modeling (SEM) method.

Sampling frame for this research will be travel agents where travel agents survey will be done to gather respondents' feedback. This study will leverage on travel agents survey while engaging systematic random sampling method. The questionnaire was coded and sets of questionnaires were sent to the selected travel agents companies. Respondents were given two weeks to respond to the questionnaire. Two weeks after the last response was received, a follow-up mailing was done. Researcher will pre formulated written sets of recorded responses. The sample size will be 355 travel agents in Selangor and Kuala Lumpur.

The data will be analyzed using SPSS followed by AMOS. SEM has various abilities such as the ability to examine the structure of interrelationships expressed in a series of equation, similar to a series of multiple regression. The data in this study will employ seven point Likert scale with 1-Strongly disagree, 2-disagree, 3- somewhat disagree, 4- neither agree or disagree, 5- somewhat agree, 6 -agree, 7- strongly agree.

Data Screening: Normality test and outliers treatment

Data screening will be done to ensure correct data input followed by normality test. This test involved empirical measures of a distribution's shape characteristic (skewness and kurtosis) and the normal probability plots. A positively skewed distribution has relatively few large values and tails off to the right, and a negatively skewed distribution has relatively few small values and tails off to the left.

Meanwhile kurtosis is the measurement of peakedness or flatness of a distribution when compared with a normal distribution. A positive value indicates a relatively peaked distribution and a negative value indicates a relatively flat distribution.

Outliers are the observation with a unique combination of characteristics identifiable as distinctly different from the other observations. It is judged by an unusually high or low value of the variable or a unique combination of values across several variables. Therefore, this study will undertake Mahalanobis distance test to detect the outliers.

4. Discussion

The problems and the issues surrounding the low

e-commerce adoption have made the study significant. It's important to ascertain why the low e-commerce adoption in Malaysia will affect Malaysia in attracting tourist to visit. It is assumed that the research model will give insight to why there is low e-commerce adoption. It is hope that the model will enlighten the policy makers for strategic decision making. The paper is a conceptual framework for e-commerce adoption model by examining the direct relationship between perceived use, perceived use and perceived ease of use, trust and the relationship with e-commerce adoption.

5. Conclusions

Though the variables in this study are yet to be tested, the complexity of the relationship will include direct and indirect impacts of antecedents on e-commerce adoption need to be included in order to become imperative.

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