The role and potential of ICT in the visitor attractions sector: the case of Scotland's tourism industry

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Travel Opinion Leaders and Innovators and their Influence in Purchasing the Hotel Product in Kenya

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Abstract

Opinion leaders in society are known to influence people's beliefs, attitudes, opinions and behaviours. It is important to understand the people who create and share destination information online since it influences purchase behaviour of potential customers. The study will explore travel opinion leaders and innovators on TripAdvisor. It will adopt both a qualitative and quantitative approach. By understanding the opinion leaders, marketers can better understand their market segments and create an effective integrated marketing approach.

Keywords: eWOM; opinion leader

Problem Definition

When searching for information, especially for a high involvement product like hospitality, people are more likely to trust; as well as place higher credibility and relevance to sources of information from a fellow customer than from a marketer (Ayeh, Au, & Law, 2013). For modern travellers, the decision making process is increasingly being influenced by electronic word of mouth (eWOM) as consumers turn to online sources of information (Fotis, Buhalis, & Rossides, 2012; Agag & El-Masry, 2016). Innovative consumers and opinion leaders have been observed as role models or authorities within their social systems (Ruvio & Shoham, 2007). This is because in a social setting, the assumption is that some individuals within the social structure are able to influence the purchase decisions of other consumers (Couture, Arcand, Senecal, & Ouellet, 2015; Chaundry & Irshad, 2013).

It is therefore essential in researching eWOM that both the originator as well as listener are studied (Litvin, Goldsmith, & Pan, 2008). Understanding who supplies the travel advice is crucial in understanding the dynamics of travel eWOM in social media (Yoo, Gretzel, & Zach, 2011). Opinion leaders and innovators have been studied in various fields from technology, fashion, music, banking and movies but very rarely to tourism and hospitality (Wei & Meng, 2016; Karaca & Uyar, 2014; Gakhar & Chahal, 2016; Raghupathi, Arazy, & Kumar, 2009; Sun, Youn, Wu, & Kuntaraporn, 2006; Vernette, 2004); Ribeiro-Cardoso, Teixeira, & Santos, 2016; Raza & Hanif, 2013). Despite empirical evidence of the value of innovative consumers and opinion leaders, there is paucity of research on innovativeness and origin-of-message in travel eWOM especially (1) tourism specific consumer innovativeness and opinion leadership, and (2) in the online context.

This study aims to investigate online travel opinion leaders and innovators' influence in the purchase and adoption of the hotel product in Kenya, guided by the following objectives: to investigate the characteristics of travel opinion leaders and innovators online; to explore the communication channel behavior of travel opinion leaders and innovators; and to evaluate the extent of influence of online opinion leaders and innovators on the adoption and purchase of the hotel product in Kenya by other customers.

Literature Review

Word of Mouth Influence

The search for information by consumers before purchasing a product normally takes place in two forms: marketer-created sources and non-marketer created source (Cem, 2013). Marketer–created sources include advertisements, personal selling and sales promotions, among others. Non-marketer sources are sources that a marketer has no control over like word of mouth (Gruen, Osmonbekov, & Czaplewski, 2006). Consumers tend to trust more and place higher credibility to information obtained from other customers (Ayeh, Au, & Law, 2013; Filieri, 2015). Hence, word of mouth and interpersonal influence are the most effective and influential sources of information for a consumer (Fotis, Buhalis, & Rossides, 2012).

The hospitality industry encounters massive challenges in the promotion of services to customers due to the innate service characteristics of its offering. Perhaps the biggest challenge is the fact that services are intangible, making it hard for customers to assess the product before purchase. This elevates the importance of interpersonal influence (Gruen, Osmonbekov, & Czaplewski, 2006). Customers will rely heavily on word of mouth from an experienced source to lower perceived risk and uncertainty before purchasing a hotel product (Gakhar & Chahal, 2016; Iyengar, Van den Bulte, & Valente, 2011).

Travel decision making process is increasingly being influenced by electronic word of mouth (eWOM). Consumers turn to online sources of information such as social media to collect travel information to reduce the perceived risk of making wrong decisions (Ayeh, Au, & Law, 2013; Agag & El-Masry, 2016). Sites such as TripAdvisor, which boasts the largest numbers in travel both in content and users (TripAdvisor, 2016) display reviews from customers for hotels, flights, holiday homes and restaurants based on their experiences of destinations all over the world (Zeng & Gerristen, 2014).

Opinion Leaders and Innovators

Opinion leadership is defined as one's behavioural tendency and ability to influence the purchase decisions of others (Ruvio & Shoham, 2007). An opinion leader is an individual who has been involved with a product, has developed a judgment about it, and shares their opinion with others (Richins & Root-Shafer, 1988; Rogers, 2003).

They influence the opinions, beliefs, attitudes, beliefs, motivations and behaviours of others (Valente & Pumpuang, 2007) as well as their purchasing patterns.

Researchers have found that characteristics of opinion leaders in an online setting are similar to the characteristics of opinion leaders in an offline setting (Yoo, Gretzel, & Zach, 2011; Wei & Meng, 2016). For example, in a USA based study, Litvin, Blose, & Laird (2004) noted that tourists' restaurants selections were predominantly influenced by the eWOM recommendations of opinion leaders, with surprisingly few decisions being based on the influences of more formal media.

According to Goldsmith & Hofacker (1991) innovativeness is a trait that reflects the tendency to learn about and adopt innovations (new products) within a specific domain of interest (Couture, Arcand, Senecal, & Ouellet, 2015). Consumer innovativeness, therefore, is a predisposition to buy new and different products and brands rather than remain with previous choices and consumer patterns (O'Donell & Sauer, 2005). The innovativeness trait is related to social influence, as it is highly correlated with opinion leadership (Bartels & Reinders, 2011).

Innovative consumers can therefore serve as authorities within their social system and influence other consumers to adopt a new product, thereby hastening the proliferation of an innovation (Couture, Arcand, Senecal, & Ouellet, 2015). Hoffman & Soyez (2010) stress that in order to launch new products successfully, practitioners have to address innovative consumers efficiently. There is an overlap between opinion leadership and innovativeness in the following ways:

- Innovators are majorly predisposed to try new things and are always searching for new products and brands. Opinion leaders are not necessarily always the first ones to try new products (Iyengar, Van den Bulte, & Valente, 2011)
- Social influence drives opinion leaders to be among the first to try out new products. Innovators, on the other hand are driven more innately by their own traits than the need for social influence (Chaundry & Irshad, 2013).
- Opinion leaders are more innovative when social system's norms favour change. In systems with more traditional norms, opinion leaders are a separate group from innovators (Rogers, 2003).

Diffusion of innovation theory

The theory of diffusion of innovation was first advanced by Rogers (1976) who defined diffusion as the process through which an innovation is communicated through channels over time among the members of a social system (Rogers, 2003) it is a special type of communication, in that messages are concerned with new ideas.

The innovation-decision process is the mental process which moves from (1) knowledge of the innovation, (2) persuasion to form an attitude, (3) decision to adopt or reject, (4) implementation of the new idea and (5) confirmation of the decision (Rogers, 2003). As a result, consumers are grouped depending on their time of

adoption viz., innovators, early adopters, early majority, late majority and laggards (Rogers, 2003). Opinion leaders and innovators fall in the first two categories.

The role of the early adopter is to decrease uncertainty by about a new idea by adopting it and then conveying a subjective evaluation to near-peers by means of interpersonal networks. Opinion leadership is earned and maintained by an individual's technical competence, social accessibility and conformity to societal norms (Gakhar & Chahal, 2016).

Conceptual Development

The framework highlights the author's conceptualized view of travel opinion leaders and innovators and their influence on other consumers within an online context.
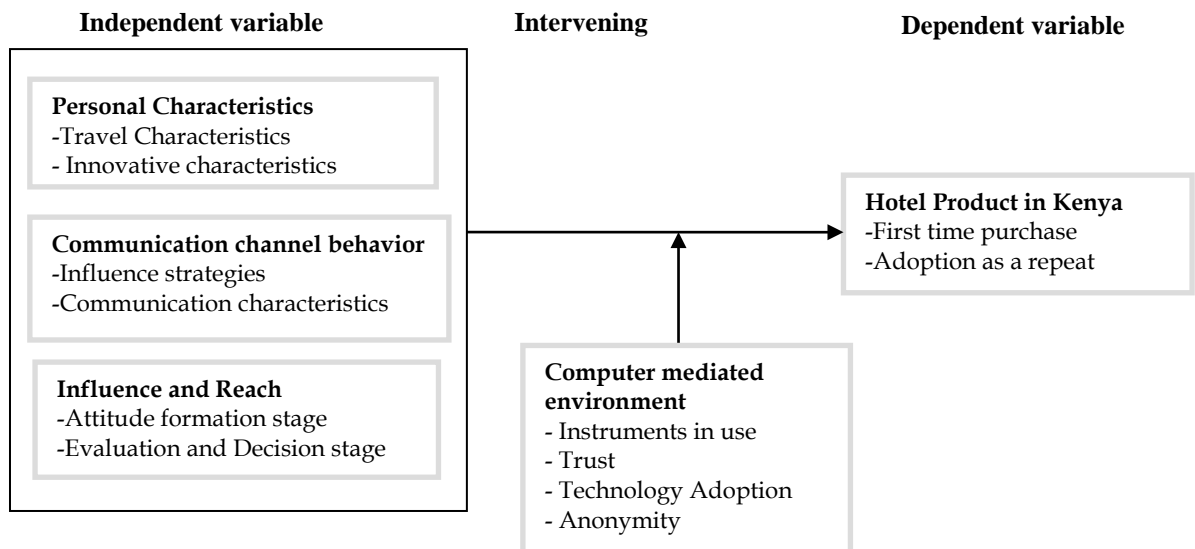
Figure 1. Conceptual Framework

The framework posits that personal characteristics (travel and innovative characteristics) lead to their emergence as travel opinion leaders and innovators (Yoo, Gretzel, & Zach, 2011; Okten & Ozkan, 2015). The communication behaviour of opinion leaders and innovators in the communication channel (their influence strategies and communication strategies) may also influence their standing as the 'go-to' source of information (Rogers, 2003; Gakhar & Chahal, 2016). The measure of an opinion leader or innovator is through their influence on other consumers during the stages of attitude formation and decision making (Chaundry & Irshad, 2013)

Proposed Methodology

The study will adopt both Exploratory research design (quantitative) and Grounded Theory (qualitative) to investigate opinion leaders and innovators on TripAdvisor. The first step will be to identify active participants on TripAdvisor through observation of travellers to Kenya. 100 active participants will be targeted as objects of further analysis. To this group, a social network and attribution analysis (Ma et. al, 2012) will be applied. Content analysis of their posts will then be performed to explore their communication channel behavior. Quantitatively, regression analysis and correlations will then be carried out to investigate whether the adoption and purchase of the hotel product in Kenya is influenced by opinion leaders and innovators on TripAdvisor.

Theoretical and practical implications

Theoretically, this study will address the current knowledge gap regarding online opinion leaders and innovators in tourism and hospitality and understand their characteristics as well as the scope of their influence (Yoo, Gretzel, & Zach, 2011). Secondly, the study will employ a longitudinal study design, which has been identified by scholars as a limitation when conducting online travel research (Agag, 2016; Phillips, Zigan, Barnes, & Schegg, 2016). Thirdly, interviewing tourists on the ground will resolve a problem pointed out by many eWOM researchers of establishing 'actual purchase' and not 'purchase intention' of customers (Erkan & Evans, 2016; Agag & El-Masry, 2016). Lastly, studies in this area have been mainly been quantitative. This study will use a qualitative approach to provide a more meanigful and in-depth understanding of opinion leaders and innovators.

In Kenya, Tourism counts for 10.4% of GDP (in 2015) and is second largest economic activity (Kenya National Bureau of Statistics, 2015; World Travel and Tourism Council, 2015). All efforts are being made to grow the industry. The Kenya Tourism Board has put in place measures to market the country better, using campaigns like '*Tembea Kenya*' targeted at local tourists; as well as destination rebranding the under the slogan '*Magical Kenya*'. This study will contribute to these marketing efforts through formulation of strategies that target specific market segments by use of opinion leaders and innovators; as well as diversification of the Kenyan destination from the 'bush and beach' safari options. Hospitality marketers will also better understand strategies they could employ towards the integration of user generated content as part of their marketing strategy (Ayeh, 2012).

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The role and potential of ICT in the visitor attractions sector: the case of Scotland's tourism industry

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Abstract

Despite the ever-increasing integration of information and communication technologies (ICT) in the tourism industry, recent research has suggested that the visitor attraction (VA) sector lags behind other tourism sectors in terms of technological adoption. The proposed study intends to review the role played by ICT by assessing the propensity, and its factors, to employ ICT by VA managers. Ultimately, it aims to establish an assessment framework for ICT capability, to examine the potential of ICT to convey organisational and strategic advantage in the sector.

Keywords: ICTs; Visitor attractions; Tourism technology; Scotland

Problem Definition

It is well established in the academic literature that ICT represents a critical factor for the competitiveness of tourism organisations and destinations as well as for the entire industry as a whole (Ip et al., 2011; Buhalis, 1998). The ICT sector is rapidly changing and constantly evolving the way tourism products are created, distributed and consumed (Gretzel, Sigala, Xiang, & Koo, 2015). The visitor attraction (VA) sector is certainly to be included within the sectors that plausibly are affected by the technological revolution of the tourism industry. Visitor attractions (VAs) are a vital component of any country's tourism and entertainment industry as they can function as a stimulus to travel to destinations. In this preliminary research phase, it has been identified by the author that inadequate research has been conducted in academia on the relationship between the whole range of ICTs and the VAs sector. Therefore, due to the relevance of the matter for the industry, a comprehensive approach for investigating the role, the effects and the potential of ICTs is deemed necessary.

Literature Review

In tourism academia, a vast amount of research identified the underlying importance of the integration of ICTs into the tourism industry (Buhalis & O'Connor 2005; Frew 2000; Kirk & Pine 1998). ICT has been a subject of studies comprising a widespread range of tourism areas and sectors such as airlines (Buhalis, 2004), hotels (Neuhofer et al. 2015; Law et al. 2014; Ayeh et al. 2012), tourism intermediaries (Gupta & Utkarsh 2014; Bogdanovych & Berger 2006) visitor attractions and cultural tourism (Katsoni, 2014; Reino, Mitsche, & Frew, 2007).

On the suppliers' side, destinations and operators, competing for attention in an increasingly challenging marketplace, can make use of the potential of ICTs as a highly dynamic and effective marketing and distribution tool (Buhalis and O'Connor 2005). Overall, ICT has enabled tourism operators in reducing costs, both administration and production ones, and improving service to customers (Xiang, Magnini, & Fesenmaier, 2015). ICTs' impact on users is well reflected in the greater access to information, prices, choice and convenience (Standing, Tang-Taye, & Boyer, 2014; Standing et al., 2014). Travellers are empowered by the ease of accessibility to a multitude of resources (Hjalager, 2013; Werthner et al., 2015). As a result, the tourism world becomes one of the richest databases of information for operators and organisations as travel-related information is one the most searched type of information on the internet (Law, Bai, & Leung, 2008).

The second element of the proposed study is given by visitor attractions. VAs consist of a wide-ranging array of natural, architectural, social, cultural and educational resources and assets (Connell and Page 2000). VAs are typically acknowledged as museum and galleries, natural parks, historical buildings and also man-made type of attractions such as entertainment parks. In this study, a VA is defined as a permanently established location of diverse nature, with the purpose of allowing access to entertainment, interest, or education to visitors.

Of all the tourism sub-sectors, the VA sector is often deemed as the baseline of the entire tourism system; this is supported by the argument that, for many tourists, visitor attractions are the main reason for visiting a destination (Cooper et al. 2005). It has also been stated that without VAs, tourism would not even exist (Gunn 1994).

The attractions sector already makes use of ICTs. According to Benckendorff et al. (2014), ICT can be employed in three distinct areas by visitor organisations, with different functions:

- Marketing and Sales: ICTs are used as tool for communication, sales and distribution to reach out visitors through the different electronic information channels
- Management: ICTs are implemented with the aim of increasing efficiency of various operations such as admissions and coordination of visitors on site along with other operations such as security and maintenance.
- Entertainment: ICT as creator of tourism product to enable visitor experience.

ICT tools and applications employed in the sector are summarised in table 1 below.

Table 1. ICTs employment in visitor attraction by organisational function

Marketing and Sales	Management	Entertainment
Websites/ Social media/ Blogs/ Podcasts/ E-commerce/ CRS	CCTV/ E-ticketing/ Virtual guides/ NFC technologies/ GPS/ QR codes	Mobile devices/ Special effects/ Virtual and Augmented reality/ 3D printers/ Robotics/ Holograhic Projection

Nevertheless, the level of employment of ICTs may vary according to the different sectors of the tourism and travel industry. Benckendorff et al. (2014) offer a matrix where both the production and the marketing areas of an organisation are assessed.

HIGH		A	Airlines
		Hotels	Travel agent
			Tour Operator
LOW PRODUCTION	A Visitor Attractions		
	LOW		**HIGH**
		MARKETING	

Figure 1. Impact of ICT on organisations' production and marketing

Their study suggests that some ICT applications have an effect on the production side when technologies bring efficiency to product creation and service performance or when these are highly technical; other ICTs impact on a higher scale marketing activities when, for instance, the product or service requires higher employment of marketing resources to reach consumers as shown in Figure 1. It is significant to observe that VAs are placed in the quadrant least impacted by ICT. The sector is highly fragmented and mostly composed of small operators; if, on one side, some large operators such as theme parks and national galleries employ comprehensively ICTs, on the other side just as many more natural attractions and SMEs would barely account technologies in their modus operandi. It is also stated by the authors of the study, that the attractions sector is difficult to position, as some attractions heavily rely on ICTs, for instance theme parks, while others scarcely make us of those technologies (e.g. natural attractions such as parks). From this evidence, it can be prompted that the attraction sector is a complex one and deserves particular attention.

Scotland represents the geographical setting of the study. Tourism in Scotland is one of the most important industries, with approximately 15 million overnight visitors per year generating over £5 billion in 2015 (VisitScotland 2016). Garrod et al. (2002) claimed that in Scotland VAs are fundamental elements in the wider tourism industry. The Scottish VA sector is dominated by small-medium sized enterprises and is defined by Connell, Page and Meyer (2015), as a highly seasonal sector. It also faces a few internal and external threats such increasing competition, from both overseas tourism markets and domestic trends of leisure activities such as sport and shopping (Garrod, Fyall, & Leask, 2006). Previous research has also shown "limited management information systems, naïve forecasting and poor business planning" in the attractions' sector (Lennon, 2004, p. 338). According to Lennon et al. (2001), Scottish visitor attractions are falling behind in terms of enticing visitors. In order to

comprehend the extent of the subject of the study, the local sector is mainly composed of small and medium operators; in year 2000, the number of VAs in Scotland was estimated to around one thousand (Fyall, Leask, & Garrod, 2001). According to the annual study- the Visitor Attraction Monitor (VAM)- conducted by the Moffat Centre for Travel and Tourism Business Development, visitor numbers to Scotland's main tourist attractions (720 units) accounted 55 million in 2015, an increase of only 2.2% compared to the previous year.

Conceptual Development

As described in the earlier course of this review, while several studies on the relationship between ICT and various tourism sectors have been prevailing, the attention to the VA sector appear to have been insufficient (Litvin, 2007; Lennon, 2004). Past studies have focused on the factors that affect the propensity to technology adoption (Sahadev & Islam, 2005, Wei et al. 2001, Nambisan & Wang, 2000). For this study, both location and organisation-related factors will be considered, adapting the model offered by Sahadev and Islam (2005) in their study on ICT adoption in the hotel sector. The seven following factors will be analised to measure the propensity of a VA to adopt ICTs: market size, origin country of visitors, level of competition, size, scope of activities, category and age of the VAs. As the propensity to adopt is expressed by the relative time taken by the VA to adopt a new type of ICT, that can be measured by using the following equation:

$$P_\mathrm{a} = \sum_n \frac{1}{\max(1, t_n - t_{na})} \times \frac{t_{na}}{\min(a, t_n)}, \tag{1}$$

Pa represents VA A's propensity to adopt ICTs, t_n is length of time n technology has been available in the VA's location, t_{na} is the time since VA A adopted this technology, a is the time that VA A has operated, and n is the number of ICT technologies considered. The seven independent variables will be used in carrying out the regression with the propensity to adopt (dependent variable). The formulation of the research questions build upon a gap in the literature identified by the author. Thus the following research questions are articulated: What is the degree of employment of ICT in the Scottish tourism industry? What is the propensity of the sector to the adoption of ICTs? What is the potential represented by ICTs to the VA sector?

Proposed Methodology

The type of research proposed can be defined as descriptive, as the aim of the study is to measure the 'new field' of Scottish VA sector in respect to ICTs, combining both qualitative and quantitative methods. It also includes elements of explanatory nature as it aims to study the relationship between variables such as level, propensity of ICT usage and category type of VAs involving hypothesis testing. Given the unavailability

of any complementary data, primary data will be sought for this study. A two-phase study will be conducted. Firstly, as a population-wide perspective is pursued, a quantitative method using a structured questionnaire will be developed and submitted to the Scottish VAs. The respondents will be contacted in collaboration with the Moffat Centre (MC) at Glasgow Caledonian University and asked to provide significant data (ICTs employed and factors) as described in sections 2 and 3 of this document. MC is a highly respected and well-known organization in the industry that since 1999 has undertaken sector studies involving over 700 Scottish VAs yearly. The questionnaire will be distributed to approximately 750 operators both via electronic mail and by post in order to provide the easiest option to the respondents and maximise the response rate. The statistical program SPSS will be employed to analyse the findings of the study and perform the regression analysis. This will include the use of frequency tables, graphs and charts to visualise descriptive statistics. The findings will suggest: to what extent VAs employ ICTs in their operations; the existing relationship between VA clusters (SMEs vs. larger organisations; different VA categories) and ICT adoption propensity; the influencing factors of ICT propensity.

In the second phase, a qualitative method will be employed by undertaking face-to-face, semi-structured interviews with 20 Scottish industry organisations selected among operators, associations and key players. While the first phase aims at collecting data to build a compact picture of the current industry state and measuring propensity to ICT adoption of operators, the second one would allow the collection of up to date, qualitative, complimentary data with views and attitudes of experts of the field. This would contribute to establish an assessment model for ICT capability in VAs, determining relevant indicators, thus proposing a new line of research.

Theoretical and practical implications

The relevance of this study is to be found in the contribution to the assessment of the ICT role and potential in the VA sector. Practical implications of the study are interrelated with the current and potential use of ICTs in the Scottish tourism industry. As the final objective is developing a clear picture of the current competitive context VAs are facing in Scotland, the sudy is expected to support local tourism businesses and the Scottish tourism industry as a whole, by synthesising and making available the findings and practical recommendations deriving from the study. This research will also facilitate cross-destination benchmarking enabled by a framework for ICT capability assessment to support the evaluation and management of VAs.

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Innovation-Decision Process of Hospitality and Tourism MOOCs: Conversations with Instructors

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Abstract

This research is one of the three critical pillars of the researcher's doctoral dissertation, which aims to explore the MOOC in the field of hospitality and tourism at large. With the other two pillars tackling with the institution and the learner, this study focuses on better understanding in the MOOC instructors' perspectives and experiences. By majorly adopting a qualitative research approach, it will interview university professors, who provided MOOCs in hospitality and tourism between 2008 and 2016. The interviews will be guided by the proposed framework based on the Innovation-Decision Process to explore the major five stages of knowledge, persuasion, decision, implementation, and confirmation regarding the MOOC innovation decision process. This conversation process will also help to collect feedback from the participants on the previously developed framework by the researcher – MOOC Component Display Framework.

Keywords: MOOCs; hospitality and tourism; diffusion of innovation; motivation; instructors

Problem definition

Despite the fast development of Massive Open Online Courses practices over years, both practices and researches in hospitality and tourism MOOCs are scarce (Murphy, Williams, Ryan, Kalbaska, & Cantoni, 2013; Tracey, Murphy, & Horton-Tognazzini, 2016). There were 51 hospitality and tourism MOOCs, with 23 of them provided by universities and 28 ones by other bodies, before December 2015 (Lin, Kalbaska, Cantoni, & Murphy, 2016). This dearth of MOOC information contrasts with hospitality and tourism generating significant amount of wealth and employment opportunities.

The major purpose of this doctoral dissertation is to explore the hospitality and tourism MOOCs at large. The dissertation will be compiled by cumulated publications in discussing the context and the stakeholders of hospitality and tourism MOOCs (refer to the outline of the dissertation as shown in Fig. 1). The context section will emphasize on the overview of MOOCs, MOOC platform, and existing MOOCs in hospitality and tourism. The three pillars of stakeholders to be examined by the doctoral dissertation are institution, instructor, and learner. Studies of the first and the third pillars are based in the single case of the MOOC, produced by the home institution Università della Svizzera italiana, titled *eTourism: Communication Perspectives* (https://goo.gl/L1L2W5). The second pillar, of which this proposal

mainly stresses, will majorly contribute to answer the specific research question: what are the MOOC experiences from the instructors' perspectives?
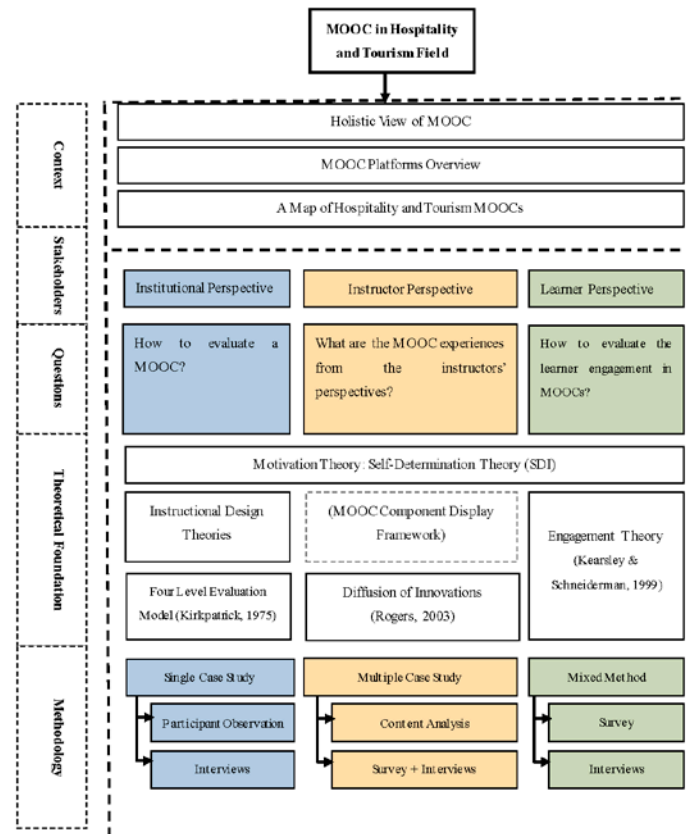
Figure 1. Outline of the design of the doctoral dissertation

Most MOOC researchers have investigated the learner perspective and leave a significant gap in the literature on the institutional threats and opportunities as well as on MOOC facilitators' experience and practices (Liyanagunawardena, Adams, & Williams, 2013; Ross, Sinclair, Knox, & Macleod, 2014). Additionally, most of researchers have favoured a quantitative research approach. Very few studies used methods traditionally associated with qualitative research approaches (e.g., interviews, observations, and focus groups) (Veletsianos & Shepherdson, 2016). This research will adopt a qualitative research approach and utilize interviews to explore the hospitality and tourism MOOC instructors' experiences with MOOCs. It is a follow-up research activity after Lin et al. (2016), which developed the MOOC Component Display Framework, and analysed existing 18 hospitality and tourism MOOCs between 2008 and 2015. This study focuses on the following research objectives: (1) modify the MOOC Component Display Framework based on the feedback from the interviewees; (2) provide the possible explanations to the identified

results and problems in the previous study (Lin et al., 2016); (3) reveal the innovation-decision process of hospitality and tourism MOOC instructors to understand the whole process of how they became aware of, decided, adopted, used and confirmed/rejected MOOCs as an innovation.

Literature review

The studies of instructors in the MOOC context, in particular in the field of hospitality and tourism, are rather rare. In fact, the awareness and perception of MOOCs in hospitality and tourism educators were merely neutral and even negative. A study (Deale, 2015) used a survey instrument and applied the Technology Acceptance Model (TAM) to learn about 144 hospitality and tourism educators' understanding, perception and usage of MOOCs. Results showed mostly neutral or even sometimes negative perceptions of MOOCs as instructional tool in the education field of hospitality and tourism. One drawback of the study is that it was not clear how many of the participants were actually involved as a MOOC instructor.

To understand the whole process of how MOOC instructors experienced MOOC as an innovation, a more detailed framework that can elaborate on the process is needed, such as Diffusion of Innovations (DOI) rather than TAM. Both models received high attentions in the information science community and have been applied in many other disciples. TAM applies better to understand the factors that influence an individual's adoption of a technology and has a clear set of measurements to its major factors in the model, such as perceived usefulness and perceived ease of use. TAM's extensions mainly focused on adding more predetermining factors that influence either the perceived usefulness or the perceived ease of use. DOI (Rogers, 2003) theory is a systematic review of diffusion, playing a significant role in the study of relationship between technology and people. Its popularity is mostly due to the wild acceptance of the *Innovation-Decision Process*. It is "the process through which an individual (or other decision-making unit) passes from gaining initial knowledge of an innovation, to forming an attitude toward the innovation, to making a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision" (Rogers, 2003, p.168). Several MOOC studies have introduced DOI (Murphy, Williams, & Lennox, 2013; Murphy et al., 2014; Barclay & Logan, 2013). In fact, DOI was often used as theoretical approach for the MOOCs studies related to student perception, student achievement, highly motivated students, higher education, online social worlds, and collaborative activity (Gasevic, Kovanovic, Joksimovic, & Siemens, 2014). However, none of aforementioned researches systematically applied DOI to conduct in-depth study of MOOC instructors.

For individual MOOC instructors, interview approach can uncover interesting explorative and descriptive results. For instance, interviews with eight MOOC instructors from University of Toronto revealed six themes: instructors' motivations to offer MOOCs, MOOC design, development and offering, measures for its success, development success, development support, and implications of MOOC instruction (Najafi, Rolheiser, Harrison, & Håklev, 2015). Fourteen interviews with MOOC

instructors reported three stages for each MOOC they teach: preparation, implementation, and feedback (Zheng et al., 2016).

Conceptual development
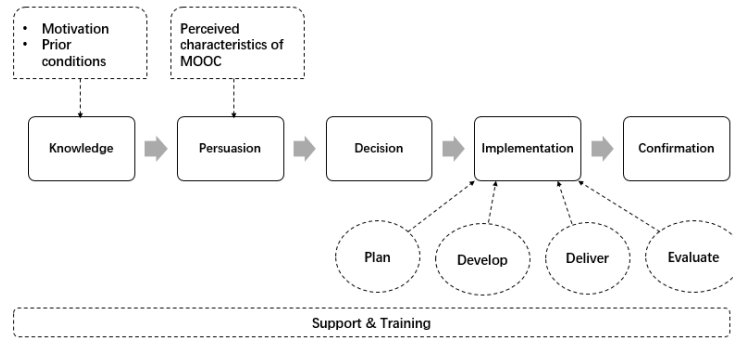
Figure 2. Innovation-Decision Process of MOOC Instructors

Based on the literature review and the research objectives, a conceptual framework (Fig. 2) is designed to guide the development of the interview protocol. In the *knowledge* phase, MOOC instructors deal with the questions related to motivation and previous experiences/skills/conditions. In the *persuasion* phase, questions will explore the characteristics of MOOCs perceived by the interviewees. The *decision* phase takes place when the MOOC instructors engage in activities that lead to the choice of adopting MOOC. *Implementation* is to put MOOC decision into real practice. It can be further exemplified by four periods: plan, develop, deliver, and evaluate. In the *confirmation* phase, the MOOC instructors seek reinforcement of the decision. Throughout the whole process, the available support and training will also be examined.

