Preface

Organised by the International Federation for Information Technology and Travel & Tourism (IFITT), the ENTER2018 PhD Workshop is a pre-conference event to provide a forum for doctoral students undertaking research related to Information and Communication Technology in Travel and Tourism to interactively discuss their research with peers, colleagues, and leading scholars in the field. We invited students at all stages (i.e., beginning as well as nearly completed) to participate in the workshop. The workshop is intended to provide doctoral students an opportunity to share and develop their research ideas in a critical but supportive environment, get feedback from mentors who are senior members within the IT and Tourism research community, explore issues related to academic and research careers, and build relationships with other students, researchers, and members of the community from around the world.

Following a call for proposal and a rigorous review process, we are happy to accept 20 research proposals from Doctoral and Master’s students at various stages of their research for presentation at the workshop, 19 of them are included in the proceedings. Also included are two recipients of the 2018 IFITT ICT4D Scholarship, awarded to young talents who work on the applications of ICT for development through tourism in developing/emerging economies.

The proposals included in the proceedings represent the future of eTourism research. We are pleased to learn that the proposals not only capture a wide area of research foci on consumer behaviour, smart systems, online communication, and global issues in ICTs, but also touch on critical issues and applications of new, cutting-edge technologies impacting travel and tourism globally. Reading these proposals makes us proud and hopeful that our academic community will continue to push eTourism research forward.

Finally, we would like to extend our deepest gratitude to members of the Program Committee who have contributed their valuable time and expertise in the review process. We also thank the senior experts who have volunteered to mentor students during the workshop. We are thankful to IFITT for their support and confidence in us. Importantly, we congratulate all authors and thank them for submitting their work to ENTER2018 PhD Workshop.

Let us have a productive workshop in Jönköping!

Guildford, United Kingdom

Iis P. Tussyadiah, Lidija Lalicic, and Estela Mariné-Roig
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Backpackers’ perceptions of risk towards smartphone usage and risk reduction strategies, Ghana

Frederick Dayour
University of Surrey, United Kingdom
f.dayour@surrey.ac.uk
(Recipient of 2018 IFITT ICT4D Scholarship)

Abstract

Though studies hint about mobile users’ susceptibility to several risks, there is yet no study on backpackers’ perception of risk towards smartphones usage on the ‘road’ and risk reduction strategies. This is, particularly, crucial because studies have shown that backpackers nowadays do have travel risk concerns. Ergo, this study will explore backpackers’ risk perceptions towards the use of smartphones in Ghana and their risk negotiation strategies. It will model perceived risk as a third-order hierarchical latent construct before including it into the nomological network of constructs for the study. The quantitative-dominant concurrent mixed methods research design will be implemented. Six hundred (600) backpackers will be surveyed using a semi-structured questionnaire while in-depth interviews (based on saturation point) will be conducted using a heterogeneous purposive sampling technique. Theoretically, it is anticipated that this study will offer a more comprehensive understanding of perceived risk towards the usage of smartphones by integrating both technology and destination related risk factors. The study will also, potentially, offer managerial and policy implications for local tourism development in Ghana once completed.

1. Problem Definition

The mediating role of mobile technology in reconstructing backpackers’ experiences and ideology have received ample academic research (Mascheroni, 2007; Hannam & Diekmann, 2010; Paris, 2012a; Iaquinto, 2012). Especially, backpackers’ unique traits of being hypermobile, flexible and youthful – compared to conventional travellers – make mobile phones almost indispensable during travel compared to general travellers (O’Regan, 2008). More so, their predilection to stay connected with like-minded travellers, friends, family and local people make mobile phones essential to their travel. Inferably, these characteristics imply that backpackers have different experiences with their mobile phones, which, in turn, impact on their risk perception.

Yet, considering the plethora of research that exists on the risks associated with mobile technologies (Featherman & Pavlou, 2003; Luo, Li, Zhang, & Shim, 2010; Park & Tussyadiah, 2016), it is surprising that a cleavage of knowledge exists on backpackers’ perceptions of risk towards the use of their smartphones on the ‘road’, particularly in developing destinations, such as Ghana. This kind of investigation is crucial in a sense that as backpackers rely greatly on smartphones for their travel needs, issues of perceived risk could adversely affect their travel experiences and by extension, local businesses that depend on smartphones to market their businesses to backpackers.

Notably, past researchers (e.g. Hunter-Jones, Jeffs, & Smith, 2008; Adam, 2015) have noted about the fact that backpackers are becoming concerned about risks, such as expectation, terrorism, physical, site-related and financial risks. This contravenes past studies that mostly tout backpackers as being risk tolerant (Cohen, 1972; Poon & Adams, 2000). This revelation supposes that backpackers can avoid certain purchase decisions if their risk tolerance threshold is overshot. This, thus heightens the need to
understand their risk concerns towards the use of smartphones, as well as the drivers and consequences of their risk perceptions. Besides, it is important to note that researchers have been studying perceived risk towards ICTs (Kim, Qu, & Kim, 2009; Park & Tussyadiah, 2016) and destinations in general (see Roehl & Fesenmaier, 1992) as separate phenomena. But, this proposal argues that tourism consumption takes place within as destination, be it, corporally or virtually. Therefore, there is the need to understand not just information technology or device risk perceptions towards smartphones, but also situational factors that may induce such concerns. Hence, this study will investigate perceived risk at two levels: technology and destination-related. The study will also attempt to explore the range of factors that influence perceived risk and the outcomes thereof. An awareness about these risk concerns, as well as drivers and outcomes will help generate measures to curtail risk perceptions and the negative antecedents that instigate perceived risk.

Lastly, following the theoretical argument that risk perceptions generate risk reduction strategies (Roselius, 1971), this study aims to explore backpackers’ risk reduction strategies when risk goes unbearable. It is worth noting that though past studies, such as Roselius (1971) have records on risk relievers being used by service providers to minimise risk concerns of consumers, there is yet no information regarding personal risk reduction strategies used by consumers. Consequently, the objectives of the study are as follows:

1.1 Main purpose and objectives

The purpose of the study is to explore backpackers’ perception of risk towards smartphones in Ghana, and their risk reduction strategies to provide a holistic understanding of consumers’ risk concerns towards mobile technologies in the travel and tourism industry.

The following specific objectives will be used to address the research aim.

1. Explore the reasons why backpackers’ use smartphones in Ghana;
2. Explore backpackers’ perception of risk towards the use of smartphones in relation to device and destination related risks;
3. Examine the antecedents and outcomes of backpackers’ perceived risk towards smartphones; and
4. Investigate the risk reduction strategies employed by backpackers who perceive risk towards smartphone usage in Ghana.

2. Literature Review

The neologism ‘backpacker’ can be historically associated with the hippies and drifters of the 1960s and 70s who travelled out of their own volition, for adventure and to experience local cultures (Cohen, 1972). Their love for local cultures and nature make them shun very typical touristic settings for the unspoilt or less explored destinations. The term then metamorphised into what is currently christened ‘backpacker’ and was introduced by Pearce’s (1990) in his seminal work. Backpacking then became a widely-practiced and accepted travel style, supposedly, due to the positive economic impact it exerts, on especially, developing destinations (Scheyvens, 2002; Dayour, Kimbu, & Park, 2017). Also, important for backpackers is the need to connect with friends, family and local people while travelling (Sorensen, 2003). Accordingly, the last decade has witnessed plenty of research efforts on how ICTs, especially mobile technology, are shaping their travel on the ‘road’, as well as the culture of backpackers (see Urry, 2002; Mascheroni, 2007; Paris, 2012; Hannam, Butler, & Paris, 2014). Meeting physically
became transformed and new communication habits – mediated by ICT, emerged. For instance, Mascheroni (2007) found that virtual mobile networking had become a subculture and almost indispensable among backpackers – reconstructing their sociality and identity. Thus, before ICTs and its related electronic devices became common to this travel segment, interactions were largely face-to-face and future meetings were often fortuitous. The above findings result in Sorensen’s (2003) assumption that though the Internet seems to have an inconsequential impact on backpackers before travel, it does have great influence during travel.

