The Adoption of E-Tourism: An Empirical Investigation

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Abstract: Man's desire to discover more, enjoy more and acquire more is an unquenchable thirst which gives relevance to tourism. The act of food-searching, safety and environmental-friendliness search in animals is naturally consistent; this is applicable to humans too and it boosts tourism which involves Customer Reservation Services (CRS), hospitality, airline reservation, car hire reservation and others. E-tourism is a revolution from traditional way of physically present in multiple locations to plan a tour, to achieving numerous tour planning tasks with maximum convenience using ICT. This research is a survey research, it investigates the acceptance and adoption of e-tourism in Nigeria, adopting the UTAUT/UTAUT2 model and analyzed the gathered data from the questionnaires using Smart PLS 3 to confirm the reliability and validity of the measurement instruments.

Key words: ICT, UTAUT, Customer Reservation System (CRS), e-tourism, internet

INTRODUCTION

E-tourism entails analyzing, designing, implementing and applying Information Technology and e-commerce technologies in the travel and tourism industry; including economic and market structure analyses; and Customer Relationship Management (CRM) (Vrgovic et al., 2011).

After the printing press discovery, no technological innovation has made the fast penetration, revolution and unilateral relevance within a very short time like the internet (Barwise et al., 2006, Hoffman, 2000, Buhalnis and Jun, 2011). The internet revolution is the reason for the e-business which has e-tourism as a fraction of it. Furthermore, e-tourism depends on the internet for its real time transactions helping millions of tourists to have the best of experience in working, touring, socializing, shopping, leisure and others (Barwise et al., 2006, Buhalhis and Jun, 2011). A study conducted by Dutton and Helsper reported in Buhalhis and Jun (2011) that 84% of respondents were commonly online for e-tourism which has been accepted and adopted worldwide (Buhalhis, 2004, 2003; Buhalhis and Law, 2008; Poon, 1993; Werthner and Klein, 1999; Turban et al., 2008, Buhalhis and Jun, 2011). All companies poised to survive the 21st century acceptance of e-tourism have overhauled their processes for global relevance (Laudon and Laudon, 2007).

The metamorphosis in tourism business to embrace technologies started from the Customer Reservation System (CRS) to Global Distribution Systems (GDS) and the internet revolution brought e-tourism (e-hospitality, e-booking, e-ticketing, e-tracking) changing from internal information communication to global real time transactions (Buhalhis, 2003; Buhalhis and Law, 2008). Therefore, e-tourism is an integration of business management, information system management and tourism.

The acceptance and adoption of e-tourism impressiveness is not only on the path of clients, the providers have many reasons for the eager acceptance including, improvement in internal efficiency and productivity, effective business interaction and product customization. Also, enhanced intermediation and POS increment or openness, tantalizing customer service, embedding Location Based Services (LBS) for instance, Google map and Google earth, global operational expansion are other advantages. However, there is a need for a universal quality, security and reliability standards for a perfectly seamless ubiquitous operations (Turban et al., 2008; Buhalhis and Jun, 2011).

Literature review

Adoption of E-tourism: Many countries have massive investments in e-tourism. It is the world’s largest industry with a 200% expected tourist arrivals around the world by year 2020. The adoption of e-tourism worldwide is undeniable, according to Cardoso, 95% of internet surfers gather travel information online and 93% use e-tourism for holidays planning.

The impact of tourism on the GDP of a nation cannot be over-emphasized, many direct and indirect employments get generated for small scale cultural equipment sellers and others. According to a UN report in 2001, non-adoption of e-tourism is gravely expensive than
whatever it costs to adopt it. However, it is unfortunate that e-tourism is minimally accepted and adopted in Nigeria. The contribution of tourism to Nigeria’s GDP is extremely low but there are huge potentials if e-tourism was adopted for an excellent global advertisement and easy access.

