The Integration Between The UTAUT With Is Success Model In Case Of Online Hotel Booking User Acceptance

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ABSTRACT
This paper aims to identify factors effecting intention to use on-line reservation system of hotels. This study makes an attempt to investigate the relationship between antecedents including information system quality, service quality, and consumer’s acceptance of online booking systems by adopting an extended Unified theory of acceptance and use of technology [24] and Information system success [5] of hotel websites. The empirical results were obtained in a sample of 124 online reservation users. Structural equation modeling is used to evaluate proposed model. The results indicate that most of UTAUT and IS success model constructs have an in-direct effect on online booking hotel users. However, system quality of the social network has a direct effect on online user satisfaction. The results of this study provide implications for hotel managers and service providers to formulate business strategies to encourage more travelers to adopt the reservation system.

Keywords: Online reservation system, online hotel booking, unified theory of acceptance and use of technology (UTAUT), IS success, online hotel booking.

INTRODUCTION
In this Internet era, the rapid growth of web 2.0 applications, which empower Internet users and allow two-way information communications in travel and tourism, has generated an enormous number of online user-generated contents on hotels, travel destinations, and travel services [22]. So more and more people use Internet to get anything what they want by clicking the mouse this moment on the net. Thus, on-line business is growing worldwide: the number of on-line shoppers continues to increase and on-line technologies are improving. Many of today’s business transactions are conducted through the Internet and retailers benefit greatly from the surge in on-line sales and the multiplicative effect across other distribution channels [12]. Based on the rapid increase of Internet, tourism has become one of the most rapidly progressive industries that are boosted by e-commerce. In response to this e-business opportunity, most hotels have already established their own web sites to facilitate promotion and reservations on the web predicted that at least one-third of all hotel bookings will be completed online in 2010 [3, 23].

Consumers are able to gather information about products and services on the Internet and their purchase intention likely to be affected by the Internet. The internet satisfies these demands by allowing potential customers to learn about hotel facilities and compare prices, qualities without contacting a hotel’s sales representative [4]. After collected all information on the net, customer will making their order, but their behaviors will be affected by other information such as brand reputation.
of hotel, word of mouth, price of the room, web sites technical and they will make the final decisions. Successfully adopting a more effective of online purchases the room and growing globally have become matters of survival for hospitality. In fact, hospitality firms have adopted web sites to take full advantage of the practical and creative business uses of the internet [11].

The purpose of this study is to examine the effect of web quality of Hotel web sites factor and adopting and integrating an extended Unified Theory of Acceptance and Use of Technology (UTAUT) framework with Information System success (IS success) model on online hotel booking intention. Additional, this study also concerned about the advantage and disadvantage of online hotel booking with non-online hotel booking. Based on the study of existing literature, current research proposed research model and hypothesis for future study. The research will provide more specific knowledge about tourists’ channel – adopting behavior and help hospitality industry understands more about consumer purchase behavior. Let hotels management establish marketing strategy to making customer be able to purchase room and other service on the net without worrying to be cheated. Maybe the online booking system will replace the traditional ordering way in the near future.

Hence this study seeks to examine, explore and measure the effects of quality and the expectancy of customer when they decide to booking hotel online. Additionally, the finding and implication of this research will recommend for hospitality industry a strategy for building customer trust, customer loyalty with their website with the online booking service.

LITERATURE REVIEW

Fundamentals of Research Framework

Based on some previous researchers have also examined what current and potential online customers like to see from hospitality and travel websites. Jeong [9] investigated consumer perceptions of hotel websites and concluded color combine, ease of use, navigation quality, information completeness, accuracy, and currency was crucial factors for increasing sale via the Internet. Out of the six key drivers of online transaction intentions, information completeness turned out to be the most critical for online customer’s satisfaction with web sites information. Yoon [28] investigated the antecedents and consequences of trust and satisfaction in online purchase decisions. The antecedents included in the study were transaction security, web sites properties and web sites function.

One of key indicator of information system success is technology acceptance. The UTAUT is one of the latest developments in the field of general technology acceptance models [17]. This study current structural model proposes an extension to the UTAUT follow the research of Venkatesh [24] which has good explanatory power in user acceptance and usage behavior for information technology, given in figure 1.