Notably, literature also draws attention on the so-called ‘flashpackers’ who are the older twenty to thirty something years backpackers, who have more income, prefer upscale accommodation facilities yet mingle with local communities (Hannam et al., 2014). Accordingly, their dependence on technology, especially mobile devices has resulted in the reconfiguration of their performativities and sociabilities. Evidently, the smartphone with its unique feature of ubiquity: immediacy, portability and speed, reachability and searchability, simultaneity and continuity, as well as convenience set it apart from other ICTs – hence its mediating power in travel experiences (Tussyadiah, 2015). Thus, the advent of smartphone applications and social media is having a mediating effect on travel experiences and the business community in the travel and tourism industry. Accordingly, the characterisation of backpackers as a mark of contemporary mobilities, is not to mean the obvious, but in a sense of them using ubiquitous Internet and mobile phones during travel. However, Urry (2002) argues that despite the advantage of being present remotely, virtual nearness does not, in any way, oust the desire for corporeal travel, the penchant to meet and interact with other colleagues exists. This is explainable because backpackers try to create meaning from travelling by meeting with other people unknown to them (often corporeally) to ‘barter’ cultures and real-life experiences. Also, regardless of the usefulness of ICT in travel experiences, not only does hypermobility decrease the socially-oriented nature of backpackers (Reichel, Fuchs, & Uriely, 2007), but the usage of such technologies predisposes users to various kinds of risk that can, in turn, mar their experiences. The next section hereafter delves more into these issues.

3. Conceptual Development

Perceived risk, which refers to consumers’ subjective feeling of the likelihood of loss (Cunningham, 1967) considered an inhibitor of purchase decisions regarding electronic services. Accordingly, Featherman and Pavlou (2003) assert that perceived risk becomes obvious in information systems – when the resolve to adopt or use them generates a feeling of uncertainty. In addition, electronic commerce adoption decisions are quite complex in nature because of the facelessness and remote business relationships consumers go into. Moreover, the nature of the smartphone, for example, small screens, unconscious and hidden processing, unpermitted access among others, raises more concerns among its users (Kim, Chang, Wong, & Park). Accordingly, financial, performance, psychological, social, time, privacy, and security risks have been investigated within e-commerce circles but also mobile bookings (Cunningham, 1967; Jacoby & Kaplan, 1972; Featherman & Pavlou, 2003; Park & Tussyadiah, 2016). These could be regarded as information technology or device risk. Yet, the extent to which consumers (i.e. backpackers) perceive risk towards smartphones in general at the destination and how destination related factors impact their risk perceptions, is still, silent in the current literature. For instance, Milligan and Hutchenson (2009) and Markeji and Bernik (2015) noted about infrastructure risk and the physical risk of losing
Arguably, ICTs, such as smartphones will not be fully functional/efficient without the supporting technology infrastructure, such as the Internet (Choi and Lee, 2003) which is often associated with a location. Also, the safety of the device and the user cannot be divorced when considering issues of risk as mentioned before. More so, backpackers’ proclivity to interact with local stakeholders implies that considering destination related risks will be important in understanding their risk perceptions towards smartphone usage. Thus, this study argues that perceived risk towards smartphones should be modelled as a third-order hierarchical latent construct comprising device risk and destination risk (second-order) as explained eight (8) underlying latent constructs (first-order).

In addition, antecedents, such as familiarity (Kim, Ferrin, & Reo, 2008), observability/visibility (Park & Tussyadiah, 2016), innovation (Cunningham, 1964) and trust (Chang & Chen, 2008) have been found to be predictors of consumers’ perceived risk in the electronic commerce domain. For instance, familiarity relates to the degree to which one is acquainted with the technology and its functions. Kim, Ferrin and Reo (2008) show that familiarity is an inhibitor of customers’ perceived risk towards electronic commerce. Also, observability refers to the extent to which the properties and outcomes of an information technology are visible to people (Rogers, 1995). Park and Tussyadiah (2016) also prove an inverse relationship between observability and perceived risk towards online mobile travel booking. Furthermore, innovation as a personality attribute relates to the inclination to adopt a new idea or experience a new product. Beldona, Kline and Morrison (2004) established that innovation penalises risk perception towards the Internet but also, Park and Tussyadiah (2016) found an inverse association between customer innovation and perceived risk towards mobile travel buying. Hence, as innovation increases, risk perception dips. Moreover, trust towards an information system has also been established as not just an inhibitor of perceived risk (Cheng and Lee, 2000) but positively affects the intention to use such a system (Jarvenpaa & Tractinsky, 1999).

What is more, perceived risk influences travel satisfaction (Sohn, Lee, & Yoon, 2016) and the intention to reuse a smartphone (Mitchell, 1999) and trust also influences the intention to use an electronic service (Chang and Chen, 2008). Again, the intention to reuse a smartphone is also influenced by a customer’s satisfaction (Chi & Qu, 2008). It is important to note that satisfaction in this study has been decomposed into two: satisfaction with travel and with the device. Consequently, the following conjunctural statements are proposed.

**H1:** Perceived risk towards smartphones usage is a dyad phenomenon comprising information technology and destination risks indicated by financial, performance, social, time, psychological, security, destination-physical, and destination-infrastructure risks

**H2:** Familiarity has a negative influence on backpackers’ perceived risk towards using smartphones

**H3:** Smartphone observability has a negative relationship with perceived risk of using smartphones

**H4:** Backpackers’ innovativeness has a negative relationship with perceived risk towards smartphones

**H5:** Backpackers’ trust in smartphone services is negatively related to their perceived risk towards smartphones

**H6:** Backpackers’ trust in smartphone services influences the intention to use the device for future travel needs
There is an inverse relationship between perceived risk and satisfaction with smartphone services
There is an inverse relationship between perceived risk and satisfaction with travel
Perceived risk towards smartphone use has an inverse relationship with the intention to use the device for future travel needs
Satisfaction with smartphone services positively influences intention of future use.
Satisfaction with travel positively influences intention of future use

4. Proposed methodology
This study will adopt a mixed methods research design – informed by the philosophy of pragmatism (Johnson & Onwuegbuzie, 2004). This decision is based on a thorough review of previous research methodologies on the backpacking and particularly, ICTs. Past studies have used either only quantitative or qualitative research paradigms for assessing risk perceptions, especially towards ICTs. Thus, conscious of the specific weaknesses of each paradigm, this study will adopt a mixed methods design (Johnson & Onwuegbuzie, 2004). Further, it will allow for complementarity and corroboration of the data to enhance the depth of conclusions from the study (Creswell & Plano Clark, 2011).

The study will use a survey of 600 backpackers. This is based on a rule-of-thumb and the G*Power sample estimation techniques. For example, Hair, Hult, Ringle and Sarstedt (2017) proposes a minimum sample of 250 for a ‘10 cases per predictor’ for Partial Least Squares Structural Equation Modelling (PLS-SEM) and Covariance-Based Structural Equation Modelling (CB-SEM). And relying on Cohen’s (1988) parameters for sample size estimation, the relevant sample will be 74. Considering both procedures, the sample size for the survey in this study will be 600 while the qualitative bit will be conducted until saturation is attained. Regarding sampling, the convenience sampling procedure will be adopted whereby potential respondents will be sampled through a ‘self-identification’ approach in budget accommodation facilities and main attractions in Ghana. In addition, a purposive sampling technique will be used to select backpackers for in-depth interviews.

Items on perceived risk will be generated from previous literature (e.g. Featherman & Pavlou, 2003; Cunningham, Gerlach & Harper, 2005; Lee, 2009; Markelj & Bernik, 2015) especially in electronic commerce. Quantitative data will be analysed using CB-SEM and PLS-SEM while qualitative data will be analysed through both deductive and inductive coding techniques. Finally, as ethical considerations are necessary in social science research, this study will address the issues of informed consent, confidentiality, anonymity and researcher honesty in the process of conducting this research.

5. Anticipated Results
Theoretically, this study will present a better opportunity to understand perceived risk towards mobile technology in a more comprehensive and holistic manner than other studies in the past could afford. Though, past studies (e.g. Kim, Qu and Kim, 2009; Luo et al., 2010; Park and Tussyadiah, 2016) have researched on perceived risk towards information technology in the travel and tourism industry, these studies have concentrated largely on understanding risks related to the technology. For instance, a study by Kim, Qu and Kim (2009) focussed on the risk of buying airline-tickets online.
while Park and Tussyadiah (2016) were interested in understanding consumers’ risk perceptions towards mobile travel bookings. Because tourism consumption occurs within a destination, be it corporeal or virtual, it is argued that these past studies were quite limited for not integrating destination related factors (situational factors) in the understanding of perceived risk towards information technology in the industry. The importance of destination related risks, such as technology infrastructure risk (Choi and Lee, 2003; Luo et al., 2010) as well as the physical risk of losing a phone or being attacked for possessing one (Milligan and Hutchenson, 2007; Markeji and Bernik, 2015) have been recognised by researchers. Thus, these past studies only offer a partial understanding of perceived risk towards information systems by concentrating on just the technology related risks. As such, the literature is still devoid of a holistic understanding of the actual nature of perceived risk towards smartphones in the industry. The proposed study seeks to offer a more comprehensive comprehension of the nature of perceived risk towards smartphones by integrating both technology and destination related risk issues.