The Nigeria government has made efforts through the ministry of culture and tourism to boost the foreign direct income into the country but a total dependence on oil disfavoured the proposals. The cost of initial investment, poor maintenance culture, inadequate government support, corruption and resistance to change are the challenges. Resistance and poor record of Public Private Partnership (PPP) implementation in the country is a setback to national tourism and e-tourism development.

The adoption of e-tourism in Nigeria is poor currently. However, tourism is expected to be a significant contributor to country’s GDP in the future, and to have impacts on infrastructural development and labour employment. Also, tourism is a good strategy to eradicate poverty and bring remotest cultural towns to limelight, while the natural and cultural settlements are conserved (Makame and Boom, 2008; ESCAP Tourism Review, 2001; Akpan, 2012).

Having e-tourism adoption in Nigeria at its foundational stage, the government initiated a master plan for tourism in 2006 and thereafter, five e-tourism products were launched which are: the National Tourism Portal, State Tourism Portals, Tour Nigeria Monthly Publication, Tourism Cash Card, Tourism VoIP Solution and Farin Ruwa Eco-Tourism Development Project. How the three tiers of governance at federal, state and local government levels would implement the master plan and manage their tourism related activities through correct deployment of ICT tools was the aim. Furthermore, the federal ministry of tourism and culture has been mandated to develop Nigeria tourism to be at par with the world standard and its potential of reviving the economy attained (Dalat, 2010).

Some of the tourist attractions in Nigeria include: Yankari Game Reserve (well-stocked with elephants, baboons, waterbucks, bushbucks, oribi, crocodile, hippopotamus, roan antelope, buffalo and various types of monkeys), Mamilla Plateau, Gashaka-Gunti National Park, Cross River National Park, The Kainji National Park, Coconut Beach, Bar Beach, Tarkwa Bay, Calabar Beach, Lekki Beach, Eleko Beach, Obudu Ranch and many more.

Related works: Tourism and by extension, e-tourism is an untapped goldmine in Nigeria, the research of Esu (2013) developed a conceptual framework for harnessing the untapped potentials, listing government expenditure policy, incentives policies, administrative and legal instruments as areas to review for an economic revolution in tourism. A cooperation of the private sector and the government can bring unlimited opportunities in tourism for national development.

According to United Nations, tourism is the driving force to attainment of MDGs by developing countries (Lopez-Nicolas et al., 2008), also, e-tourism is one of the required rebranding requirements to liberate tourism and drive economic buoyancy.

In Elliot and Mann, it was reported that for the purpose of sustainable grassroots development, infrastructural development and poverty eradication, the United Nations World Tourism Organization (UNWTO) and international banks are committed to adequately funding tourism in developing countries. The competitiveness in the tourism sector is unparalleled and can only get better with e-tourism adoption. Contented tourism clients tend to revisit and spread the experience of enjoyed tourism sites to others. According to Marafa, tourism is characterized as creating huge employment directly to the location residents. E-tourism affords global feasibility and world class service thereby can make a win-win employment generation for Nigerians as unemployment is currently a threatening scourge.

According to Holden (2008) as reported in Esu (2013) in West Africa, the tourism industry makes 8% of the GDP and 6.6% of total employment. Also, income from tourism in Africa is projected to improve by 4.7% from 2007-2016.

As reported in Bredesen, apart from Venkatesh et al., (2003), many studies have empirically validated the use of UTAUT for technology acceptance (Anderson and Schwager, 2004; Wang and Yang 2005; Mun and Qu, 2008) and also Wills et al. (2008) that studied adoption of the Electronic Medical Records (EMR) Research Design

Fig. 1: Unified Theory of Acceptance and Use of Technology (UTAUT)

Based on this theory, facilitating conditions are determinants of use behavior and performance expectancy, effort expectancy and social influence are determinants of usage intention and behavior. Gender, age, experience and voluntariness are moderating factors in the model. The constructs of this model are as shown in Fig. 1 and defined thereafter.