Proposed methodology

The multiple case study (Creswell, 2006; Yin, 1994) research approach will be used. Three major sources of data will be collected: (1) Archived documents and web pages of selected hospitality and tourism MOOCs; (2) Online survey to MOOC instructors before the interview to collect further data about the identified MOOCs; (3) Interviews with involved MOOC instructors. For the interviews, an open-ended researcher-created interview protocol will be designed and administered to the included MOOC instructors. The interview will be organized following the innovation-decision process of MOOC instructors (Fig. 2) and it contains a total of 14 open-ended questions. The selection criteria for the interviewees are: (a) he/she has taught at least one hospitality and tourism MOOC between 2008 and 2016, (b) he/she is willing to participate. Interviews will be invited through Skype audio calls and recorded. As suggested by Najafi et al. (2015), an inductive approach will be used to analyse the interview data (Thomas, 2006).

Theoretical and practical implications

First of all, concerning research continuity, this study enriches its previous study, conducted by Lin et al. (2016), by (1) adding more emerging data from 2016, (2) modifying the proposed framework, and (3) explaining the results from the perspectives of MOOC instructors. Secondly, for the first time it applies the Innovation-Decision Process (Rogers, 2003) theory to explore and describe the full experiences of MOOC instructors. Such efforts can provide a new angle to understand the MOOC diffusion from the perspectives of providers, as well as fill in the research gap that MOOC teachers have been studied very little, in particular with qualitative research approach. Thirdly, the interview protocol sets up a database of questions to make queries of MOOC instructors experiences. It can ideally be generalized to other MOOCs of different subjects to explore further the online instructors as a whole group of research interests. Fourthly, the two formulated frameworks – Innovation-Decision Process of MOOC Instructors, and MOOC Component Display Framework – provide guidance to investigate the two sides of MOOC as an educational innovation, which are the external diffusion and the internal constructing components. Finally, results of this study can provide a full map of available hospitality and tourism MOOCs in the period of 2008 and 2016, concerning not only their characteristics but also the instructors who were offering them.

Discussion

This study proposed a structure, based on the Innovation-Decision Process to reveal the experiences of MOOC instructors, in particular related to the field of hospitality and tourism. Five main aspects of information – knowledge, persuasion, decision, implementation, and confirmation – will be discussed in the interview conversations with the participating hospitality and tourism MOOC instructors. Their reflections on MOOC Component Display Framework will help to modify the framework. Detailed results are expected in late 2017.

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A Study on Women Travel Experiences Enhanced by Technology in Georgetown, Penang

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Abstract

All work and no play make not only Jack a dull boy, Jill too! Women are becoming an important entity of the travel industry as producers or consumers of the sector. Travel symbolises a form of liberation from their typical identities. The rise of new technologies has created greater opportunities for women to travel. This study will explore the motivation and travel experiences of women travellers enhanced by technology using ethnography. The findings will then underline how technologies transform the nature of tourism experiences and empower women to travel.

Keywords: women; travel; technology; experience; Georgetown Penang

Problem Definition

Women's participatory role in tourism is divided into two major parts – as producers or consumers of the sector. Early travel discourses have been dominated by men while women were generally considered as '*armchair travellers*' (Mahn, 2016, p.1). Not only were the women subjected to social restrictions (Mowl & Towner 1995; Deem 1996; Khan, 2011) but control of decision making remained largely in the hands of the men. Despite their significant contributions to travel and exploration, women have generally been overlooked. In fact, the pioneers of travel have been construed as the sole preserve of men (Hamalian, 1981; Clarke, 1988; Craik, 1997). Data from Intrepid Travel 2013 shows that 64 per cent of the global travel market was made up of women.

Changes in economy, social values and technology resulted in changes of travel patterns. Information, communication and technology (ICT) has become an integral part that transformed the tourism industry worldwide as well as the traditional roles, structures and processes of tourist experience (Buhalis, 2008; Mkono, 2012; Neuhofer, 2014). As technology becomes the backbone of travel industry, "women's identities, needs and priorities configured together with digital technologies" (Wajcman, 2009, p.150) is crucial. Technology and its usage become a social affirmation for masculinity or men just as 'blue" becomes a colour associated with boys. However female travellers are becoming accustomed to seamless technology and breaking away from the stereotypical norms (Thanuskodi, 2013; Petrovic et al., 2016; Yong et al., 2016).

A study by Kim et al. (2007) shows that females were more involved in online information search, visited more travel websites and even visited these websites more frequently compared to men. Okazaki and Hirose (2009) substantiated the finding by stating that female travellers, compared to males, tend to use a more diverse range of information sources including the mobile Internet. According to Mazman et al. (2009), females are more convinced to adopt technological innovation through social influence while Narasimhamurthy (2014), disclosed that women use social media as a productive tool in contrast to men. The transition of this new age women travellers is characterised by those who are financially stable and tech savvy traveling in their own right; for their own pleasure and breaking away from their typical identities.

According to Myers (2010), female tourism experiences are constrained by male-dominated cultural values besides social restrictions by their home society. Berdychevsky et al. (2015) argue that gender relations do affect the way men and women build their touristic experiences. A study by Figueroa et al. (2015) of 466 tourism gender research journals from 1985 to 2012 shows that only six papers or 1.3% are on gender and tourist experiences. Wang et al. (2016) also found that research has largely focused on travellers' attitudes and technology adoption rather than their experiences with travel technologies. The existing literature appears to have insufficiently addressed women travel experiences or the role of technologies in transforming the nature of tourism experiences and empowering women to travel. Technological empowerment via tourism is a significantly new under-theorized research that requires in-depth investigation.

Literature Review

In the mid-19th century, the first wave of feminist anthropology has begun to include more women's voices in the study of culture as anthropology and travel are intrinsically connected. As Burns (1999, cover; 2004, pg.11) describes it, "anthropology is the window through which tourism dynamics may be properly analysed and understood". Gender is established as an independent variable shaping the tourism studies and production or consumption of tourist sites, goods and experiences (Kinnaird et al., 1994; Gibson, 2001).

Before World War II, travel and leisure industry was gender restricted with women being confined to their domestic roles as the primary caregiver in a social construct where male domination suppressed their freedom including in tourism (Mowl & Towner, 1995; Khan, 2011). Women played an important role in tourism but control of decision making remained largely in the hands of the men. As more women enter tourism, gender ideologies and the balancing of roles and relations are extended and renegotiated within these new areas of economy (Long & Kindon, 1997). As Myers (2010) points out, through social and political change, public spaces that were traditionally male dominated are increasingly becoming available to women, and from a tourism point of view women are now searching for their own tourism spaces.

New technologies encourage whole new genres of experience (Pine & Gilmore, 1998). Past studies on ICT and gender such as Selwyn (2007) found that mobile phones were perceived as a somewhat feminine technology, while Fuad et al. (2011) discovered that women entrepreneurs used technology to be more competitive in the current environment of the business marketplace. Bulik (2011) reported that women's approach to technology is much more practical, and that they are using technology to do more to extend their roles. Unlike their male travellers, women are setting and influencing new trends and "in Web 3.0, women are poised (to be key) in the humanizing of technology" (Bulik, 2011, p.5). Other scholars (Tavakoli, 2015; Wilson, 2016; Genoe et.al., 2016) substantiated that women have been actively engaged in constructing hybrid, transgendered identities through their consumption of new media such as blogs, social media interactions, and online contributions.

Conceptual Development

The conceptual framework for this study is centred on three main terms namely women travellers' motivation to use technology when travelling, how technology enhances their experiences and how technology empowers women through travel. According to Neuhofer et al. (2012), it is important to understand the role ICT plays at all phases of the tourist experience to gauge the concept of technologically enhanced tourist experience. Deem (1996) claims that if women believe they deserve leisure, then it is useful to describe how women can empower themselves through leisure. ICT is an immensely powerful tool (Amichai et.al, 2008) which open doors and offers the potential to empower individuals by giving people power to shape their own lives.

One, the study will redress the ambiguity in tourism research of the women's 'voice' to signify their touristic experiences and link them to the notion of identity construction through tourism. Two, it will be relevant to fill the gap and add to the body of knowledge for tourism and technology from a gender perspective as it is necessary for academic scholars to build upon and expand on the findings of related theories. Third, the findings will also contribute in establishing the role of women as an important tourism market segment in shaping the future of e-tourism by capturing their voices and choices.

Proposed Methodology

Qualitative, inductive framework was viewed to be appropriate, given the exploratory nature of this study. Using ethnography method, this study will employ two main data collection techniques, namely semi-structured in-depth interview and continual participant observation to construct a holistic and contextual view that explores the experiences of travelling women using technology.

Penang Island is the third most common tourist destination in Malaysia located on the northwest coast of Peninsular Malaysia (Maghsoodi et al., 2016, p.9). Georgetown, the capital city is widely known for its UNESCO World Heritage-listed streetscape,

ranked No. 4 in Lonely Planet's Top 10 Cities list for Best in Travel 2016 (Straitimes, 2015) besides named as the world's best destination for food by Lonely Planet and top 10 must-visit destinations by Guardian, United Kingdom in 2014. Penang Island boasts advanced infrastructure and facilities besides becoming a hub for digital nomads (Lielacher, 2016). Towards bridging the digital gap, a pioneering project 'Internet Access For All' initiative was launched by the State Government in 2009 with the aim of providing free wireless Internet around public areas (Khoo et al., 2015, p. 27).

The primary respondents in this study will be female travellers using technology to travel and visit Georgetown, Penang from September 2016 to June 2017. The selection of the respondents needs to fulfil the requirement of technology savvy-ness i.e. a person who owns smart-apps, demonstrates active usage of social media, and has experience in using technology for travel activities. The USM-PGT Penang Tourists Survey 2014 showed 54.4% of women traveller in Penang. The study will be conducted in various urban tourist spots around Georgetown, Penang namely public tourism hangout areas, lodging quarters and transportation hubs with a potentially high concentration of technology-savvy women travellers.

Theoretical and practical implications

This study will provide an insight to the importance of understanding how gender and the condition of 'being' a woman in the 21st century affects individual choices, decisions, and experiences in leisure and thereby contributes to the deconstruction of firmly rooted stereotypes with three primary objectives:

- To identify the underlying motivations for technology usage by female travellers;
- To explore the changing nature of the female traveller's travel experiences with technology;
- Seek to understand how technology empower female through travelling.

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Modelling Hotel Websites into Web 3.0

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Abstract

This research seeks to model hotel Websites into Web 3.0. Specifically, it will analyse existing models for hotels websites, empirically analyse the exploitation of Web 3.0 technologies and innovative applications in hotel websites. Mixed-Mode design composed of content analysis and survey will be used. Content analysis will be used to collect data from published articles while survey will be employed to analyse uptake of Web 3.0 applications and technologies in star rated hotel websites in Kenya. Automated tools will be used to collect data from websites.

Keywords: Web 3.0; hotel website; semantic Web; social Web; Web 3.0 technologies

Problem Definition

Web 3.0 is the symbiosis of Web technologies and knowledge representation (KR) that require integration for their benefits to be realized. A study carried out to establish the level of uptake of available innovative Web technologies shows that most hotel websites nearly fail completely to take advantage of such technologies, either by not using them at all or by using them only minimally and mostly inappropriately (Toma, Stanciu, Fensel, Stavrakantonakis, & Fensel, 2014; Duerra, Künga, Scheggb, & Stanglc, 2013). There is a gap between the existing Web 3.0 technologies and their adoption in hotel websites (Nikola, Angelina, & Jelena, 2014). Some of the website features perceived as important in previous studies may be obsolete in the context of current Web technologies (Lin, 2015; Leung, Law, & Lee, 2016). Despite a large volume of studies available in the literature, none of them provides an extensive analysis of the uptake of Web 3.0 technologies in the hotel websites or model hotel websites into Web 3.0. This study aims at modelling hotel websites into Web 3.0 using data from hotels with websites in Kenya for hotels to realize the benefits of Web 3.0.

Literature Review

The key elements of Web 3.0 are the Social Web, Semantic Web, Intelligent Web, and Ubiquitous and Pervasive Web (Bizer, Heath, & Berners-Lee, 2008; Sabbagh, Acker, Karam, & Rahbani, 2011; Basistha, 2014). The concepts associated with Web 3.0 are Open Web Standards (OPW), Open Source Software (OSS) and Cloud Computing (4imprint, 2010). The key features of Web 3.0 are intelligence (data can be understood by both computer and human beings), integration (Web 3.0 can integrate user generated content (UGC) by Mash-up, to strengthen the characteristic of the content and simplify the information search) and personalization (process and

analyse user's personal preference) (Lai, Fan, Xin, & Liang, 2013). On the one hand, hotels that implement Web 3.0 technologies in their websites will be able to define and recommend new products based on deeper insights about consumers, not simply how they behave, but what motivates them and the discovery of new tourism trends and resources. The tourists, on the other hand will receive a wider and updated range of personalised relevant recommendations, contributing to improved travelling experiences.

The main idea behind the Semantic Web is to make the content of the Web 'legible' to computers, by presenting it in the language they 'understand' using structured data with explicitly defined semantics. The core components of Semantic Web technologies are XML, Resource Description Framework (RDF), Ontology languages, Vocabularies and data (Akerkar, 2012). To embed structured data in Web pages requires two components: an Ontology and a markup scheme (machine readable formats) (Barker & Campbell, 2014). For Ontology, Schema.org or some other RDFS, domain specific Ontologies can be used, while to address markup scheme, RDFa, Microdata, Microformats, or JSON- LD can be used to extend HTML with machine understandable descriptions (W3C, 2015). Examples of websites with structured data are: movies at http://rottenTomatoes.com, events at http://ticketmaster.com and products at http://BestBuy.com among others (Pomponio & Viale, 2013).

Pervasive and Ubiquitous Web refers to a Web that is virtually everywhere, where people are able to access and manipulate information when and where it matters. In tourism and travel, it can offer travellers real-time updates and customized information from multiple sources (Dickinson, et al., 2014), with the ease of their use without the limitation of time and space.

The Social Web describes how people socialize and/or interact with each other throughout the Web. Social media directly influences more than 83% of all online bookings, and 49% of guests won't even consider booking a hotel that doesn't have reviews (TRUSTYOU, 2012). Sites with trusted reviews and scores integrated on their website are crawled up to 200% more frequently (Pomponio & Viale, 2013).

The success of an ecommerce websites has been measured differently by researchers. Lu and Yeung (1998) state that two major components affecting usefulness of a website are functionality (i.e. content) and usability (i.e. design). There is a plethora of studies pertinent to functionality (Law, Qi, & Buhalis, 2010; Ting, Wang, & Chiang, 2013, Leung, Law, & Lee, 2016) and usability (Au Yeung & Law, 2006; Alhelalat, Ineson, Jung, & Evans, 2008, Hasan, Morris, & Probets, 2013) of tourism and hospitality websites.

Web 3.0 being an emerging paradigm that is intertwined with the change in the Internet culture and the progress in the Internet technologies, all the dimensions mentioned in the prior studies are not adequate in Web 3.0 environment. Modelling hotel of website in Web 3.0 environment needs a broader criterion that includes technical performance of the websites. The limitations in previous studies and the

changes that Web 3.0 paradigm has brought call for identifying new website quality dimensions appropriate for Web 3.0 environment.

Powell and Connaway (2004), note that a model is an abstraction, a mental framework for analysis of a system that involves simplified representations of real-world phenomena. Models provide guidance for the completion of work or the establishment of systems and refer to a representation of a real world phenomenon. With the emerging web technologies, hotel website models proposed in previous studies now appear to be incomplete or no longer comprehensive. There is thus a need to model hotel websites in Web 3.0.

Kenya is strategically located on the East Coast of Africa bordering the Indian Ocean to the east, and with five neighbouring countries. Safari, coastal, as well as business and conference travel make up her major tourism product lines with cultural heritage tourism activities cutting across each of them. The wildlife safari is considered the crown jewel of Kenyan tourism.

Conceptual Development

This study will be modelled on the updated DeLone and McLean Model of Information Systems Success. It defines six distinct dimensions of IS success as information quality, system quality, service quality, Intention to use/use, user satisfaction, and net benefit (DeLone & McLean, 2003). In Web 3.0 environment, information, system and service quality will be shaped by the Semantic Web. Semantic Web is a Web of integrated, Linked meaningful data. Social Web, Intelligent Web and Pervasive and Ubiquitous Web will influence all the dimensions of updated DeLone and McLean Model of IS Success.

Proposed Methodology

This study will employ mixed-mode research design consisting of content analysis and survey. Content analysis will be used to gather data from articles that have been published by major tourism and hospitality journals between 2010 and 2016. This period is chosen because Web 3.0 technologies started appearing in 2008 and was estimated to reach maturity in 2016. Content analysis was preferred because of its conformity to three basic principles of scientific method which are objectivity, systematicness and generalizability. Survey design will be used to analyse the usage of Web 3.0 technologies and innovative applications in hotel websites as well as the technologies behind them. Content analysis of published articles in journals on Tourism and Hospitality websites will be conducted in order to develop a timely and comprehensive list of Web 3.0 technologies and applications for model development.

Hotel website evaluation will be used as the unit of analysis. Judgement sampling will be employed to get published articles that look at hotel website modelling. To analyse the existing evaluation models for hotel websites, information on published articles will be gathered from Science Direct (http://www.sciencedirect.com), EBSCOHost

(http://search.ebscohost.com), and Google Scholar (http://scholar.google.com), which are three of the largest and most popular online databases and search engines (Law, Qi, & Buhalis, 2010).

The study will also use automated method to collect data from three star and above rated hotel websites in Kenya. Automated methods involve the evaluation of websites using software systems. The advantages of an automated method include consistency in evaluation and a relatively faster process, compared to human based method. (Law, Qi, & Buhalis, 2010). Open source web crawlers that would access the hotel websites and extract information conforming to a specified criterion will be developed. Online tools will be used to complement the web crawlers in data collection. The online tools to be used are: the Keynote Mobile Application Testing Solutions (http://keynote.com), Google Mobile Friendly Test tool, (http//:google.com/webmasters/tools/mobile- friendly/) and World Wide Web Technology Survey (W3Tech) tools (http://w3techs.com).

The hotel website content and technologies will be divided into four main categories in line with Web 3.0 technologies namely: The Social Web, Semantic Web, Mobile Friendly Web (MFW) and Open Source Software (OSS) and Open Web Standards (OWS). The study will focus particularly on the existence of semantic annotations (i.e., machine-readable metadata) that could bring a hotel's website into a better position in search results of the major search engines, the existence or non-existence of social Web features on the website, the adoption of OSS and OWS and the degree of mobile friendliness of the website. Social widgets such as Facebook, Twitter, Google+1, AddThis, Pinterest, WhatsApp among other applications will be analysed to determine the level of uptake Social Web technologies in hotel websites. The semantic annotation technologies to be looked for include RDFa, Microformats, microdata and schema.org. OSS usage will be determined from web applications employed such as the Content Management System (CMS), Web Development Framework (WDF), website themes among others. Mobile friendly aspects to be studied will include techniques to enhance website performance in mobile devices and W3C Mobile Web Best Practices.

Literature review and research data gathered from content analysis and survey will be used to develop a comprehensive list of website features, functions and technologies for model development. This will be followed by two rounds of focus group interviews that will be conducted with multiple stakeholder groups to verify the features, functions and technologies as a means of validating the criteria in the model. Each interview will include four hotel customers, four hotel managers, four hotel website designers and four senior researchers in Web engineering. Hotel customers will be those who have made an online reservation through a hotel website in the past 12 months. Managers and designers will be those who have been involved in hotel website development or maintenance. The findings from the first focus group interview will be further discussed in the second focus group interview, to refine the model.

Theoretical and practical implications

This study will help hoteliers to improve their websites as it underlines the lack and the importance of Web 3.0 uses in websites. Academics could use it as a tool to evaluate hospitality websites and their intentions. It will also give new ideas to web designers and especially to those who work on hotel web pages. In addition, marketing industry, government officers and authorities and tourist organizations could finance their countries' hotel websites as the lack of resources is one of the problems that stifles website innovation. Tourist authorities of governments could take active role by informing, educating and financially supporting domestic Tourism and Hospitality to increase the richness of their website content.

Discussion

The proposal is in its early stage of development and therefore the discussion at this stage is limited. The digital age affects tourism and travel in several ways such as empowerment of consumers, accelerated competition and globalization of markets. Some of the themes that tourism and travel sector in consumer-led economy can focus on are personalization, integration of data, business model and keeping the brand relevant to attract the business and leisure guests of tomorrow. These themes can be realised through adoption of Web 3.0 technologies in their websites. It is therefore critical for tourism marketers and communicators to get a better understanding of latest web technologies.

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Foundations for a Smart Destination Management System

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Abstract

This study will propose a conceptual foundation for a smart destination management system which integrates a variety of data sources to monitor visitors' behaviours, provide persuasive recommendations, and to manage tourism experiences. Three studies will be conducted to fully articulate the proposed system. It is posited that this study extends our understanding of the process of destination value creation as well as the potential benefits/opportunities for a micro-marketing based system.

Keywords: Destination management system; analytics; micro-marketing; context-dependent recommendation; agent-based modelling

Problem Definition

The continuing development of information and communication technology (ICT) has opened up the new opportunities for both destination marketers and travellers. In particular, mobile devices (e.g., smartphone, tablet) and Web 2.0 have expanded the scope of the tourism experience by enabling travellers to search for information throughout the trip experience and to share their experiences with family and friends in different places whenever and wherever they want (Wang et al., 2012; Wang et al., 2014). Meanwhile, the ability of marketers dealing with the complexity of travellers' behaviours has improved substantially over the past few years owing to 'Big data' and 'data science' which refer to an enhanced capacity to collect, manage, analyse, and interpret massive amounts of data (Lazer et al., 2009).

Destination and tourism companies have tried to customise their products so as to attract more customers by providing highly specialised and personalised products. However, destination marketing organisations (DMOs), which are essentially the marketing agents for cities and regions, face enormous challenges due to the continuing evolution of technology, their inability to adapt, and their lack of control over the marketplace (Fesenmaier & Xiang, 2014; Gretzel et al., 2006). Most importantly, the rapid developments in ICT seem to be moving us toward an increasingly data-driven 'sensor society' wherein an individual leaves a huge data footprint during the course of his/her everyday life as well as their trip, which in turn, creates opportunities for business development (e.g., Andrejevic & Burdon, 2014).

Thus, it is argued in this study that DMOs should develop the capacity to more effectively exploit data describing potential travellers before, during and after the trip. By doing so, each data source could complement each other and eventually offer

numerous opportunities for destination marketers to develop a complete picture of visitors within the destination. The goal of this proposed study is to develop a theoretic foundation for a smart destination management system that will have the capabilities to combine micro-marketing concepts with big data analytics in order to meet the needs of visitors to a destination more effectively and efficiently.

Literature Review

Changing the role of DMOs

The tourism destination is a dynamic entity, evolving over time and with both virtual and physical touchpoints that travellers experience (Stienmetz & Fesenmaier, 2015). Indeed, tourism scholars have reconceptualised the destination by applying the concept of 'tourist-activated-networks' wherein tourists experience is defined through their choice of places visited and activities participated (Kracht & Wang, 2010; Zach & Gretzel, 2012). Also, the metaphor "travel-the-network" posits that value creation is no longer limited to the physical act of experiencing a destination and that travellers tend to extend their daily life into travel (Fesenmaier & Xiang, 2014; Gretzel, 2010). However, as travellers construct their own trip experiences by combining and sequencing destination touchpoints uniquely, destination marketers are facing increasing difficulties in understanding how value is created within the destination and how to manage those value-creation process effectively. Therefore, this study argues that DMOs should not focus on creating the tourism experience by themselves, but rather they should emphasise the capacities of networks within the destination. As such, this change necessitates that DMOs develop new systems for managing the destination more effectively, cohesively and comprehensively.

The quantified traveller and the smart destination management system

Fuchs, Hopken, and Lexhagen (2014) suggest a combination of consumer-based data (e.g., survey, online reviews, web-navigation data, booking data, GPS-based spatial movement data) so as to gain new knowledge about travellers' experiences focused on pre- and post-travel phases. The concept of the quantified traveller, which is a new phenomenon wherein people voluntarily monitor and quantify their lives to better understand themselves (Lupton, 2014), has a direct implication on the smart destination management system. Wearable/mobile devices enable travellers to continuously monitor their physical data (e.g., health, habit), transaction data (e.g., purchase), and online behaviour (e.g., social media) (Swan, 2012; Choe & Fesenmaier, 2016). Further, by combining/linking the various data created by these types of travellers as well data from other sources (e.g., social media, telephone use, health data, etc.), and traditional data sources (e.g., surveys, web-navigation data, transaction data, census data), the system can provide a more holistic understanding of traveller behaviour within the destination.

Micro-marketing approach

As the marketing paradigm has shifted to a customer-oriented approach, recent developments in ICT enable marketers to collect individual customer data in real time, understand consumer behaviours in a better way, and discover and exploit high potential micro markets (Goyal et al., 2012). Indeed, the literature suggests that products designed for micro-markets, rather than totally personalised products, are highly effective and efficient marketing strategies in that a totally personalised product may require customer participation extensively and a higher cost/price. With the growing capabilities to gain access to a variety of visitor data, micro-marketing offers the huge potential to help tourism organisations and destinations to bring about significant change to the way they market their destination, which in turn, moves their marketing practises to a new higher level. Within the context of tourism, Fesenmaier et al. (2016) propose a micro-marketing system as a core component of an information system for destination marketing and management. They suggest that a micro-market focused system enables the destination to monitor visitor patterns/behaviours so as to build a complete picture of visitor behaviour, manage visitor interaction/experiences through the on-site program, channels, etc., and support relationships between and among all the firms (and organisations) within the destination. Thus, as a destination can collect more accurate and detailed data, marketers can improve performance through understanding more timely accurate customers' needs and creating highly specific segmentation to market their products.

The SMART Destination

Based on the literature this study attempts to propose a system which combines data from a variety of sources so as to enable destination marketers to better meet the needs of visitors to a destination. To do so, this study offers three important considerations for a better designing a smart destination management system.

Integration of tourism demand and supply

The implicit objective of developing a smart destination management system is to create a better environment for tourists, residents, and tourism businesses within the destination and its ecosystem. Importantly, the proposed system would have the capacities to adapt to the needs of all stakeholders so as to provide better tourism experiences and the quality of life (Marsá-Maestre et al., 2008). These inter-relationships among destination stakeholders necessitate a "big picture" or system-level approach to destination management, and which is why it is essential that a smart destination management system should include the integration of both the supply and the demand side elements of a destination. The proposed system provides the function that enables travellers to create memorable tourist experiences by connecting them to both physical and virtual tourism infrastructures in their own unique ways (Gretzel, Hwang, & Fesenmaier, 2012; Richards, 2011). Meanwhile, the system helps marketers to focus on how to enhance tourism experiences, but also on what to connect tourism resources (i.e., attractions, restaurants, parks, etc.) with both tourists and local residents. The concept of co-creation has a huge implication on the interactive process among tourists, local residents, and tourism businesses (Sfandla & Björk, 2013). As such, the proposed system will enable destination marketers to

understand their products/services more closely so that they can design enhanced tourism experiences at the destination by monitoring tourist behaviours and/or services/experiences in both offline and online environments.

Context-enriched information for a smart destination management system

As one of the primary purposes is to provide a better tourism experience to tourist, destination marketers need to understand how the traveller interacts with and within physical, virtual, and social environments. Technologies (e.g., sensors, internet-of-things, wearable devices, and so on) have an important but implicit role in facilitating the interaction between travellers and their environment. The use of technologies (e.g., mobile, wearable devices) affords travellers the ability to create and manage their own tourism experiences by not just passively receiving the information from the destination and tourism marketers, but by actively and dynamically engaging in activities within the destination (Gretzel, 2010; Zach & Gretzel, 2012). This suggests the importance and effectiveness of location-based marketing (e.g., geofencing) within the destination. More importantly, both geo-location information and situational factors (e.g., time of the day, attraction type) should be incorporated to provide a context-relevant but highly persuasive recommendation.

Integration of the entire trip experience

The proposed system includes the data about all three stages of trip experiences. By doing so, destination marketers could fully reflect the entire journey of travellers from the beginning (e.g., personal history, online searching) to the end (e.g., writing a review, recall). An advanced ICT could make the system collect not only contextual information during travel but also personal historical data generated during ordinary life and the connection of that information to the touristic experience. By exploiting the increased use of mobile devices (e.g., wearable device, sensors), the physical state (e.g., purchase history, movement, and search history) and the emotional state (e.g., mood, feeling, heartbeat) can be tracked unobtrusively and then constantly stored in real time. This data will be further expanded as the technology will keep developing that allow marketers to re-purpose previously existing data as a meaningful information (Andrejevic & Burdon, 2014).

Proposed Methodology

The overall purpose of this study is to develop the foundations for a smart destination management system, which will enable travellers to maximise value from their trip and at the same time, enable DMOs to monitor (and adapt to) visitor behaviours so as to improve the destination value system. Each of the phases is described below.

Phase 1. The first phase of the study focuses on developing a conceptual framework describing a 'smart destination marketing/management system' which identifies and evaluates the theoretical foundation for including a variety of data sources so that destinations can manage demand at the local level.

Phase 2. The goal of the second step is to develop a smart destination management system for a destination which reflects travellers' behaviour within the context of micro-marketing based upon the theory and data sources identified in Phase 1. As part of this system, new metrics will be proposed which reflect the changing focus of a destination management organisation toward partnerships and systems management.

Phase 3. The last phase of this study is to examine the effectiveness of the proposed system as an effective marketing management system using agent-based modelling. This approach will adopt a complex/dynamic systems perspective to investigate the impact of a range of alternative marketing management strategies. The proposed conceptual framework and the results from phase 2 will be used as the basis for the parameterisation process so as to reproduce real-world tourist behaviours and management strategies. As such, a series of experiments will be performed by building scenarios with a range of parameters.

Theoretical and practical implications

The goal of this study is to propose a smart destination management system which is based on the concepts of tourist mobility, micro-marketing, and business intelligence. This framework consists of components that systematically encode a variety of data sources - personal historical data, survey data, social media data, web-navigation data, and transaction data - and interprets this data in conjunction with various contextual information (e.g., local information, weather). It is assumed that travellers' behaviour at the destination is a highly adaptive process to the contextualised information that is distributed by the local marketing organisations. Thus, the results are expected to support the notion that micro-marketing provide more personalised tourism experiences, which in turn, eventually increases both the financial and non-financial competitiveness of the destination. From the destination perspective, the proposed study will enable us to understand better how the data being generated in the tourism industry can be used. This study would also help tourism companies and/or marketing agencies to improve the efficiency or the persuasive power of their recommendation systems and identify a range of potential marketing opportunities.

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Mobile-centric User Context Recognition Systems as a Personalisation Tool for Tourism and Hospitality

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Abstract

Personalised experience is one of the key tourist requirements. Recent mobile technology advancements created new possibilities for tourist behaviour and context observations and its application in mobile apps. This study aims to explore how user context recognition systems could be applied as a personalisation tool in tourism and hospitality. It will adopt a User-Centred Design approach with the mixed method research design in order to propose the framework for effective context recognition system application for personalisation delivery.