Figure 1: insert here

Based on the theory of UTAUT conceptual framework influenced online hotel booking consumer’s adoption of other major online reservation. This study accepted online customer intention to use an information technology system and subsequent usage behavior. In addition, online customer also has a positive impact on websites quality of hotels to build up their trust and it also has direct
The second theory, which supports the objectives of this study is information system success (IS success) [5]. The Delone and McLean model [6] is one of the most cited models used to measure information system success with information quality, system quality, use, user satisfaction factors. The original DeLone and McLean model is shown in Figure 2 below.

Figure 2: Insert here

Ten years later, 2003 DeLone and McLean reexamined and updated the original IS success model. The new updated IS success model illustrates clear, specific dimensions of success or effectiveness and the relationships between the factors [16]. This research uses the updated model that is shown in Figure 3 below.

Figure 3: Insert here

Both, IS success model and the UTAUT model have been equally appraised, widely used and evaluated in the literature. However, Delone [5] model does not predict system usage, thus in order to understand the user behavior and measure the relevant quality for specific web systems, it should be have an integrative perspective to understand the user behavior and measure the relevant quality for websites [1]. Therefore, this study chose to integrate UTAUT model with IS success model to test the intention of tourist who have online hotel-booking.

The Increasing Use of Travel web sites and Hotel web sites impact on online purchase intention.

Due to the increasing of the Internet, more and more travelers have moved their information search and travel arrangements activities online. Thus, the internet has dramatically transformed the tourism industry in the last decade with the proliferation of the internet into people’s lives, such as the way travel service providers distribute travel information in the marketplace and the way people plan their trips, make reservations… In contrast, the use of traditional travel intermediaries and information sources (travel agents, tour operators, broadcast and print media, tourism information centers and travel shows.) are declining [27]. Metrix [15] predicted that sales of online travel products and services would increase from US$24 billion in 2001 to US$64 billion in 2007.

The application of the Internet has stimulated sweeping changes in hotel customer’s information search behavior. At the same time, the Internet is moving the hospitality business from a reactive to a proactive position with regard to meeting customer’s changing information demands. Olsen [18] argued that the Internet would mean a significant transformation of the traditional distribution channels in the hospitality industry, owing to the increasingly large online customer base.

According to the study of Jeong [8], increasing customers’ satisfaction with websites information through high quality product provisions has a significant positive influence on customers’ intention to make a reservation online. This impact is in addition to that of customers’ perceptions of product value. This impact is in addition to that of customers’ perceptions of product value.

The Internet is continuously exerting a growing influence on the tourism markets. Customer behavior has changed dramatically since online travel services have been introduced and become increasingly popular. Customers have shifted from traditional offline channels to online channels to search for travel information and booking hotel. This trend strongly correlates to the effort of the
Reputation and Web Quality of Hotel websites

As social Internet continues to grow in influence on traveller’s decisions booking hotels, it is important for hotel focus on online reputation management. Reputation is an evaluation of the hotels past performance and behavior by third parties. Since reputation represents third-party or public opinion of the Internet, it must be transferred from the third party or the public to potential customers, influencing them to build trust in the hotels. Accordingly, reputation is a main characteristic of a hotel’s trustworthiness, and hotels can signal its trustworthiness by building a good reputation.

Reputation of hotel in the hospitality industry is defined what individuals see when Hotel name/ Hotel brand is searched for online via search engine (like Google, Bing, Yahoo) or Social Media (like Facebook, Twitter..). So, online reputation or e-reputation for Hotels is a really big deal. A good reputation not only brings in new business, it also attracts returning businesses. A hotel that has a good reputation for its warm hospitality is more likely to improve online customer trust. Nowadays, more and more web sites and online travel agencies allow consumers to review the hotel they stayed in. The number of citizen journalists has also grown through the easiness of creating a blog on the Internet. Thus, happy and satisfied guests are also key influencing factors in recommending their friends and families to stay in the same hotel. For this reasons, web sites reputation can also affect the online booking intention of customers.

Websites may provide diverse information such as product details, price, delivery information, and return policy and conditions. Customers tend to carry out tasks like product search, price comparison, and terms negotiation in Internet. Internet information may reveal the trustworthiness of hotels to customers. Websites quality may continue to invoke the capability and intentionality processes of trust building for customers. Customers may also partially estimate the situation of their decision based on the quality of the web sites. The web sites evaluations are the leading cause of hotel’s reputation and that these attitudes increase in predictive value as they become more accessible in memory. Therefore, customer’s intention to booking and order online will be influence by websites quality such as information quality, system quality, and service quality.