This will inform marketers and service managers about backpackers’ risk concerns (vis-a-vis device and destination risks) regarding the use of their smartphones for travel. For instance, mobile marketers and mobile designers who are aware of the risk concerns of backpackers will be better placed to use strategies that can ameliorate their risk concerns. It will also expand the literature on some of the drivers and consequences of their perceived risk. Marketers will not only get to know which antecedents are important for reducing risk perceptions thereby concentrating more on them but also the extent to which risk perception impacts on satisfaction and the intention to reuse a smartphone for future tourism related activities.

Besides, this study, for the first time, hopes to unearth some of the personal risk reduction measures used by backpackers during travel, as well as the uses to which they put their smartphones during travel. The following section particularises the relevance of the study to local tourism development, especially in Ghana.

6. Relevance of the research for local tourism development

It is noteworthy that as backpacking is becoming gradually common in Ghana, the destination stands to benefit from this type of travel, if it can leverage the opportunities it comes with. One of the greatest benefits backpackers bring to developing local tourism economies, unlike conventional tourists, is that the preference for local goods and service creates a direct impact through their expenditure and job creation (Scheyvens, 2002; Dayour, Adongo, & Taale, 2016). This, therefore, implies that tourism destinations (such as Ghana) at the advantage of receiving backpackers need to advance strategies that will help cater to their needs and boost this travel market in the country. So, getting to know their concerns towards using their smartphones in Ghana, hold several managerial implications for Destination Marketing Organisations (DMOs) and local tourism enterprises in the country.

First, risk perception is undeniably an essential part of consumers’ decision-making process, especially regarding information systems; it can result in thoughts about alternatives, if found intolerable to a consumer (Roselius, 1971; Mitchell & Greatorex, 1993). Essentially, an awareness about the kinds of risk backpackers perceive towards using their smartphones, will afford an opportunity to those who engage in mobile marketing — targeted at backpackers, for example, local tour operators, hotels, and restaurants to develop strategies that will repose confidence in consumers. Moreover,
in pursuance of the call by Buhalis & Foerste (2015) that DMOs should utilise the benefits associated with Social Context Mobile (SoCoMo) marketing, to ‘co-create’ value for stakeholders – via dynamic exchanges, a starting point would be for them to know the risk perceived by clients who use smartphones. This study will offer some basis for this by making DMOs, especially, those of developing countries, such as Ghana, conscious of the range of perceived risks associated with such a marketing strategy. Understanding the risk perceptions of this unique market, will help them to generate practicable measures to address/tackle such concerns.

Second, the study will potentially make local policy makers especially the government of Ghana aware of areas needing attention to enhance the digital space and security of the country – to inspire consumer confidence. Such specific policies could encourage more arrivals by backpackers to the destinations, if specific perceived digital concerns are addressed. Dayour et al. (2016) maintain that the nascent nature of Ghana’s tourism industry makes the backpacking a favourable segment for local development.

Third, the study’s aims to also identify the activities that backpackers use their smartphones to perform in Ghana. The results from this investigation will create an awareness about these activities so that local business can take advantage of them. Also, there will also get know which functions of the smartphone are not being utilised and take advantage by providing service along those areas. For instance, if local service managers get to know that backpackers do bookings and find locations with their smartphones, they could leverage mobile marketing features and other business services.

7. **Anticipated limitation**

One possible weakness of this study is the fact that the concentration on Ghana might limit the global generalisability of the results however, the findings could be extrapolated to other sub-Saharan African countries.

**References**


Exploring motivations and barriers of sharing experiences in social media during the trip

Xinxin Guo
University of Eastern Finland, Finland
xinxing@uef.fi

Abstract

With the developing of information technology, social media has changed tourists' behaviour on a global scale. Shared experiences on different social media channels affect tourists from inspiration to final purchase. In order to understand the reason why tourists share their experiences, scholars have studied the topic a lot, but the studies are mainly based on Western social media. Because of the particularity of China’s social media environment, whether previous studies are applicable to the Chinese market, it is worth to explore and verify. This study plans to explore Chinese outbound tourists’ motivation and barriers of sharing experiences during the trip in Finland. Then this study plans to compare the differences between pre-trip and post-trip motivation of sharing experiences, and the differences between Chinese and Western tourists’ motivation of sharing experiences. A multi research method will be applied in this study. In addition, this proposal is just at beginning of the process and no data has been collected yet.

1. Problem Definition

Social media plays a significant role in tourism and hospitality industry. In the pre-trip, during-trip and post-trip phases, tourists use social media for searching destination information, chatting, sharing their experience, and giving feedbacks through different social media platforms. From the tourist’s perspective, shared experiences is the significant online sources for knowledge acquisition and information navigation (Zhu, Ming, Zhu, & Chua, 2013). In addition, shared experiences have a significant effect on tourist’s purchasing decisions (Xie, Chen, & Wu, 2016).

However, the existing studies are mainly based on the Western background and social media (Sotiriadis & Sotiriadis, 2017). Regrettably, due to the different culture background and social environments between China and Western, Chinese usage behaviour of social media have differences with Western’s (Yu, Asur, & Huberman, 2011). We need to verify and explore if the early Western studies of sharing experiences apply on tourists from different cultures. Since 2015, more and more scholars have paid attention to China and other Asian countries, and the exploration of China’s social media has become a popular topic (Sotiriadis & Sotiriadis, 2017). On the other hand, there are many tremendous changes of Chinese people's travel behaviour by the rapid growth of information technology, new social media and new mobile phone features (Yuan, Raubal, & Liu, 2012). The effectiveness of previous research results is worth to be tested under new information technologies. However, the latest and convincing study of Chinese tourist’s motivations to share experiences has not yet appeared. Therefore, this study will explore the motivations and barriers that Chinese outbound tourist has regarding sharing travel experiences in China’s social media services nowadays. In addition, comparative studies on the differences between Western’s and Chinese tourist’s motivation of sharing experiences in social media during the trip are conducted.
2. Literature Review

2.1 Motivation

Motivation means an intent to do something with impetus or inspiration (Ryan & Deci, 2000). In the modern theories of motivation studies, the relation studies of beliefs, values, and goals with individual’s actions are emphasized (Eccles & Wigfield, 2002). Based on expectancy-value models of person behaviour, motivational theories can be classified into four categories: theories focused on expectancy, theories focused on the reasons, theories integrating expectancy and value constructs, and theories integrating motivation and cognition (Eccles & Wigfield, 2002). Interest theory (Hidi & Harackiewicz, 2000), achievement goal theory (Covington, 2000) and intrinsic motivation theory (Ryan & Deci, 2000) are included in the second category of “theories focused on the reasons for engagement” and they could explain the reasons why individuals have a certain behaviour, in this case reasons to share experiences in social media.

Interest theory (Hidi & Harackiewicz, 2000) indicate that individual and situational interest has strong effect on the reactions of individual to their environments. Achievement goal theory (Covington, 2000) explain that according to individual subjective purposes, achievement goals can affect individual’s achievement in varying degrees through the cognitive process of self-regulation quality changes. In addition, Ryan and Deci’s motivational theory (2000) explain individual’s behaviour from intrinsic and extrinsic motivation. Intrinsic motivation means person doing something for the inherent satisfactions rather than external factors, and extrinsic motivation means doing something for enjoying the activities itself, rather than instrumental value (Ryan & Deci, 2000). These theories provide us powerful but seldom used tools to analyse social media behaviour of tourists.