**Performance Expectancy (PE):** Performance Expectancy refers to the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., 2003; Wang and Shih, 2008; Chang et al., 2007; Gupta et al., 2008; Darligan et al., 2014). This construct is similar to perceived usefulness in TAM (Davis et al., 1989) and comparative advantage in DOI (Rogers, 1995).

**Effort Expectancy (EE):** Effort expectancy is the extent to which a person believes that following a system does not require special efforts (Venkatesh et al., 2003) or the ease associated with the use of the technology (Wang and Shih, 2009; Chang et al., 2007). This construct captures perceived ease of use (TAM1, TAM2, IDT) and complexity (MPGU). Research has shown that effort expectancy has a significant impact on intention to use technology (Carlsson et al., 2006; Gupta et al., 2008).

**Social Influence (SI):** Is the degree to which an individual perceives that important others believe he or she should use the new system (Wang and Shih, 2009; Chang et al., 2007). It is similar to subjective norm construct in the theory of operation (Venkatesh et al., 2003) which is divided into two categories: external and personal factors (Bhattacherjee, 2000). When people have uncertainty about a technology, they refer to opinions of others and social media and seek consultations.

**Facilitating Conditions (FC):** Is the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Gupta et al., 2008; Chang and Shih, 2009; Chang et al., 2007). This construct captures constructs such as perceived behavioral control (TPB, DTPB, C-TAM-TPB), facilitating conditions (MPGU) and compatibility (IDT) (Venkatesh et al., 2003).

**Moderator constructs of UTAUT are as follows:**

**Gender:** Three gender differences are important in studies of technology acceptance:

- Men are more task-oriented than women and are more inclined to focus on problem solving (Venkatesh et al., 2003; Gefen and Straub, 1997). Also, men are driven by achievement needs which is directly associated with the perception of usefulness
- Women have more computer anxiety and less computer self-efficacy than men. These differences are closely related to the perception of ease of use, where lower computer self-efficacy contributes to negative perception of ease of use
- Women have a higher awareness of others’ feelings compared to men and are therefore more affected by others (Venkatesh et al., 2000)

**Age:** Another demographic factor affecting acceptance of ICT is age. Young users perceive utility of a technology better than older people (Venkatesh et al., 2003). Also, young people are more influenced by extrinsic rewards which will lead to perceived usefulness and use of IT by
them (Pan and Jordan-Marsh, 2010). Moreover, with an increase in age, analysis of complex stimuli and accuracy of information become difficult. Moreover, given the increased age-related needs, older users are more influenced by social factors (Rhodes, 1983). Thus, age affects technology acceptance and use.

**Voluntariness of use:** It indicates the users' willingness in using technology. Sometimes using technology is mandatory and users have to use it, but in some circumstances, use of technology is completely optional.

**UTAUT2 construct**

**Hedonic motivation:** This is the fun or pleasure derived by putting a technology into use and it plays an important role in the determination of technology acceptance and use (Brown and Venkatesh, 2005). It has a conceptualized meaning “perceived enjoyment”, it has been found to have a positive direct impact on technology acceptance and use, in the consumer perspective it is a paramount determinant of technology acceptance and use (Brown and Venkatesh 2005, Childers et al., 2001). It is therefore added to this model to predict the consumer behavioral intention to use the technology. Therefore hedonic motivation has a direct positive impact on the behavioral intention of consumers in responding to e-tourism, as well as on the use behavior.

**Price value:** It is a definition to consumers’ cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them (Dodd et al., 1991). It addresses the monetary value that is involved in using a certain technology, the price value of consumers using e-tourism. Therefore the cost and price value of accepting and adopting a certain technology has a significant impact in consumers’ intentional behavior to use the technology. With the advantages of using a technology perceived to be greater than the monetary cost then such price value has a positive impact on intention to use. Therefore, price value is a predictor of behavioral intention of users to use a technology.