Keywords: mobile personalisation; context data; context recognition; tourist experience; mobile tourism

Problem Definition

Recent advancements in technologies, such as the spread of smartphone-embedded low-cost sensors, increased storage capacity and computational capabilities of mobile devices and cloud computing (Lane et al., 2010) have triggered new possibilities for real-time user behaviour and context observations. It creates opportunities for delivering different types of personalised mobile communication, such as personalised content, interface, service and assistance (Mehra, 2012; Perera et al., 2014). Pervasion of information and communication technologies (ICTs) in tourist everyday life has made smart phones the primary platform to get information and communicate with the environment (Gavalas et al., 2014). They created the 'mobile mind shift' (Wang et al., 2014) and increased or completely changed tourist expectations in relation to mobile services and personalised experience (Neuhofer et al., 2015; Shen et al., 2016; Wang et al. 2012). Academic literature acknowledges the need for personalised experiences (e.g. Buhalis & Amaranggana, 2015; Lu et al., 2015; etc.) and personalised mobile apps (e.g. Barragáns-Martínez and Costa-Montenegro, 2014; Gavalas et al., 2014; etc.). The tourism-related research widely discusses personalisation through context-aware recommender systems (e.g. Kurata & Hara, 2013; Moreno et al., 2013; Shen et al., 2016). Lots of studies acknowledge the existence of multiple types of personalisation such as online content and context personalisation, personalised search and links, humanized personalisation, etc. (Germanakos & Belk, 2016). Many of them focus on content filtering based on geolocation data (e.g. Ricci, 2011). A number of papers explore possible context types (e.g. Adomavicius et al., 2011; etc.) and different data mining methods (e.g. Ge et al., 2014; Höpken et al., 2013; etc.) to be applied for mobile personalisation apps. Other dimensions of research are related to different ways to deliver personalized mobile communication, such as textual, audio and video content, as well as

augmented and virtual reality (e.g. Yovcheva et al., 2013; Han et al., 2013; Gavalas et al., 2014, etc.). Finally, there is a growing concern in regards to security and privacy, related to the application of individual context data in particular (e.g. Sigala, 2011). Nevertheless, there is lack of holistic understanding of contemporary capabilities of context-aware personalisation, which can provide individual tourists with superior value. This study aims to conceptualise the research in the spheres of mobile personalisation, enabled by context-recognition, and of creation of enhanced tourist experience with a help of mobile personalised services.

Literature Review

In order to provide superior experiences, personalisation requires constant evaluation of tourist behaviour and preferences within a particular environment (Gupta and Vajic, 2000). Context-awareness and user modelling have become the key factors which enable effective personalisation (Gil et al., 2012). They can create objective and relevant knowledge (Moreno et al., 2012) and enhance user experience because they can provide accurate predictions on consumer insights (Adomavicius et al., 2011). Though, personalisation, which is based on one or several types of spacial context parameters (i.e. low context) (Mehra, 2012), might sometimes give inappropriate results (Gavalas et al., 2014). This happens due to multiple dimensions of tourist environment and the dynamic character of user context and preferences. Contemporary smartphones are equipped with multiple inertial, positioning, and ambient sensors (e.g. accelerometer, gyroscope, compass and GPS unit, timer and camera), which could constantly track contextual data from mobile devices (Otebolaku & Andrade, 2016). The advances in wireless technology, mobile and cloud computing, development of mobile software, etc., have enabled marketers to effectively use mobile devices for real-time user context observation (Lane, 2010). Technologies, which capture both opportunistic and participatory data, enable marketers to correlate individual exposure to the specific behaviour in order to develop behaviour models (Hoseini-Tabatabaei et al., 2013). Such models can automatically learn high-level context (Perera et al., 2015), for example user activities and preferences (Otebolaku & Andrade, 2016). Currently user context analysis relies on a number of methods and analytical techniques from different spheres with no framework being accepted as a major one (Lane et al., 2010). They include ubiquitous computing, machine learning and context-aware computing techniques (Otebolaku & Andrade, 2016). Application of multiple dimensions of context data from mobile devices allows to deliver focused and deep personalisation (Fuchs et al., 2013). The tourism and hospitality industries face several challenges. Among major problems are standardisation and information overload (Gavalas et al., 2014; Ricci, 2011; Shen et al., 2016; Borràs et al., 2014) and impossibility to provide individually targeted tourists with unique, personalised experience (Jackson, 2007). Recent advances in ICTs have changed tourist behaviour and triggered the increase in their requirements for travel experience (Shen et al., 2016; Wang et al., 2012). These requirements include the demand for highly personalised real-time information and communication, adapted to tourist preferences, profiles and current situation (Barragáns-Martínez & Costa-Montenegro, 2014). Therefore, mobile-generated context data analysed with sophisticated modelling software and matched with open data can be a new

background for customer-centric marketing in tourism and hospitality (Gavalas et al., 2014). Customer data contributes to organisation through customer life time value maximisation and the possibility to optimise marketing efforts. It enables value co-creation, produces real-time solutions and improves satisfaction rate with eCRM system (Sigala, 2011). Importantly, while Big Data in general raises lots of privacy concerns, the advantage of context recognition it that it does not require sensitive user content, therefore, improves data security and decrease privacy concerns (Otebolaku & Andrade, 2016). Therefore, it provides massive opportunities for businesses to deliver personalisation through interface, content and active personalised experiences (Perera et al., 2014).

Conceptual Development

This study aims to conceptualise the research in the sphere of mobile personalization, enabled by context-recognition, and of creation of individual tourist experience with a help of personalised mobile services. To succeed with the aim, this study proposes a framework for effective mobile personalisation based on high-level context recognition in tourism and hospitality. The topic of the research is relatively new and requires integration of different fields such as technological advancements, human-computer interactions (HCI), user requirements and tourist experience. The theoretical framework will be based on industrial knowledge within the exact context of use. Such approach corresponds to pragmatism (Biesta, 2010), which is common in the Information System research design (Hirschheim & Klein, 1989). Therefore, pragmatism will be adapted in the following study as a research paradigm. The study puts the following objectives:

- To explore the possible ways mobile-generated context data can be applied in context recognition and user behaviour modelling to provide personalised experience and maximise value
- To investigate the key factors of context-enabled mobile personalisation that enhance tourists experience within the context of use
- To identify tourists' basic requirements and perceptions on personalisation, as well as on security and privacy concerns towards context data application in mobile apps
- To propose and evaluate the framework for the effective application of context-recognition-based mobile personalisation in order to improve individual tourist experiences in tourism.

Mobile personalisation technologies result in a set of possible mobile application functions and services, and, consequently, HCI. At the same time, the effectiveness of context recognition application for consequent personalisation can be seen from both technological and user requirements perspective. The User-Centred Design (UCD) approach is widely accepted as one of the major concepts to gather and accurately analyse user requirements and HCI (Nielsen, 2013) and to design usable technologies (Haklay & Nivala, 2011). Therefore, the research aims to assess the opportunities of context-recognition based mobile personalisation to improve individual tourists

experience through the lens of user-centred design and mobile usability principles, as they see the relationship between functionality of a mobile device or app and its usefulness and effectiveness for users.

Proposed Methodology

Taking into consideration exploratory nature of the study, appropriateness of UCD design and the need to address dynamic interconnections among different factors, the research will adopt a mixed method research design. Complementary qualitative and quantitative methods will enable more comprehensive understanding of the problem, thus enriching the findings and increasing their validity (Hesse-Biber, 2010). The study will employ the elements of basic marketing research exploring the factors that influence effective product application and user preferences, and exploratory market research investigating the practical experience of mobile-centric context-recognition systems within the context of use.

The background for the empirical research will be developed by conceptualising the existing literature. It will integrate the knowledge on context-recognition and context-awareness towards mobile personalisation technologies, functions and capabilities of mobile devices together with tourism–related literature on technology enhanced tourist experience. Then, the empirical research will investigate practical insights to triangulate them with the literature review findings and to propose the theoretical framework. Firstly, qualitative research will explore formal studies and best practises in tourism and hospitality in order to identify the main issues of context data application and personalisation capabilities. Secondly, mixed method research, which is based on critical evaluation of several mobile apps personalisation functions, will be conducted. It will apply user feedback (e.g. reviews and rankings) and user interviews (Kjeldskov & Paay, 2012), which will give the insights and causal relationship between facts and events (Silverman, 2011). Thirdly, user-based study (observations of task performance, tracking of mobile device performance and interviews within the context of destination) will identify tourist requirements and preferences towards personalisation and context data application (Nielsen, 2013), as well as effectiveness of mobile application performance. Fourthly, in-depth interviews with the industry representatives, which enable access both to cause-effect relationship and meanings, which professionals attribute to their experience (Silverman, 2011), is expected to reveal user context recognition system requirements for effective personalisation. Finally, another user-based study, performed with mobile tracking software in combination with user observations (Nielsen, 2013) will provide rich insights on how tourists use technology, and how interactions with application features and real context could influence user behaviour (Lazar et al., 2010). Together with the results of focus-group interviews with industry representatives, data providers, software developers and tourists it will evaluate the findings and refine the framework.

Theoretical and practical implications

This study is planned within eTourism and Marketing research areas with a focus on current innovations in tourism and hospitality, and, in particular, on value maximisation with the help of technologies. From academic point of view, the framework shall contribute to the marketing theory of personalisation, consumer behaviour and tourist requirements. It will integrate the knowledge in Big Data and innovative technologies such as user context recognition systems in tourist experience. The results will also contribute to tourism eCRM, Smart technologies and the Internet of Things in tourism research areas.

Context-aware computing already brings sufficient revenue opportunities for the tourism industry (Mehra, 2012). Context-enabled personalisation became critical in application in tourism domain practice (Barragáns-Martínez & Costa-Montenegro, 2014). As long as this research will explore real-time innovations, it will create value for tourism and hospitality stakeholders by providing a practical instrument for businesses to develop competitive advantage and to increase business efficiency by improving customer value. It can also contribute to development of Smart environment.

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Assessing Mobile Payment for Hotel Reservations in China

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Abstract

The rapid development of mobile technology and the increasing number of smartphone users has greatly changed the payment behaviour of consumers on hotel room reservations. Website functionality and usability have gained extensive attention from previous studies. Nevertheless, limited studies have investigated mobile functionality and usability towards mobile payment. In order to better satisfy the needs of consumers and to increase the revenue of the hotel industry, the present study intends to investigate the impact of mobile functionality and usability toward mobile payment on customer satisfaction and repurchase intention.

Keywords: mobile payment; hotel reservations; China; OTA

Problem Statements

The wide applications of information communications technology have raised the level of sophistication in terms of information dissemination, product distribution, and transaction for travel planning (Golmohammadi, Jahandideh, & O'gorman, 2012). Website evaluation, which includes two main important components, website functionality and website usability, has been largely investigated in the previous studies. In the recent three years Smartphone users have been increasing. The trend of mobile payment within smartphone setting is continuous; and it has already become a very common practice among users in China (China Internet Watch, 2015; Lamsfus, Wang, Alzua-Sorzabal, & Xiang, 2015). Nevertheless, limited studies have investigated the functionality and usability within mobile context. Thus, the present study would like to know what are the perceptions of functionality and usability toward mobile payment from the perspective of consumers? Customer satisfaction is vital to hotel revisiting and is positively connected with the repurchase intention (Jarvis, Stoeckl, & Liu, 2016), but how do functionality and usability toward mobile payment within smartphone setting affect customer satisfaction and repurchase intention is not clear. Thus, based on the theory of planned behaviour, the present study is intended to i) test the mediating efforts of attitude, subjective norms, and perceived behavioural control on the relationship between mobile functionality and customer satisfaction within mobile payment context; ii) test the mediating efforts of attitude, subjective norms, and perceived behavioural control on the relationship between mobile usability and customer satisfaction within mobile payment context; and iii) test the mediating effort of customer satisfaction on the relationship between attitude and repurchase intention, between subjective norms and repurchase intention, and perceived behavioural control and repurchase intention within mobile payment context.

Literature Review and Research Framework

Figure 1 shows the proposed mediating efforts of attitude, subjective norms, and perceived behavioural control. The direct impact of website functionality and website usability on customer satisfaction has been proved by previous studies (Bai, Law, & Wen, 2008; Liu, Arnett, & Litecky, 2000). Nevertheless, there are also some studies indicating that mobile functionality and mobile usability significantly affect the attitude, subjective norms, and perceived behavioural control (Ladhari, 2010; Lee, Moon, Kim, & Mun, 2015; Mauri & Minazzi, 2013; Murphy, Chen, & Cossutta, 2016; Okazaki, Campo, Andreu, & Romero, 2014; Oliveira, Thomas, Baptista, & Campos, 2016; Wang, Xiang, & Fesenmaier, 2016). In addition, previous studies have showed the positive relationships between attitude and customer satisfaction, between subjective norms and customer satisfaction, and between perceived behavioural control and customer satisfaction (Kim, Chung, Lee, & Preis, 2015; Shiau & Luo, 2012). Thus, the present study is intended to test the mediating efforts of attitude, subjective norms, perceived behavioural control on the relationship between mobile functionality and customer satisfaction, and to test the mediating efforts of attitude, subjective norms, perceived behavioural control on the relationship between mobile usability and customer satisfaction.
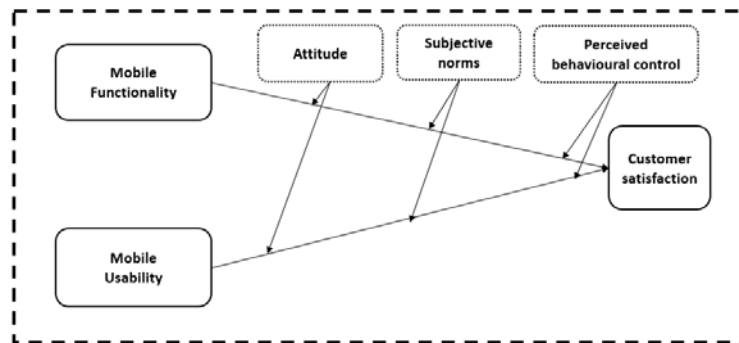
Figure 1. The mediating effect of attitude, subjective norms, and perceived behavioural control

Figure 2 indicates the proposed mediating effort of customer satisfaction. For example, the relationships between attitude and the repurchase intention of hotel, subjective norms and repurchase intention of hotel, and perceived behavioural control and repurchase intention of hotel have been proved by previous studies (Elbeltagi & Agag, 2016; Shiau & Luo, 2012). Furthermore, the relationship between customer satisfaction and repurchase intention has been proved by a number of studies (Blut, Frennea, Mittal, & Mothersbaugh, 2015; Liao, Chen, & Yen, 2007). Hence, the mediating effort of customer satisfaction on the relationship between attitude and the repurchase intention of hotel, between subjective norms and the repurchase intention of hotel, and between perceived behavioural control and the repurchase intention of hotel will also be tested.
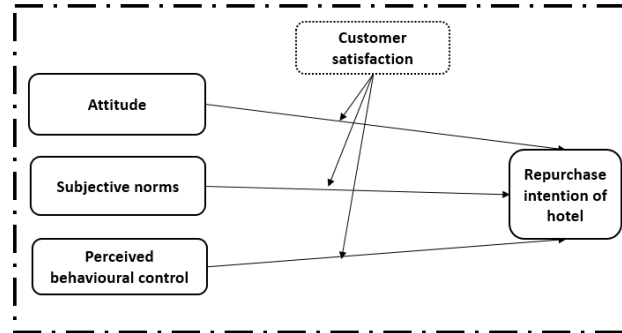
Figure 2. The mediating effort of customer satisfaction

Thus, a research framework (Figure 3) was proposed by the present study based on the theory of planned behaviour (Ajzen, 1991) and the conceptual framework developed by (Bai et al., 2008) within mobile payment context.
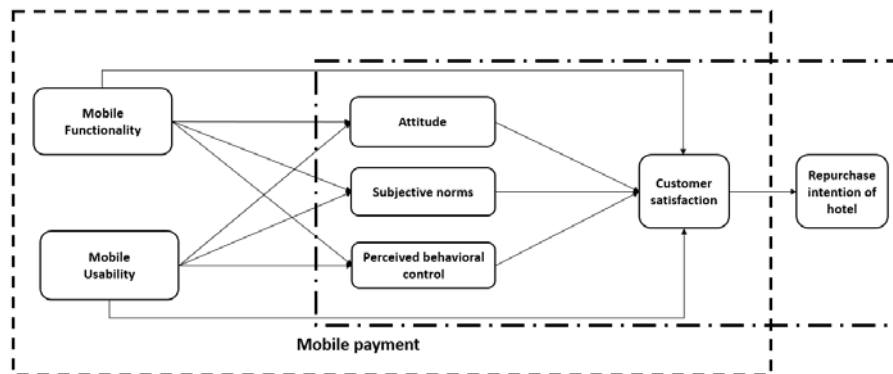
Figure 3. Propsed research model

Proposed Methodology

Quantitative research will be adopted in the present study since it maintains more objectivity. Moreover, each relationship can be explained clearly by statistical analysis, and the effect can be known.

Sampling

In terms of the sampling method, probability sampling method (i.e., stratified random sampling) will be adopted. To be specific, it refers to collecting data from groups which share the same characteristics, such as age, gender, education, and so on (Acharya, Prakash, Saxena, & Nigam, 2013). The advantage of stratified random

sampling is it can reduce the variability and increase the representativeness of the groups. Meanwhile, it can reduce the non-sampling error. In the present study, the target samples are respondents in first-tier cities in China (i.e., Beijing, Shanghai, Shenzhen, Guangzhou) who have made smartphone hotel reservations via OTAs through mobile payment in the past six months.

Validity and reliability

Validity will be assured by a comprehensive literature review of each dimension within the research framework. For the reliability, it will be assured by effective tool called Cronbach's alpha, which is normally used as predictors for a certain dimension.

Survey

A common quantitative survey method, questionnaire survey will be adopted in the present study to reflect the impact of mobile functionality and usability toward mobile payment on the repurchase intention of hotel. Questionnaire survey will be conducted by two parties: the researcher and the third-party company.

Data analysis

The data collected will be analyzed using multivariate data analysis methods. To be specific, three major data analysis method, principle component analysis, exploratory factor analysis, and structural equation modelling will be employed in the present study. For the topic mobile payment, a majority of the recent articles investigated the acceptance of mobile payment among customer and their recommendation intention (Oliveira et al., 2016; Zhou, 2013). The most commonly used methods are regression analysis and structural equation modelling. Structural equation modelling is selected as an appropriate method in the present study because the objectives of the present study are to test the relationship among different dimensions and to examine the structure of the prosed research model.

Theoretical and managerial implications

Theoretical contributions

The present study is mainly based on the theory of planned behaviour (i.e., a fundamental theory to explain consumer behaviour). Nevertheless, if only TPB is applied, the detailed aspects of how attitude, subjective norms, and perceived behavioural control affects the repurchase intention of hotel are not clear. Thus, the present study proposed a research framework that integrates a conceptual model of website evaluation to investigate the detailed aspects relating to attitude, subjective norms, and perceived behavioural control. That is, the attitude of mobile functionality and usability toward mobile payment, subjective norms of mobile functionality and usability toward mobile payment, and the perceived behavioural control of mobile functionality and usability toward mobile payment. The present study also extends the

theory of planned behaviour by applying it into the context of smartphone hotel reservations using mobile payment. In addition, the present study enriches the literature in hospitality by incorporating the latest trend of smartphone use and mobile payment. Furthermore, the proposed research framework can be served as a reference for future studies.

Managerial implications

Practically, this present study provides useful insights for hospitality practitioners to be informed of the latest trends of mobile hotel reservation so as to meet the needs and demands of consumers. With such information, hospitality practitioners can be informed of the impact of mobile functionality and usability toward mobile payment on the repurchase intention of hotels. Moreover, it can help hospitality practitioners to improve the mobile payment service to facilitate the transaction, enhance customer satisfaction, and ultimately increase hotel revenue.

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Exploring Daily Deals as a distribution channel and potential driver of hotel performance: Evidence from Central Europe.

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Abstract

Daily Deals have been widely adopted in international hospitality industry, yet academically, they have only recently been considered a distribution channel and are still lacking a strong theoretic conceptualisation. While little is known about the managerial motivations, rationale behind their use, even less is known about their evaluation methods and impact on other distribution channels and hotel performance. Proposed doctoral thesis tries to address these issues and as such advance the knowledge on the multifaceted Daily Deal phenomenon.

Keywords: online distribution channels; daily deals; online travel agents; revenue management; hotel performance

Background

Online hotel sales nowadays already account for over 50 % of total sales globally (Bui, Jeng, & Lin, 2015; Phocuswright, 2016). Consequently, online distribution channels are becoming the key element in hotels´ quest for successful promotion, positioning as well as sales and revenue generation (Law, Buhalis, & Cobanoglu, 2014; Jiang, 2014). These Internet-enabled channels (e.g. e-mail, website) have, due to their efficiency, almost completely substituted the traditional distribution channels (O'Connor, 2002; Stangl, Inversini, & Schegg, 2016) that hotels had been using as intermediaries facilitating the sale and delivery of their services to the consumers (Buhalis and Laws, 2001) prior the arrival of the Internet.

However, despite having been considered a cheaper alternative to traditional channels, the rising popularity of the Internet in the early 2000s led to the introduction of various third-party websites as intermediaries to the distribution space. This, contrary to the expected sinking of distribution costs, meant the beginning of re-intermediation processes (Buhalis & Kaldis, 2008; Kracht & Wang, 2010), in which the OTAs (Online Travel Agencies) played a crucial role. These companies (such as Booking.com and Expedia) have become increasingly more powerful than hotels in terms of Internet readiness and economic force (Morosan & Jeong; 2008) and nowadays sell large shares (up to 80% in Germany) of hotels´ inventory (Stangl et al., 2016), thus putting pressure on hotels´ profitability by charging commissions of up to 20%. Therefore, driving direct bookings via the hotel website has been at the forefront of industry debates for years (Bookassist, 2016; Green & LoManno, 2012), yet the reality shows a constant rise in the share of bookings coming in through the OTAs,

which with their strong technology focus seem to further continue attracting additional online shoppers (Phocuswright, 2016).

Equally tech-savvy as the OTAs is the even newer phenomenon of DDs (Daily Deals; often also referred to as Flash Sale, Private Sales, Online Coupon or Flash Deal) that grew at a fast clip in response to the late 2000s recession. These start-up companies, while successfully combining advertising big discounts with the emerging social media (such as Groupon & Living Social), quickly added hotels to their inventory (Green & LoManno, 2012). Nowadays, many of such websites (such as Voyage Privé and Secret Escapes) are exclusively focused around selling hotels and travel. While DDs come in different forms and business models, their main characteristics are the limited deal size, limited deal availability time and the share of discount they offer compared to the normal market price (Parsons et al, 2014).

In distribution channel terms, DDs are a novel form of heavily discounted (usually around 30% below the market value/OTA & Website rate) intermediaries selling distressed inventory to customers who previously agreed to become members of the channel (Berezina et al, 2016). Despite its only recent positioning as a distribution channel in the academia (Berezina et al, 2016; Runfola, Rosati, & Guercini, 2013), the DDs model had already established itself in the industry and among customers; presently, many informed travellers regularly consult it while purchasing their hotel stays. As such, and in line with Pearce's (2008) needs-based model of tourism distribution, the DDs can support the implementation of revenue management and differential pricing strategies, while managing demand fluctuations. Although much has been written about the central role of the hotel website and the roles of OTAs as intermediaries, DDs have mostly been absent from the online distribution discussion.

Problem Definition

Diversifying the distribution mix is becoming crucial to achieve the timely and efficient distribution of hotel rooms. Therefore, revenue managers need to be familiar with a variety of distribution channels and multi-channel revenue management strategies (Berezina, Semrad, Stepchenkova, & Cobanoglu, 2016; Jiang, 2014). The three main types of online channels that are independent of previous advance allotment contracting and are thus flexible to being managed in real time are represented by the hotel website, the OTAs and the DDs (the last two being intermediaries). While the relationship between the OTAs and the hotel website has been explored thoroughly, it is yet unclear as to which exact effects the introduction of DDs to the online channel mix might cause. This is also evident from the recent research which shows the evaluation of DDs success is only vaguely defined (Berezina et al, 2016), while studies outside of tourism show conflicting evidence about the impact of DDs on firms' performance (Gupta & Keiningham, 2012; Dholakia, 2011). Even in practice, the DDs remains controversial by some advocating it and others calling it a "dumb managerial strategy" (Berezina et al, 2016;13).

Logically assuming, DDs should have a similar function to Anderson's (2009) OTAs "billboard effect", where the benefit of being listed on OTAs not only increases a hotel's booking volume, but also positively affects the performance of channels other than the OTA in question. The purpose of the thesis is thus to verify whether the DDs, by pushing the hotels' discounted offers to their subscribers' mailboxes, also produce positive "billboard effects" by making them more visible. As customers "actively seek, become anxious to read and disseminate the forthcoming deals" (Sigala, 2013: 168), this pull function of attracting new customers should also affect the hotel´s OTA listing and its website, thus making an impact on the hotel´s online sales performance and profitability as depicted in Figure 1.
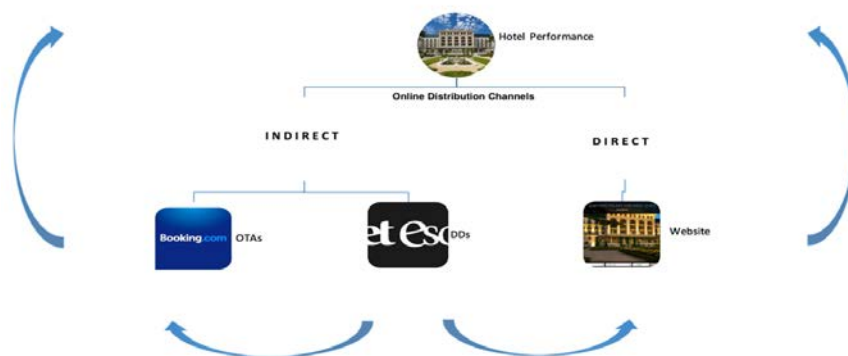
Figure 1. The DDs »billboard effect« on other channels and hotel performance

Conceptual Development

Theoretically the DDs are considered a multifaceted phenomenon to which theories from different disciplines including marketing, retailing, revenue management, consumer behaviour, supply chain management and ICT apply. For the purpose of this thesis, the DDs are studied through the prism of hotel managers. By using DDs, they pursue multiple objectives such as improving hotels' market exposure, optimizing the revenue generation and adopting emerging ICTs and thus they require multi-disciplinary understanding of the DDs phenomenon.

Study 1: Multi-disciplinary conceptualisation of Daily Deals in the hotel industry

While the multifaceted nature of DDs and the lack of relevant literature make them a challenging construct to put under the theoretic analysis, the study adopts the systematic approach and conceptualises DDs based on the key elements of their definition proposed by Berezina (2014), who defines the DDs as a discounted online inventory distribution and marketing channel. Extracted out of such definition, the key elements which include discounting, online distribution and marketing are to lead towards the distinct disciplines that should jointly be able to theoretically explain the DDs within the hotel management context.

Using the method of meta-synthesis, the purpose of this study is to explore the foundations of DDs and thus provide their theoretically sound multi-disciplinary conceptualisation. As such, the conceptualisation in order to provide holistic critical understanding of the DDs should integrate the knowledge of three distinct disciplines such as marketing, revenue management and ICT adoption, which are all integral components of a managerial function in the 21st century hotel. Such study should provide a further light on their exact nature, distinguishing features and implications of DDs that will be further explored in Study 2 and Study 3.

Study 2: Comparison of the use and performance evaluation of Daily Deals and Online Travel Agencies in European hotel industry

Since the usefulness of DDs is not perceived to be equal for all hotels (Cassia, Magno, & Ugolini, 2015), the managerial understanding, adoption, use and the evaluation of DDs success seem anything but uniform (Piccoli & Dev, 2012). While the OTAs have long been adopted as an often (over)dominant distribution channel, hotels' dependency on them also gathered significant attention (Inversini & Masiero, 2014; Stangl et al., 2016) and can thus provide a benchmark when it comes to understanding the managerial use and performance evaluation of the novel DDs channel.

The purpose of this study is to empirically explore how hotel managers adopt, use and evaluate the success of DDs in comparison to the sales-wise dominant and longer established and equally indirect channel of OTAs. This exploratory study, which uses the method of semi structured interviews with 10 to 15 European hotel managers, should uncover the main differences among the two channels and provide insights on DDs' distinguishing features and channel performance evaluation methods.

Study 3: Impact of Daily Deals on other online distribution channels and hotel performance: case study of a Slovene coastal hotel

Little is known about the outcomes and impacts of DDs on other channels in the online distribution mix and the financial performance of the hotel. As similar studies off the hotel sector provide conflicting evidence on the performance outcomes of using DDs, Sigala (2013) suggests conducting further research on the impacts of DDs use in the hotel setting. The final study thus seeks to analyse the "billboard effects" (Anderson, 2009) and pull factors of running DDs (Boon et al, 2012; Dholakia, 2011) on other channels (e.g. the website and OTAs) and the hotels' financial performance.

This (quasi)experimental study based on the case of a selected Slovene coastal hotel will explore the co-competition of 3 different distribution channels by analysing the causal relationship between the introduction of the DDs into distribution mix and the performance of other online channels. Specific questions addressed by this study are: Does running DDs increase the number of website visitors and reservations? Does it increase the number of OTA listing visitors and OTA generated reservations? Can DDs contribute to the improvement of the hotel's performance metrics such as occupancy levels, ADR, GOP and RevPAR?

Proposed Methodology

Due to the complexity of the DDs phenomena and the early stage state of literature dealing with them, qualitative elements of interpretation and exploration are necessary to advance the knowledge about DDs as a distribution channel (Berezina et al, 2016). Additionally, including the pluri-annual online distribution industry experience of the author to the research will enrich the study with elements of academic participatory action research as defined by O´Brian (2001).

Rooted in post-positivistic tradition, the thesis advocates methodological pluralism, based on the assumption that the method to be applied in a particular study should be selected based on the specific research questions (Wildemuth, 2015). Thus an exploratory research using a variety of methods ranging from desk-based meta synthesis (Study 1) to qualitative semi-structured interviews and thematic semantic analysis (Study 2), to (quasi)experimental designs in case study settings (Study 3) will be applied and contribute to the objectivity and necessary triangulation of the thesis.

Theoretical and practical implications

In terms of scientific contribution, the thesis advances the knowledge on hotel DDs by: 1) theoretically underpinning the DDs; 2) exploring DDs' performance evaluation and assessing their perceived managerial usefulness as a distribution channel; 3) comparatively analysing and benchmarking DDs against the OTAs; 4) analysing DDs impact on other channels and hotels' profitability. Theoretically, the thesis advances the following streams of literature: 1) online distribution; 2) revenue management; 3) hotel performance; 4) price promotions and online coupons; 5) channel conflict management.

Lastly, in terms of managerial applications, the thesis proposes practical guidelines to hotel managers who are currently experimenting with DDs without any strategic direction. It aims to make hoteliers understand how to use this channel in order to obtain long-term profitability as a pre-requisite for their sustainability and long-term competitiveness in the digital world.

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Exploring the roles of hosts' attachment and psychological ownership in an Airbnb host community

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Abstract

Sharing economy firms such as Airbnb have incorporated with non-employed service providers in an organisation-market hybrid business operation. The factors promoting peer-to-peer service providers' (Airbnb hosts') psychological ownership toward the organisation motivated our study. We suggest that the attachment is a primary contributor to a psychological ownership among Airbnb hosts. Specifically, we contend six theoretical antecedents increasing an individual host' attachment toward two entities (the Airbnb and the peer hosts). Moreover, this paper suggests a conceptual model of Airbnb hosts' attachment and psychological ownership, which influences their organisational citizenship behaviour in an Airbnb organisation. This proceeding paper may provide theoretical and practical implications to academicians and the sharing economy market leaders, respectively.

Keywords: sharing economy; psychological ownership; attachment; organisational citizenship behaviour; peer-to-peer business; airbnb hosts

Introduction

Newly invented peer-to-peer (P2P) businesses have built an innovative organisational structure: online platforms that are organisation-marketplace hybrids, outsourcing unique services without such obligations for hiring the providers or owning the goods (Sundararajan, 2014). P2P firms have declared that creating a new organisation where the firm and the providers share norms, visions, value creations, and experience, is crucial to their long-term success (Sundararajan, 2014). Airbnb, a foremost market leader, has initiated the very first step to build an organisational culture among their partners (hosts) by hosting Airbnb Open, an annual festival in November 2016 in Los Angeles (Airbnb, 2016). This Airbnb host conference in Los Angeles invites their 6,000 partner hosts to "preview Airbnb's future and give them a first look at new ways to host" (Airbnb, 2016). To facilitate a physical absence of the employees, sharing economy marketers require excessive studies in identifying the elements that influence non-employed service providers' attachment to the platform community. In accordance with this sense, this paper takes Airbnb hosts as a representative of the sharing market service providers and investigates their views, intention, and behaviours within a new organisational structure. Whilst the exiting research on the sharing economy has flourished particularly on Airbnb users' perspectives and their trust behaviours (e.g., Belk, 2013; Guttentag, 2013; Slee, 2013), this present research may be recognized as the first empirical investigation on attachment and behavioural outcomes of an individual service provider in the sharing economy marketplaces. Hence, the primary purpose of this paper is to suggest a conceptual model of the

mediating role of psychological ownership among Airbnb hosts who are attached to Airbnb and the peer hosts. This paper also aims to investigate theoretical antecedents influencing individual host's attachment toward two entities (Airbnb and peer hosts). Furthermore, this paper seeks to establish the behavioural consequences of Airbnb hosts (i.e., organisational citizenship behaviour) with a strong psychological engagement.