Other hand, people searching for hotels via internet, the websites design quality is a big trust factor and some time it is the first impression that impact on their booking intention. With a lot of other hotel websites competing for their booking, they will choose booking at websites if this websites make them trust and easy to booking.

METHODOLOGY

Conceptual Model

Building on the UTAUT framework [24] and IS success model [5], this study used the three constructs of UTAUT framework with four constructs of IS success model to examine online hotel consumer’s trust and intention to use hotel reservation via the internet. According to a recent study by Shim et al [19], past purchase experience via the internet is one of the most important factors in predicting the internet purchase intention. Based on this theories related to
consumers online purchase, this study developed a research framework to understand the construct that influence consumer booking hotel on the internet.

Recently, the percentage of hotel reservations made online was still extremely lower compare with traditional reservation. Therefore, for the purpose of this study to explain positive relationship between online consumer purchases with other construct (i.e. reputation and qualification websites, experience, performance expectation, effort expectation.). Besides, this study will help hotel management have knowledge about online traveler (tourists) or travel agents behavior. Hotel manager or marketer can improve searching efficiency of booking information and simplifying booking process, which will direct enhance customer perception of benefit toward online channels. Thus, hospitality industry manager can build up greatly strategy to increasing probability to make online reservation.

This study develops a research model as shown in Figure 4:

Defining construct relationship and hypotheses developments

The research model in this study is constructed based on the six significant determinants of intention to use technology drawn from the UTAUT model and IS success model (i.e. performance expectancy, effort expectancy, social influence, information quality, system quality and service quality). The integrate between UTAUT model and IS success model would assist online hotel booking marketers in understanding consumers’ trust to use online booking system services [24].

Furthermore, the integration between the UTAUT framework and IS success model has been denoted as an important linking in explaining consumers intention to online booking or purchase via Internet. According to these reasons, the following hypotheses are proposed:

**H1:** Performance expectation (PE) will have positive and significant impact on Intention to use (IU) and User Satisfaction.

**H2:** Effort expectation (EE) will have positive and significant impact on Intention to use (IU) and User Satisfaction.

**H3:** Social influence (SI) will have positive and significant impact on Intention to use (IU) and User Satisfaction.

In general, quality of websites are the public’s opinion about the character or standing (such as honesty, capability, reliability) of an service or quality of hotel facilities, hotel services, web sites design, online booking system (which can easy to use, ease to gathering information) and websites security. It is objective and represents a collective evaluation of a group of travelers or travel agents, while user satisfaction is personalized and subjective reflecting an individual’s opinion [26]. They are closely related. Customer intention to use can be gained from a travelers or travel agent’s own experiences with hotel websites or the reputation of the websites, while hotels and websites of hotel reputation relies on the aggregation of each individual traveler or travel agent experiences with it. They are both used to evaluate their customer satisfaction. They also share some common characteristics.

The direct relationship between reputation and web qualification with online hotel booking intention construct has attracted the attention of researchers in tourism, hospitality sectors [2]. Keaveney and Parthasarathy [10] found that reputation and websites quality had a positive and
significant impact on online purchase intention with the hotel industry. Therefore, Hotel will be encouraged to establish reputation and qualification websites to improve online customer booking intention. Related to willingness to book is whether or not a potential consumer forms a view that the hotel websites can be trusted when customers saw the high information quality from the websites. Sichtmann [20] found that trust in high quality information from online websites positively affects purchase intentions. Wang and Emurian [25] argued that the quality of information and service is one of the most important constructs in determining whether people will purchase online. Based on this argued, this study also explains online information and service quality has positive impact on online hotel booking intention construct:

- **H4:** Information quality (IQ) will have positive and significant impact on Intention to use (IU) and User Satisfaction.
- **H5:** System quality (SQ) will have positive and significant impact on Intention to use (IU) and User Satisfaction.
- **H6:** Service quality (SERQ) will have positive and significant impact on Intention to use (IU) and User Satisfaction.
- **H7:** Intention to use (IU) will have positive and significant impact on User satisfaction (US).

**RESEARCH ANALYSES AND RESULTS**

**Purpose of Result Analyses**

This part is mainly regarded as academically fundamental analysis based on results gathered from processing of data supplied by practical information on questionnaire’s answering of those concerned respondents. Therefore, it will give us the full view of understanding about impact of performance expectancy, effort expectancy, social influence, information quality, system quality, and service quality on online hotel booking under aspect of business managerial science statistically and technically.