2.2 Tourist Experiences

Tourist experiences is an individual’s subjective interpretation of displayed objects and activities, the individual’s subjective evaluation include tourist affective, cognitive, and behavioural in the entire travelling process (Tung & Ritchie, 2011). From tourist’s perspective, travel experiences include knowledge related contents and emotion contents (Lin & Kuo, 2016). Pine and Gilmore (1999) suggested four dimensions of experiences are divide by two axes: entertainment dimension, education dimension, aesthetic dimension, and escapism dimension. The horizontal axis refers to passive or active participation level of customer. The vertical axis refers to the participation level and connection level between customer and surrounding environments. In addition, tourist experiences do not necessarily relate with only one dimension, sometimes tourist experience have elements from all four dimensions (Mehmetoglu & Engen, 2011). On the other hand, Tarssanen and Kylän (2005) developed an experience pyramid model to explain the key elements of creating experiences, which are individuality, authenticity, story, multi-sensory perception, contrast, interaction. All those key elements are related with five different levels in the experience pyramid, from bottom to top pyramid, they are motivational level, physical level, intellectual level, emotional level, and mental level. In order to stimulate tourists creating experience, managers need to consider those key elements in their tourism services or products (Tarssanen & Kylän, 2005).
2.3 Motivation of Sharing Experience

Motivation of sharing behaviours research are continuously conducted by many Western scholars. Table 1 summarize the previous important studies of sharing motivations. Different scholars have identified many different motivation factors. However, two common motivation factors were pointed out from previous studies, which are altruism and social involvement. (Wang & Fesenmaier, 2003; Oh, 2012) Along with the study of sharing motivation, Munar and Jacobsen (2014) also found that although tourists have social media account, they are not necessarily sharing experiences during the trip. Moreover, consumers also have different motivations of sharing different contents in different social media (Schindler & Bickart, 2005; Goh, Ang, Chua, & Lee, 2009; Bronner & De Hoog, 2011; Oh & Syn, 2015). Additionally, opportunity cost and time issue are the main barriers of tourists sharing experiences in Western social media (Goh et al., 2009; Huang, Basu, & Hsu, 2010).

Table 1. Summary of Early Studies in Motivation of Sharing Behaviours

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Participants &amp; type of social media</th>
<th>Identified motivation factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wang and Fesenmaier (2003)</td>
<td>U.S. consumers; Online community</td>
<td>(1)Instrumental, (2)Efficacy, (3)Quality control, (4)Status, and (5)Expectancy</td>
</tr>
<tr>
<td>Schindler and Bickart (2005)</td>
<td>U.S. consumers; Amazon.com</td>
<td>(1)Information motives, (2)Support and community motives, and (3)Entertainment motives</td>
</tr>
<tr>
<td>Goh, Ang et al. (2009)</td>
<td>Singapore students; Mobile media</td>
<td>(1)Creating and maintaining social relationships, (2)Emotional influences, and (3)Social influences, (4)Reminder of individual and collective experiences, (5)Self-presentation, (6)Task performance, and (7)Self-expression</td>
</tr>
<tr>
<td>Huang and Basu et al. (2010)</td>
<td>U.S. consumers; Online community</td>
<td>(1)Obtain travel information, (2)Information dissemination, (3)Social support, (4)Friendship, (5)Recreation, (6)Status, and (7)Personal documentation</td>
</tr>
<tr>
<td>Bronner and De Hoog (2011)</td>
<td>Dutch tourists; Different Western social media</td>
<td>(1)Personal motivations, (2)Social benefits, (3)Social concern, (4)Functional, (5)Quality assurance, (6)Economic incentives, (7)Entertainment, and (8)Helping the company</td>
</tr>
<tr>
<td>Munar and Jacobsen (2014)</td>
<td>Scandinavian tourists; Different Western social media</td>
<td>(1)Personal cognition, (2)Self-centered motivations and (3)Community-related motivations</td>
</tr>
<tr>
<td>Wu and Pearce (2016)</td>
<td>Chinese tourists; Chinese Blog</td>
<td>(1)Positive self-enhancement through online social connection, (2)Altruism, (3)Social status issues, (4)Personal status and achievement, (5)Self-documentation and sharing, and (6) Hedonic enjoyment</td>
</tr>
</tbody>
</table>
3. Conceptual Development

Based on Ryan and Deci’s motivational theory (2000), the purpose of this study is to explore Chinese outbound tourist’s intrinsic and extrinsic motivation of sharing experiences during the trip in Finland, and the barriers of sharing their experiences. This research argues that, under Chinese social media environment, Chinese outbound tourists have different motivations to share their experiences during the trip than Western tourists. Moreover, altruism is the main motivation of sharing experiences in Western studies. Opportunity cost and time cost are main barriers to share experiences in Western social media. For the tourism industry, it is valuable to explore the differences of motivation and barriers between during-trip and post-trip. Academically this study increases our understanding of cultural differences in social media use and social media behaviour during the trip, which is an uncommon theme in tourism studies.

The main research question is “Why Chinese tourists share or do not share their tourism experiences in social media?” In order to answer main question, the sub questions are:
1. Why do Chinese tourists share their experiences in social media during the trip?
2. Why Chinese tourists do not share their experiences in social media?
3. What are the criteria that tourists use when choosing a social media channel and where they share experiences?
4. How motivations and barriers differ during the trip and after the trip?
5. How Chinese tourists differ from Western tourists regarding sharing motivations and barriers?

4. Proposed Methodology

A mixed methods research will be used in this study. The sub question 1, 2, and 3 are considered in qualitative research with online interviews. In order to get enough data, 15 to 20 interviewees are expected in the first stage research or until data is saturated. Then content analysis will be used to collect findings of first three questions. The sub question 4 and 5 are considered quantitative research with online questionnaire. According to the length of the questionnaire, the participants need more than 200 people. Factor analysis and comparative analysis methods will be used to analysis the results of last two questions. Moreover, Chinese tourists in Finland will be chosen as the interviewees and participants. WeChat and Weibo are most popular Chinese social media channels and will be the main focus in this research.

5. Anticipated Results

This study is still at the starting point. Research results have not been found yet. However, this study will fill the research gap of Chinese outbound tourist sharing experiences behaviour under China’s social media environments. So, the research findings and results will prove theoretical contribution to academic studies in the future. On the other hand, China has a large number of social media users. Due to the different social media environments and culture background, the managerial implementation of Western studies in the China’s market might be inaccurate. This research finding can bring accurate insights to tourism services suppliers, and help Western destination managers to improve their competitiveness.
References


Service failure, customer satisfaction, and repurchase intention: why tourists will not choose peer-to-peer accommodation again?

Yujia Chen
University of Surrey, United Kingdom
yc00845@surrey.ac.uk

Abstract
The sharing economy is changing the landscape of the travel and hospitality industry. The most prominent form of sharing economy in hospitality is peer-to-peer (P2P) accommodation. While it has been found to benefit tourists, there is evidence of increasing consumer dissatisfaction toward P2P accommodation, which may result in negative post-purchase behaviours. Even through hospitality research has paid more attention to P2P accommodation, few have investigated consumer behaviour in response to service failure in a sharing system. Thus, adopting an explanatory sequential mixed-methods design, this study aims to explore why consumers decide not to continue using P2P accommodation and propose a conceptual framework to identify the major factors that lead to service failures. This study will examine how service failures are associated with customers repurchase intention and recommend how to turn the insights into theoretical and managerial implications.

1. Problem Definition

The development of information technology enabled the growth of web 2.0, which directly promoted the development of online social media for users to share and communicate (Kaplan & Haenlein, 2010). Taking advantage of the widespread use of information and communication technologies (ICTs), the newly developed concept of sharing economy has experienced an explosive growth in users embracing different product and service categories since its introduction in the late 2000s. “Sharing economy”, which is also interchangeably used with “collaborative consumption”, “access-based consumption”, or “peer-to-peer economy” has emerged as a new socioeconomic system that enables shared creation, production, distribution, and consumption of goods and services among individuals (Matofska, 2016). Private individuals easily share excess capacity with others through P2P sharing platform, such as Airbnb and 9flats (i.e., apartment and rooms sharing platforms), UBER and Lyft (i.e., car sharing platforms), Zilok (i.e., household devices and appliances sharing platforms), etc. (Abramova, Shavanova, Fuhrer, Krasnova & Buxmann, 2015; Hamari, Sjöklint & Ukkonen, 2016; Tussyadiah & Pesonen, 2016a).

The emergence of sharing economy also dramatically transformed the landscape of accommodation sector in the travel and hospitality industry during the past few years. Advances in technology have brought the traditional concept of staying in people’s home when travelling into mainstream, and accelerates it to a fast-developing and easily-reachable global phenomenon (Bearne, 2016). A notable example of P2P accommodation is Airbnb (short for Air Bed “n” Breakfast), which enables ordinary people to rent out their private residential places to tourists and provide home-like experience to those who appreciate. Since its first launch, Airbnb has kept enjoying rampant growth, boasting 200 million guests and 3 million listings in more than 191 countries (Airbnb, 2017).