**Experience and habit:** It captions the extent to which people tend to perform behaviors automatically by virtue of learning (Limayem et al. 2007, Venkatesh et al., 2007). Kim et al.(2005) equates habit with automaticity. Habit has been viewed in two distinct ways: first, as prior behavior (Kim et al., 2005); and second, as the extent to which an individual feels the behavior is automatic (Limayem et al., 2007). After activation, attitudes and intentions will automatically guide behavior irrespective of any conscious mental activities, such as belief formation or retrieval (Fazio, 1990). Therefore habit will have a direct positive impact on the behavioral intention of consumers in responding to e-tourism.

From the above analysis, UTAUT/UTAUT2 has resolved to the following hypotheses below:

- **H₃:** Performance expectancy has a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism
- **H₄:** Effort expectancy has a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism
- **H₅:** Social influence has direct positive impact on the behavioral intention of stakeholders in responding to e-tourism
- **H₆:** Facilitating conditions will not have a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism
- **H₇:** Hedonic motivation has a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism
- **H₈:** Price value has a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism.
- **H₉:** Experience and habit has a direct positive impact on the behavioral intention of stakeholders in responding to e-tourism.

Figure 2 is the proposed research model which shows the relationship between the constructs.

**MATERIALS AND METHODS**

The research is a survey research and questionnaires were administered to collect data. It seeks to answer questions about the variables to be studied for acceptance of e-tourism namely: Performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, cost, experience and habit, behavioral intention and use with 34 sub-questions collectively.

Two hundred questionnaires were distributed randomly to electronic technology users within covenant university in Ogun state, Nigeria, representing students from every part of the country. All model constructs requested participants to indicate their perceptions on five-point Likert-style responses ranging from 1(strongly disagree), through 3(undecided) to 5 (strongly agree).

A total of 161 responses were accepted representing 80% of administered questionnaires, excluding incompletely filled, unfilled and unreturned copies. The data analysis was executed using Smart PLS 3 to test the validity and reliability of the measurement instruments.
RESULTS AND DISCUSSION

**Data analyses and presentation of results:** The Structural Equation Modelling (SEM) was adopted for data analysis, the Confirmatory Factor Analysis (CFA) and reliability assessment of the measurement model were executed and Smart PLS 3 for the hypothesis testing. PLS allows for modeling of indicators as either reflective or formative on their latent construct. Furthermore, PLS has a strong prediction power as it allows the construction of endogenous latent variables by indicators to second order construct. The features above makes PLS the most appropriate method as the study is prediction-oriented.

Behavioural intention has co-efficient of determination (R²) value of 0.387 and an adjusted R² of 0.338 predicting the hypothesized relationships of the model. A bootstrap of 500 re-samples was executed to assess the path co-efficient of all hypothesized paths.

The path co-efficient is a measure of the degree of relationship between exogenous factors; the R² measures the percentage of a construct’s variation that the model explains. Figure 3 is a summary of the hypotheses and quantitative analysis.

**Measurement model assessment:** The measurement model reliability and validity was probed using composite reliability, Cronbach’s Alpha, Confirmatory Factor Analysis (CFA) and Average Variance Extracted (AVE). It has been stated in Chin, that an item should have a minimum of 0.707 loading on its theoretical assigned latent construct to be retained for the next analysis. Eight measurement items (FC4, HMI, HM3, PV1, PV3, HT2, HT3, HT4) have factor loading below the minimum limit and were exempted from subsequent analysis. The result of factor analysis of the refined instrument is presented in Table 1 where all the constructs obey the minimum limits.
Table 2: Discriminant validity