Literature Review

Attachment Theory

The existing social psychology literature identifies that attachment runs toward two directions in the community setting (Ren et al., 2012). The first flow of attachment is associated with group where individuals feel linked to a group's vision or value. The attachment in the second flow is related to interpersonal connection (bonds) where individuals strengthen personal relationships with other individuals within a group. In the study of Ren et al. (2012), various characters of a group, such as categorization, information, homogeneity, competition, familiarity, and intergroup communication, increase members' attachment to a group. In the individual attachment, factors such as personal information transparency, personal similarity, familiarity, and interpersonal communication encourage members' attachment to other individuals (Ren et al., 2012).

Psychological Ownership

Psychological ownership has been defined as a state of mind in which involves in "mine" rather than "theirs" (Pierce et al., 2003). For instance, when individuals are psychologically connected in ownership, the target of a possession becomes very delicate in the proximity, representing mine or ours (Anderson & Agarwal, 2010). Within an organisational setting, ownership individuals become a possessor of the firm that serves extensive motivation generated by the owner level of behaviours and enjoyments (Pierce et al., 2003). Increased psychological ownership for the job and the firm produces self-initiated citizenship behaviours (Pierce et al, 2003).

Organisational Citizenship Behaviour (OCB)

The theory of organisational citizenship behaviour (OCB) explains employees' going-beyond actions and positive behaviours dedicated to the co-workers and to the organisation that leads to employees' job satisfaction and a long run business success (Smith et al., 1983; Organ, 1998). Prior studies suggest two distinctive measuring subscales: OCBI and OCBO (Organ, 1998; Smith et al., 1983). OCBI refers to the dedication of the employees in which means that employees are engaged to perform positive citizenship behaviours toward their colleagues like adjusting work schedule for other peers, etc. (Lee & Allen, 2002). OCBO, on the other hand, refers to employees' devoting performance toward the organisation such as making suggestions to improve organisation (Lee & Allen, 2002).

Research Model and Hypotheses

As shown in Fig. 1, twelve hypotheses are to investigate hosts' perspectives on the relationships among constructs in the Airbnb host community context based on the theoretical work of both group and individual attachment by Ren et al. (2012).

Antecedents of Airbnb Attachment

The theoretical antecedents of attachment toward Airbnb (as a whole) offer a clear understanding of which factors influence on the attachment process of Airbnb hosts. This paper suggests three antecedents from the literature, which are information sharing, empowerment, and outcome expectations. The high level of information sharing in the community may result in members' progressive engagement (Ridings et al., 2002). In the similar regard, information sharing, in the present paper, refers to the high degree of transparency, honesty, and frequency of the company's information sharing with Airbnb hosts such as the company's vision, goal, value, news, or knowledge. Hancer and George (2003) studied perceived employee empowerment in the full-service restaurant setting, and the findings indicated that the high level of empowered employees tend to care more about what they do and how they do, which brings superior customer service and overall success of the firm. As being said, empowerment is one of the key elements of managing Airbnb hosts by authorizing them freedom of decision-making. As a result, empowered hosts may concern more about hosting quality and their guest satisfaction in which leads to the success of Airbnb as a whole. In addition, Bock and Kim (2002) explained that an individual behaviour requires the positive consequences because an individual seems to conduct oneself with self-interest. In this sense, Airbnb hosts expect to the outcomes to be beneficial return in various ways such as monetary rewards, social reputation, self-pleasure, etc. An increase in expected outcomes may enhance Airbnb host attachment toward Airbnb. Based on these ideas, hypotheses are as follows:

H1a: Information sharing is positively associated with hosts' attachment to Airbnb.
H1b: Empowerment is positively associated with hosts' attachment to Airbnb.
H1c: Outcome expectations are positively associated with hosts' attachment to Airbnb.
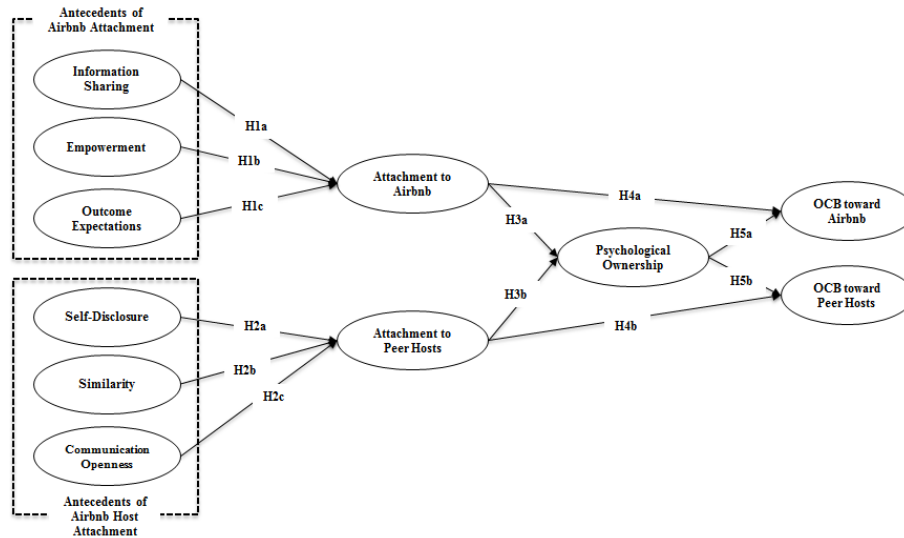
Figure 1. Research Model

Antecedents of Airbnb Host Attachment

This present paper also suggests three antecedents of attachment toward Airbnb peer hosts derived from prior literature that consists of self-disclosure, similarity, and communication openness. Dindia (2000) stated that self-disclosure, like sharing personal matters with other members, is one of foremost factors to build relationships among members in the community. Based on this statement, self-disclosure in this study refers Airbnb hosts' willingness to provide their personal information with other peer hosts in the Airbnb host community. Social studies speak with one voice that people easily adhere to others with similar traits in order for maintaining their self-esteem (Tijfel, 1972; Turner, 1982). Similarity in personal attributes or preferences among Airbnb hosts may increase attachment toward other peer hosts. Also, Smith (1998) mentioned that communicating frankly, honestly, and rationally is deeply associated with improving connection in a buyer-seller relationship. Following this guide, communication openness refers a continuous conversation among Airbnb hosts in a frank, trustworthy, and substantive manner. Thus, hypotheses are as follows:

H2a: Self-disclosure is positively associated with hosts' attachment to peer hosts.
H2b: Similarity is positively associated with hosts' attachment to peer hosts.
H2c: Communication openness is positively associated with hosts' attachment to peer hosts.

The Relationship between Attachment and Psychological Ownership

As aforementioned, individuals who are attached to either the Airbnb or the peer hosts serve their community to an auxiliary level wherein they perform the ownership

activities (Pierce et al., 2003; Ren et al., 2012). Therefore, this study proposes the two hypotheses as below:

H3a: *Hosts' attachment to Airbnb is positively associated with psychological ownership.*

H3b: *Hosts' attachment to Airbnb peer hosts is positively associated with psychological ownership.*

Organisational Citizenship Behaviours as a Consequence of Attachment

Based on prior literature of OCB, attached Airbnb hosts may perform the citizenship level of behaviours toward the Airbnb and the peer hosts (Organ 1998; Smith et al., 1983). We, therefore, propose the two hypotheses as below:

H4a: *Hosts' attachment to Airbnb is positively associated with organisational citizenship behaviour toward Airbnb.*

H4b: *Hosts' attachment to peer hosts is positively associated with organisational citizenship behaviour toward peer hosts.*

Organisational Citizenship Behaviours as a Consequence of Psychological Ownership

Moreover, Airbnb hosts who are committed to high level of psychological ownership may carry out citizenship behaviours toward the Airbnb as well as the peer hosts (Pierce et al., 2003). Hence, the two hypotheses are proposed as follows:

H5a: *Psychological ownership is positively associated with organisational citizenship behaviour toward Airbnb*

H5b: *Psychological ownership is positively associated with organisational citizenship behaviour toward peer hosts.*

Research Methodology

The survey will be conducted in five cities in the U.S. These top five cities are New York City, Los Angeles, San Francisco, Miami, and San Diego in which the high number of active Airbnb bedrooms lists in the Airbnb markets (Statista, 2016). The online questionnaire will be established in English for the target audience with an R-programmed message by utilizing a direct email function appeared on the Airbnb host web page (R version 3.3.1). The collected data will be analyzed using PLS (partial least squares, PLS-Graph version 3.0) with structural equation modelling (SEM) for effective analysis.

Expected Implications

Our study suggests a conceptual model of hosts' attachment and psychological ownership in an Airbnb organisation by integrating the theory of attachment (Ren et al., 2012) and psychological ownership (Anderson & Agarwal, 2010). This theoretical investigation in the sharing economy may be the first empirical attempt and will produce various research opportunities to identify the sharing phenomenon more

precisely in the organisational level. Moreover, the theoretical antecedents of attachment toward two entities (Airbnb and peer hosts) will offer diversified and appropriate managing approaches of individual hosts in the Airbnb organizational setting. Finally, this paper will capture the hosts' attitude and behavioural intention simultaneously generated by the intermediary role of psychological ownership in the participation of Airbnb. In addition, this paper will provide practical implications for P2P practitioners in the operational management of service providers in the sharing business practices. This study will suggest how the non-structured organisations shown in the most sharing businesses establish the organisation level of attachment and engaged organisational behaviours with their non-employed service providers in order to achieve long-term business goals and also will emphasize the importance of the relationship enhancement between P2P business holders and individual service providers by providing organizational level of support.

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Using Gamification as a Relationship Marketing tool in order to retain customers in 5 star hotels

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Abstract

Through the new elements of game design and game thinking gamification has created new dimensions as a loyalty marketing tool in a lot of industries. Thus, gamification is helping organizations engage external stakeholders in customer loyalty, marketing, education and innovation initiatives. Due to its impact on consumers' loyalty it is seen as a revolutionary change in business. Therefore, this research is focusing on the phenomenon on gamification as it is seen as phenomenon worth investigating and applying in the hospitality industry.

Problem Definition

Gamification is a major trend for the coming years in tourism (WTM, 2011). Chaffey and Ellis-Chadwick (2012), strengthen this opinion by placing gamification as 6th trend of the future in marketing and mobile marketing as 10th. This research aims to combine the two trends in benefit of hospitality industry. Hotel industry has long been recognized as one of the most "globalized" industries in the service sector (Qi, 2016), and the Internet has been a key factor in this globalization process, and hotel websites have become indispensable (Qi, 2016). For example, social media as Internet-based applications allow the creation and exchange of user-generated content completely reshaping the way tourism-related information is distributed and the way people make plans to travel (Garcia-Pablos, et al, 2016). Thus, it is assumed that a hotel gamified application is likely to be successful as a marketing tool as it combines these factors in the benefit of hospitality industry.

Moreover, gamification combines the element of fun (pleasure), and as Zicherman & Linder (2010), argue games are about pleasure and pleasure is the new marketing (an extreme dimension of marketing). As digital games are fun, engaging, and popular, many organizations such as schools, military units, companies and health-care organizations, are using games to engage online customers (Dickey 2005; Stapleton 2004), hospitality industry should follow that pattern. Considering that hospitality industry (similar to other service industries) is trying to survive under conditions of high competition (Tesone, 2008), it becomes even more pertinent to understand the benefits and caveat of the gamification phenomenon. Gamification is a modern trend (Buhalis & Law 2014; Yagelski, 2014; World Travel Report, 2013), and this research would aim to explore gamification and the effectiveness to the hospitality industry in 5 star hotels.

Despite the fact hotel's image is believed to play an important role on a customer's decision making (Kandampully & Hu, 2007); nowadays hyper competitive global economy has intensified the importance of identifying further factors that will provide brands with long-term competitive advantages (Kandampully & Hu, 2007). Hotel companies are targeting to attract, retain customers using a variety of loyalty programs and providing a wide range of quality services to meet customer preferences (European Consumer Centre, 2009). For the purposes of this research gamification is going to be applied in 5 star chain hotels, as it is a part of the hotel industry

recognised as global with consumers and producers spread worldwide (Kandampully & Suhartanto, 2000). Furthermore, hotel facilities such as rooms, bars, restaurants and health clubs no longer considered as luxury (Kandampully & Suhartanto, 2000), giving the opportunity to a hotel gamified application to grow.

Literature Review

The actual term of gamification first appeared in 2008 (Deterding, 2011; Kirsh, 2014; Harbert, 2014; Huotari & Hamari, 2012) and has gain popularity since 2010 (Epstein, 2013; Kirsh, 2014). The most popular definition of gamification is the use of game design elements in a non-game context (Kirsh, 2014; Deterting, 2011; Swan, 2012; Kinver, 2013; Van Grove, 2011). In fact, this definition seems to be very generic. Gamification has been described as the use of game-based mechanics aesthetics and game thinking to engage people, promote learning, motivate action and solve problem (Kirsh, 2014). Also as the use of game design mechanics to influence people out of a game context (Al-Zaidi, 2012).

Gamification has been applied with several objectives, ranging from increasing brand awareness to encouraging consumer engagement (Garcia, et al, 2016). Hotel companies are targeting to attract, retain customers using a variety of loyalty programs and providing a wide range of quality services to meet customer preferences (European Consumer Centre, 2009). Taking this in consideration and since hotel industry is a business that is growing rapidly (European Consumer Centres' Network, 2009), gamification should be used as a loyalty program to retain customers. The use of gamification can be elevated by the increase opportunities that technology has created nowadays, and since technology and tourism have worked in tandem for many years (Tanti & Buhalis, 2016), it could be assumed that gamified hotel applications have every opportunity to grow in the environment of hospitality as well.

Gamifying an experience, tends to attract more customers, inform customers about new products or services, higher level of brand engagement and increased brand awareness (Sanghi, 2016). The Holmenkollen Ski Jump by Visit Norway, Geneva's gamified campaign and Stockholm Sounds are examples of how gamifying experiences can help raising awareness, use brand development purposes and creates truly immersive and digitally enhanced tourist experiences (Digital Tourism Think Tank, 2014). In the tourism and travel industry, the inclusion of gamification elements is applied at all stages of the travel cycle (Digital Tourism Think Tank, 2014) and as such is going to be seen for the purposes of this research.

Considering that hospitality industry (similar to other service industries) is trying to survive under conditions of high competition (Tesone, 2008) (such as globalization and Web 2.0. (Aicher, et al, 2016)), it becomes even more pertinent to understand the benefits and caveat of the gamification phenomenon. Developing customer loyalty is nothing different than creating a new product that requires detailed planning, concentrated work and should be taken very seriously (Butscher, 2002). Relationship marketing is not new, though majority of companies have not comprehended its fundamental ideas such as to create a company-customer relationship not built on factors like good prices, but also on emotions; feeling of being treated as special customer, knowledge of getting better deals and trust being built up on successful projects (Butscer, 2002). Thus, a hotel gamified application could be used as marketing strategy based on company-customer relationship could as it can create a relationship between the customer and the company out of the gameplay form and the game mechanics increasing memorable and enjoyable experience for hotel visitors.

As a new technology application it is going to be applied on Technology Acceptance Model to measure customers' intention to use. Technology Acceptance Model predicts intention to use technology out of the two variables of perceived usefulness and perceived ease of use. Perceives ease of use reflects an individual's assessment of the ease of use and ease of learning of a given system (Murray, 2006). Perceived usefulness is significantly correlated to intention to use and self- reported usage and it can be explained by nothing that if the system is easy to use, the user may find the system more useful therefore has a motivation to use it (Khosrowpour, 2003), explaining also the importance of perceived ease of use as a motivational factor itself. Furthermore, TAM model has recently been used in order to explain the importance of perceived enjoyment as a variable affecting intention to use of technology. Papers by Bruner II & Kumar (2005) and van de Heijden (2003) incorporate a hedonic factor into TAM and treat it as an endogenous variable for greater predictive power (Liao, Tsou & Shu, 2008).

TAM model has been used in order to predict intention to use according to the needs of the research. For example, Liao, Tsou & Shu (2008) developed a model to predict and explain consumers' intentions towards adopting information system based on the TAM model developed by Davis (1989), but they incorporate two underlying constructs of perceive enjoyment and price perception into the original TAM model in an attempt to add their knowledge by undertaking an in-depth conceptual and empirical examination. Perceived enjoyment has also been by (Nguyen, 2015) in a similar topic which was understanding perceived enjoyment and continuance intention in mobile games. Furthermore, variables such as perceived credibility (trust-related construct), perceived self-efficacy (resource-related constructs) and perceived financial resources have being added to the TAM model in order to measure consumers intention to use mobile commerce in Taiwan by Lin & Wang (2005). More examples of external variables could be seen by Tsai (2012) (brand and service brand in user's attitude towards using e-Books) and Alharbi & Drew (2014) (Job relevance, Lack of LMS availability and LMS usage experience in Intention to use Learning Management Systems. As it is seen TAM model has been used to measure similar topics such as intention to use mobile games, but it has been used in order to track a hotel gamified application.

Conceptual Development

One of the objectives of this research is to identify the motives of individuals' when they use a hotel gamified application. The tourism industry is inundated with tourists who have diverse profiles and choose to spend their time in different ways when visiting urban destinations (Kellner & Egger, 2016). In the same point of view, tourists or hotel visitors may have diverse profiles when they choose to use a gamified application. Thus, a qualitative research will be designed to give a better understating related to these motives (about why individuals would use a hotel gamified application) in order to make it successful. Furthermore, this research aims to identify what is enjoyment element for hotel visitors when they using a gamified application, in order to understand what is the element of fun for an individual. Even though it is within human nature to like games, not everyone likes the same kind or style of games (Killian, 2013). It is possible to design games, serious games or gamified systems without who the target players and users are, but it is more likely to create a more engaging experience when the target players are identified first (Marczewski, 2014). In the same point of view not every hotel gamified application will be successful unless it identifies hotels' gamified application users' characteristics first.

Even though research has been done and explained upon the motives of individuals when they play games, similar research upon the motives of individuals' when they

use gamified applications has not been done yet. Richard Bartle has conducted research in the areas of game design and game development, as well as explored players' personality types for massively-multiplayer online games and he is best known for his theory on game participant psychology which classifies players based on their gaming preference (Choo, 2014). Abstracting the various points that had been raised a pattern emerged; that individuals, habitually found the same kinds of thing about the game and that was the element of "fun". Indeed, the most important factor that the designer should identify when staring to work on a game is what will be the fun element for the player during the game (Moore, 2011) and since fun is subjective there are so many different features that must go into a game to make it fun (Dunniway & Novak, 2008), therefore Bartle (1996) identified four characteristics of individuals (as players), were the element of fun seemed to superior in specific activities in the game based on player's profile. The four activities were achieving, exploring socialising and imposing upon others. Most individuals leaned at least a little at all four, but each tended to have some particular overall preference (Bartle, 1996).

Proposed Methodology

Aim: The aim of this research is to investigate the different gamified application user, in order to discover which game mechanics are more appropriate and appealing to different type, for the use of gamified applications in order to improve customer loyalty in the context of hospitality industry.

Objectives: Identify what gamification is

- To identify the motivations of users to play games
- To understand what fun means for different users
- To identify the motivations of users to use a hotel's gamified application
- Identify which game mechanics are most appropriate for each player type
- Investigate how the link of game mechanics with each player type improves intention to use a hotel gamified application

Phase 1:

Objective: To understand what fun means for different users

For the purposes of this phase semi-structure interviews have been designed in order to identify why individuals would use a hotels gamified application. The element of fun is of course the element to take into research as it seems to be the most important motivators of why individuals would play games, but this research goes beyond that, in order to understand what fun mean to individuals when they are using the application in order to try to explain the motivators behind individuals intent of use it. Furthermore visual material has been prepared for the interviewees to have a look and an idea of how a hotel gamified application would look if it was in existence today based on the current definitions of gamification, therefore the results of this research are only applicable to a hotel gamified application and not gamified applications in general.

Phase 2:

Objective: Investigate how the link of game mechanics with each player type improves intention to use a hotel gamified application

Quantitative research is about explaining relationships between variables (Nykiel, 2007); therefore, it will be used in order to identify which motivators are more appealing for different types of players. According to Thomas (2003), quantitative research uses numbers and statistical methods and it tends to be based numerical measurements of specific aspects of phenomena and it abstracts from particular instances to seek general description or to test causal hypotheses; therefore, in this phase it aims to find out if the findings from Phase 1 are generalizable to a larger sample.

Phase 3:

Objective: Investigate which variables can affect Intention to Use hotel gamified application

A quantitative research is going to be conducted. The reason behind phase 3 is to test the hypothesis as they will be developed in the conceptual framework. The resulting model will include constructs deriving from motivation as well as technology adoption theories, together with constructs introduced by the findings from Phase 1 and 2. For the purposes of this phase TAM model is going to be modified and tested. This model is going to be examined in the concept of intention to use a hotel gamified application, but two more variables are going to be added in this model (trust and rewards) as they have emerged to be important variables towards intention to use a hotel gamified application.

Theoretical and practical implications

Contribute to the definition of fun and enjoyment.

Identify what is fun when using a hotel gamified application.

Identify if there is a relationship between gamification and relationship marketing in the context of hotels.

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Travellers' Perceived Risk and Uncertainty in the Sharing Economy

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Abstract

One of the negative aspects of the sharing economy is a situation with risk and uncertainty. In this research, we focus on the reasons why people participate even though they face with risky and uncertain situations and on the benefits which influence the relations among these factors mutually. Consequently, the results will suggest how perceived risk and perceived uncertainty influence travellers' risk-taking behaviours and will demonstrate how travellers' concerns regarding potential risks are affected by perceived economic and social benefits.

Keywords: sharing economy; perceived uncertainty; perceived risk; risk taking; social exchange theory

Problem Definition

With the support of online social network platforms, the sharing economy has flourished as a new socioeconomic system. It shares access to idle resources (e.g., bedrooms and cars) and even changes the value of consumption from ownership to sharing (Tussyadiah & Pesonen, 2015). At the same time, however, it has ineligible obstacles leading to worries and fears about participating in sharing economy systems. To overcome these concerns, companies set up regulatory policies and systems to avoid situations that could involve perceived risk (PR) and perceived uncertainty (PU). Though there are expectations about high potential of peer-to-peer (P2P) market, simultaneously with its growth, regulations have been developed due to the increased concerns. Thus, it is timely and necessary to investigate how those unfavourable issues influence user behaviour. It should be noted that there are many ongoing issues, for example, as regulations, tax problems, and unfavourable public notions because the sharing approach has recently been a professional business model.

PR and PU have mainly been investigated in the literatures about travel (Sirakaya & Woodside, 2005). But there have been a limited number of studies in relation to the rapidly developing P2P marketplace (Quintal et al., 2010). As a result, we investigate the impact of PR and PU in the sharing economy. We will explorer why people are highly motivated to rent in situations with risk and when they confront against suspicious and less reliable services. We have research questions whether economic or social benefits reduce the level of PR and PU. The sharing economy facilitates travel that is more accessible and offered at a better price. It also provides travel with unique and authentic experiences. Several features can affect the relationship between PR/PU and risk-taking behaviour.

For P2P businesses in the sharing economy context, we attempt to quantify how closely risk-taking behaviours are related to concerns regarding risk and uncertainty (Sirakaya & Woodside, 2005; Quintal et al., 2010) on the one hand and, to economic benefits and social benefits (Botsman & Rogers 2011; Bardhi & Eckhardt 2012; Owyang 2013; Guttentag 2015) on the other hand.

Literature Review

Sharing economy

The success stories of Airbnb and Uber brought the concept and system of the sharing economy (SE) to our attention. These two businesses have transformed the hospitality and travel industries and have even shifted current business paradigms. The SE is also known by other labels such as collaborative consumption, peer-to-peer commerce or access-based consumption. Belk (2014) defines collaborative consumption as "people coordinating the acquisition and distribution of a resource for a fee or other compensation" (p. 1597). Tussyadiah and Pesonen (2015) describe the SE as "a new socioeconomic system that allows for shared creation, production, distribution, and consumption of goods and resources among individuals" (p.1). Additionally, studies indicate that the motivations for engagement with the SE are related to economic benefits (i.e., low cost) and social benefits (i.e., satisfaction from social connections) (Bardhi & Eckhardt 2012; Guttentag 2015). Moreover, Botsman and Rogers (2011) suggest that SE engagement is related to motivations beyond cost savings.

According to the previous studies, the SE has several characteristics: (1) it changes consumers' attitudes towards consumption, (2) it is based on P2P relationships, and (3) it involves uncertain contexts and risky situations. Firstly, before the SE emerged, consumption meant 'ownership', implying a relationship between owner and object (Belk 2010; Bardhi & Eckhardt 2012). In the SE, consumers' values are transferred from ownership to use or access after they experiencing the benefits of SE. Secondly, P2P relates to collaborative activities between users such as consumer-to-consumer exchanges; therefore, P2P is equal to 'relationship', and peer functions as a key role in the SE context (Belk 2010). Lastly, a transaction with strangers in a P2P situation involves economic risks, and SE platforms include additional risks (e.g., physical attack or sexual assault) because users should expose themselves to a face-to-face interaction situation (Ert at el., 2016). Most importantly, SE platforms have considerable limitations including a lack of regulation, tax problems, and absence of business licensing models (Owayng, 2013). Therefore, the SE continuously encounters uncertainty and risk, though SE platforms provide both economic and social benefits.

Social exchange theory

The SE concept can be explained by social exchange theory (SET). Costs and benefits are two main factors. SET explains human behaviour in terms of the dynamics between people in a social interaction; for example, participating and maintaining relationships are sustained under a condition when rewards are expected (Lambe et al., 2001). In general, individuals decide to participate or not in an exchange process after they estimate their psychological as well as economical rewards and costs. They join the relationship when the benefits seem to exceed the costs (Nunkoo & Rankisson, 2012). Therefore, we propose that SET is appropriate for the SE context.

Perceived risk and uncertainty

Bauer (1960) describes the concept of the relation between risk and uncertainty with two viewpoints. In the first one, risk and uncertainty are considered as the same construct, in which PR is related to an individual's subjective feeling of uncertainty and PU functions as a criterion of risk (Quintal et al., 2010).

The other suggests a distinction between risk and uncertainty: risk is defined as a state in which the number of negative event happens more often than usual (Stone & Gronhaug, 1993), while uncertainty is described as a situation in which anything could happen and no one knows what will happen (Hofstede, 2001). This complexity

has not been investigated thoroughly yet. In our study, distinctive definition between risk and uncertainty was chosen: we define PR as a subjectively determined expectation about probable loss (Dholakia, 2001), and PU as a subjectively determined expectation of ambiguity about a potential loss (Becker & Knudsen, 2005). We investigate this relation of PR and PU, which plays a pivotal role in determining whether to engage in the SE context.

Conceptual Development

We develop a research model with SET in the emphasis on the benefit and cost interaction in a context of PR and PU. PR and PU are suggested as independent variables that determine risk-taking behaviour. In addition, economic and social benefits will regulate both of the relationships between the independent and dependent variables. Risk propensity represents the personality traits that determine a person's willingness to take or avoid a risk (Cho & Lee, 2006). Risk propensity is regarded as a control variable in this study. Figure 1 below shows the overall research model.
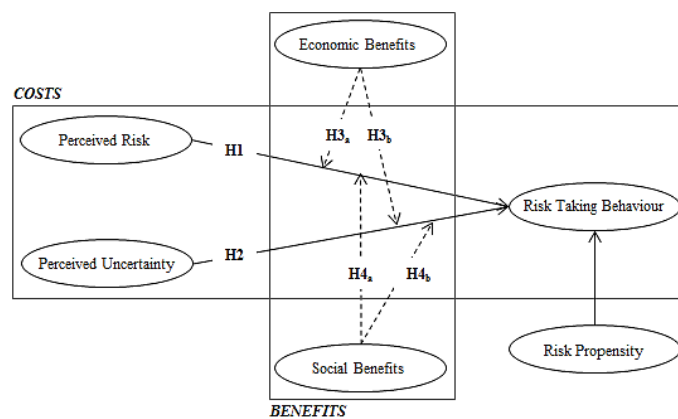
Figure 1. Research model

Perceived risk

Various incidents have occurred involving Airbnb users including physical and sexual assaults by a business host (Lieber 2015a; Lieber 2015b). These examples indicate that SE users are exposed to potential crimes including physical risks as well as economic losses. As PR is a crucial factor in the SE, enterprises apply regulation systems to reduce PR and to encourage risk-taking among consumers. Review system by former users displaying the reputation of providers is an example of PR regulation. If users have doubts about the reliability of a SE operation, they will hesitate or stop to choose the business. We hypothesize:

H1. Perceived risk negatively impact risk-taking behaviour in the sharing economy.

Perceived uncertainty

Kahnemen and Tversky (1979) note that reference-dependence is a criterion or factor that influences risk-taking behaviour. Individuals rely on comparisons to judge risk taking, and those comparisons are based on references that function as an important source for calculating perceived gains and losses (Baucells & Rata, 2006). SE enterprises are faced with uncertain situations including unestablished regulations, unresolved tax issues, and unfavorable public notions as a questionable business model (Owayng, 2013) as well as uncertain issues in e-commerce such as online

transactions. These companies have developed refund systems because of reducing damages of uncertain situations. PU, however, is a key factor for consumers' willingness to participate in online transaction (Yang et al., 2016). Therefore, individuals faced with risky situations may review references as much, and if there are lack of references, they may be reluctant to engage in risk-taking behaviour. Thus, we hypothesize:

H2. Perceived uncertainty negatively impact risk-taking behaviour in a sharing economy.

Economic vs. Social Benefits

Rewards act as a major motivation for human behaviour in social systems (Vallerand 1997). When individuals share their own resources in a social situation, people consider reward and loss together (Lee, 2013). As previously mentioned, the decision regarding whether to engage in a risky situation or behaviour is determined with two main criteria: potential rewards and losses (Skeel et al., 2007). The balance between these two factors is essential for decisions related to risk taking. The potential rewards are revealed to be economic and social benefits for users who voluntarily participate in risky situations (Botsman & Rogers 2011; Bardhi & Eckhardt 2012; Owyang 2013; Guttentag 2015). Therefore, economic and social benefits provide moderate influences on the relation between PR/PU and risk-taking behaviour. Thus, we hypothesize:

H3a. Economic benefits positively moderate the relationship between perceived risk and risk-taking behaviour in the sharing economy.

H3b. Economic benefits positively moderate the relationship between perceived uncertainty and risk-taking behaviour in the sharing economy.

H4a. Social benefits positively moderate the relationship between perceived risk and risk-taking behaviour in the sharing economy.

H4b. Social benefits positively moderate the relationship between perceived uncertainty and risk-taking behaviour in the sharing economy.

Proposed Methodology

The data will be collected using an online survey regardless where respondents have used SE. Survey targets respondents who have had at least one experience as a guest of Airbnb or Uber during their travel. The participants will be asked to respond to a questionnaire based on their experiences using the SE. To ensure the instrument's reliability and validity, the measurement items in each factor are developed based on prior studies, and some of them are modified for the context of the SE.

Theoretical and practical implications

We focus on a negative side of SE with PR and PU as well as positive aspects while prior researches investigate mainly about affirmative effects of SE. The first theoretical implication is that this study will investigate how negative perceptions affect risk-taking behaviour in the context of the economic and social benefits of the SE with social exchange theory. We will propose a novel approach in which PR and PU influence risk-taking behaviour of consumers and reveal that their concerns with

respect to risk-taking behaviour are reduced by benefit factors. Secondly, we try to investigate the relation between PR and PU which are still controversial.