Increasing attention has been paid to the P2P accommodation in tourism and hospitality research (Tussyadiah & Pesonen, 2016a). The academic literature on P2P
accommodation can be divided into several areas: one explores people’s motivations to participate in P2P platforms from both guests and hosts’ side (Guttentag, 2015; Ikkala & Lampinen, 2015; Tussyadiah, 2015; Hawlitschek, Teubner & Gimpel, 2016; Tussyadiah & Pesonen, 2016b; Lalicic & Weismayer, 2017), while others focus on P2P accommodation’s impact on traditional accommodation (Neeser, Peitz & Stuhler, 2015; Tussyadiah & Pesonen, 2016a; Fang, Ye & Law, 2016; Guttentag & Smith, 2017; Mody, Suess & Lehto. 2017; Xie & Kwok, 2017; Zervas, Proserpio & Byers, 2017), or on topics related to reputation, trust, regulation, and policy (Kaplan & Nadler, 2015; Rauch & Schleicher, 2015; Zervas, Proserpio & Byers, 2015; Ert, Fleischer & Magen, 2016; Mittendorf, 2016).

Compared with other traditional accommodation alternatives, research found that some tourists decided to not stay in P2P accommodation again because of negative service encounters (Chen & Schuckert, 2016). For instance, users were confronted with issues such as fraudulent information about the property, service provider’s impoliteness and overcharging for amenities, or Airbnb’s irresponsible response for complaints and its user-unfriendly app or website design, all of which negatively influence their future use of P2P accommodation. However, existing research to date has not investigated the factors that lead to service failures in the sharing economy and their negative effects on post-purchase behaviours.

Thus, the purpose of this study is to address the relative absence of research on consumer post-consumption behaviours with regards to service failures in P2P accommodation. Specifically, this study aims to: (1) investigate the reasons why tourists discontinue using P2P accommodation, (2) explore the factors that lead to service failures in P2P accommodation, (3) examine the relationship between service failures and customers repurchase intention and (4) recommend how to turn these insights for P2P accommodation hosts and P2P digital platforms/companies (i.e., Airbnb, Homeaway, 9flats, etc.) into management actions.

2. Literature Review

Sharing economy continues to reshape the tourism and hospitality industry. A crucial characteristic of sharing economy compared with traditional commerce is the number and type of players involved: sharing economy can be characterized as a triadic relationship rather than a dyadic one. Specifically, sharing economy involves three parts: (a) a platform provider facilitates matchmaking between customer and service provider, (b) a customer who seeks temporary access to resources rather than owning them, and (c) a peer service provider who grants this access (Benoit et al., 2017). In other words, two different service providers serve customers in sharing economy: the platform provider (e.g., P2P accommodation) and a peer service provider (e.g., the hosts). In the triadic relationship of sharing economy, platform provider refers to the player who supplies online marketplace for a particular P2P service and presents its brand awareness; the peer service provider refers to the player who gain monetary contribution by giving access to particular resources (e.g., a P2P accommodation); customer, in this study, is the player who pays money in exchange for access to specific assets (Benoit et al., 2017). Information and communication technology has revolutionized the way services are delivered. As more players and contact points involve in sharing economy, opportunities for service failures increase exponentially compared with solely offline and online commerce (Palmer, Beggs & Keown-McMullan, 2000).

Because of limited existing research on post-purchase behaviours in sharing economy, especially in P2P accommodation, this study is chiefly underpinned by concepts...
associated with service failure, satisfaction, and repurchase intention in the triadic exchange contexts. The relationship between service failure, customer satisfaction, and repurchase intention is among the most researched concepts in academia, particularly in the area of exploring discontinuous purchase of service or product (Kelley, Hoffman & Davis, 1993; Kim, Chang, Wong & Park, 2014). Service failure is defined as the situations that customers are dissatisfied because their perceived service is worse than their expectation (Bell & Zemke, 1987). Due to the nature of service being inseparable, intangible and perishable, service failures are inevitable and usually happen during the service process or as an outcome that negatively influence consumers’ post-consumption behaviours (Smith, Bolton & Wagner, 1999; Lewis & McCann, 2004; Duffy, Miller & Bexley, 2006). Service failure negatively influences how customer perceived service provider, which could be a very important problem for companies, especially in the highly interactive Web 2.0 world in which dissatisfied consumers can easily and quickly spread negative e-WOM with the desire to warn others about their encounters (Dellarocas, 2003; Zeelenberg & Pieters, 2004). Frequent service failures can be detrimental to electronic commerce as these incidents lower customers’ satisfaction, and may result in negative customer behaviours, such as spread negative e-WOM, lower repurchase tendency, and stop future purchase (Buttle & Burton, 2002; Xu, Yang, Cheng & Lim, 2014), consequently, adversely affect companies’ business in the long run.

3. Conceptual Development

This study will propose a conceptual framework based on aforementioned theoretical and empirical research, and a set of hypotheses has been formulated and examined regarding the inter-relationships between antecedents of service failure, service failure, customer satisfaction, and repurchase intention (see Fig. 1). Specifically, the following hypotheses are proposed:

H1: Service failure in P2P accommodation is a multi-dimensional factor consisting of service failures resulting from consumer-peer provider encounters and those from consumer-platform provider encounters.

H2: Service failure in P2P accommodation negatively affects customer satisfaction.

H3: Customer dissatisfaction negatively influences customer repurchase intention.

H4: Service failure in P2P accommodation negatively influences customer repurchase intention.

Fig. 1. Proposed research model
4. Proposed Methodology

This study aims to figure out the major factors that result in service failures in P2P accommodation, and examines how service failures affect consumers’ intention to purchase in the future. Due to the complexity of P2P accommodation and limited research on this subject, the study will apply an explanatory sequential mixed-methods design (Creswell, 2014). A mixed-methods approach considerably differs from single qualitative or quantitative research approaches as it avoid biases of two research approaches and integrate a unique set of ideas and practices (Denscombe, 2008; Creswell, 2014).

In the first stage, both text mining and semi-structured interviews will be utilised sequentially to explore the major factors that result in service failures in P2P accommodation. The data for text mining will be collected from www.airbnbhell.com, a third-party website that allows hosts and guests share their stories about the risks and dangers of using Airbnb. The use of text mining in this study aims to extract useful and high-quality information from unstructured text data to overcome overload (Netzer, Feldman, Goldenberg & Fresco, 2012). After extracting major factors that lead to service failures, a semi-structured interview will be conducted continuously for further service failure exploration and categorization. Semi-structured interviews allow a holistic understanding of participants’ point of view by obtaining necessary information through open-ended questions (Qu & Dumay, 2011).

In the second stage, a questionnaire will be designed to figure out how service failure affect consumer satisfaction, and accordingly influence consumer repurchase intention. A list of survey items will be developed from findings from the first stage (i.e. text-mining and semi-structured interview). Responses will be presented from 1—Strongly Disagree to 5—Strongly Agree as a five-point Likert-type scale. In order to understand the market characteristics, demographic variables (i.e. age, gender, education, income levels, etc.) will be included in the questionnaire.

Because the “research population” for this research (i.e., past-year P2P accommodation users) presents various attributes of a “hard-to-reach” population (Marpsat & Razafindratsima, 2010; Guttentag, Smith, Potwarka & Havitz, 2017), a multiple-frame sampling approach will be utilised to recruit respondents for the analyses (Kalton & Anderson, 1986; Guttentag et al., 2017). In the first stage, respondents who have had unpleasant experience in their recent one-year P2P accommodation stay will be recruited from travel-related Facebook groups, Airbnb user group, or other online communities. In the second stage, the survey will be posted on Amazon Mechanical Turk (MTurk), an online marketplace run by Amazon, where “requesters” can post human intelligence job such as surveys or other online task that “workers” can complete in exchange for a money payment. MTurk is increasingly being used in social science research and also a small number in tourism research studies (Berinsky, Huber & Lenz, 2012; Shim, Vargas & Santos, 2015; Tussyadiah, 2015; Tussyadiah & Pesonen, 2016b; Guttentag et al., 2017). Two screening questions, regarding having stayed in P2P accommodation during the previous 12 months and have English fluency, will be adopted to reach the appropriate research population.

5. Anticipated Results

P2P accommodation represents part of the broader sharing economy, and researchers are just starting to understand consumer behaviour in this new form of commerce. It is
expected that this study will, first, helps to inject new conceptual ideas into sharing economy, in terms of service failure, customer satisfaction and repurchase intention. Second, this study will raise awareness of scholars and practitioners about tourists’ concerns and dissatisfaction of service encounters in P2P accommodation. Accordingly, the findings will offer managerial insights for both platform providers and service providers.