<table>
<thead>
<tr>
<th>Discriminant</th>
<th>BI</th>
<th>EE</th>
<th>FC</th>
<th>HM</th>
<th>HT</th>
<th>PE</th>
<th>PV</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI</td>
<td>0.615</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EE</td>
<td>0.084</td>
<td>0.951</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FC</td>
<td>0.279</td>
<td>0.751</td>
<td>0.792</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HM</td>
<td>0.481</td>
<td>0.085</td>
<td>0.250</td>
<td>0.691</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HT</td>
<td>-0.305</td>
<td>-0.070</td>
<td>-0.130</td>
<td>-0.254</td>
<td>0.500</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PE</td>
<td>0.115</td>
<td>0.735</td>
<td>0.638</td>
<td>0.141</td>
<td>-0.167</td>
<td>0.928</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PV</td>
<td>0.451</td>
<td>0.069</td>
<td>0.219</td>
<td>0.316</td>
<td>-0.185</td>
<td>0.098</td>
<td>0.569</td>
<td>-</td>
</tr>
<tr>
<td>SI</td>
<td>0.219</td>
<td>0.577</td>
<td>0.668</td>
<td>0.046</td>
<td>-0.121</td>
<td>0.577</td>
<td>0.184</td>
<td>0.906</td>
</tr>
</tbody>
</table>

Two-tailed, significance level <= 0.05

Fig. 3: Summary of hypothesis with path analysis

of 0.7. Also, Table 2 represents the discriminant validity, among others, hedonic motivation and behavioural intention have 0.273 and 0.387 respectively.

The internal consistency of the model was assessed using Cronbach’s Alpha; many constructs including PE, EE, SI and FC satisfied the internal consistency condition. However, HM, PV, HT, BI did not satisfy the internal consistency prerequisite of minimum 0.7 value with SmartPLS 3.0 and since their AVEs are also less than 0.5 as stipulated for AVEs; HM, PV, HT, BI were dropped.

CONCLUSION

Tourism is as old as humanity on the planet earth (Wynne, 1998). However, it has been revolutionized over decades to reflect realities of each era and it is the direction to go in the 21st century. The e-tourism acceptance and adoption is low in Nigeria currently but significantly improving. We have empirically investigated e-tourism acceptance in Nigeria, adopting the UTAUT/UTAUT model and the reliability and validity of the proposed model instruments tested using SmartPLS 3.0. A total of 200 questionnaires were administered and 161 used for the analysis after eliminating twelve for redundancy, eight incompletely filled copies and twenty-one respondents failed to return their copies.

Our results indicate convergences and divergences with earlier findings; performance expectancy, effort expectancy, social influence and facilitating conditions were found to be the most significant antecedents of behavioural intention. We intend to do further work into the adoption and acceptance of m-tourism, while the e-tourism work can be done with a larger sample space.

ACKNOWLEDGEMENT

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APPENDIX A

Survey Items

Performance expectancy:
PE1. I find e-tourism useful in my daily life.
PE2. Using e-tourism increases my chances of achieving things that are important to me.
PE3. Using e-tourism helps me accomplish things more quickly.
PE4. Using e-tourism increases my productivity.

Effort expectancy:
EE1. Learning how to use e-tourism is easy for me.
EE2. My interaction with e-tourism is clear and understandable.
EE3. I find e-tourism easy to use.
EE4. It is easy for me to become skillful at using e-tourism platforms.

Social Influence:
SI1. People who are important to me think that I should use e-tourism.
SI2. People who influence my behavior think that I should use e-tourism.
SI3. People whose opinions I value prefer that I use e-tourism.

Facilitating conditions:
FC1. I have the resources necessary to use e-tourism.
FC2. I have the knowledge necessary to use e-tourism.
FC3. E-tourism is compatible with other technologies I use.
FC4. I can get help from others when I have difficulties using e-tourism platforms.

Hedonic motivation:
HM1. Using e-tourism is fun.
HM2. Using e-tourism is enjoyable.
HM3. Using e-tourism is very entertaining.

Price value:
PV1. E-tourism is reasonably priced.
PV2. E-tourism is a good value for the money.
PV3. At the current price, e-tourism provides a good value.

Habit:
HT1. The use of e-tourism has become a habit for me.
HT2. I am addicted to using e-tourism.
HT3. I must use e-tourism.
HT4. Using e-tourism has become natural to me.

Behavioral Intention:
BI1. I intend to continue using e-tourism in the future.
BI2. I will always try to use e-tourism in my daily life.
BI3. I plan to continue to use e-tourism frequently.

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