Recently, travellers have a tendency regarding PR (e.g., physical harm due to a suicide bombing or a shooting in public without motivation) and PU (e.g., expected service level problem) as important. Regarding practical implications, in this research, we will demonstrate to what degree a consumer perceives risk and uncertainty when sharing resources with a total stranger, the relationship between losses/ rewards and risk-taking behaviour, and, finally, which type of benefit is the most effective one at encouraging risk taking. Furthermore, we will offer practical suggestions to SE corporate managers about how to induce participants to choose the SE based on our conclusions.

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Tourist Acceptance of Augmented Reality (AR) Application in Langkawi Geopark, Malaysia

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Abstract

Mobile technology is one of the noble elements in the competitive tourism industry. In geo-tourism as one of the categories of tourism that can protect cultural and natural heritages in a sustainable way, mobile technology will increase tourists' perception of geological heritage. In this vein, augmented reality (AR) as an emergent technology will enhance the visitor experience in geo- sites in an immersive approach. Evaluating behavioural intention among tourists with various cultural backgrounds in a melting pot destination is the main focus of this research.

Keywords: augmented reality; culture; tourists acceptance; Langkawi Geopark; mobile technology

Problem Definition

Although visitors generally realise that AR technology is interesting and useful, it seems that still main limitations such as substantial effort in using and managing mobile AR technologies by the users prevent user acceptance of this technology. However, every contemporary technology has the potential to fulfil the limitations and, therefore, a coming evolution of technological application in the tourism industry can be augmented reality smart glasses. AR smart glasses are also one of the new concepts in wearable technologies that are utilised to refine individuals' experience not only in tourism but also in other industries such as medical visualisation (Fischer, Eichler, Bartz, & Straßer, 2007), entertainment (Klopfer & Squire, 2008), and construction (Wang, Kim, Love, & Kang, 2013).

In early stage of advancement in AR smart glasses, merely few studies concentrated on this issue in tourism context (Leue, Jung, & tom Dieck, 2015; Tscheu & Buhalis, 2016; Tussyadiah, 2013). While, these studies asserted that wearable technologies would have an influential impact on tourism business, still limited studies are considering determinants of visitor's intention to accept AR smart glasses in tourism destinations.

Moreover, for studying human behaviour (i.e. tourists' intention to accept AR smart glass in Langkawi Geopark for this research), it is crucial to consider individuals' differentiation in terms of cultural values. Previous research for the use of technology in tourism context with a focus on the role of culture has considered two or more countries in their studies (Besbes, Legohérel, Kucukusta, & Law, 2016; Lee, Chung, & Jung, 2015). Although Minkov (2013) asserted that for the study of countries such as Malaysia with various ethnic groups and religions it can adopt the concept of national culture, research on human behaviour requires to focus on individuals' characteristics instead of cultural index values for countries . Therefore, evaluating individual's cultural differences for technology acceptance study (Srite & Karahanna, 2006) is required to gain rational outcomes.

Literature Review

Geotourism and Technology

Recently geological heritage and geodiversity attract the number of people who want to experience and are curious about natural and cultural heritages (McKeever & Zouros, 2005). In geotourism, visitors' perceptions of geological heritages will amplify with interpretive characteristics (Newsome & Dowling, 2010).

AR Smart Glass in Tourism

The necessity of users' physical presence in the place that the special functions are available for them, is the main characteristic of AR which is obtained by portable devices (Azuma, 1997). Existing technologies also have a few constraints. For instance, the user has to look down at the device when navigating with tablet or smartphone and has to link the virtual map in a device with the perceived reality (Tussyadiah, 2013). Likewise, researchers conclude that smart glasses and other wearable devices will impact business operations and visitors' experiences within tourism industry (Fountoulaki, Leue, & Jung, 2015).

Theory of Planned Behaviour (TPB)

Wide applicability and robustness are the advantages for the TPB that enable adapting this model in various fields of research. One of the dominant areas which theory of planned behaviour performs as the theoretical base is in technology adoption research. In such studies, the TPB considers individual's responses to technology, such as cloud software adoption by firm owners (Salim, Sedera, Sawang, E Alarifi, & Atapattu, 2015), and behaviour on social networking sites (Kim, Lee, Sung, & Choi, 2016).

Culture and Technology Use in Tourism

Cultural values, specifically different individual's cultural backgrounds, are marked as a variable which is incorporated into studies that focus on innovation in tourism (Chris Choi, Cho, & Kazda, 2010). Most of the studies have adopted the role of culture in technology behavioural intention in the level of countries. Lee, Chung, and Jung (2015) examine AR applications in cultural heritage tourism destinations by utilising an extended technology acceptance model.

Conceptual Development

Determinants in Conceptual Framework

Theory of planned behaviour is the model which is considered on human behaviour and according to Ajzen (1991), the actual behaviour can be predicted from the strong or weak intention to engage in the specific behaviour. Therefore, by evaluating the intention to perform behaviour and major determinants that lead to enhancing such intention for individuals, post-behaviour can be envisioned. The intention to perform the specific behaviour in TPB relies on the 3 main determinants, attitude, subjective norm, and perceived behavioural control as well as their antecedents which are known as behavioural beliefs, normative beliefs, and control beliefs (Ajzen, 1991).

Moderating Role of Culture

Srite and Karahanna (2006, p. 679) asserted that "behavioural models do not universally hold across cultures". Main tourist destinations comprise domestic and international tourists with diverse cultural backgrounds. The essence of individuals' cultural value lead to further actions such as attitude, cognition, and actual behaviour (Straub, Loch, Ev Aristo, Karahanna, & Srite, 2002). Srite and Karahanna (2016) assert that the dominant role of family and peer groups for behavioural intention is stronger among individuals with feminine cultural value comparing to masculinity traits. Likewise, among individuals with higher power distance as well as people with collectivist cultural beliefs, the influential role of social norms and their opinion for a behavioural intention are more powerful instead of the opposite dimensions, individualism and low power distance (Srite & Karahanna, 2006). Figure 3 is demonstrating conceptual model and main hypotheses for the research.
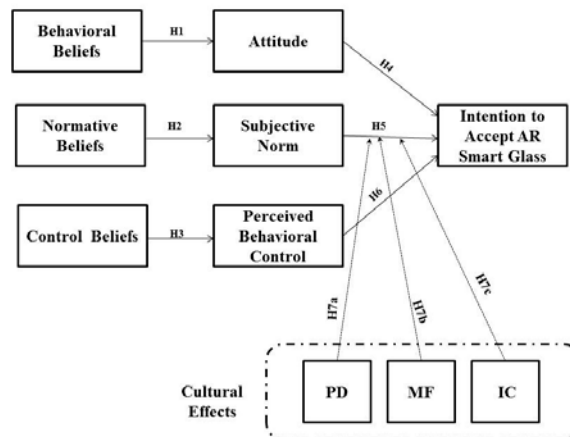
Figure 3. Conceptual model and hypotheses
Note- PD (Power Distance), MF (Masculinity/ Femininity), IC (Individualism/ Collectivism)

Proposed Methodology

The quantitative approach was considered in this study to examine the relationship among variables in objective theories (Creswell, 2013). The survey for this study was selected with paper and pencil questionnaire approach which is the popular instrument in similar research projects that study culture within various nationalities (Minkov, 2013). In addition, a descriptive short demo video clip of AR smart glass was edited and demonstrated to tourists before responding the questions in the survey. The final place for conducting the main survey was selected in Langkawi interpretive centre. In this centre, information about Langkawi geo-sites as well as cultural and geological heritage is available for visitors. For the proper sampling method for visitors that come to a place, Blair and Blair (2015, p. 181) discuss for an additional method of sampling as the "intercept samples" that was adopted in this study. Data analysis technique for evaluating conceptual model was structural equation modelling (SEM) with Amos software.

Theoretical and practical implications

The first theoretical implication connects with a trend towards theory building for AR wearable smart glass. Thus far, various studies scrutinise the acceptance of smart glasses among consumers (Rauschnabel, Brem, & Ivens, 2015), managers (Hein & Rauschnabel, 2016), and visitors in museums (Cranmer, Jung, tom Dieck, & Miller, 2016; Tomiuc, 2014). In this vein, most of the studies focus on exploratory research

design or on technology acceptance theories. Although studies that focus on technology acceptance theories report issues for proving the initial theory, still some studies that considered smart glass adoption in different themes (Rauschnabel, He, & Ro, 2016) could not replicate the impact of perceived ease of use as an important determinant for adoption of smart glasses (King & He, 2006). Therefore, for this research considering the general theory that focuses on human behaviour under volitional control such as the theory of planned behaviour (TPB) which determine the salient factors that affect individual's intention to perform a specific behaviour (i.e. intention to accept AR wearable smart glass) is assumed. On the other hand, since tourism destination is hosting visitors with various cultural backgrounds, the importance of exploring the role of individual cultural values and their impact on tourists' intention to accept AR wearable smart glass in Langkawi Geopark should be noticed. The contemporary mobile technologies like AR application with various characteristics such as being an interactive tourist guide (Fino, Martín-Gutiérrez, Fernández, & Davara, 2013) could enhance visitors' experience in Langkawi Geopark. Hence, adopting AR application will contribute to the Langkawi's tourism industry and enhance tourists experience in a way that Langkawi become a renowned destination for its novelty among tourists.

Discussion

This research was conducted to examine determinants of tourists' behavioural intention and its antecedents (attitude, subjective norm, and perceived behavioural control) to accept AR wearable smart glass in Langkawi Geopark. Moderating relationships were the contributions to this study that considered additional characteristics which have an impact on the predictors in proposed TPB framework, a theory that aids to envision of tourists' intentions and behaviour (Ajzen, 2015) in addition to offering practical aspects in the field of tourism. From the main determinants in the TPB model, the significant role of subjective norm on intention to accept AR wearable smart was justified. The moderating role of culture demonstrated the significant interaction moderation effect of masculinity/ femininity on the relationship between subjective norm and intention to accept AR wearable smart glass. Likewise, the moderation effect for power distance was supported in a similar pattern.

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Modelling Tourism Destination Competitiveness Using Big Data Analytics

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Abstract

Big Data Analytics is the process of analysing and examining large volumes of data sets to unveil hidden patterns, unknown correlations and other useful information. A number of researchers and practitioners have pointed out that Big Data will transform business, government, and other aspects of the global economy in the near future. As a result, the issue of Big Data appears to be high on the agenda in both developed and developing worlds. However, while there is a growing interest in utilizing large volume of user-generated data to gain insights into development problems (such as the sustainable development challenge) that has not been well understood by conventional methods; the application of the Big Data Analytics approach in the development sector is yet to be well developed and established. As such, whether we can develop a novel and meaningful insights into development problems using Big Data Analytics becomes an intriguing research question. To this end, the goal of this PhD research is to design and develop a model of tourism destination competitiveness and an associated set of indicators using Big Data Analytics. The proposed research will therefore contribute knowledge to the better understanding of Big Data Analytics and its role for tourism development.

Keywords: big data analytics; sustainable tourism development; destination competitiveness; user generated content; Ethiopia

Problem Definition

In present scenario, tourism development is widely acknowledged as a fundamental component of any strategy to fight poverty and unemployment problems in developing countries. Particularly, sustainable tourism has been identified as a priority sector for development and poverty reduction in more than 90 percent of Least Developed Countries (LDCs) including Ethiopia. According to the World Travel & Tourism Council (WTTC) latest report (WTTC, 2016), developing and emerging countries, excluding China, achieved earnings of 315 billion US Dollars from international tourist travel in 2015, which is roughly twice the official development aid allocated to these countries for the same period. WTTC also forecasts that by the year 2030 international arrivals will reach 1.8 billion and the majority of all international tourist arrivals (57%) will be in emerging economy destinations. Tourism is therefore a powerful vehicle for economic growth and job creation for many developing countries including Ethiopia.

On the other hand, despite the great enthusiasm that is currently surrounding the tourism sector, there is indisputable evidence that destinations around the world find themselves competing against other destinations more than ever before, and maintaining the competitive positions has proven to be challenging for many developing countries. Competition among tourism destinations has also become intense due to the growing travel and tourism sectors such as business travel, gaming, resort areas, nature-based tourism, festivals and cultural tourism, major-events tourism, etc. (Navickas et al., 2015). For this reason, in today's competitive environment, evaluation of the competitiveness of a tourism destination is increasingly being recognized as an important tool in the strategic positioning and marketing analysis of any destinations (Crouch and Ritchie, 2010). However, most of

the current studies rely upon conventional research techniques, such as surveys or focus group interviews, to model destination competitiveness and often suffer from poor sample data and low response rates (Nilplub et al., 2016). Furthermore, these methods are both expensive and time consuming, and there is a lag between the time of data collection and the receipt of the data for analysis. As such, this research intends to tackle these challenges of modelling destination competitiveness and proposes a novel Big Data driven approach for modelling and measuring destination competitiveness in an attempt to answer the primary research question: How Big Data Analytics can be used to develop a model of destination competitiveness and an associated set of indicator in the management of sustainable tourism development? The study will employ one of the most important types of user generated content (UGC), namely online reviews and opinions.

Literature Review

Big Data for Development (BD4D)

Nowadays, people and things are becoming increasingly interconnected and enormous volumes of electronic data are being generated every minute. Data are generated from online transactions, emails, blog posts, tweets, click streams, call logs, search queries, satellites, and social networking interactions, among many others (McAfee & Brynjolfsson, 2012). Equally, this deluge of data leads to a great interest of the theoretical and practical aspects of extracting knowledge from such a great amount of datasets, and the concept of "Big Data Analytics" has emerged. While defined in many different ways, Big Data Analytics generally refers to the process by which an organization analyses large volumes of fast-changing data in a variety of types and formats to unveil hidden patterns, unknown correlations and other useful information relevant to decision making (Manyika et al., 2011).

Previously, the use of Big Data Analytics has been motivated largely by private (business) interests such as the analysis of consumer behavior for marketing strategies, predicting trends, and detecting fraud (Spiess et al., 2014; Lio et al., 2016). However, more recently, other sectors such as governments and international development institutions are beginning to realize its potential for channeling these torrents of data into actionable information. For example, in 2012, the Obama administration announced a multiagency Big Data development initiative aimed at advancing the core scientific and technological means of managing and extracting information from large datasets. Many other international organizations such as the United Nations, World Bank, and African Development Bank are also recognized the potential of Big Data Analytics in order to support decision for their development strategies. For instance, call detail records via mobile phones have been used to analyse population displacement, understand migration patterns, and improve emergency preparedness (Kim et al., 2014; Hilbert, 2013). This is not the only evidence, results from the analytics of Big Data gathered historically from satellite images are also showing promise to improve food security and minimize traffic congestion (Ibid).

In sum, according to the United Nations' Global Pulse (2012), Big Data Analytics can support the challenge of international development in three important ways. First, Big Data can be utilized to heighten awareness of situations on the ground to better design programs and policies (i.e. awareness). For example, in Kenya, the impact of mobile money transfers was evident using Big Data Analytics thereby governmental regulations were changed to enable their increased use (Kim et al., 2014). Second, Big Data can be utilized to more deeply understand a phenomenon so that better policy levers can be utilized (i.e. understanding). In one project for instance, the analysis of

satelite data enables to understand how rainfall variability affects migration as well as food and livelihood security (Hilbert, 2013). Finally, Big Data can be utilized to more accurately forecast behaviors so that institutions and decision makers can more effectively prepare (i.e. forecasting). For example, in Guatemala, a pilot project explored how mobile phone movement patterns could be used to predict socioeconomic status.

Big Data in the area of Tourism and Hospitality

While the potential benefits of Big Data Analytics for development are real and significant, only a handful of studies shed lights on the importance of Big Data for tourism development (Baggio, 2016). Furthermore, they have a number of limitations as discussed in the following. First, some of these studies only present a general discussion about the importance of Big Data Analytics for improving the tourism sector. For example, Fuchs et al. (2014) shows how Big Data Analytics can be beneficial for business intelligence practices in tourism destinations and propose an architectural solution that combines the different sources of data. Other examples are Xiang et al. (2010) and Wang et al. (2015). Second, most of the existing studies focus primarily on examining relatively small quantities of data compared with what could be available and often focus on a single tourism product such as hotels. For example, while Xiang et al. (2015) identify a number of interesting considerations about hotel guest experiences and their association with satisfaction ratings, they only analysed 60,648 tourists' reviews. This is also the case study of Yang et al. (2014) who use web traffic volume data of destination marketing organization to predict hotel demand. A possible explanation for this is that the resources and the skills needed to analyse big quantities of data are not available to tourism researchers (Baggio, 2016). Third, most prior researchers ignored advanced data mining approaches, such as machine learning techniques and Bayesian classification methods, and the most used techniques is a simple statistical textual analysis (Xiang et al., 2015; Nilplub et al., 2016; Park, 2016). A notable exception are the papers by Menner et al.(2016) and Schmunk et al. (2014) that perform sentiment analysis on a large corpus of user generated contents by employing advanced computer science techniques. Finally, no research could be found on the utilization of Big Data Analytics for modelling tourism destination competitiveness.

The current study tries to address the above limitations and differs in many aspects. First, the uniqueness of this study lays in the use of large data sets (Big Data) and explanation of tourists' experience on scale that was not available in traditional tourism survey studies to model destination competitiveness. Second, this research is among the few papers to use advanced text analytics techniques to further break down the textual contents of user generated content in order to extract multiple service related dimensions of destination competitiveness.

Conceptual Development

Big Data affects the tourism sector the same way it does other development sectors. The tourism sector has been fundamentally re-architected by the rise of social media, mobile and e-commerce over this past decade. Information technology, in particular social media and mobile apps, have changed the way in which travellers' plan, experience, and share all phases of travel (Chung et al., 2008). For example, on many websites, including Trip Advisor, visitors are allowed to post their ratings and reviews regarding their experience with destination properties they have stayed at in the past (Xiang et al., 2010). As a result, tourists leave digital traces on the web, and the resulting data is not only massive but also multidimensional. These tourists' generated datasets could offer unused opportunities for modelling and measuring destination

competitiveness at least for two reasons. First, most developing countries (including Ethiopia) depend on destination competitiveness reports from international institutions (such as the World Economic Forum and UNWTO) that are available at low frequency, usually yearly. Unlike these periodic reports, user generated contents could present new high frequency sources (e.g. monthly). Thus, tourist generated data could present new information about the current performance of destination at a greater frequency than otherwise available to policy makers. Second, visitors post their reviews and opinions regarding their experience with destination properties they have stayed at in the past. In other words, tourist generated content could subsequently affect other visitors' decision who are uninformed about the destination. Thus, online reviews and opinions can be used to predict future competitive performance of a destination. As such, Big Data Analytics could be a powerful force in transforming the tourism sector in such a way that it will enable an innovative exploration into real life tourism data using new methods for measuring and modelling tourist information.

Proposed Methodology

It is widely acknowledged that the design science research paradigm is highly relevant to information systems (IS) research because it directly addresses two of the key issues of the discipline: the behavioural and practical aspects (Hevner et al, 2004; Gregor et al., 2013). The design science research approach is also suitable to this project as it aims to addresses the theoretical and practical challenge of using Big Data Analytics to model tourism destination competitiveness. Therefore, this paper will follow the steps of a design science research process developed by Peffers et al. (2008). The steps and the activities we will carry out in each phases of the framework are summarized in the following table.

Table 1. Steps and Activities in Information System Design Science Research

Steps	Activities
1. Problem Identification & Motivation	The research problem identified earlier (i.e. the application of Big Data Analytics for modeling destination competitiveness) will be further developed based on literature review.
2. Define Objective of the Solution	The objective of the proposed solution will be further articulated based on the research problem identified.
3. Design and Development	A Big Data driven tourism destination competitiveness model will be developed based on a large scale text mining and analytics results.
4. Demonstration	The usefulness of the artifact (model) will be demonstrated to measure a destination competitiveness of a given country (in this case Ethiopia).
5. Evaluation	The utility and efficacy of our model will be evaluated using both subjective and objective evaluation methods.
6. Communication	The output of this research will be published in academic journals, academic conference proceedings, and other development oriented professional outlets.

Data Source

The data source for the study will be TripAdvisor.com, which is the largest online travel agency in the world with more than 350 million collections of opinions and reviews (see www.tripadvisor.com). Particularly, the access to a publicly available dataset is important for studies on developing countries (such as Ethiopia) since there is often a scarcity of open quantitative/qualitative data in such settings. As such, the

information collected by TripAdvisor.com constitutes a unique research opportunity for investigating the potential of Big Data Analytics to model tourism destination competitiveness. This study is at a stage of finding appropriate dataset, which include user generated hotel-reviews and opinions, social geo tags generated by user identifying different geographic attribute, user contributed opinions about attraction sites and service qualities etc.

Data Collection and Preparation

The required data will be collected from the above mentioned website (i.e., Tripadvisor.com) using an automated Web crawler that will be designed. The Web crawler will visit the website and extract user generated contents for each selected hotels and attraction sites. Once the data is collected, it will be pre-processed. The data pre-processing will follow steps similar to the ones adopted in prior studies (e.g. Xiang et al., 2015). The steps we will follow in our data preparation task are summarized as follows.

- Eliminate non-English characters and words (HTML tags, URLs, numbers, punctuation.)
- Part of Speech tagging to retain only adjectives, nouns, adverbs
- Replace common negatives of words (e.g. "hardly", "no" -> "not")
- Stemming ("developing, developed, developer" -> develop)
- Remove stop words ("when, the, and, is")
- Remove all the words that do not appear in at least 2%.

Data Analysis and Dimension Extraction

Various data and text mining techniques have been proposed to collect and analyse online user generated contents, including Latent Semantic Analysis, Probabilistic Latent Semantic Analysis and Latent Dirichlet Allocation. The latter, Latent Dirichlet Allocation (LDA) has become very popular as it uses an unsupervised technique for topic discovery in large collections of texts. LDA generates a probabilistic model of a corpus, and the basic idea is that text documents are represented as random mixtures over latent topics, where each topic is characterized by a distribution over words (Blei, 2003). In this study, we will apply the LDA model. LDA is based on the idea that each document contains words from multiple topics; the proportion of a topic in each text differs, but the topics themselves are the same for all documents. The use of LDA over other techniques of text analysis provides the following benefits. First, because LDA efficiently analyses data a highly temporary level, it allows for exploration of topic variations over time. Second, the method is highly efficient and can be extended to handle issues of Big Data. Thus, we will use the results of LDA to:

- Identify the key dimensions of destination competitiveness expressed in online tourist reviews and opinions.
- Examine how the key dimensions vary across destinations over time.
- Examine the dynamics of the key dimensions and the dynamics of destination competitiveness positions over time.

Theoretical and Practical Implications

This PhD research intends to design and develop a model of tourism destination competitiveness and associated set of indicators using Big Data Analytics. In terms of practical contributions; it will allow identification of the relative strengths and weaknesses of tourism destinations, and can be used by industry and governments to

increase tourism numbers and expenditure, and enhance socioeconomic prosperity. Furthermore, the results will identify a broader, and potentially more comprehensive, set of tourist experiences than are generally offered by conventional tourism market researches to model destination competitiveness. For example, it will enable policy makers to track how destination competition varies over time in great detail using online user contents. Theoretical contribution includes contributing knowledge to the literature about the potential impacts and constraints of implementing Big Data Analytics for modelling destination competitiveness.

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ICTs Adoption, Use, and Performance: a Case Study of Tanzania Tourism Business

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Abstract

The majority of today's information and communication technology (ICT) impact studies disregard infrastructural, organizational, and environmental factors typically responsible for successful e-business adoption and use. This study aims to statistically explain usage intensities of various ICTs applications to Tanzania Tourism business by proposing an empirical approach that show how infrastructural, organizational, and environmental factors determines both e-business adoption and the impact of information and communication technologies. The research is grounded in E. Rogers' (2003) Innovation Diffusion Theory which has been adapted from the study by (Fuchs, et al.2010) and tested with a survey data gathered from 200 Tanzania tourism business owners/managers. "E-Business Intensity–Readiness–Impact Framework" model adopted from Fuchs, et al. (2010. P.168) in their study "E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization" will be used to explain how the use of e-business applications may positively affect the performance of tourism business in Tanzania. Questionnaires will be administered to the 200 hundred tourism stakeholder while both SPSS and a structural equation modeling (SEM) approach will be used to analyses the data.

Key word: ICT diffusion; ICT adaption; ICT impact; tourism in Tanzania; performance

Problems Definition

Application of ICT in tourism has made the industry to become an information-intensive industry, according to Shanker (2008), Bethapudi (2013) and Moutinho (2014) ICTs plays an important role in tourism business performance and these roles should not be underestimates. It allows tourism industry to be one of the first activities to introduce international information systems CRS and GDS that led to the more efficient business, better direct interaction between tourist organisations and buyers, along with the reduction of costs, increase of productivity, increase of revenues and improves of business operations and customer service. Some of tourism business in Country like South Africa have quickly grasped the potential of ICTs, as one of the main reason for successful description, promotion, distribution, amalgamation, organization and delivery of their services, thus leading to more satisfied and loyal customers (Ham et al., 2005). However, in contrast to South Africa, Tanzania tourism business have historically been rather slow to adopt ICTs.

Moreover, In South Africa the government is heavily engaged in developing the communications sector by improving access to telecommunications infrastructure including rural areas (Adukaite et al. 2016). However, this might be different in Tanzania where the government has long recognized the importance of enhancing service delivery through ICT but there is poor implementation from this recognition. The destination still exists without a regionally embedded electronic marketing system (Fuchs et al. 2010). "Destination marketing system (DMS) enhances representation of associated tourism organizations, boosts and promotes destination image, and attracts direct bookings" (Fuchs et al. 2010). Mostly tourism business owners/managers fail to understand that the use of ICTs is a major prerequisite in forming strategic alliances, developing innovative distribution methods and

communicating with customers and partners while satisfying customers demand (Zoubi, 2013; Fuchs et al, 2010 and Pease & Rowe, 2003).

We all agree that managing a tourism business today is more complicated than in the past. "Have we ever asked ourselves why and what exactly it is that has really changed and what are the elements representing this change" (Formica & Kothari, 2008)? In today business environment, travel and tourism is predominantly electronic business, for example, in a destination like Australia, the hotel industry has adapted and embraced the use of ICTs as vital component to promote, distribute and in delivering of their service (Colecchia, 2013). However, when looking to a destination like Tanzania, the relationship between ICT investment and tourism business performance is complex and multifaceted, thus leading to poor performance (United Nation, 2014). ICTs can be fruitful in a tourism business only if some requirement are met such as long term planning of the organisation, innovative business model, top management commitment and staff development (Colecchia, 2013).

There is seldom sufficient local content to draw conclusions about the Tanzania readiness toward electronic services. Therefore, this paper will propose an empirical approach ("E-Business Intensity–Readiness–Impact Framework") adopted from "E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization Study" by (Fuchs. 2010) P.168.The framework indicate how application of ICTs is determined by contextual adaption factors and how will it affect tourism business performance. The research model is grounded in E. Rogers' (2003) Innovation Diffusion Theory which has been adapted from the study by (Fuchs, et al.2010) and tested with a survey data gathered from 200 Tanzania tourism business owners/managers.

Literature Review

ICTs and Tourism Business Performance

The increased use of ICT in tourism business leads to a substitution of ICT equipment for other forms of capital and labour and may generate substantial returns for enterprises that invest in ICT and restructure their organisation. However, this may not be applicable to generalisation that total factor productivity in the whole economy will increase. Literature reveals that, in western countries, the increase of the total factor productivity (TFP) that is associated with advancement use of ICTs has declined in the past 10 to 20 years (Bethapudi, 2013). "Only in the 1990s empirical evidence was found that computers had a substantial effect on firms' productivity levels". With regard to tourism business, computer is one of the essential tools in ICTs to improve their business performance. In their studies of the effect of information technology on "Determinants and Impact of ICT Use for African SMEs Implications for Rural South Africa" Wolf (2001) observed that The increased use of ICT in enterprises, leads to a substitution of ICT equipment for other forms of capital and labour and may generate substantial returns for enterprises that invest in ICT and restructure their organisation, especially if ICTs are complemented by factors such as education and training.

Similar results were found when examining the effects, the use of various ICTs has on productivity. The investment in ICT has a significant positive influence on productivity. That might be due to lower transaction costs, e.g. for information for purchasing inputs as well as distributing output. Furthermore, it could be partly attributed to a more efficient production process and a better resource allocation within the enterprise (Wolf, 2001).

On the other hand, the study done by Chowdhury & Wolf (2003) on the "Use of ICTs and the Economic Performance of SMEs in East Africa" reveal that, investment in ICT is an important determinant of market expansion, the use of ICTs in the transaction process can foster input and output market expansion. However, investment in ICTs in their study did not have any significant impact on enterprise return and export performance and has even a negative impact on labour productivity. One factor that limits the above analysis is that there may be a substantial time lag between ICT investments and their effects.

Concept Development

Methodological framework to guide this research for understanding of value creation processes induced by the adoption of innovative e-business impact model that were used by Fuchs et al. (2010) in their study **"*E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization Study.* This framework integrates e-business adaption measurement with an impact approach comprising growth and efficiency gain as well as quality improvements of stakeholder relationships. Data require for this study will cover both supply and demand aspect of e-business in tourism and figure 2 link the need for indictor one business readiness, intensity and impact with the type of information one would need to collect across the whole spectrum of actors in the electronic marketplace.

The degree of e-business readiness should encompass indicators that reflect the tourism business potential for e-business readiness. On a subjective scale measurement, for example in the organizational context items, the aspect of ICT infrastructure will be measured by the manager's perception on how strongly organization processes are supported by ICTs. ICT skills are measured by tourism business managers and employees to find out their computer competencies and experiences as well as the support given by manager in the implementation of ICTs. Correspondingly, on a perspective measurement, item such as expected cost through ICT implementation and operation will be measured. Further, to ensure financial success, expected profitability gains and cost reduction through ICTs are hypothesized to be positively related to adaption behavior. The e-intensity indicators would give information on the size, growth and nature of the electronic business transaction. The type of information technologies used within the tourism business varies significantly. For example, Pan & Jang (2008) reported that, at this stage, there must be knowledge of the component of a transaction, who are the actors involved in the transaction and what are their socio-demographic characteristic, what are the product and service involved.

Finally, the impact indicators would focus on the additionality and multiplier effects of e-business, the impact on production process and business model, on the workplace and more generally on society. Experience cost savings with internal, marketing, and procurement process and labour productivity are impact on efficiency measurement. Impact on sales will be measured though increase in revenues. While the impact on the tourism business quality will be measured through improvement of the relationship to business partners and suppliers. Finally, the impact on customer satisfaction will be measured by the customer loyalty and returned customer and customer relationship.
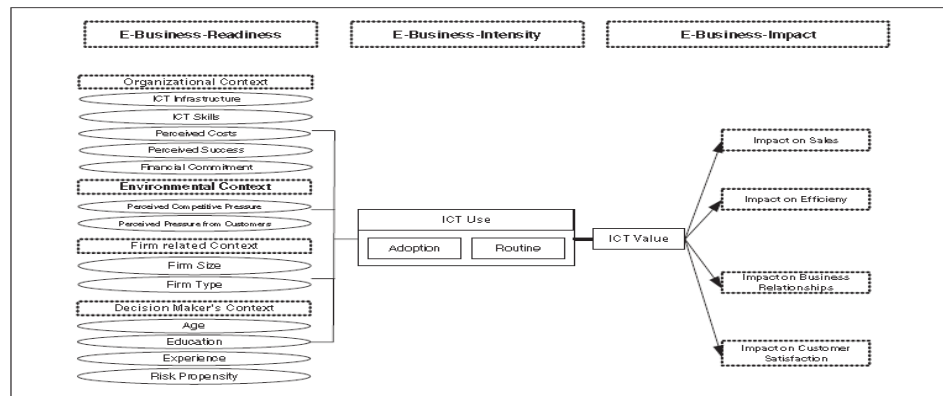
Figure 2. E-Business Intensity–Readiness–Impact Framework
Source: Adapted from figure 1 in "E-Business Readiness, Intensity, and Impact: An Austrian
Destination Management Organization Study "e-business indicator Framework (Fuchs. 2010)
P.168.