References


Exploring tourist experiences of virtual reality in a rural destination: a place attachment theory perspective

Christos Pantelidis
Manchester Metropolitan University, United Kingdom
cristos.pantelidis@stu.mmu.ac.uk

Abstract

In tourism, virtual reality (VR) experience gained a lot of interest recently. However, place attachment (PA) studies in a VR context are scarce. Therefore, the overall aim is to fulfil this research gap and hence to explore to what extent VR enhances tourist experience and affects tourist’s PA at the rural destination. The study will critically review PA theory, identify the key constructs of a PA framework, validate the proposed framework and finally propose a PA framework for VR in rural tourism. The overall study is designed as a mixed method study. Firstly, a qualitative research method will be applied to identify the key constructs. To validate the proposed framework a Partial Least Square analysis will be performed. The theoretical contribution of the study will be the development of a framework of PA theory for VR in rural tourism. The managerial implications include providing rural destinations with a framework for implementing VR in order to enhance tourists’ experiences.

1. Introduction

It could be contended that enjoyable tourist experiences can lead tourists to develop an emotional attachment and create a positive relationship to places. This could then lead to a number of beneficial outcomes such as enhancing tourist’s pro-environmental behaviour (Tonge et al., 2015); destination loyalty (Yuksel et al., 2010); or satisfaction (Ramkissoon et al., 2013). Place attachment (PA) is defined as the emotional bond to places (Low and Altman, 1992) and has been applied to the physical and social environment (Scannell and Gifford, 2010). As technology such as virtual reality (VR) allows the creation of digital tourism experience this offers an additional aspect to be considered with PA, as research on PA in the context of VR has been limited so far (Gustafson, 2014). Although to note, Oleksy and Wnuk’s (2017) study is the first to explore tourist experience in an augmented reality (AR) and PA context.

2. Literature Review

PA has its roots in geography and environmental psychology, exploring humans’ attachment to their homes, communities and societies (Lee et al., 2012) and describes the meaningful bonds between people, groups, objects and places. This bond is an essential experience and ties people to social and physical environments, linking them to the past and influencing their future behaviour (Scannell and Gifford, 2014). The concept of PA is a complex phenomenon and one of the main characteristics is that affects, emotions and feelings are key aspects of this concept (Low & Altman, 1992). Moreover, it includes cognitive aspects such as memories, meanings, knowledge, satisfaction and dependence to the place enabling people to get and stay close to a place (Kyle et al., 2005; Scannell and Gifford, 2010).

PA has been studied in different geographical contexts such as national parks (Kyle et al., 2004), lakeshore (Jorgensen and Stedman, 2006) or islands (Ramkissoon, 2015). Since then, PA has been defined as a set of one-, or multi-dimensional concepts or as a superordinate concept (Hernandez et al. 2014). Based on the great variation of different approaches a consolidation of definitions can be found in the multi-dimensional
conceptual framework or called People, Places and Process (PPP) framework of Scannell and Gifford (2010) and combines three dimensions of PA theory; the first dimension relates to the person and can be divided between an individual and a group. The second dimension defines place in terms of social and physical environment. Finally, the third dimension describes the process of how PA occurs as PA can be an effective, cognitive or behavioural process.

Previous literature has identified several PA processes leading to attachment and one significant aspect is the experiences of people at the place (Low, 1992; Cross, 2015). Particularly the individual experience is, according to Chen et al. (2014), important for short-term stays in a place. Based on these positive experiences of tourists at the destination, it leads to positive place memories. In turn, these memories generate future expectations about the place and thus may lead to attachment. PA is a dynamic process that focuses on tourists’ experience and the longing to come back to that place to relive the memories (Chen et al., 2014; Tsai, 2016).

VR can be defined as a three-dimensional environment, generated by computer, where people can move and interact in real-time using one or more senses (Guttentag, 2010) providing a fully immersive VR experience (Martin-Gutiérrez et al., 2017). In tourism, VR has gained popularity and as noted by Griffin et al. (2017) and Jung et al. (2017), VR has the potential to enhance not only pre-trips but also on-site tourist experiences. Thus, VR can be used as a promotional tool for tourism destinations or to complement experiences at the destination and affect the behavioural intention (e.g. recommending the destination to others or express their intention visiting it revisit intentions) (Tussyadiah et al., 2016; Jung et al., 2017).

The present study aims to explore to what extent tourists’ on-site VR experiences affect tourists’ PA at rural destinations from a PA theory perspective using Lake District National Park (LDNP) as a case study. To achieve the aim, four objectives have been developed:

- To critically review Place Attachment theory and Virtual Reality in rural tourism
- To identify key constructs of a Place Attachment framework in the virtual reality rural tourism context
- To validate the proposed Virtual Reality rural tourism framework
- To propose a Place Attachment framework for Virtual Reality in rural tourism

Objective one represents the literature review and thus the theoretical foundation of the PhD study. All other objectives are based on that fundament guiding the methodology as well as objective two and three being related to data collection, in particular, objective two is the qualitative method and objective three the quantitative method. Objective four is the final stage of my PhD study and thus will involve the theoretical contributions.

3. Methodology

The theoretical framework, which is grounded on the work of Scannell and Gifford (2010), serves as a basic model and will be further developed through a critical literature review in order to adjust it within a virtual and rural environment. This secondary research will form the basis of the study and will achieve objective one. To modify and extend the PA framework qualitative research will be undertaken; whilst to test and validate the developed framework, quantitative research will be undertaken.
To achieve the second objective, a qualitative research method will be used. In-depth interviews will be carried out with tourists in the LDNP to identify the key constructs of VR in the rural setting. Participants will be asked to complete two stages. The first part will include questions on tourist’s general attachment to the place. Afterwards, they will use and experience the VR headset simulating flight over the LDNP from a ‘bird eye’ perspective on the landscape. The second part will focus on in-depth interviews on PA key aspects related to their VR experience. According to Bryman (2012), in-depth interviews are the most widely used method in qualitative research, as they are flexible to use and less time consuming than observations or focus groups. In qualitative research, purposive sampling is mostly used, meaning that the sample is defined by the researcher and should provide a good variety (Bryman, 2012). Using purposive sampling in this study, the sample will be defined with the LDNP Authority and according to the destination statistics. The sample size will be achieved when there is data saturation. The data will be analysed using thematic analysis (Bryman, 2012). The result of the interviews will be used to modify and alter the PA framework.

In order to achieve the third objective, a quantitative data collection method will be applied. For this purpose, a questionnaire will be designed, covering several sections including demographics and questions are drawn from the variables of the proposed PA framework. A purposive sampling method will be applied. Similar to the qualitative research method, the first part will seek to explore usage and experience of the VR technology. After the VR experience, the questionnaire will be distributed to the tourists. The data will be analysed using partial least square (PLS) analysis to test and validate the proposed PA framework and to reveal causal relationships between variables. The sample size will be 200 as it is a recommended sample to perform the analysis (Afthanorhan, 2013).

4. Expected Theoretical and Managerial Contribution

Based on the identified research gap from previous literature, the novelty of this study lies in developing a framework of PA theory for VR in rural tourism (objective four). Results to date indicate an effect of VR on PA. Thus, the study extends PA theory in the context of VR and explores tourists’ experience at the destination. Therefore, the expected theoretical contribution of this study expands PA theory by integrating VR, as previous studies focused on the physical and social environments only. This expectation is based on the fact that VR provides positive and inaccessible experience in order to enhance PA at the destination.

From a managerial perspective, the rural tourism destination marketing practitioners may use VR to complement the destination experience with other promotion material in order to provide an enhanced visual representation of the area. This may also include extending the knowledge about different places within the Lake District National Park. Furthermore, VR can also be applied as a marketing tool to evoke tourists’ feelings and hence create an emotional relationship. Additionally, destinations can use VR to trigger positive memories and thus enhance revisit and loyalty intentions.

References


The tension between authenticity and inauthenticity: an application of virtual reality in heritage sites

Emmy Yeung
Leeds Beckett University, United Kingdom
y.m.yeung@leedsbeckett.ac.uk

Abstract
This research attempts to understand authenticity from the tourists’ perspective. A case study is employed and virtual reality/augmented reality is used as a tool to find out how the tourists perceive authenticity in heritage sites.