**Descriptive Data and Method**

The data were collected from tourist (N=124) who booked, booking and will book hotel through Internet. Characteristic of respondents are including five major items: (1) gender, (2) age, (3) education, (4) monthly income, (5) and occupation. More than 91% are 19-35 years old. About 44% of respondents’ incomes are less than five thousand USD dollars per year. About 79% are graduate level. And over 52% are student and 30% are company employees and staff.

Prior conducting final survey and after final survey reliability of constructs was tested using Amos 18.0. Thereby, the gathered raw data were aggregated according to dimensions under study and principle component analysis and multiple regression tests were performed to identify the major factors which influencing travelers satisfaction on online hotel booking systems.

**Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM)**

Linear Structure Relation is one of the methods to demonstrate the availability of model of causal relationship between all the factors contained in the research data and even regarded as observation of regression factor analysis or path analysis and factor analysis.

Amos software is used to test the linear structure relation of those construct of **Performance Expectancy, Effort Expectancy, Social Influence, Information Quality, System Quality, Service**
Quality, Intention to Use, User Satisfaction in the broad and full norm as the whole to make sure that whether overall combination of all the constructs persuasively well enough to being together in case of the model is good to fit the reality.

Confirmatory factor analysis:

Testing the availability of all the factors inside the model and truly learning that all the components inside the model are useful in turning the model to be valid for doing further intensive research or conclusion.

The results for this analysis is as following:

The first construct – Performance Expectancy, all factor loading value higher than 0.6, C.R (t – value) having absolute value greater than 1.96 so the result here coming out to be significant. For Effort Expectancy and System Quality, all the regression weight obviously having absolute value range from 0.660 to 0.928 within each item and all are also higher than 0.6, C.R (t – value) also higher than 1.96. Thus the results for that construct are significant. Social Influence and Service Quality Constructs, all the regression weight obviously having absolute value ranging from 0.575 to 0.907 within each factor and all are also higher than 0.5, C.R (t – value) also higher than 1.96. Through factor loading less than 0.6, hence the result for this construct is partially significant. For the last 2 constructs, Intention to Use and User Satisfaction constructs, regression weight have one factor loading higher than 0.7, CR (t-value) also higher than 1.96. Therefore, two constructs are strongly significant.

Although it is supposed Chi-squared/d.f is between 1.00 and 2.5 [7], Chi-squared/d.f < 3 is goodness of fit indices [14]. Table 1 show that the model is good fit ($\chi^2$/df = 588.861/377 = 1.56, GFI = 0.830, AGFI = 0.79) and RMSEA = 0.07 < 0.08 meet the criteria, other supportive criteria are fulfilled: CFI = 0.93 > 0.90, NFI = 0.93 > 0.90. Overall, the fit statistics suggest that the estimated model reproduces the sample covariance matrix reasonably well. In other words, they suggest an acceptable fit.

Structural Equation Model:

The purpose of this study is to find out the relationships among Performance Expectancy, Effort Expectancy, Social Influence, Information Quality, System Quality, Service Quality, Intention to Use, and User Satisfaction. For such an objective, structure equation model is employed to test the interrelationships of all the variables in the entire model. Before evaluating the structural or measurement models, the overall fit of the model to ensure that the model should be evaluated. In this study, five indices were used to test the fit of the model. The first one was the chi-square test, the essential for the nested model comparison. The chi-square value of 567.731 with 382 degrees of freedom is statistically significant at the 0.000 significance level. However, we must also note that the chi-square test becomes more sensitive as the number of indicators rise. With this in mind, other measures were also examined.

Table 2: insert here
sample size explicitly and they were adopted to test how much better the model fits than no model at all. A good fit of research model would require GFI and AGFI to be higher than 0.8. The quality of the apriority alternative models should rely on the fit indices. However, it does not the standardized coefficient values are used when explaining the relationship between independent and dependent variables. The highest of these values indicate which of these independent variables have the greatest effect on the dependent variables. All standardized coefficient variables values of all constructs are higher than 0.5. Therefore, the results for the standardized regression weight are acceptable. In order to evaluate the overall fit of the model, chi-square, CMIN/DF, GFI, AGFI and RMSEA are used. The C.R. values must be higher than 1.96.