ICTs Adoption and Diffusion Theories

One major explanation for the growth of new information and communication technologies (ICTs) has been the adoption and diffusion process (Zhu et al, 2005; Yuan et al, 2006). Adaption literature indicates the decision to adopt and implement the use of ICT innovation with an organization is influenced by technological, adopter-specific, and environmental factors. For instance, The Technology Acceptance Model (Davis, 1989) suggests that individual acceptance and use of ICT is determined by two elements; "perceived usefulness" (PU) which means the degree to which an individual believe that usage and implementation of ICTs system into an organisation would enhance their job performance and "perceived ease of use" (PEOU). which is a degree to which an individual believe that usage and implementation of ICTs system would be free from effort. This module is considered to be only usefully in understanding user acceptance of adapting to new technology across arrange of population, by contrast, according to Oliveira, T. & Martins M.F. (2010b), the module is not usefully for investigation the acceptance level of ICTs usage to a particular organisation. The decision to adapt and usage of ICTs in a particular organisation is not based on individual level rather it incorporate range of strategic firm level. Therefore, there must be another look of incorporating organizational level theory that will be used to narrate and forecast a firm acceptance behavior of ICTs. Similarly, Rogers defines diffusion theory as a process by which an individuals develop a certain attitude toward implementation and usage of technological innovation that subsequently dominate adoption behavior. Positive attitude is developed by an individual if the innovation is perceived to be better, easy to be used, easy to be applied as well as compatible with the existing system and user expectations. As a results, the adaption decision will be in favour of the technological system. To sum up on these theory, the adaption research deals with micro level or behavioral aspects of the adapting individual while the technology diffusion research analysis the spreading of new technology at the organisation. In a process of collecting the number of adapter over time, the actual position on the technology life cycle of a specific e-business application can be detected on the typically S-shaped technology diffusion curve Rogers (1995) depicted in figure 1. At the initial technology life cycle phases, decision makers or "innovators" ask for information concerning infrastructural preconditions and enabling factors and barriers to e-commerce (Zoubi, 2013). Later on, "early majorities" are concerned to get information about usage figures on various technological systems and applications in

certain economic branches (Pease & Rowe, 2003). At this stage, one should look for intensity of e-commerce use to enable policy makers to address imbalance (Rogers 1995). Finally, at the maturity stage decision maker are concerned in the likely value created after the introduction of certain e-business applications or measuring the impact of e-commerce on the economy and society. These three measurement indicators are;

E-business readiness- One key to a country and tourism business in particular in e-participation is to self-assess its readiness to undertake such initiatives. At this stage the possible assessment framework could define what is measure and considered administrative, commercial, social infrastructure and technical perspectives that are necessary to support e-commerce.

E-business intensity- These issues relate to the state of e-commerce usage, volume, value and nature of the transaction. Education is the most important determinant of the intensity of e-commerce usage. The statistical requirement is to profile who is exploiting e-commerce possibilities and who is not. This allows advanced countries with a solid human resource base to remain far ahead of developing countries like Tanzania.

E-business impact- The issues relates to additionality and multiplier effects. There must be some statistic in a given country or business to measure where and to what extent e-commerce makes some kind of difference in term of efficiency and the increase of productivity.
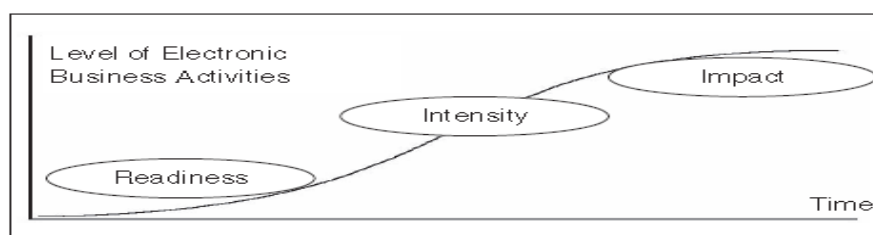
Figure 1. E-Business measurement indicators

Source: Adapted from figure 1 in "E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization Study "e-business indicator Framework (Fuchs et al, 2010) P.167.

Proposed Methodology

In this study exploratory research design will be employed by way of focusing groups which are suitable methodology in determining this style of research question that includes element such as" how" and "why"(Morgan 1997; Leonard-Barton, 1988).f this design is based on the exploratory nature of the research and since it provided a non-threatening environment whereby participant, tourism business stakeholders including CEO, managing directors, owners and employees from travel agent, tour operator, hotel association, Tanzania Tourism Board, airline companies and transport, will be willing to discuss these issues and interact via open discussion. The focus group discussions will be structured centering on the questions that will be contained in the survey instrument to be administered. The questionnaire will be shaped specifically to identify what CEO, managing directors, owners and employees from tourism business understand by e-business, to identify factors triggering or impeding its adoption, to identify time taken to consider whether to adopt e-business, and to

identify the benefits from, or expected from, and difficulties associated with e-business. The choose data collection instrument, will be modified to increase clarity, particularly regarding its branching. The feedback and comments from the focus groups will be taken into account and further modification of the questionnaire will be undertaken to maximize the ease and likelihood of response. Two hundred tourism stakeholders will be surveyed and random sampling will be used to select the respondent from tourism business located in the top five most visited destinations in Tanzania (Dar Sa Salaam, Arusha, Kilimanajro, Mwanza and Zanzibar). To ensure that the study instrument elicited appropriate, meaningful, and useful data, the questionnaire was validated by various experts who read, commented, and sometimes conducted face-to-face discussions. These individuals included experts in ICTs, marketing, tourism, and social science researchers at various levels. Initially, the data gathered will be analyzed using the Statistical Package for the Social Sciences (SPSS 20.0). Short answers will be categorized to allow statistical analysis where frequencies and cross-tabulation will be applied for several survey questions that provided insights (exploratory) to specific questions. To test for a path model presented in figure 2, a structural equation modeling (SEM) approach will be used based on data gathered from the tourism business stakeholder. SEM is designed to assess the readiness indicators according to Fuchs (*2010)* "E-Business measurement indicators". As one aim of this research is to statistically explain usage intensities of various e-business applications in tourism business, the indicators used will be kept as general as possible instead of reflecting an application specific context.

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Travel Online: Investigating How Connected Travellers Perform Their Experiences on Social Media

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Abstract

This project intends to shed light on the processes through which physical travel experiences are sculpted into online narratives. The method used is autoethnographic reflection on the practice of travel recording during an extended multicountry trip. Data is collected through triangulation and analysed using Goffman's (1959) theory of the "presentation of self". The project seeks to produce a greater understanding of the routines through which travel recording is integrated into journeys in order to help destinations accommodate the needs of connected tourists. The knowledge produced shall also allow a more nuanced analysis of online traveller data.

Keywords: travel blog; connected tourists; tourism social media; autoethnography

Problem Definition

This research project responds to a call for greater attention towards empirical research exploring the personal processes through which ICTs are utilized by travellers (Munar, Gyimóthy & Cai 2013). While there are many reasons for travellers to use social media during a journey such as information search, entertainment, communication, and service transactions (Wang & Fesenmaier, 2013), this study intends to focus specifically on how travellers use ICTs to share travel stories with friends, family, and the wider Internet through social media. Travellers commonly share online narratives across a variety of social media platforms as they move (Germann Molz, 2012; Germann Molz & Paris, 2015). Yet while scholarly literature has paid attention to online narratives as a source of data on traveller opinion, "very few researchers have treated the online narratives as an experience, a place for meaning and identity creation." (Banyai & Havitz, 2013, p.232-233). Conceptualising traveller's online narratives as a site of self-performance, this project intends to substantiate the ways in which online performance influences travel practice. In particular, this project will pay attention to the routine behaviours through which online travel narratives are sculpted from physical experience, posing the research question:

How do travellers use ICTs to narrativise their experiences for social media?

Using the objectives:

- Investigate how Internet connectivity creates new routines, obligations and opportunities as the traveller participates in distributed networks whilst on the road.
- Identify and describe the specific practices such as preparation, capturing, editing and posting, through which travel experiences are shared online.
- Analyse the factors (such as the receipt of capital) which influence traveller's online self-presentation and the extent to which they shape travel practice.

Literature Review

Travel recording

Travel writing is a venerable literary tradition in which journeyers produce written and visual reflections of a foreign landscape and its inhabitants in order to share with the home audience. Travel writing takes a variety of forms such as: log books, diaries, reports, factual journalism and narrative genres such as picaresque and Beat novels. Inasmuch, travel writing has been defined by Youngs (2013, p.3) as, "predominantly factual, first-person prose accounts of travels that have been undertaken by the author-narrator." Travel writing was first published on the Internet in the form of travel blogs: reverse chronological records of travel which allowed readers to comment within the text (Pan et al., 2007). The popularization of the travel blog form over the first decade of the new millennium drew significant interest from tourism bodies given that collectively blogs amounted to a rich data source of candid opinions on tourist experiences, destinations and products (Volo, 2010). As such, a significant body of literature has assessed ways in which to access and process the opinions contained in blogs (See: Banyai & Glover [2011] for an overview). Throughout recent years the range of social media platforms used to record travel has diversified. Giving some idea as to the variety of platforms used to record travel, Munar, Gyimóthy and Cai (2013, p.2) state: "Tourists share their travel images on Flickr, upload videos to YouTube, write personal stories on Travelblog, provide reviews on TripAdvisor, and publish updates about their tourism experience on Facebook". Indeed, emergent platforms like Instagram challenge researchers to understand unfolding methods of traveller expression such as visual narratives (Dinhopl & Gretzel, 2016; Lo & McKercher, 2015).

Travel

Travel is an activity in which an individual physically moves to another place for the purpose of leisure. As a social phenomena travel has been variously defined as a "pseudo-event" (Boorstin, 1964), search for authenticity (MacCannell, 1976) and a way of participating in modern society (Urry, 1992). While travel has long been conceived of as a leisure activity which took place in binary opposition to work and everyday life in general, in recent years the connectivity offered by the Internet means that travellers may continue to engage in routines of home sociality whilst on the road blurring previously applicable dialectics like home/away, fixed/mobile, quotidian/exotic (Munar, Gyimóthy & Cai, 2013). In their study on the sociological expectations of young connected travellers they refer to as "flashpackers", Germann Molz and Paris (2015) explain that while connectivity provides numerous avenues to enrich travel, it also comes with an obligation to maintain social ties by regularly checking communications and publishing trip updates. As today's traveller moves with a virtual audience in tow, Lo and McKercher (2015) have dubbed contemporary touristic movement, "performative travel" as travellers plan, visit and capture travel with the online audience in mind.

Social Media

Kaplan and Haenlien (2010, p.61) describe social media as, "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content." Thus, social media can be seen to comprise many of the platforms used by travellers to record travel including blogs, Facebook, Instagram and arguably email. The Internet scholar danah boyd describes the functional characteristics of the networked environment of social media as: persistence, replicability, scalability, and searchability (boyd, 2010). Cumulatively, these characteristics mean that information shared on social media is not only retrievable in perpetuity via key terms but that it may travel easily between

the nodes of different users via sharing practices, virality, or the algorithms used by platforms to promote content (Lovink, 2011). Marwick and boyd (2011) use the term "context collapse" in order to describe the way in which the publishing medium of social media coalesces different audiences (such as friends, acquaintances, family and co-workers) meaning that individuals need adopt performance strategies in order to negotiate these overlapping social contexts. Goffman's theory of the "presentation of self" (1959) – that people present themselves relative to social context - has been adopted to describe the choreographed performances of online actors (Marwick & boyd, 2011; Papacharissi, 2012) as typified in theoretical models like microcelebrity (Senft 2008; Marwick, 2015) and online self-branding (Khamis et al., 2016).

Conceptual Development

This project is currently at its midpoint. The researcher has recently completed a period of extended fieldwork and is in the process of integrating his critical reflections with relevant theory. While the canon of tourism studies is indispensable in underpinning the author's analysis of his findings, this study's experimental nature means that the researcher must create or extend connections between theoretical disciplines. This has led to the development of an interdisciplinary conceptual framework utilising models such as the 'selfie gaze' – a way of describing how connected tourists' behaviour is influenced by the online audience; 'social media pilgrimage' – a frame describing the specific physical behaviours produced according to traveller's degree of commitment to their online narrative; and finally, a model which describes different modes of Internet connection. These conceptual frameworks will be built into the author's interpretation of his research data in order to explain how travellers use ICTs to narrativise travel.

Proposed Methodology

In response to a largely positivist marketing based research agenda on connected tourists evidenced by an abundance of quantitative studies into traveller data collected from blogs (Banyai & Havitz, 2013), this research project responds to a call for greater attention towards empirical research exploring the personal processes through which ICTs are utilized by travelers (Munar, Gyimothy & Cai, 2013; Dinhopl & Gretzel, 2016). As this thesis represents an exploratory study, the researcher proposes an experimental autoethnographic methodology (See, Wilson & Hollinshead [2015] for an overview of autoethnography within tourism). Autoethnography is the act of researching about a particular social group or practice by participating within it, and, critically reflecting on personal experience (Spry, 2011). The data collected within autoethnography takes the form of written and/or visual reflections which are developed through the researcher's first-hand engagement with the research subject. The practice of critical reflection entailed here draws heavily upon the researcher's scholarly knowledge of their research subject, while the process of data analysis involves forging deep links between the researcher's subjective opinions and academic theory in order to make this knowledge valuable to the wider academic community. This thesis' research method involves the author undertaking a three month period of multicountry travel whilst critically reflecting on his experiences using ICTs in order to build up an understanding of this practice, and, its practitioners, connected tourists. During this time, the data collection process will occur through three avenues, 1) ethnographic fieldwork and the observation of extant Internet services (i.e. connectivity) and how these are utilised by travellers, 2) the creation of a critical 'meta-blog' which reflects on the interplay between the author's narrativisation of events for the online audience and his experience of travel using academic literature on connected tourists, and, 3) a daily log of ICT usage which

records time spent narrativising travel online, the practices through which this occurs (such as preparation, capturing, publishing and editing) and the primary type of Internet connection encountered. Finally, the data shall be analysed using Goffman's "presentation of self" (1959) in order to explicate the relationship between certain travel behaviours and the online narrative.

Theoretical and practical implications

So far there have been few examples where the behaviour of connected tourists has been studied in light of online performance theory (Dinhopl & Gretzel, 2016; Lo & McKercher, 2015). These have questioned how practices spurred by social media usage such as widespread digital photography can be integrated within touristic subjecthood. Here, Kemp (2016) notes the "pressure" put upon travelers by the competitive environment of online platforms in which users strive to "again and again present the self as extraordinary and different" (Dinhopl & Gretzel, 2016) in an environment of "social comparison" (Lo & McKercher, 2015). Here, the capital on offer within social media worlds (Marwick & boyd, 2011) forms an incentive for idealised performances of the self. Highlighting the risks of combining such a system with tourism, Rettberg (2015) discusses how the promotion of the Norwegian cliff outcrop Trolltunga as a social media showpiece capable of garnering "an avalanche of likes" contributed to the fatality of a traveller engaged in photographing this site. This tragic example highlights the potential for disjunctive relationships between DMOs, connected tourists and destinations/ hosts, and the need for greater academic knowledge on the needs and imperatives of connected tourists. As its research outcomes this project intends to explicate the conceptual frames of 'selfie gaze' and 'social media pilgrimage' in order to provide theoretical tools for future research on connected tourists. While the main thrust of this project comes from a sociological perspective in seeking to enrich relationships between connected tourists and touristic sites, the results of this have substantial business implications in allowing an improved understanding of the processes through which online tourist data is created and the latent meanings implicit in these texts.

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Revisiting Travel Information Search Strategy

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Abstract

This paper proposes a research study that will critique and update Fodness and Murray's (1999) information search strategy model. Data will be collected from travellers who are busy planning a leisure trip through semi-structured interviews and trip planning diaries. The proposed research will contribute to the tourist information search literature by updating the key dimensions and sub-dimensions of information search strategy in Fodness and Murray's (1999) model. Finding of this study also will help tourist marketers to segment their targeted market based on perceived usefulness of tourist information sources used. Keywords: information search strategy, leisure traveller, trip planning diary.

Keywords: information search strategy; leisure traveller; trip planning diary

Problem Definition

This essay is one of the several papers which will be completed during the PhD. Fodness and Murray (1999) proposed the first tourist information search strategy model more than 15 years ago. According to these authors, travellers apply a combination of information search strategies in order to plan their trip (Fodness and Murray, 1998). Their model was based on a survey of 585 self-drive travellers who stopped at a Florida welcome centre in 1990. The core contribution of the model was a detailed examination of tourist information search strategies.

However, a number of shortcomings are evident from a preliminary assessment of Fodness and Murray's (1999) model of information search strategies: First, the study is now rather dated. Not only was the study published in 1999, but the model appears to be based on a secondary dataset collected in 1990. This observation is important because the study continues to be widely cited 25 years after the data were collected. Second, the sample and context used to test the model was somewhat limited, consisting of self-drive visitors to a welcome centre in Florida.

Since Fodness and Murray (1999) conducted their study, new developments in information technologies have resulted in new information sources that influence behaviour and outcomes. Developments such as the Internet, social media and mobile devices have changed tourist information search behaviour (Mills & Law, 2013; Werthner & Klein, 1999). The temporal and spatial aspects of information search have changed enormously. The Internet has provided rich and up to date information for travellers that can be accessed before, during and after the journey (Ho, Lin, & Chen, 2012). Yang, Mai, and Ben-Ur (2012) have also argued that the development of online virtual communities has changed tourist information search behaviour. Therefore, the key problem is that there is a lack of applicable tourist information search model. This paper proposes a research study that will investigate Fodness and Murray's (1999) information search strategy model by identifying the underlying dimensions of tourist information search strategy.

The research objective of this study is to investigate the key dimensions of the information search strategy component of Fodness and Murray's (1999) information search model. The key research question informing this objective is: What dimensions

underpin information search strategy? This research objective will assist the researcher to examine existing dimensions and allow emerging new dimensions. 2

Literature Review

Information search has been described as the process of checking and referring to various sources before decision-making (Andereck & Caldwell, 1994; Grønflaten, 2009). Assael (1984) stated that information is considered to be one of the most influential determining factors in consumer behaviour. Information search is necessary for tourism trip planning. The primary role of tourist information search is to increase the quality of the travel experience and to reduce risk and uncertainty (Fodness & Murray, 1998). Tourists search for information to acquire sufficient knowledge for their trip. It is necessary for selecting destination, accommodation, activities, and tours (Snepenger, Meged, Snelling, & Worrall, 1990). Many researchers have studied tourist information search. Table 1 presents the top ten most cited studies based on a Google Scholar (GS) search for the terms "Tourist Information search", "Travel information search", and "Tourism information search". As can be seen from the Table (1), researchers have attempted to study tourist information search from various perspectives. The information search strategies model proposed by Fodness and Murray (1999) is one of the most cited early sources in this area. The most highly cited paper is focussed on online travel information search and social media (Xiang & Gretzel, 2010). The second and third most cited papers were by Fodness & Murray (1997, 1999); both papers focussed on tourist information search. In total, Fodness and Murray published three related papers on tourist information search (1997, 1998, 1999), with the final publication in 1999 presenting an integrated model.

Table 1. Top Ten studies on tourist information search

Table 1. Top Ten studies on tourist information search

Author/Authors	Topic	Citation
Snepenger et al. (1990)	Information search strategies by Destination-Naive Tourists	327
Fodness and Murray (1997)	Tourist information search	569
Fodness and Murray (1998)	A typology of tourist information search strategies	369
Fodness and Murray (1999)	A model of tourist information search behaviour	536
Money and Crotts (2003)	The effect of uncertainty avoidance on information search, planning, and purchases of international travel vacations	310
Gursoy and McCleary (2004)	An integrated model of tourists' information search behaviour	516
Luo, Feng, and Cai (2005)	Information search behaviour and tourist characteristics: The Internet vis-à-vis other information sources	152
Pan and Fesenmaier (2006)	Online information search: vacation planning process	378
Kim, Lehto, and Morrison (2007)	Gender differences in online travel information search: implications for marketing communications on the internet	315
Xiang and Gretzel (2010)	Role of social media in online travel information search	1230

Note: The terms of "Tourist information search", "Travel information search", and "Tourism information search" were used as Google Scholar (GS) search on 4 June 2016.

While there have been many subsequent papers on information search, few are as highly cited as Fodness and Murray (1999) and those that are well cited are often focused on more specific contexts or topics (such as social media, gender differences, and uncertainty avoidance). However, as Fodness and Murray (1999) continues to be widely cited, none of the subsequent studies has attempted to develop the Fodness and Murray's (1999) work and move the field forward. One exception is a Gursoy and McCleary (2004) conceptual paper, which presents an attempt to move the field forward. Thus the literature is fragmented, and there is an opportunity to unify the many disparate concepts by building on the work of Fodness and Murray (1999). 3

Conceptual Development

This study is based on Fodness and Murray's (1999) model of tourist information search strategy with three dimensions. The first dimension was spatial strategy, which assessed the locus of search and was broken down into internal and external information sources. The authors have identified 11 external sources and an internal information source. Since this dimension has been developed, many researchers have used this dimension in order to investigate travellers' information search based on their context and time of the study, while there is a lack of classification for spatial strategy.

The second dimension was temporal strategy, which was concerned with the timing of search behaviours, which were categorised into ongoing and pre-purchase search activities. The authors stated that ongoing search is not directly linked with immediate purchase and motivation for ongoing search is to acquire knowledge for future decision making, while the motivation for pre-purchase strategy is better to purchase choice. Progress in technologies such as the emergence of online information sources and channels have changed tourist information search behaviour.

The third dimension was operational strategy, which was used to explain the purpose and usefulness of information sources. The operational strategy dimension was divided into two categories consisting of decisive (necessary and sufficient information, for example, experience from the previous visit) and contributory (necessary information but not sufficient for decision making, for example, access to official state tourism website). Fodness and Murray (1999) operationalised these constructs using multidimensional scales and were able to cluster self-drive travellers into seven homogeneous groups by information search strategies.

Dramatic changes in technologies and information sources and channels have affected tourist information search strategy and its dimensions. Moreover, subsequent studies have not attempted to develop information search strategy dimensions, and there is a lack of study which considers information search as a combination of dimensions.

Proposed Methodology

The study will use a qualitative research design to explore the key dimensions of information search strategy. Semi-structured interviews and a trip planning diary will be used to collect data from leisure travellers who start to plan their upcoming trip. There are three reasons for using leisure travellers for the proposed study. First, the original paper and most of the subsequent studies have collected their data based on leisure travellers. Second, business travellers often do not plan their travel. Third, business travellers may not have much control over key decisions such as the destination, accommodation choice, and activity choices.

Procedure

Participants will be recruited using invitations posted on online travel forums and local newsletters. Participants will be asked to take part in pre- and post-trip interviews and will be asked to maintain a trip planning diary. The first meeting with participants will consist of a semi-structured interview. In the interview, participants will be encouraged to explain the type of information sources used; time spent searching for information, a number of information sources used, whether they booked a whole trip or part of the trip before travel. They also will be encouraged to explain how they search information in order to capture ongoing strategy. Moreover, the researcher will encourage them to describe how much have they have planned so far for their upcoming trip. The semi-structured interview will be conducted as a conversation, with the researcher using a checklist of key questions to follow (Jennings, 2010). This approach encourages participants to explain their thoughts, ask further questions, and also ask participants to describe their answers (Veal, 2011). The advantage of a semi-structured interview is that questions are not fixed. Therefore the researcher can ask for more explanations and details, follow-up questions can be asked to obtain more details, and it also provides more relaxed interview framework (Jennings, 2010).

In the same meeting, the researcher will explain the online trip planning diary and will ask participants to enter information as they plan their trip. Diary is a qualitative method to collect information to identify influential variables, emotions, and data in a natural context. Collected information from diary offers information with greater validity (Furness & Garrud, 2010). In tourism context, Dann, Nash, & Pearce, (1988) explained that diaries are a useful tool for collecting data and information especially for studies on tourist behaviour and experience in natural circumstances. The diary method allows researchers to view the process from the tourist's perspective. It also helps to understand human motivation and emotions outside of research (Markwell & Basche, 1998). It can deliver an insight into processes as they happened (Bedwell, McGowan, & Lavender, 2012). Another advantage of the diary is to reduce recall bias (Burton, Weller, & Sharpe, 2007).

During diary entry, the researcher will contact participants twice by phone, text messaging or email to remind and motivate them to keep writing and also to answer any questions. Bolger, Davis, and Rafaeli (2003) argued: "Personal contact retains participants more than monetary incentives or dependence upon goodwill towards science" (p.595). The duration of diary entry will be determined after pre-testing.

A follow-up interview will take place after their trip, and participants will be asked to recall their information search behaviour during the trip. The second interview will also be used to clarify any questions arising from the trip diary.

Sample

The sample will consist of 20 to 30 decision makers planning an international trip to a destination that they have not visited previously. The actual sample size will depend on when the point of theoretical saturation is reached. Saturation defines as reaching a point when additional data does no longer deliver additional insights (Charmaz, 2006).

The interview will be fully transcribed. Thematic analysis will be used to analyse the interviews and diary entries. "Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006, P.79). Thematic analysis can be divided into deductive and inductive approaches (Vaismoradi,

Turunen, & Bondas, 2013). A deductive approach is useful when researchers aim to test the previous theory, and an inductive approach is useful when researchers aim to identify themes from the qualitative data (Boyatzis, 1998). In this study, the researcher will use a combination of deductive and inductive approaches. As the objective of this proposed research is to update Fodness and Murray (1999)'s information search strategy, the focus will be broadly on the initial dimensions (Fodness and Murray (1999)'s study) while allowing for new dimensions to emerge. NVIVo Software will be used in order to data analysis.

Theoretical and practical implications

The proposed study will make a theoretical contribution by advancing our understanding of the dimensions of travel information search strategies. It will allow researchers to identify where, when, and how tourists search for information. The findings will identify appropriate underlying dimensions that are updated to accommodate the many new digital sources of information. It will also provide a framework for understanding the combination of search strategies applied by tourists.The updated information search strategy dimensions will serve as a foundation for future studies. It is anticipated that the research will have practical value for tourism marketers. Firstly, it will provide valuable information about the combination of information search strategy which tourists will apply for their trip planning. Secondly, it will allow tourism marketers to make decisions about their advertising based on the usefulness of information sources used and timing of information sources used by potential travellers.

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The Role of Interactive Technology in the Co-creation of Experience in Scottish Visitor Attractions

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Abstract

As a sector reliant on the creation of memorable experiences, visitor attractions (VAs) have increasingly turned to interactive technology as a platform for engaging and communicating with visitors. However, little is known about how these technologies contribute to the overall visitor experience. Drawing on service-dominant (S-D) logic and the co-creation perspective, this PhD research questions the process by which visitors actively co-create an experience with interactive technology as a mediator.

Keywords: co-creation; experience; visitor attraction; interactive technology; service-dominant logic

Problem Definition

It is widely acknowledged in the tourism literature, that the creation of memorable and enriching experiences is at the heart of the industry (Mossberg, 2007; Otto & Ritchie, 1996; Pizam, 2010; Ritchie, Tung, & Ritchie, 2011). However, much of the scholarly work in tourism has clung to traditional concepts and theory that views experiences as something to be designed or engineered. In contrast, growing literature in the marketing and management fields identify co-creation as an alternative view. From this perspective, customer experiences are seen as individualised and actively co-created between various actors in the service environment (Prahalad & Ramaswamy, 2000, 2004; Vargo & Lusch, 2004, 2008). One area that complicates the co-created experience perspective, is the presence of mediating platforms (such as technology) that act as touch-points between the customer and the service provider. However, research into how these platforms impact and contribute to a co-created experience is limited and could benefit from focussed academic study. In addressing this gap, this PhD study explores the process of experience co-creation in the visitor attraction (VA) sector, where interactive technologies are increasingly being used as an interpretative tool to enhance the visitor experience.

Literature Review

In particular, the emergence of service-dominant (S-D) logic has fundamentally altered how service experiences are constructed and explored. In contrast to traditional 'goods-orientated' tangible exchanges, S-D logic posits a reciprocal relationship exists between the firm and the customer that in turn co-creates value (Gummesson, Lusch, & Vargo, 2010; Kryvinska, Olexova, Dohmen, & Strauss, 2013). From this perspective, value is not embedded in tangible commodities but in the service relationship that surrounds them. It is an alternative worldview that attempts to blur the division and distance of power between the customer and the business in the service relationship. Karpen, Bove, Lukas, & Zyphur (2015, p. 90) expands on this process:

> *"S-D logic provides a service-based view of marketing phenomena that regards service as the core reason for exchange, enabled primarily by operant*

resources such as knowledge and capabilities and actualized through value co-creation processes."

From the co-creation perspective, the service experience and its subsequent value, is developed through interaction, meaningful dialogue, engagement and personalisation between various actors, as opposed to being predetermined or pre-packaged. The customer is no longer cast as a passive recipient, but becomes an active co-creator in their own individualised experience (Prahalad & Ramaswamy, 2000, 2004; Vargo & Lusch, 2004, 2008). However, the co-creation literature does identify various physical or virtual platforms which have the potential to influence and mediate the co-creative relationship. Ramaswamy and Ozcan (2014, p. 34) define these platforms as:

> *"...an assemblage of persons, processes, interfaces, and artifacts, whose engagement design affords environments of interactions that intensify agential actions in value creation."*

However, research which questions the extent to which these platforms can act as co-creative tools is less prominent in the academic literature. Increasingly, technology can be viewed as one such platform. Saarijärvi, Kannan, & Kuusela (2013) view technology as a co-creative mechanism that can assist in the integration of resources from various actors in the service system. Similarly, Reay & Seddighi (2012) and Gemser & Perks (2015) suggest that ICTs facilitate and empower consumers to help shape new product/service development. Furthermore, Neuhofer, Buhalis, & Ladkin (2012, 2014, 2015) developed a typology of technology-enhanced destination experiences that questioned the role of technology in the pre-, on-site and post-travel activity. However, further research is needed to question the co-creative process in other contexts. As such, Brodie, Hollebeek, Jurić, & Ilić (2011) call on academia to further explore how consumers engage with objects, people and platforms in the service environment, to understand how these stimulate co-creative relationships.

This paucity of research is particularly relevant within the VA context. Defined here as "*...a permanent resource, either natural or human-made, which is developed and managed for the primary purpose of attracting visitors*" (Hu & Wall, 2005, p. 619), VAs have received considerably less academic research than other aspects of tourism (Fyall, Leask, & Garrod, 2002; Leask & Fyall, 2006; Leask, 2010; Richards, 2002). What makes the VA domain a particularly unique environment is the attraction product. As highlighted by Voase (2009) and similarly by Wanhill (2009), visitors to attractions are often primarily in pursuit of an experience over any tangible outputs. Increasingly, interactive technologies are used in VA exhibitions to mediate the visitor experience and provide additional points for interactivity or engagement (Knudson, Cable, & Beck, 2003; Veverka, 1998; Widner-Ward & Wilkinson, 2006). Various forms of media (such as: audio-visual presentation; touch-screens; immersive technology; and augmented reality) have become powerful tools to provide opportunities for personalised experiences (Rey & Casado-Neira, 2013; Taheri, Jafari, & O'Gorman, 2014; Var, Chon, & Doh, 2001). Interestingly however, the process by which VA interactives can foster a co-creative experience has yet to be considered in the academic literature.

Conceptual Development

Primarily, the study aims to examine the role and application of interactive technology in the co-creation of visitor experiences in Scottish visitor attractions. Furthermore, the study questions the process through which visitors actively co-create an experience, specifically with the use of interactive platforms. As presented in **Table 1**, a range of theoretical factors have emerged from both the tourism and

service management literature. The study intends to explore the presence of these factors and to critically question their position in the VA context. The output of this analysis aims to generate a process model for technology-enabled co-creative experiences. Despite being focussed in the VA sector, the model could be adapted to different experiential contexts (such as the festival and events sector) or by exploring other types of engagement platform (such as visitor-facing staff).