1. Problem Definition and Literature Review

Many researchers have attempted to understand and define authenticity. Numerous studies have been carried out in order to provide generally accepted definitions of authenticity. Authenticity has been discussed in the over two decades starting from the incongruent viewpoints of Boorstin (1971) and MacCannell (1973). However, there is still no widely-accepted conclusion to date.

“Objective authenticity”, as suggested by MacCannell (1973), has been widely adopted practically by UNESCO and ICOMOS to evaluate World Heritage Sites. Cohen (1988), Wall & Xie (2005) and Xie & Wall (2003) provided a different angle on authenticity, suggesting that it is like the assessment of beauty, in the eye of beholder, and it is negotiable. This notion contrasts with “Objective authenticity” which, it is argued, can be measured objectively and tangibly. Many scholars have joined in the discussion and advocated their preferred notions of authenticity (Chambers, 2010; Jamal & Hill, 2002; Pearce & Moscardo, 1986; Timothy & Boyd, 2003; Waitt, 2000; Y. Wang, 2007). The discussion progressed after N. Wang (1999) introduced the new concept of existential authenticity and further divided it into two types: intrapersonal and interpersonal. N. Wang (2000) proposed that there is neither fake nor real in the postmodernist approach.

The discussion of authenticity has drawn attention to different types of authenticity which reflect and have added to the complexity of the concept. Burner (1994) suggested four types of authenticity, while Selwyn (1996) distinguished hot authenticity from cold authenticity. Jokilehto (1994, 2009) divided authenticity into seven aspects. Timothy & Boyd (2003) created the Distorted Past typology and split authenticity into five types. Pearce and Moscardo (1986) classified authenticity into nine categories based on the type of people in different environments. Other typologies include a matrix of nature of scene and tourist impression of scene (Cohen, 1979); two folds of authenticity, emotional and imaginary (Bagnall, 1996); a spatio-temporal typology (Jamal & Hill, 2002; Kim & Jamal, 2007); and Real-Real/Fake-Fake Five Polarities (Gilmore & Pine, 2007). The proliferation of typologies or terminologies has advanced knowledge of authenticity. However, it also creates confusion for understanding this concept.

1.1 Research Questions and Objectives

The issue of authenticity has been discussed persistently in the last few decades. One of the foremost concerns is that when people use the term “authenticity”, it is unclear if this refers to objective authenticity, constructive authenticity or existential authenticity. This thesis attempts to find out the perspectives of the tourists, i.e. the central figures of tourism. We seek to examine whether tourists are searching for
authenticity, how they determine what is authentic and what is not, and their acceptable level of inauthenticity and how it affects their experience.

This research proposes to use virtual reality (VR) to investigate the tourists’ level of acceptability of authenticity at a heritage site. Virtual reality, as defined by Guttentag (2010), refers to the use of a computer-generated 3D environment – called a virtual environment – that one can navigate and possibly interact with, resulting in real time simulation of one or more of the user’s five senses. Virtual reality is relatively new; however, it is being adopted in many tourism settings including museums and theme parks (Jung, Chung and Leue, 2015). The adoption of VR has been acknowledged in heritage preservation (Guttentag, 2010). The VR model can provide accurate information on earlier forms of heritage and can even be used for monitoring the degradation of heritage and to guide restoration. The usage of VR in heritage sites can include, but is not limited to, 1) providing an alternative form of access at threatened sites; 2) re-creating destroyed/ruined heritage sites; 3) interpretation. Each of the usages provides different levels of immersion to tourists.

Virtual reality relies upon a computer-generated image; in other words, it is fake. The fake images conflict fundamentally with authenticity, especially what MacCannell regarded as objective authenticity. It also contrasts with the operational guidelines of the World Heritage List (Jokilehto, 1994), in which authenticity is related to the physical setting/context. While the public may question the authenticity of VR, we should note that VR may also enhance tourists’ understanding of heritage and experience by providing a better image and, at the same time, reduce pressures on the resource.

Virtual reality will be adopted as a tool to understand authenticity. It will therefore be necessary to carry out a literature review on the role of information technology in tourism. Topics such as the mediation of information technology on touristic experiences, and how a specific type of information technology-virtual reality-is mediating visitors’ perceptions towards heritage sites will be explored.

Heritage was defined as “imbued with a message from the past, the historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions” (ICOMOS, 1994a, 1994b). To be listed as a World Cultural Heritage Site, the first criterion is authenticity. There is no doubt as to the importance of authenticity at a heritage site. Smith (2003) identified nine issues relating tourism and heritage, including: 1) access versus conservation; 2) the interpretation of heritage; and 3) heritage and authenticity. The above three issues are highly related to the current uses of VR in heritage settings.

To answer the questions of whether or not tourists search for authenticity and what types of authenticity they seek, we propose to ask tourists to indicate what elements are authentic to them. We wish to investigate their attitudes towards the adoption of VR as a substitute in heritage sites and we also want to investigate the level of acceptability of inauthenticity by the degree of VR usage. We can further explore the relationship between use of VR and authenticity, and thus the tourists’ experiences.

The specific objectives are as follows:
- To investigate whether or not tourists are in search of authenticity
- To identify the current adoption of virtual reality in heritage settings
- To explore whether virtual reality as a form of interpretation will augment or degrade authenticity from tourists’ perspectives
2. Proposed Methodology

To achieve the objectives, empirical research will be undertaken, informed by concepts regarding types of authenticity derived from the literature introduced above. The sample will consist of tourists. Both qualitative and quantitative techniques will be used for data analysis to find out the tourists’ intentions to search for authenticity. Desk top research and site visits will be carried out to achieve objective 2 - identify the current use of virtual reality in heritage settings including museums and heritage sites. Case studies will be used. Qualitative data will be obtained from in-depth or focus group interviews at selected heritage settings and the data will be used to answer objective 1. A questionnaire survey will be used to address objectives 3, 4 and 5. All data will be collected at the heritage site, immediately after the tourist visit. In this research, the data analysis will be divided into two parts. In the first part, qualitative data from interviews will be analysed initially by Content Analysis, and further guided by Grounded Theory. All interviews will be recorded and transcribed. Data will be coded, categorized and presented in data display, then assessed and evaluated. In part 2, SPSS will be used to analyse the survey data. All data collected will be analysed using descriptive statistics and bivariate or multivariate analysis, as appropriate. The qualitative component will be useful since the issues of authenticity are not simply a “YES /NO” or rating response, while the quantitative analysis will attempt to measure tourists’ experiences and use of VR.

3. Anticipated Result

This study is important not only for the theoretical contribution it will make, but also for giving practical information to the tourism industry. Theoretically, this research attempts to shed more lights on authenticity and, in particular, how tourists look for authentic experiences. It has been shown that authenticity is an important element of tourists’ satisfaction and experience for domestic tourists (Pearce and Moscardo, 1986). However, there may be some discrepancy between the thinking of domestic and international tourists. Furthermore, it will be interesting to see if tourists consider virtual reality images to be authentic. If they consider that VR images are inauthentic, this may imply that objective authenticity is important to them; on the other hand, if tourists accept that VR images provide an authentic experience, this may suggest that existential authenticity is the key aspect when evaluating whether or not the experience is authentic. The research will help us to have a better understanding of authenticity, which has been at the centre of debate in tourism academic literature for several decades. It will also show whether or not objective authenticity is a concern for tourists or is only used primarily by heritage managers.

From a practical point of view, this research will enable heritage management to understand the use of virtual reality. The acceptance level of inauthenticity and degree of virtual reality adoption will also assist to provide direction to heritage managers and they may rethink the interpretation at a heritage site. From the information obtained in this research, they would be better able to provide rationale and justification for the adoption of technology in heritage settings.
References


ICOMOS. (1994a). In Lemaire R., & Stovel H.(Eds.), The Nara document on authenticity ICOMOS.


Smart tourism destinations: a demand-based approach for improving local tourism management

Francisco Femenia-Serra
University of Alicante, Spain
paco.femenia@ua.es

Abstract

The ‘Smart Tourism Destination’ (STD) concept has progressively become commonplace in the public tourism agenda and its principles are inspiring many institutional projects. However, academia hasn’t provided yet a robust theoretical foundation and empirical support for this new destination management approach. This emerging approach risks being misled since tourists themselves, as the main focus of policies and actions, haven’t been actively considered either in research or in public projects hitherto. Acknowledging this gap, this doctoral dissertation aims to provide a tourism demand-centred perspective of the multifaceted STD approach for better informing the local public tourism management of the potential smart destinations.