The value of overall fit of a hypothesized model can be considered as significant when each criteria of Chi-square index with significant \( p \)-value: 0.000 of \( p<0.001 \), \( \text{CMIN/DF}: 1<1.49<3 \). According to the criterion above, the best model (see Table 2) is tested in this study. It shows a significant model with GFI is 0.84, AGFI is 0.80 and CFI is 0.94 with quite high chi-square number (567.731), the GFI and AGFI indices indicate a little bit good fit indices of this model. In addition, RMSEA =0.06<0.08 match the criteria. This shows the designed model has reached overall fit level.

**CONCLUSION AND SUGGESTION**

The major objectives of this study are to identify the interrelationships among the UTAUT constructs with IS success constructs by testing the online hotel-booking user. Based on the result of our study, the conclusions are as follow.

There are significant relationships between UTAUT model with IS success model. Based on the studied of Siddiqui [21] and Li-Yueh Lee at el [13] found that the sample size have direct impact to SEM results, therefore, this study with small sample size with only 124 respondents, hence the results show only with good fit level.

By testing confirmatory factor analysis (CFA) shows that the conceptual model, which developed by this study, has served as useful framework for academicians and practitioners to evaluate the interrelationship among UTAUT and IS success model.

There are a lot of successful models, constructs to effect on online booking hotel user. Besides that, each model, UTAUT and IS success were success by testing alone and with other model, but still lack of research have combine two model to test the relationship between constructs. Thus, we suggest retesting this relationship with other respondents.

Second, because it is hardly possible to conduct a study that does not contain errors or an element of bias. This study questionnaire collected online, the sample size may not be adequate to represent the whole population as the sample may differ from the population simply. Therefore, since the samples are from the different parts of world, this is a broad concept, which needs to represent more specific group for further deep research. This study has small sample size, so it has not best result for SEM test. Thus, we suggest that future research need to have bigger sample size.

Last but not least, the influential factors regarding the detail of hotel information search characteristics may be included in the future research. By research in detail, the different situation and hotel websites-characteristic should be considered, in order to gain better understanding about the
nature of the decision process of online-hotel booking users.

REFERENCE


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**Figure 1: Unified Theory of Acceptance and Use of Technology**
Figure 2: DeLone and McLean’s Model of IS success (DeLone and McLean 1992)

Figure 3: DeLone and McLean’s (2003) Updated model of IS success

Figure 4: The conceptual model of this research

Table 1: CFA bootstrap results
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<th>Table 2: SEM bootstrap results</th>
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<tr>
<td>Bollen-Stine chi-square</td>
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<td>Independence Model chi-square</td>
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<td>Goodness of Fit (GFI)</td>
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<td>Adjust Goodness of Fit (AGFI)</td>
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<td>Normed Fit Index (NFI)</td>
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<td>RMSEA</td>
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<td>Hoelter's critical N (0.05)</td>
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<td>Bollen-Stine chi-square/d.f.</td>
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<td>Bollen-Stine chi-square/d.f.</td>
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<td>Akaike information criterion (AIC)</td>
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<td>Expected cross-validation index (ECVI)</td>
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<td>CAIC</td>
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<td>Hoelter's critical N (0.01)</td>
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<td>PNFI</td>
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<td>PCFI</td>
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**Bollen-Stine bootstrap p correction**

| Bollen-Stine chi-square       | 567.73 |
| Independence Model chi-square | 3518.60 |
| Goodness of Fit (GFI)         | 0.84   |
| Adjust Goodness of Fit (AGFI) | 0.80   |
| Normed Fit Index (NFI)        | 0.84   |
| Non-Normed Fit Index (NNFI)   | 0.93   |
| Tucker-Lewis Index (TLI)      |        |
| Incremental Fit Index (IFI)   | 0.94   |
| Related Fit index (RFI)       | 0.82   |
| Comparative Fit Index (CFI)   | 0.94   |
| RMSEA                         | 0.06   |
| Hoelter's critical N (0.05)   | 93.85  |
| PGFI                          | 0.69   |
|                              |        |
| Bollen-Stine chi-square/d.f.  | 1.49   |
| DF of the estimated model     | 382.00 |
| No. of unknown parameters to estimate | 83.00 |
| DF of the Independence Model  | 435.00 |
| Sample Size                   | 124.00 |
| Bollen-Stine chi-square/d.f.  | 1.49   |
| Akaike information criterion (AIC) | 733.73 |
| Bayes information criterion (BIC) | 967.81 |
| Expected cross-validation index (ECVI) | 5.97 |
| CAIC                          | 1050.81|
| Hoelter's critical N (0.01)   | 98.33  |
| PNFI                          | 0.74   |
| PCFI                          | 0.83   |