Table 1. Preliminary Theoretical Factors (developed by author)

Theoretical Factors	Description	Application to the VA Sector
1. Management Factors	Management factors that may contribute to the process of experience co-creation.	1.1 Nature of the message 1.2 Commercial drivers 1.3 Management / affordance of technology 1.4 Authenticity 1.5 Value of technology as an interpretative tool
2. Visitor Factors	Factors that may contribute to the process of experience co-creation from the perspective of visitors.	2.1 Preference 2.2 Propensity 2.3 Access 2.4 Demographics 2.5 Interpretation of the experience
3. Factors influencing the Co-creation of Experience	Broader conceptual factors emerging from the literature that can influence the overall process of experience co-creation.	3.1 Engagement 3.2 Individualisation 3.3 Interaction 3.4 Active vs. passive experience 3.5 Degrees of choice 3.6 Personalisation

Proposed Methodology

Based in the constructivist paradigm, the study employs interpretative and reflective techniques to gain insight into the co-creation process. Investigation into multiple subjective realities is captured through various layers of qualitative fieldwork that focusses on the interpretation of individual experiences (Fuchs, 1999; Hollinshead, 2006; Pernecky, 2007; Tronvoll, Brown, Gremler, & Edvardsson, 2011). Furthermore, the voice of the researcher is firmly embedded in the data and acknowledged as another 'actor' within the co-creative space (Flick, 2014; Riley & Love, 2000). The research relies on multiple case studies of VA exhibitions in Scotland to provide a range of contexts to explore the technology mediated co-creation process. The sites have been selected with a purposive, information-orientated sample and feature along two dimensions: approach to interpretation (technology as a core method vs. supporting method) and level of interactive technology (basic - advanced). Provisionally, the sample comprises of four sites featuring different types of message (such as heritage, science, culture and so on) however additional sites may be explored to acknowledge different contexts.

As highlighted in **Table 1**, this study features three units of analysis: (1) management factors; (2) co-creation factors; and (3) visitor factors. As such, three forms of data collection address these units to gain insight into the co-creative process at each site. Initially, a semi-structured interview with exhibition management provides a starting point of the process. The management choices for selecting, designing and positioning interactive platforms within the exhibitions will directly influence how visitors engage with them. Moving into the visitor space, direct observation provides contextual richness for the study (Pauly, 2010). This method explores the exhibition environment, the visitor flow and observed visitor behaviours with regards to

technology use. Finally, semi-structured interviews with visitors in and around the exhibitions can follow-up on some of the observed behaviours and also begin to capture their interpretation of the experience.

Theoretical and practical implications

A number of theoretical implications are raised in this research. Primarily, the study applies the concept of co-created experiences to the unique visitor attraction context, an area currently under-researched academically. The research further attempts to examine the relationship between the VA and the visitor, with technological platforms as an intermediary. While the use of interactive technology in a VA setting is not a new phenomenon, its application as a co-creative platform has been largely overlooked in tourism research. Finally, the study aims to develop an original framework which identifies the factors contributing to the success of interactive technology as a co-creative platform for VA experiences. This not only makes a strong contribution to the VA literature, but also extends knowledge in the wider tourism field. The study also has the potential to influence VA management approaches, by providing direction for technology adoption and its impact on the visitor experience. This is particularly relevant with regards to exhibition design and curatorial practice, where recommendations could be made to enhance visitor experiences in technology-mediated environments. Not only does technology represent a significant financial investment in need of monitoring, but also this study would provide insight into the effectiveness of technology as an experiential tool.

Discussion

At the time of writing, the author has yet to enter the field, however initial findings should be better formulated in preparation for the workshop in January 2017.

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The Influence of Online Marketing Tactics in Tourist Destination Reputation: Egypt as a Case Study

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Abstract

Online marketing has been a focus of the majority of destinations since the Internet became the primary information tool for travel marketing. Tourism is a reputation-dependent industry; potential travellers who do not have previous experience with the destination face numerous risks during the process of decision-making. An accurate perception of the destination's reputation helps minimize risk against unsatisfactory travel experiences. Taking the importance of reputation to the tourist destination as a starting point, this study explores the influence of the online marketing tactics in the tourist destination reputation.

Keywords: online marketing; reputation; tactics; tourist destination reputation

Problem Definition

'Reputation' is defined by Dowling (2004, p. 20) as an "Overall evaluation that reflects the extent to which people see the firm as substantially 'good' or 'bad' ". This concept has been the subject of substantial discussion by scholars. However, the majority of their studies have focused on *corporate* reputation, with only, limited investigation into the reputation of tourist destinations.

However, the relationship between reputation and online marketing has been investigated to an extent. Research on social media or search engines as an online marketing tactic and its impact on online reputation has been undertaken, but without taking into consideration the effect of other tactics. Typically this would be the work of Floreddu & Cabiddu (2014) who investigated reputation on social media and found a relationship between the levels of communication and reputation.

Along these lines is Marchiori (2012) who provides an understanding of the tourist destination reputation showcased on social media and succeeded in developing a framework to analyse the online reputation of the tourist destination. Despite these advances, there remain some limitations in Marchiori's model, some of which she acknowledged in her thesis. The main problem being that she treated the destination as if it was a complex corporation. Also, she developed her model entirely from literature without any empirical underpinning or testing. Furthermore, she relied on a small sample of tourism experts (7 interviews) to assess the new model without taking into consideration the tourist perception of reputation. Moreover, the present researcher notices further limitation in the model itself. Some of the model dimensions could be expected to have a greater impact on the reputation of a country considering this at its wider scope (i.e. as an economical, political, etc. entity) than on the reputation of a demographical area on its scope as tourist destination, specifically, leadership and government. Finally, Madden & Smith (2010) discussed the use of social media and search engines in monitoring an individual person's reputation.

Research has also dealt with online marketing as a comprehensive strategy without discussing the role of each component. Typically this would be one of the Digital Agenda for New Tourism Approach in European Rural and Mountain Areas (DANTE) projects (2013). With the research problem defined, the present study proposes four research questions that frame an attempt to bridge the knowledge gab in

understanding the influence of online marketing tactics in tourist destination reputation:

- How can destination reputation be measured?
- How do destinations apply online marketing tactics?
- Are there causal links between online marketing tactics and tourist destination reputation?
- How can online marketing tactics be used to manage destination online reputation?

Literature Review

The Internet has had a momentous impact on the tourism industry. On the supply side, the internet became the primary tool for tourism organizations to communicate with their potential customers (Buhalis & Law, 2008). On the demand side, the travellers are now depending on the Internet to access the travel-related information and plan their trips (Xiang *et al.,* 2014). So, it became essential for all tourist destinations and related organizations to utilize the latest information and communication technologies to reinforce their competitiveness (Buhalis, 1998).

The online marketing has become a priority of the majority of destinations (Buhalis & Law, 2008). At the same time, the online marketing strategy is working in harmony as an important part of the whole marketing strategy of any Destination Marketing Organizations (DMOs) whether they represent a city, region or country (UNWTO, 2008). The Destination Marketing Association International (DMAI) (2016) clarified that the DMOs are representing a specific destination and responsible for attracting more visitors to enhance the long-term destination development through an effective tourism strategy. The online marketing strategy is depending on certain tactics in order to achieve the marketing goals. These tactics include social media, search engine, email, online advertising, online public relation, viral, and content marketing (Chaffey *et al.,* 2009).

Tourism is a reputation-dependent industry (Marchiori, 2012); potential travellers who do not have previous experience with the destination face numerous risks during the process of decision-making. An accurate perception of the destination's reputation helps minimize risk against an unsatisfying travel experiences (Yang *et al.,* 2008) and helps manage expectation. Morgan *et al.* (2011) argue that a good tourist destination reputation enhance the competitiveness of the destination, making it easy to compete for visitors, events, talented people, resources, investments and at the same time, making it a place worth to be visited. Another study, by Ledesma *et al.* (2005) found that reputation is a crucial factor in generating repeat visits to specific destinations.

Based on the problem definition and literature review above, a working definition for tourist destination reputation has been developed by the present researcher: the public and stakeholder's estimation to the destination according to an evaluation of the destination's different aspects. This evaluation could be based on previous experience or only on the information available from different sources about the destination.

Conceptual Development

One of the main objectives of this research is to re-think Marchiori's (2012) model for analysing the online reputation of the tourist destination. The resulting model is expected to differ from Marchiori both at its structural as well as its validation level. This is because the model will be generated from an empirical field study rather than

a desk-based study based on literature. The present study will be validated with a qualitative method (interviews with experts both academic and professionals) and quantitative method through applying a Structural Equation Modelling (SEM).

Proposed Methodology

This research follows an interpretivism epistemological research approach, which is concerned with understanding. Also, the knowledge provided by this paradigm is dependent so far on the participants; their understanding and points of view (Creswell, 2003). Usually it is used to answer questions starting with 'how' and use the qualitative methods. Therefore, the interpretivism paradigm is the best-suited paradigm as the researcher is looking to provide an understanding of the factors affecting reputation, how reputation could be measured and the links between the online marketing tactics and destination reputation. Also, the researcher will depend on interacting with the participants to collect the required data.

At the level of approach, this research will adopt mixed methods, while it will be dominated by the qualitative methods. As depending only on the qualitative approach will not be sufficient as quantitative analysis will be used in some positions to support the qualitative data for example the researcher aiming to develop a tourist destination reputation model, this model will be developed through the qualitative data and validated statistically through structural equation modelling. Also using the mixed methods approached helps in overcoming the weakness of the both approaches.

Table 1 summarizes the research objectives, questions, proposed methods and analysis techniques.

Table 1. Research objectives, questions, proposed methods and analysis techniques

Research Objectives	Research Questions	Methods	Analysis Techniques
1. To develop a new destination reputation model	How can the destination reputation be measured?	Interview, Questionnaire and Content analysis	Thematic analysis, Structural equation modelling, and Content analysis
2. To assess the tourist destination approach towards online marketing tactics.	How do destinations apply online marketing tactics?	Interviews	Thematic analysis
3. To evaluate the impact of differentiated online marketing tactics on reputation.	Are there causal links between online marketing tactics and destination reputation?	Interviews / Experiment	Thematic analysis / ANOVA test
4. To measure the potential for using online marketing tactics to manage the destination's online reputation.	How can online marketing tactics be used to manage the destination online reputation?	Interviews/ Content analysis	Thematic analysis / Content analysis
Based on the methodology, and answering the research questions, the study will be able to achieve its final goals: 5. Provide results that can impact on the destination marketer's capacity to better understand effective online marketing strategies, tactics and online reputation management.			

Four different research methods will be applied through the process of data collection; In-depth interviews will be used to answer some of the research questions. In-depth

interview method has been chosen as it gives the opportunity for the interviewees to speak freely about their experiences and points of view (Saunders *et al.,* 2011), and that is exactly what the researcher is looking for to provide a deep understanding about the research topic. The in-depth interview will be conducted in three levels.

The first level will be based in the United Kingdom, among the reputation and tourism experts in order to identify the pillars, which contribute in forming the tourist destination reputation to develop a tourist destination reputation model. The interviewees will be chosen according to their expertise and contribution in the fields of tourism and reputation both professional and academics. The second level will be based in the United Kingdom as well. It will be conducted with the marketers in a sample of the agencies which specialise in online marketing tactics and online reputation management. This level of interviews aim to provide an understanding for the mechanism of the online marketing tactics, it is impact on the reputation and the possibility of using these tactics to manage the online reputation. Finally, the third level of interviews will be based in Egypt, as the researcher is an Egyptian. It will be conducted with the marketers in the Egyptian Tourism Authority marketing unit who are responsible for marketing of the Egyptian destination. This level of interviews aim to acknowledge their understanding for the online marketing tactics, to what extent these tactics are used to market the Egyptian destination and to identify if any of these tactics have been used before to affect the online reputation of the Egyptian destination.

Semi-structured questionnaire will be applied on a sample of tourists to identify the respondent's points of view about the main pillars that contribute in forming their destination reputation. It could be noticed that the first level of interview has the same aim of the semi-structured questionnaire, as the researcher wants to cover the public (represents in the tourists) and stakeholders (represents on the reputation and tourism experts) perception of the tourist destination reputation.

Content analysis will be used in two positions. First, it will be used to evaluate the online reputation of the Egyptian tourist destination. The researcher will analyse the online User-Generated Contents (UGCs) available about the Egyptian destination according to the tourist destination reputation model that will be developed. The search will be conducted through Google search engine as it is the most popular one and will be through the following steps (This method has been used in Marchiori's study 2012). Step one, in order to conduct Google search, queries should be written in Google search bar. Ten tourism related keywords will be applied according to Google suggestion. Step two, the webpages that have UGCs will be analysed, through matching the UGCs available with the tourist destination model factors and identify even it represents this factor in a negative, neutral or positive way.

Second, content analysis will be used to assess the possibility of using social media to manage the online reputation. It will be applied on a sample of the Egyptian tourist destination Facebook pages as Facebook is the most popular social media platform to explore if there is a relationship between the level of communication available on social media pages and level of reputation (This method was used by Floreddu & Cabiddu, 2014).

Also, an experiment will be applied on a sample of the university students to prove if there a causal relationship between the use of the online marketing tactics (represent the independent variable) and Egyptian tourist destination reputation (represent the dependant variable). Causal relationship means the value of the independent variable generate the value of the dependant variable (Saunders *et al.,* 2011). The recruitment of participants will take place among the university students to assure their

enthusiasm to complete the experiment. The experiment will take place at the university classroom to control the extraneous variables and will be applied in three phases. First, a questionnaire will be distributed to assess the current Egyptian destination reputation in the eyes of respondents (represent the control group). Then, the respondents will be directed to use some online marketing tactics for example; a useful Egyptian tourism website with a good content, effective social media page or even the search engine. Finally, another questionnaire will be distributed to reassess the Egyptian destination reputation (experimental group). Any changes in the assessment of Egypt's reputation between the control and experimental groups, assumed to be a result of the online marketing tactics.

Theoretical and practical implications

This research is aiming to fill a gap in the literature through providing a valid, empirically tested model to assess the tourist destination reputation, assessing the tourist destination approach towards online marketing tactics, evaluating the impact of differentiated online marketing tactics on reputation, and measuring the potential for using online marketing tactics to manage the destination's online reputation. The contribution to knowledge will, in a sense, be on the practical side, with the provision of results can improve the practitioner's capacity to better understand effective online marketing strategies, tactics, and how they can assess and manage their reputation.

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Mobile App Use Behaviour of Tourism Destination Visitors – An Investigation of Sought Gratifications and Actual Use Behaviours

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Abstract

Mobile apps provide tourism destinations with features to offer personalised services to their guests. Although the relevance of mobile apps for travels is indisputable, it remains unclear what motivates tourists to use mobile apps during holiday. This study contributes to the theory of uses & gratifications (U&Gs) and the theory of reasoned action (TRA) by investigating tourists' actual use behaviours of a mobile destination app. The research findings are expected to help tourism destinations offer the right mobile app features to their different target groups.

Keywords: mobile App use; tourism destination visitors, sought gratification, U&Gs, TRA

Problem Definition

The smartphone plays a driving force in shaping and transforming the tourist experience (e.g., Wang, Park & Fesenmaier, 2012; Wang, Xiang & Fesenmaier, 2014, 2016). In line with the increasing popularity of tourists' smartphone use for travel purposes, recent studies emphasize the supportive role of mobile apps. Mobile apps empower tourists to access information, make purchases and share experiences anytime and anywhere (Kennedy-Eden & Gretzel, 2012; Dickinson et al., 2014). Tourists adopt different mobile apps to meet their needs during travel (Wang et al., 2016) and make more short-termed decisions through the instantaneous information provision, all in all resulting in an ever changing travel behaviour (Lamsfus, Wang, Alzua-Sorzabal & Xiang, 2015; Wang et al., 2012). Although research has pointed out the relevance of mobile apps for travel due to their value adding functions (Minazzi & Mauri, 2015), it remains unclear what gratifications tourists seek with the mobile app use during travel. This gap occurs from the general lack of knowledge on tourists' motivation to use mobile apps and their actual mobile app use behaviour during travel. This study adds to the limited research on mobile app use during holiday.

Research on mobile app use in tourism has remained rather superficial so far. On the one hand, there is an overuse of the technology acceptance model (Gretzel, 2011) to study travellers' adoption intention of mobile technology (e.g., Lai, 2013; Lu, Mao, Wang & Hu, 2015; Oh, Lehto & Park, 2009). The context of actual use of such technology is often ignored though (Gretzel, 2011). On the other hand, and from a suppliers' perspective, studies in this field have approached the topic very selectively. This has been done by providing destination benchmarks on the implementation of mobile apps (Buhalis & Wagner, 2013), evaluating technical functionalities of mobile apps (Dickinson et al., 2014) or establishing a taxonomy in order to categorise apps on the level of technology integration and experience co-creation (Gibbs, Gretzel & Saltzman, 2016).

Against the background of the relevance of mobile apps for travels, tourism destinations in particular have an interest to apply mobile solutions in order to offer

personalised services to their guests (Lamsfus, Martín, Alzua-Sorzabal & Torres-Manzanera, 2015). The on-site travel stage is considered as the most captivating one with manifold engagement possibilities among the tourism destination and the tourist (Neuhofer, Buhalis & Ladkin, 2012). Multimodal mobile apps hold engagement possibilities as they import diverse features (e.g. information, facilitation and entertainment features). Based on that, this study investigates tourists' motivations and sought gratifications towards the mobile app use as well as actual use behaviour during holiday. The overarching research question can be summarised as follows: *Why and how do tourism destination visitors use a multimodal mobile destination app during their holiday in a tourism destination?*

Literature Review

The use of mobile apps is intimately connected to the individual user (Lalicic & Weismayer, 2016a). Its examination from a tourist's perspective implies the adoption of concepts related to personal attributes and motivations to use such a technology (Lalicic & Weismayer, 2016b). The theory of U&Gs and TRA serve as a promising framework to do so, allowing for investigation of tourists' individual mobile app use behaviours.

The unified concept of the TRA and the theory of planned behaviour represents a well-established basis to study human behaviour (Fishbein & Ajzen, 2010). It includes "behavioural beliefs", "normative beliefs" and "control beliefs" as determinants of behavioural intention and behaviour. Especially in the context of new media, several studies have identified behavioural beliefs and normative beliefs as relevant influencing factors towards a behaviour (e.g., Lee, Kim & Hong, 2010; Kim, Kim & Kil, 2015). The TRA has been validated by previous studies on consumer adoption of mobile services (e.g., Nysveen et al., 2005) and more recently of mobile apps (Yang, 2013). However, although the TRA is well acknowledged for its high explanatory power of human behaviour, some critics state that emotional aspects are neglected in the TRA (Kroeber-Riel & Gröppel-Klein, 2013). The determinants in TRA are useful to explain the intention towards a certain behaviour and the actual behaviour itself. Nevertheless, the whole adoption process may also be affected by the individual's motives and emotions to use the mobile technology. At this point, the theory of U&Gs helps to improve explanatory power of the TRA to study mobile app use during holiday.

The theory of U&Gs has been widely used to explore individual media use. U&Gs explain how and why people seek to use media to fulfil specific needs and wants (Katz, Blumler & Gurevitch, 1974). The general idea is that users actively choose a certain medium to satisfy their needs (Rubin, 2002). Previous studies consistently found people's motivation to use specific media a reliable predictor for actual media use (Park, Lee & Cheong, 2008). Motivations for new media use such as social networking sites include enjoyment, entertainment, status, sociability, immediate access, time management and habit (Krause, North & Heritage, 2014; Nysveen et al., 2005). In terms of mobile app use in other contexts than tourism, identified U&Gs comprise engaged factors such as entertainment and acquisition of knowledge, as well as disengaged factors such as escape, relaxation and pastime (Gerlich, Drumheller, Babb & De'Armond, 2015). In total, five main types of motivations were identified to drive individuals to use mobile media: cognitive, affective, interpersonal, social and comfortable (Lee et al., 2010; Lin, Fang & Hsu, 2014).

In the context of tourism, only very few researches have addressed motivational aspects to understand mobile technology use during trips. This is surprising as motivations may play a relevant role to actually download a mobile app. Indicated

studies on this topic reveal rather broad motivations for mobile app use during the on-site travel stage. Such motivations include the need for information in order to learn or improve efficiency, social needs such as sharing experiences with others and hedonic needs like "being excited" and "feeling a destination" (Wang et al., 2012). Among these general motivational factors to use mobile apps during the on-site travel experience, there are spillover effects from tourists' smartphone use in daily life into travel in terms of habits, routines, mentalities and information search behaviour (Wang et al., 2016).

Conceptual Development

This study integrates individual motives from the theory of U&Gs into the TRA to study mobile app use behaviour of destination visitors. Motives from the theory of U&Gs have already been examined as additional predictors in the TRA model, although only by a handful of studies and not related to tourism. Yang (2013) found enjoyment as a significant determinant of a person's attitude and intention towards the use of mobile apps. This finding receives support from Venkatesh et al. (2012) and Nysveen et al. (2005). Besides, Nysveen et al. (2005) discovered expressiveness, formed by the motive to express one's personality as a powerful antecedent of the intention to use mobile services. These studies have some weaknesses in respect to the holiday related context. In order to understand the mobile app use in a consumption experience, it is not only essential to analyse it from a personal but also contextual view (Grant & O'Donohoe, 2007). As multimodal mobile destination apps combine various independent features, it can be assumed that their users also seek diverse context related U&Gs offered by the different functions of the mobile app.

Figure 1 illustrates the conceptual model including individual motives as a further determinant of behavioural beliefs respectively attitude and behavioural intention.
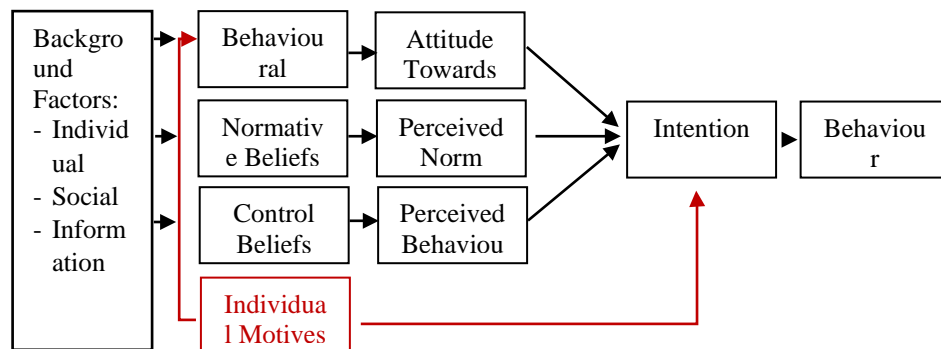
Figure 1. Extended Model of TRA for Mobile App Use Behaviour (own graph; based on Fishbein & Ajzen, 2010).

Proposed Methodology

In a first step, this study follows an exploratory approach by investigating tourists' individual motives of using a multimodal mobile app during their holiday in a tourism destination. Thereby, the theory of U&Gs serves as a procedural model. The individual motivations are investigated through interviews with users of the advanced multimodal destination app "LAAX Inside". This mobile app is exemplarily used for the analysis, allowing diverse features to be explored separately. These examined tourism specific motivational factors enrich the already existing motivational factors from U&Gs studies of mobile technology in general. In order to develop a verifiable

theoretical construct of the composed individual motives, the U&Gs development process by Stafford, Stafford & Schkade (2004) is applied.

In a second step, a survey is conducted with tourists spending their holiday in the alpine tourism destination LAAX, Switzerland, by applying the extended model of TRA with the added theoretical construct of individual motives. This way, a specific understanding of tourists' actual mobile app use behaviour can be achieved. The quantitative data collection process is divided into two sequential parts. Whereas the survey of the extended model of the TRA takes place prior to tourists' actual mobile app use, follow-up interviews after the actual mobile app use reveal insights into the detailed use behaviour of the questioned tourists.

Practical and Theoretical Implications

The results are expected to provide tourism destinations with nuanced, feature specific insights into the mobile app use of their visitors by uncovering underlying motivational and adoption related aspects. From a practical perspective, it is vital for tourism destinations to understand what factors influence tourists' use of mobile apps during their holiday in order to be able to provide their target groups with the right mobile app features. This work provides the necessary fundamentals for it. Based on that, comparable alpine tourism destinations will be able to provide multimodal mobile apps, which add real value to the holiday experience of their guests. Academically, this study contributes to the theory of U&Gs with tourism specific motivational factors towards the use of specific mobile app features. Further, it expands the TRA with the compiled individual motivational variables. This way, it generates knowledge on what role individual motivational and emotional factors play in comparison to the factors normative beliefs and control beliefs to explain mobile app use on holiday.

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Disruption in industry structures through technology-enabled innovations: the case of Taiwan's inbound tour operators

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Abstract

The traditional distribution channel of mass tourism is being challenged by Information Technology-enabled innovations as tourists are empowered to book anytime and anywhere. It is evident that incumbent inbound tour operators (ITOs) will need to adapt to the new competition setting if they are to prosper and even survive. This exploratory study investigates the perception of in-destination tour stakeholders regarding the impact of digital disruption on tourism. The researcher adopted a qualitative research method to identify how tourism start-ups may reshape the industry structure with technology expertise and novel business models.

Keywords: technology-enabled innovation; inbound tour operator; disruption

Problem Definition

Tourism has undergone a substantial paradigm shift with the implementation of information technologies (Buhalis & O'Connor, 2005). Technology-enabled innovations have impacted on the business environment from both demand and supply perspectives. While tourism stakeholders have become more connected, Gretzel, Werthner, Koo, and Lamsfus (2015) propose that the industry has evolved into a "smart tourism ecosystem" where all stakeholders "take advantage of smart technology in creating, managing and delivering intelligent touristic services/ experiences" (p.560). This new interactive paradigm implies that inbound tour operators (ITOs) should evolve continually to follow the volatility of international demand in the changing business environment. When established tourism enterprises confront digital innovators serving parallel customer needs, they should expect some process of transformation for business sustainability with a view to playing an active role in the new business ecosystem (Weill & Woerner, 2015). Moreover, tourism managers should prepare for prospective sector transformation, where digital disruptors have eroded barriers of the tourism sector with technological expertise and innovative business models to solve tourist problems.

Travel has become affordable and convenient with the emergence of budget airlines, the sharing economy, and fast booking systems. While tourism practitioners often argue that there will still be a need for traditional travel agencies (Law, Leung, Lo, Leung, & Fong, 2015), little is known about their perceptions of how technological innovation may impact the sector aligned with innovative tour operators regarding the future of tourism. The present study investigates ITO stakeholders' perceptions of how technology-enabled innovation may impact the industry structure. It aims to explore the evolving competitive environment from the supplier's perspective. The results will provide a foundation for the sector to prepare for the confrontation of digital disruption from tourism start-ups and international enterprises. Prospective future development within the sector will be reviewed and discussed.

Literature Review

Information technology changes the business value chain and redefines industries (Porter & Millar, 1985). For established companies, innovative competitors often disrupt the established companies, failing to recognize the organizational competencies of "resources, process, and values" (Christensen & Bower, 1996). Buhalis (1998) argues that incumbent travel companies may lose their competitiveness if they do not embrace such technology advances. The implementation of ICT has caused direct competition for conventional tourism intermediaries while ITOs can collaborate more efficiently with their suppliers (Dong, Ling, & Guo, 2013). Nevertheless, while tourism organizations widely adopt the same technology, it is vital for them to differentiate their product strategy for segmented markets (Souto, 2015).

While digital technology has revolutionized many industries, Dawson, Hirt, and Scanlan (2016) propose to investigate vulnerability through the impacts on demand and supply with incremental and radical changes. Moreover, the recent development of hyperscaling platforms through technology-enabled innovations implies a structural shift of industry (Parmar, 2012). Tour operators are traditionally wholesalers of tour components and suppliers assembling package holidays (Dörry, 2008; Holloway, 2009). They serve as both intermediaries and principals while they also change the nature of the services (Holloway, 2009). While OTAs joined the competition of distribution, they have forced traditional TAs and ITOs to change their business scope (Euromonitor International, 2016).

Porter (1980) indicates that companies should inspect their competitiveness with the five-force framework, namely its bargaining power against suppliers and buyers, and competitive advantage against substitutes, new entrants, and direct rivals. Some have argued that there should be an additional force from "complementors", which would improve the overall attractiveness of the industry (Rochlin, 2006) without necessarily being a competing force. In addition, Berne, Garcia-Gonzalez, and Mugica (2012) propose to distinguish the impact of ICT in the power shift among tourism stakeholders regarding market and channel structure. While the former is often an external factor, they argue that alternative actions by channel members may have different impacts on the power balance in the distribution system.

Conceptual Development

Based on the review of key literature, this study focuses on how the industry structure of ITOs may have been disrupted by the development of technology-enabled innovations such as platform enterprises (Figure 1). While technology-enabled innovations have impacted both the demand and supply of tourism products, there is potentially a decreasing need for the conventional distribution channel of tourism intermediaries such as TAs and ITOs. While ITOs are also principal tour service providers, they can connect directly with customers through platform enterprises and company websites. While platform enterprises with the technological expertise may serve as an external resource for ITOs, it relies on how ITOs perceive their roles in the contemporary ecosystem so as to develop their strategies in the competition setting.
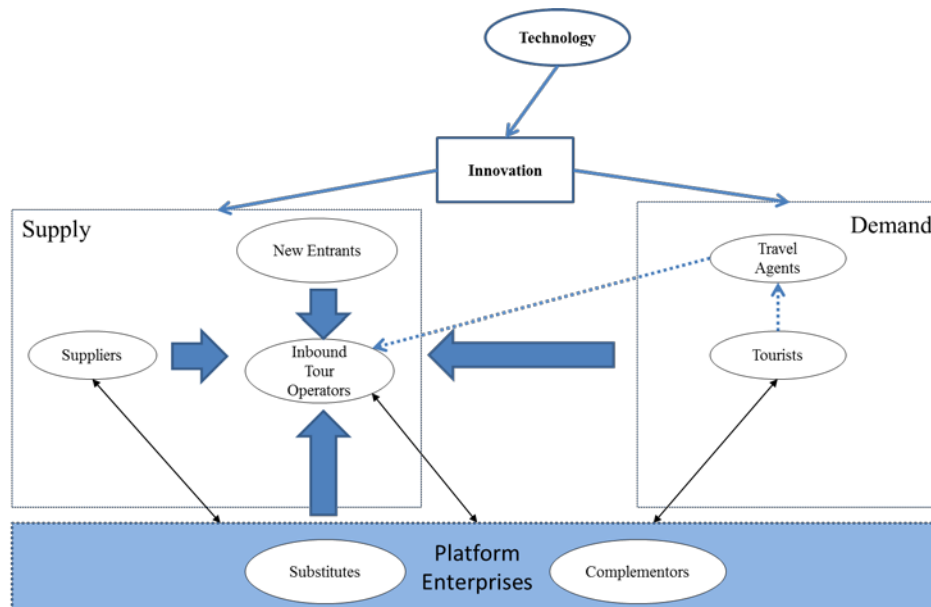
Figure 1. Conceptual Framework

Proposed Methodology

The purpose of this study is to identify how ITOs respond to the technology-enabled innovations and prepare for the transformation in the new competition setting. While the research question aims to explore the "how and why" various ITOs may have different perceptions of the shift of the industry structure, a qualitative case study method is identified as a relevant approach to investigate the in-depth description of the phenomenon (Yin, 2014). Moreover, in-depth interviews are adopted for the data collection in this qualitative case study (Creswell, 2007). Key informants are the established ITOs and tourism start-ups including new entrants operating more traditional ITO business models, and platform companies which provide alternative solutions. Industry stakeholders including government, suppliers, and international platforms will also be recruited for triangulation purposes (see Table 1). This study also adopts Verstehen and emic perspectives (Hennink, Hutter, & Bailey, 2010), which minimize the researcher's influence and predominant perception of the pattern to understand the life experiences and perceptions from the interviewees' points of view. Questions are designed in the position of a realist, which means that there are no explicit assumptions so that the issues can be methodically and rigorously addressed (Maxwell, 2012). Incumbent ITOs and technology start-ups are examined under the changing competition regarding their competitiveness with buyers, suppliers, substitutes, new entrants, and existing rivals.

Table 1. List of Informant Types

Type of Informants		
Incumbent ITOs	**Business Nature**	**Target Market**
1. ITO A	1. In-destination tour suppliers	Southeast Asian TA
2. ITO B	2. In-destination tour suppliers	Japanese TA
3. ITO C	3. In-destination tour suppliers	Mainland Chinese TA
Tourism Start-ups	**Business Nature**	**Target Market**
4. Start-up D	1. Platform for tour components or	Asian FIT

	in-destination tour products	
5. Start-up E	2. Technology Solution	Worldwide hotels
6. Start-up F	3. In-destination tour suppliers	English-speaking FIT
ITO Stakeholders	**Business Nature**	
7. Organization G	1. National Tourism Organization	Worldwide tourists
8. Supplier H	2. Hotel	Worldwide tourists
9. Company I	3. International Platform	Worldwide FIT

Theoretical and practical implications

This research will contribute to knowledge by investigating how the implementation of technology-enabled innovations has impacted on prevailing industry structures. It should provide a theoretical understanding of the characteristics of innovative ITOs and their business capabilities. The findings will complement the existing literature by identifying the nature of digital disruption in tourism from the supplier's perspective. The professional application of this research is to provide ITOs with a potential roadmap for the evolving competition settings through the implementation of technology-enabled innovations. It will also inform ITO stakeholders about the impact of digital disruption for in-destination tour operators. The results may also uncover an unmet market need in Taiwan inbound tourism for overlooked business opportunities. Moreover, it will help tourism stakeholders to develop strategies in the sector transformation. In a rapidly changing global tourism environment with the advance of technology-enabled innovations, the present research should contribute to knowledge by investigating how ITOs may position themselves in the new ecosystem. Nevertheless, technology-enabled innovations provide a mechanism to co-create experiences with international tourists. It is important for policy makers to understand how ITOs in Taiwan formulate their strategies the emerging near future.

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Application of computer simulation to manage recreational boating in public lands

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Abstract

One of the major water-based activities is recreational boating. Recreational boaters enjoy a multitude of public natural lakes and rivers for boating, but what is the capacity of these waterways to accommodate use? A simulation model of a popular river will be developed to determine the river's social carrying capacity and service quality. Current and projected future recreational boating use levels will be compared in the simulation against visitor-reported standards for crowding.

Problem Statement

Visitation to parks and protected areas has steadily increased with countries like the U.S. national park system recorded over 300 million visits in 2015 (NPS, 2016). High use levels encompass a variety of different types of use in parks and protected areas, for instance, recreational boating. Rivers across the U.S have experienced a steady increase in recreation boating levels, with over 35% of adults in the U.S participating in it annually (NMMA, 2015).

High boating participation rates may jeopardize the integrity of natural resources and the quality of the visitor experience (Manning, 2011). As a result, recreational managers are tasked with regulating and managing recreational boating. The carrying capacity concept has been extensively adopted by parks and protected areas to address issues related to visitor use. The concept is comprised of four parts: resource, social, managerial, and physical dimensions (Manning, 2011). Each dimension constitutes a distinct type of carrying capacity and when all four are combined make up the overall carrying capacity for a recreational area.

However, the present study will primarily focus on social carrying capacity. This is the amount of visitor use an area can accommodate without diminishing the recreational experience of the visitor experience beyond an acceptable level (Manning, 2011). Research on social carrying capacity majorly focus on identifying indicators and establishing standards (thresholds) for a place or activity. For example, indicators of crowding on a river may include boat launch waiting times, and river encounters. Standards define the minimum acceptable condition associated with each indicator variable (Hallo & Manning, 2010).

In order to determine if and when minimum standards are being met or exceeded, managers may need to perform simulations. Computer simulation modelling studies that assess social carrying capacity in protected areas have to a large extent focused on trails, attraction sites, and scenic roads. However, there is limited research that has used simulation modelling in the context of recreational boating (Lowry, Laninga, Zimmerman & Kingsbury, 2011).

The research proposed here intends to use simulation modeling to assess the social carrying capacity of the Delaware River. Specifically, the model will be used to

estimate the maximum number of recreational boats that can use the river without violating congestion-related standards of quality. Also, the model will be used to test the potential effectiveness of managing river use in an alternative way, and changes in management regulations.

Literature Review

Recreational boating involves the use of watercraft that are operated out on the water for pleasure and recreation, not for commercial purposes (USCG, 2012). Recreational boaters enjoy a multitude of public natural lakes and rivers for boating, but these waterways are a limited natural resource. In some cases crowding caused by high rates of boating participation has strained the capacity of this natural resource base, generating conflict between participants and environmental impacts (Hammitt, Cole, & Monz, 2015; Manning, 2011; Pigram, 2007). The overcrowding of lakes and rivers also threatens public health and detracts from one's recreational experience (Kusler, 1972; Sunger, Teske, Nappier, & Haas, 2012). In these situations, displacement may occur with some boaters moving to other lakes (Gyllenskog, 1996; Kuentzel & Heberlein, 2003; Tseng, Kyle, Shafer, Graefe, Bradle & Schuett, 2009).

For the past 50 years, outdoor recreation research has adapted and developed the concept of carrying capacity to tackle concerns related to visitor use. Early studies focused on evaluating the number of visitors a recreation area could accommodate before its natural qualities were significantly compromised. Over time, a three-dimensional model has been adapted that includes the resource capacity, management capacity, and the social capacity (Manning & Lime, 1996). Consequently, parks and protected areas may have more than one carrying capacity. Some models have also included restrictions imposed by limits of physical space— physical capacity. However, in outdoor recreation research, physical capacity has not been considered as a major concern (Manning, 2011).

Analyzing use levels, encounter norms, and perceptions of crowding, is consistent with existing land management legislation (e.g. the Wilderness Act (1964), Land and Water Conservation Fund Act (1964), Wild and Scenic Rivers Act (1968), National Trail System Act (1968), National Park and Recreation Area Act (1978)) which identify capacity-related issues as fundamental tools for protecting resource values and visitor experiences.

A number of outdoor recreation management frameworks have been developed to support parks and protected areas establish a carrying capacity. They include the Limits of Acceptable Change (LAC) (Stankey, Cole, Lucas, Peterson, Frissell, & Washburne 1985), Carrying Capacity Assessment Process (CCAP) (Shelby & Heberlein, 1986), Visitor Impact Management (VIM) (Graefe, Kuss, & Vaske 1990), Visitor Experience and Resource Protection (VERP) (NPS 1997), and the Visitor Use Management Framework (VUMF) (IVUMC, 2016). These frameworks mostly apply the concepts of indicators and standards of quality when examining capacity, and in the context of recreation management, their foundation and body of literature is more similar than different (Manning, 2004).

Indicators are defined as "specific resource or experiential attributes that can be measured to track changes in conditions so that progress toward achieving and maintaining desired conditions can be assessed" (IVUMC, 2016 p.38). For example, indicators of crowding in recreation area may include boat launch wait times, number of river encounters, and the availability of parking. To ensure that conditions remain acceptable for selected indicator variables, standards (thresholds) need to be

determined. Therefore, standards are defined as the minimum acceptable condition of each indicator variables (Manning, 2011).

Computer simulation modelling has been used a tool to implement these carrying capacity frameworks in parks and protected areas. Simulation modelling can be used to describe and understand existing visitor use conditions that are inherently difficult to observe (Lawson, Manning, Valliere, & Wang, 2003). Additionally, it can be used to test the potential effectiveness of management alternatives like changes in boat launch schedules (Daniel & Gimblett, 2000) before any particular method or approach is implemented.

Simulation modelling studies that assess social carrying capacity in protected areas have largely focused on trails, attraction sites, and scenic roads (Gimblett, Richards, & ltami, 2000; Hallo & Manning, 2010; Lawson et al., 2003; Lawson, Mayo-Kiely, & Manning, 2003; van Wantendonk, 2003). However, there is limited research that has used simulation modelling in the context of recreational boating (Lowry et al., 2011).

Simulation research in recreational boating is capable of providing managers with detailed information about how visitors are currently using a specific water body (e.g. river or lake). This baseline information can assist managers in identifying "hot spots" as well as areas that may be capable to accommodating additional use (Lawson, Itami, Gimblett, & Manning, 2006).

The research proposed here intends to use simulation modeling to assess the social carrying capacity of the Delaware River (Delaware Water Gap National Recreation Area—DEWA). Specifically, the model will be used to estimate the maximum number of recreational boats that can use the river without violating crowding-related standards of quality. Also, the model will be used to test the potential effectiveness of managing river use in an alternative way.

Conceptual Framework

Past studies have examined the impact of visitor use on the quality of the outdoor recreation experience by measuring social conditions (use levels and encounters with others), psychological conditions (evaluation of encounters and perceived crowding), and social psychological conditions (encounter expectations and preferences). From these measures, one can aggregate visitor responses into a normative standard for acceptable use levels (Kuentzel & Heberlein, 2003).

Research on standards of quality has subsequently relied on normative theory and methods developed in sociology (Manning, 2013; Vaske & Whitaker, 2004). Norms are defined as standards that individuals and groups use for evaluating environmental and social conditions (Shelby & Vaske, 1991). Personal norms of individuals are aggregated to derive social norms often presented in the form of social norm curves (Vaske & Whitaker, 2004; Manning, Valliere, & Hallo, 2010).

The normative approach to carrying capacity has increasingly been used in many recreational sites like parks and protected areas (Diedrich et al., 2011; Kainzinger, et al., 2015; Manning et al., 2010). This approach will be extended to develop recreational boating crowding-related standards at DEWA.

Proposed Methodology

Three types of data inputs for the simulation model will be collected during the peak use season: 1) boat counts, 2) boat travel routes, and 3) standards of quality. A randomly selected sample will be issued with a small packet containing a Global Positioning System (GPS) unit, a copy of a recreation user survey, and a self-addressed stamped envelope (due to multiple entry and exit points along the river) at selected boat launches. The visitor (respondent) is to turn on the GPS unit and carry it in their boat. At the end of their visit they should fill the survey and mail back the packet. Respondents' contact information will also be collected at the time when they are issued with the packet to make follow ups (Dillman, 1991).

Assessing recreational boating use levels will be accomplished using counts by automatic field cameras. The cameras will be placed in strategic locations along the river to capture instantaneous boat counts. Boat travel routes will be collected by having a sample of park visitors carry a Global Positioning System (GPS) unit in their boat. Lastly, the recreation user survey will examine different indicators like number of boats at one time, and waiting times to launch a boat. Standards will then be derived based on the normative approach.

A simulation model of the river will be built using Extend, a commercially available, simulation software that may be modified to fit most simulation needs in parks (Hallo & Manning, 2010; Lawson, Itami, Gimblett, & Manning 2006).

Anticipated Results

It is expected that this research will contribute to growing body of knowledge regarding visitor management in parks and protected areas. The simulation model would help determine appropriate management alternatives that can be implemented to improve the quality of visitor experiences along water-based recreation areas.

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The transformation process of an international tourist destination into a Smart City under the ANT's lens: The case of Búzios Cidade Inteligente

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Abstract

Various tourism destinations throughout the world have started to implement smart city projects to answer the call for improving the standard of living and sustainability in urban areas, thereby motivating the emergence of the notion of smart destination. Still, the literature on the subject is incipient. This doctoral study aims to help filling such theoretical gap by presenting ANT as a theoretical lens to examine a smart destination project in Brazil, as well as by proposing a theoretical framework to guide the transformation of a destination into smart.

Keywords: tourism destination; smart destination; smart city project; Brazil

Problem Definition

Over the past six decades, Travel and Tourism (T&T) became one of the largest and fastest-growing economic sectors in the world. Such economic relevance is associated with intense competition among tourist destinations. As stressed by Crouch (2011), surviving and thriving in an extremely dynamic, competitive and global market, as tourism, is certainly quite challenging. Therefore, tourism destinations are constantly concerned with the sustainability and further enhancement of their market position. Since Information and Communication Technologies (ICTs) have become the main influential determinant in economic, social and human development, ICT has increasingly played a critical role as a powerful instrument for improving tourism destination competitiveness (Xiang et al., 2015). Fundamentally, the development and diffusion of ICT offers new modalities of communication, new ways for data collection, analysis and exchange, and thus, new opportunities for value creation and management in the context of T&T (Gretzel et al., 2015).

With the widespread adoption of ICT for personal and business use, the term "Smart" has become a new buzzword to describe all things that are embedded or enhanced by technology (Werthner et al., 2015). When applied to cities (smart city) is meant to define an "urban environment which, supported by pervasive ICT systems, is able to offer advanced and innovative services to citizens in order to improve the overall quality of their life" (Piro et al., 2014, p. 169). To date, Smart city projects are becoming increasingly commonplace in the arena of T&T, as various tourism destination have started their implementation projects. As such, the concept of smart tourism destination has emerged (Boes et al., 2015) whereby ICT is perceived as the driver and foundation for destination innovation and competitiveness (Xiang et al., 2015). However, several scholars argue that "smart", especially in the case of tourism, has become a very fuzzy concept often used to drive specific political agendas and to sell technological solutions (Gretzel et al., 2015).

In fact, the work of conceptualizing and defining a smart destination is still in progress and it has been gaining considerable attention as a topic that urgently needs both theoretical and empirical investigation (Werthner et al., 2015). As such, the

essence of this research problem is the lack of understanding regarding the formation processes of complex networks of heterogeneous actors involved in the transformation of a tourism destination into a smart destination, especially concerning a developing country context. Consequently, this doctoral study seeks to answer the abovementioned call for better conceptualization of the smart destination phenomenon, by examining the trajectory of a transformation process of an international tourism destination into a Smart City under the perspective of the Actor-Network Theory. The setting of this study comprises the city of Armação dos Búzios, a holiday retreat located in Brazil, around two hours' drive from Rio de Janeiro. In 2011, an electricity distribution dealer under the Enel Brazil holding, Ampla Energia e Serviços S.A, launched a project (Cidade Inteligente Búzios) aimed at transforming Armação dos Búzios into the first smart city of Latin America. So far, about 12 million dollars have been invested in this project.

Literature Review

Smart Destination

Fundamentally, smart destinations refer to an extension of the idea of smart cities applied to tourism areas (Lamsfus et al., 2015). In general, smart destinations have been commonly defined as an ICT-integrated urban tourism platform, which dynamically interconnect tourism stakeholders and ICT to collect, create and exchange information that can be used to enrich tourism experiences in real-time (Buhalis & Amaranggana, 2013). To date, despite the execution of a number of smart destination projects in different countries, only two theoretical studies have consistently addressed the challenge of attempting to build a Smart Destinations framework. On the one hand, Buhalis and Amaranggana (2013) proposed a generic systematic framework to examine the role of ICT in successful destinations. On the other hand, Boes et al. (2015) identified a set dimensions associated with smart destinations. In this way, despite the robust theoretical contributions of the aforementioned studies, extant literature do not suggest a strategic path nor indicate the necessary steps to transform a destination into smart. Therefore, understanding the network formation processes associated with smart destination projects seemed to us to be a relevant phenomenon sufficiently understudied to merit further investigation.

Actor-Network Theory

Essentially, the Actor-Network Theory (ANT) makes it possible to frame the analysis of the interplay between technology and society in the middle ground amid two conflicting approaches: technological determinism and social determinism (Teles & Joia, 2011). In effect, ANT portrays society as a socio-technical web (actor-network) where technical objects participate in constantly building heterogeneous networks that bring together actors (or actants) of all types (Murdoch, 1997). From an ANT perspective, human and non-human actors are considered without distinction, so that any person or device that is able to impose their language to others can be considered an actor in a network (Latour, 2005). Furthermore, the number of connections that an actant has with different actors and networks determines what the actant is and what he, she, or it can do through a series of negotiations (Latour, 2005). It is also important to highlight that actor-networks are assembled/re-assembled for particular projects. They are impermanent entities and their existence depend on continuous performance of relations. For that reason, we cannot take anything for granted, since everything is an effect of relational practices - actors are assembled and structures are arranged in a recursive process of translation (Law, 1994).

The concept of translation, widely used in ANT studies, refers to "the mechanism by which the social and natural worlds progressively take form" (Callon, 1986). The translation process is dynamic, and different groups of actants compete to establish their self-interested problematization. The outcome of this process is a situation in which certain entities control others, who are persuaded to act in accordance with the requirements of the network. Such requirements can be protected by inscriptions, which result from the translation of actors' interests into a material form. Inscriptions often occur in the life cycle of the network, contributing to ensure the irreversibility of the network (Teles & Joia, 2011). Despite the fact that translations are not eternal, when certain translation reaches irreversibility, it is impossible to go back to a point where that translation was only one among others (Callon, 1986). As such, irreversibility shapes and determines subsequent translations.

There is a large body of evidence in literature that ANT has strong explanatory power in situations where innovations proliferate and group boundaries are uncertain (Latour, 2005). Moreover, it provides a perspective to view the process that translates spatial relations to complex networks and a way to look at those dualisms as nature/society, action/structure and local/global, inherent to the tourism phenomenon.

Conceptual Development

In order to answer our research question, we propose a framework to guide the analyses of a smart destination development process, named "The Smart Destination Reference Model". Based upon the earlier literature review and discussion on smart destinations and ANT, we go beyond the current approaches by proposing a framework incorporating factors associated with implementation process of smart destination projects. More specifically, the framework proposed by this doctoral study is based on the work of Zygiaris (2013), which offers a comprehensive model - The Smart City Reference Model (SCRM) - that conceptualizes different components of a smart city and explains the strategic roadmap to be followed. According to the SCRM, the smart city ecosystem is composed by seven layers: (0) The City Layer; (1) The Green City; (2) The Interconnection Layer; (3) The Instrumentation Layer; (4) The Open Integration Layer; (5) The Application Layer; and (6) The Innovation Layer. After reviewing the literature on tourism destination, we transformed the SCRM into a Smart Destination Reference Model (SDRM) as briefly depicted on table 1.

Table 1. Smart Destination Reference Model

Smart Destination Layers	Main concerns of Layers
Layer 0: The Destination	Destination Readiness to become "Smart"
Layer 1: The Green Destination	Sustainability
Layer 2: The Interconnected Destination	Broadband Economy
Layer 3: The Instrumented Destination	Real Time Events
Layer 4: Open Integrated Destination	Open Integrated Space
Layer 5: Tourism Applications	Real life intelligence
Layer 6: The Innovative Destination	Smart Growth

Source: The Authors

In essence, SDRM consists of a heuristic framework, which makes room for a wide range of more specific formulations of the problem (Winter, 1999). Therefore, to justify the rationale beneath the SDRM, we have opted to incorporate ANT elements into it, reassuring then that the notion of an intricate relationship between technology and tourism will be taken into account by the framework. Consequently, the SDRM was refined by the effort to relate each of the seven layers with a set of ANT concepts

addressing the trajectory of actor-networks combining technical, social and economic elements. An attempt is made to consolidate on table 2 the information about how each layer could turn into a network that contributes to the completeness of the SDRM (a network of networks).

Table 2. SDRM and operational aspects of the actor-network theory (ANT)

Layers	Operational aspects of ANT	
Layer 0: The Destination	Translations	Premises regarding the destination readiness to become "Smart".
	Inscriptions	Tourism inventory, reports, regeneration projects, standards, political agreements, legal texts, contracts and arrangements.
	Irreversibility	Approval of texts and projects, dissemination of standards and values (smart vision) in the network.
Layer 1: The Green Destination	Translations	Premises regarding sustainability
	Inscriptions	Standards, political agreements, legal texts and contracts.
	Irreversibility	Dissemination of a tourist model more responsible and respectful to hosting communities.
Layer 2: The Interconnected Destination	Translations	Technical, economic and financial premises relating to innovation support capacity of the telecomm infrastructure.
	Inscriptions	Implementation of technological infrastructure of broadband networks and establishing their standards. High-speed network access at destination wide area.
	Irreversibility	Widespread adoption of destination's telecomm infrastructure.
Layer 3: The Instrumented Destination	Translations	Premises regarding the incorporation of ICTs into physical infrastructure.
	Inscriptions	The enrichment of the physical space and infrastructures of destination with embedded systems, smart devices, sensors and actuators, offering real-time data. Internet of Things.
	Irreversibility	Dissemination of the use of local information by the tourists, industry stakeholders and DMOs.
Layer 4: The Open Integrated Destination	Translations	Premises regarding the collection, processing and exchange of tourism-relevant data.
	Inscriptions	An enterprise-computing platform, open, scalable and cooperative, able to integrate and exploit the data generated.
	Irreversibility	Intensive information sharing and value co-creation through such open integrated space (platform).
Layer 5: The Tourism Applications	Translations	Premises regarding developing and offering services through ICT applications.
	Inscriptions	ICT applications, e.g., location-based services, e-payment, recommender applications, virtual guides.
	Irreversibility	Widespread adoption of such ICT applications.
Layer 6: The Innovative Destination	Translations	Premises regarding the need for sustaining an innovation environment.
	Inscriptions	Codes, standards, political agreements, legal texts and contracts
	Irreversibility	Business positive results. Enhancement of the quality of life of the destination's inhabitants.

Source: The Authors

Proposed Methodology

This doctoral study concerns a case study associated with ANT. Moreover, it embraces a qualitative perspective and is grounded on a critical interpretivist paradigm. A research with such paradigm is built upon the construction of detailed, local and situated empirical interpretation, a reflective approach that reveals (and disrupts) the assumptions and certainties that reinforce the status quo, the connection of interpretation to the wider historical and societal context and considerations of power and control (Doolin & McLeod, 2005).

Data collection. Essentially, Latour (2005, p. 68) defines the ANT slogan as "follow the actors in their weaving through things they have added to social skills so as to render more durable the constantly shifting interactions". While following the actors an extensive empirical material (interviews, observations, and documentary sources) is being gathered.

Data Analysis. Techniques such as triangulating data sources and developing a code scheme will be employed. It is also important to highlight that data will be analysed based on the operational aspects of ANT proposed on table 2.

Theoretical and practical implications

This doctoral study is expected to generate a valuable contribution on both theoretical and practical levels. It will contribute to theoretical foundation of smart destinations by presenting ANT as promising theoretical lens to carry out the analysis of the smart destination phenomenon, which is made up by both social discourses and technologies. In addition, it offers a theoretical framework on the transformation process of a tourism destination into smart. Therefore, this study shall help to refine the smart destination concept. Apart from enriching the literature of smart tourism destination, practical contributions are ensured via the case study. By assessing the formation of networks through the project implementation, the controversies will emerge and the reasons for the successes and failures of the transformation process shall be exposed and further understood. As such, the thesis will be useful for the city of Búzios, as a guide to improve it as a smart destination, as well as for other cities intending to follow Búzios example. Tourism is one of the strongest drivers of world trade and prosperity. While exposing the opportunities risen in a smart destination environment, we hope that this thesis encourages other cities in developing countries to become smart destinations.

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Online takeaway food ordering: the growth and acceptance of mobile apps

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Abstract

The technology disruption has developed a new way for customers to purchase takeaway food. Nowadays, takeaway food can be purchase through technology device such as smartphone and smart television. Although the traditional methods such as phone still used by the consumer, the usage of mobile apps to order foods is increasing. Therefore, this study aims to understand the growth of online takeaway food ordering sector and consumer acceptance by adopting a mixed method approach.

Keywords: online takeaway food; food ordering; mobile apps; TAM

Problem Definition

The study of takeaway sector of food and beverage industry was always been related to health and eating issues (Jaworowska, Blackham, Davies, & Stevenson, 2013; Miura & Turrell, 2014; Timperio, Ball, Roberts, Andrianopoulos, & Crawford, 2009). However, most people does not realised the takeaway market has been established centuries ago due to the excess source of fish in UK (Walton, 1994) and the needs for women in the workforce (Fantasia, 1995; Reiter, 1996). Nowadays, in the 20th centuries the takeaway sector has become one of the most important industry that generating income to most countries (Euromonitor International, 2015). The disruption of technology has created a new product based on the takeaway and technology, the online takeaway food ordering sector. This research seeks to understand the development and the growth of online takeaway food ordering sector by applying a single-case study approach of one of the online takeaway food ordering company in UK. By doing the case study, the study will able to contribute new information and knowledge to the food and beverage study.

Based on previous literature, the study of understanding of customer acceptance on technology mostly focus on areas such as online shopping (Chen, 2013; Renny, Guritno, & Siringoringo, 2013) and online banking (Arvidsson, 2014; Patsiotis, Hughes, & Webber, 2012). In addition, the previous study also found the study on the actual usage the smartphone was still low, as consumer still are not willing to use the device to engage transactions (O'Reilly, Duane, & Andreev, 2012). In order to fill the gaps, this study focuses on understanding consumer acceptance of online takeaway food ordering by using the smartphone application.

Literature Review

In the first quarter of 2016, smartphone sales have achieved 349 million units worldwide (Gartner, 2016), it showed the popularity of the devices with users nowadays. Compared to the same period in 2015, the sales have an increase of 3.9 per cent (Gartner, 2016). With the increase of the smartphone sales, comes a new generation of business which is called mobile commerce application (Morosan, 2014). Table 2.1 displayed the era of mobile commerce from when it established until the new era of mobile application that integrate mobile commerce into it. Among all component of m-commerce studies, the mobile payment (m-payment) studies are very

limited in the food and beverage sector (Cobanoglu, Yang, Shatskikh, & Agarwal, 2015; Kim, Mirusmonov, & Lee, 2010). Most studies on m-payment would focus on other sector such as banking (Dahlberg, Guo, & Ondrus, 2015). In fact, the first studies on m-payment in the restaurant industry was claimed by Cobanoglu, Yang, Shatskikh, and Agarwal, (2015).

Table 2.1 Eras of mobile commerce

| Era	Major milestones
Era 1: M-portals (starting from 1997)	1997: WAP (Wireless Application Protocol) Forum is formed 1999 (February): NTT DoCoMo's i-mode launch in Japan 1999 (December): Vodafone Live! launch in Japan (as J-Sky)
Era 2: M-internet (starting from 2000)	2000: Ericsson R380 Smartphone (the first device to use the Symbian OS) 2000: Opera Mobile (the first commercial microbrowser) 2001: Mobile Explorer 3.0
Era 3: M-apps (starting from 2007)	2007: Apple iPhone launch (June) 2008: Apple's App Store launch (July) 2008: Google's Android market launch (October)

Source: Kourouthanassis and Giaglis (2012).

Although m-payment is an emerging trend, Zhou (2013) believed consumer still have not fully utilised it. In addition, Cobanoglu, Yang, Shatskikh, & Agarwal, (2015) agreed that within the restaurant sector, it was not known whether m-payment are accepted by consumer.

Conceptual Development

TAM has widely used and utilized to investigate customer electronic purchase behaviour in various different environments and purchase situations (Alagoz & Hekimoglu, 2012; Bouhlel, Mzoughi, Ghachem, & Negra, 2010; Nunkoo & Ramkissoon, 2012). However, the usage of TAM has not been fully utilised in the food and beverage sector. Cobanoglu, Yang, Shatskikh, & Agarwal (2015) was among the earliest study that applied the usage of TAM to understanding about mobile payment in the sector.

In order to use TAM in this study, several constructs have been added and changed accordingly to suit to the new environment (McFarland & Hamilton, 2006; Wu, Wang, & Lin, 2007) (**Figure 4**). The perceived usefulness (PU) and perceived ease of use (PEOU) was still use in this study as a constructs for intention to use and actual usage. The validity of both of constructs has been proved in the previous study, thus we expected PU and PEOU would be the importance factors for consumer to accept the usage of online takeaway food ordering mobile apps (Im & Hancer, 2014; Morosan, 2014; Nunkoo & Ramkissoon, 2012). Several other constructs such as perceived trust, perceived security and perceived social influence was added to understand whether the consumer perceived these factor considered to be affecting their usage of the mobile apps.
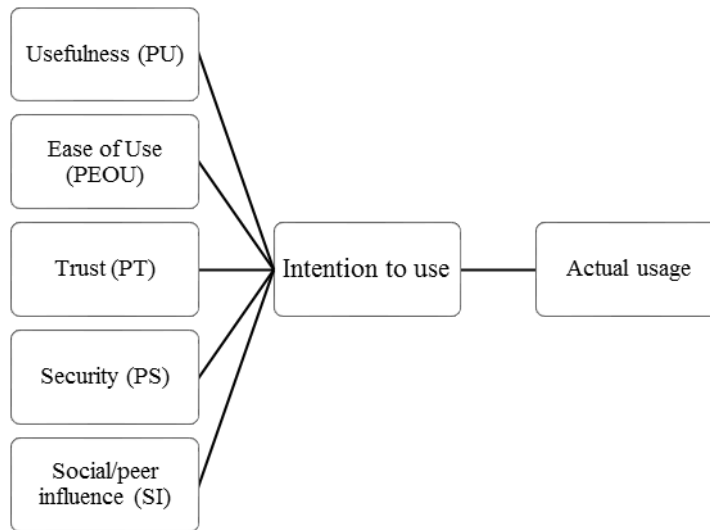
Figure 1. Proposed conceptual framework. Source: Ajzen and Fishbein (1980) and Davis, (1989)

Proposed Methodology

This research applied sequential mixed-methods by using the qualitative approach and followed by quantitative approach, see Figure 4.1. To understand the growth of the online takeaway food ordering, the application of case study approach was used. The semi-structured interview and document reviews were used gathered information related to the development of the online takeaway food organisation and consumer reaction to the development. The case study of Just Eat will used to represent the online takeaway food ordering sector in UK, some other documents gathered including reports and statistics from Office for National Statistics.
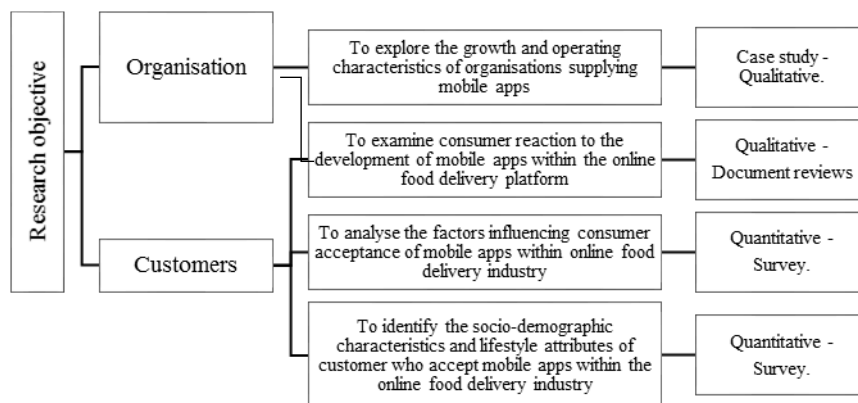
Figure 4.2 Research approach. Source: Author

Meanwhile, questionnaire survey was used to gather quantitative data related to consumer acceptance toward online takeaway food ordering. The target sample size of 377 from students of University of Exeter by the recommendation Krejcie & Morgan (1970). The questions for the online survey mostly were adapted from previous literature. There are total 40 questions with the mixed of closed-ended, open-ended and interval questions. Based on the conceptual framework, constructs that was

included in the survey including usefulness (Davis, Bagozzi, & Warshaw, 1989; Parasuraman, 2000), ease of use (Davis et al., 1989; Parasuraman, 2000), trust (Nunkoo & Ramkissoon, 2012), security (Giovanis, Binioris, & Polychronopoulos, 2012), social/ peer influence (Koenig-Lewis, Marquet, Palmer, & Zhao, 2015), intention to use (Lin, Shih, & Sher, 2007; Wu & Wang, 2005) and actual usage (Wu & Wang, 2005). The interval questions were measured using a five point Likert-type scale, where '1' indicated strongly disagree, '2' showed disagreement, '3' stood for neutral or uncertain, '4' showed agreement to some extent and '5' strongly agree. For validity and reliability, pilot survey was tested and the survey was amended accordingly.

Anticipated result

The anticipated results of this study include an understanding of the growth of the online takeaway food ordering organisation and learning about the operating characteristics for a company to be success in an online takeaway food ordering sector. Furthermore, from the quantitative data it was anticipated the conceptual framework using TAM was significant.

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