Keywords: Smart tourism destination; Smart tourism; ICTs; Destinations; DMOs; Tourism demand

1. Introduction and Problem Definition

ICTs have disrupted the whole tourism system (Buhalis & Law, 2008). On one side, during the last couple of decades an empowered, informed and demanding tourist has emerged due to the possibilities these ICTs have opened (Gretzel, Fesenmaier, & O’Leary, 2006). This new tourist experiences in a technology-mediated manner and is able to co-create their experience with the rest of the destination stakeholders (Neuhofer, Buhalis, & Ladkin, 2012; Tussyadiah & Fesenmaier, 2009). On the other side, destinations have been able to improve their processes and performance thanks to this technological progress (Buhalis, 2003). In this process of constant change, the recent emergence of cutting-edge advancements like the Internet of Things, cloud computing or new types of connectivity and mobile devices, represent a new stage for tourists and destinations in the era of big data (Xiang & Fesenmaier, 2017). In this context, STDs have emerged as a framework to explain how the most recent ICTs and the generated data are fostering a new relationship between the stakeholders and a novel approach towards destinations management through a dynamic and informed decision-making (Buhalis & Amaranggana, 2014). STDs, although being a concept still under-construction, have attracted the attention of several governments such as Spain (Ivars-Baidal, Celdrán-Bernabeu, Mazón, & Perles-Ivars, 2017). The parallelism to the successful discourse of the smart city and the potential associated political interests and place marketing strategies behind the announcement of smart projects, could partially explain this interest. However, while theoretical schemes put tourists, their experiences and their interaction with other actors as the focal point of the smart destination (Boes et al., 2015; Buhalis & Amaranggana, 2014), for the moment scientific investigations have neglected the tourists’ perspective, and their voice has been ignored. This way, the tourists’ perception of the technology-based functioning of the STD, and the level of alignment between the expectations around their attitudes and behaviour in this smart setting with their current reality, constitute major research gaps (Buonincontri & Micera, 2016; Gretzel, Reino, Kopera, & Koo, 2015; Gretzel, Sigala, Xiang, & Koo, 2015; Gretzel, Werthner, Koo, & Lamsfus, 2015; X. Wang, Li, Zhen, & Zhang, 2016). Being aware of these research needs, the general objective of this study is to provide an
emic, tourism demand-centred perspective of the smart destination management approach. This is multi-layered objective that requires several previous specific objectives to be fulfilled: a) To create a solid conceptual framework for studying STDs in relation to tourism demand: the smart tourist as a theoretical construct; b) To establish the role of the smart tourist within the STD in relation to the other stakeholders; c) To define in which degree this smart tourist is actually represented by current demand; d) According to the results, to re-define the smart destination to adjust it to the preferences and behaviour of tourism demand; e) To better orientate future smart projects and policies from a local public point of view. This way, this doctoral dissertation calls for a deeper understanding of demand for a real ‘smart’ destination: the one that puts tourists’ needs, preferences and experiences in the centre of public policies in the planning and management of destinations, away from purely technological, business or political proposals.

2. Literature Review

Smart destinations are defined as those in which the interconnection between the different stakeholders through the latest ICTs generates an intelligent decision making. Theoretically, stakeholders could interact through a ‘central platform’ (the core element of an intelligent system) which would receive the input (data) from diverse connected sources and devices. These data would be transformed into valuable information for services providers and institutions so they can take informed and intelligent decisions that would produce better experiences for tourists (Boes, Buhalis, & Inversini, 2016; Buhalis & Amaranggana, 2014; X. Wang et al., 2016). Thus, the smart destination management is based on the ability to gather and explode properly the generated data to design better experiences employing the technological infrastructure and connectedness of all the stakeholders (Xiang & Fesenmaier, 2017). Thus, the smart destination approach shaped by ICTs is under construction (Ivars-Baidal et al., 2017). In relation to this increasing interplay of tourists and technology, an important part of academic works has focused on specific technologies adoption, employing in some cases widespread theories like TAM, UTAUT, Diffusion of Innovations, etc. However, the smart destination proposes a step further in this relationship. We are talking about a complete technology-mediated experience which is expected to be built on a dynamic interaction and co-creation with the rest of the stakeholders and a full sharing of data for a higher personalisation of experiences, delivered through technologies that also become ‘smart’ (Buhalis & Amaranggana, 2015; Gretzel, Sigala et al., 2015; Neuhofer, Buhalis, & Ladkin, 2015). Thus, in the STD, the relationship between the tourist and the technology is taken to a superior level which requires a combination of several streams of literature to compose a new map. A critical review of literature reveals the existing gaps in concern of this interconnection between the tourist and the technology in the smart context and the critical need for a deeper understanding of the tourist and their experiences in smart tourism from a more critical standpoint (Buonincontri & Micera, 2016; Gretzel, Reino, et al., 2015; Gretzel, Sigala, et al., 2015; X. Wang, et al., 2016; Xiang & Fesenmaier, 2017). Furthermore, the capacity of the DMO to leverage this new stage in the tourist-technology connection is at stake, as new actors take the traditionally assigned roles (Gretzel, Werthner, et al., 2015), and public institutions find themselves lost in the technological deluge.
3. Conceptual Development

Smart destinations are a complex construct for which many disciplines may contribute: Geography—the destination as physical element and its public planning/management—, or Sociology & Social Psychology—tourists, their attitudes, behaviour and experience, the interplay of them with technology—. In this research, due to the multi-faceted nature of STDs it is understood that the limitation to use the lenses of an individual discipline or theory would restrain the analysis richness. The developed conceptual framework (Fig.1) reflects this spirit and settles the bases for the study of demand within the smart destination context.

![Conceptual framework](image)

**Fig.1.** Conceptual framework

However, some theoretical frameworks have been proved as especially appropriate and can serve as inspiration for understanding this phenomenon. This is the case of ecosystems, which derived from ecology, are a useful analogy for analysing the intricate relationships between the different ‘species’ of the smart tourism ecosystem (STE) (Gretzel, Werthner, et al., 2015): coexistence, competition, symbiosis, dependence, etc. as well as their functions within the ecosystem.

4. Proposed methodology

Because of the complexity of the topic under study and the recent stage in its research, a mix of methods is required. The first phase consists in a ‘conceptual research’ (Xin, Tribe, & Chambers, 2013), aimed to develop a consistent theoretical foundation for settling the structure for the study of demand within STDs. A thorough review of literature helped to identify solid constructs which provided the bases for the introduced ‘smart tourist’ concept (attitudes and behaviours) and their role within the STD (interaction, data exchange). The second phase comprises an online exploratory survey, preceded by a pre-test, with an ICT-advanced tourism demand consisting of millennial...
university students. Partially based on the conceptual development and also on previous contributions in the interrelation between tourists, ICTs and DMOs, this survey analyses these matters from the tourist perspective, in a new context and goes beyond the already examined scopes by introducing novel factors, based on literature, specific for the STD. The data will be treated through descriptive and exploratory factor analysis. The study of this cutting-edge demand segment serves to better define the scope of action of the tourist in relation to the ICT-based functioning of STDs. In the third phase, it is expected to further examine tourists within STDs through other typologies of travellers (non-ICT-advanced necessarily). This will be a more focused examination of fewer aspects of the interrelation between the smart destination and the tourist through, at least, four focus groups with varied tourist segments (different nationalities, motivations, ages, etc.) in several Spanish destinations developing smart destination policies. Tourists will be invited to participate and approached both at streets and hotels randomly. This will complete a full picture of the current tourism demand and how it is actually aligned with the expectations smart tourism holds for them (the smart tourist construct). Finally, in the fourth phase, the results of the analysis of tourism demand will be presented to DMO managers of the previously selected destinations to perform semi-structured interviews in which their perspective will be gathered. This will further help to bring together the neglected tourists’ standpoint and the policymaking of STDs. Following this sequential methodology, the required triangulation of results will be obtained.

5. Anticipated results

The expected contribution of this doctoral dissertation is twofold. On one side, this study will advance knowledge by: a) providing solid theoretical foundations for the smart destination concept and the tourism demand position in it, with the conceptualisation of the smart tourist, b) examining tourism demand attitudes and behaviour in relation to smart destinations and their ICT-based functioning and from the tourists’ ignored opinion c) providing evidences of the level of alignment between the smart destination management approach with current tourism demand, thus examining the degree of presence/existence of the smart tourist among real demand. On another side, it is expected that the results are useful for improving local public tourism management. Thus, the results will provide the required information for DMOs and policymakers to better orientate their action towards designing and implementing smart destinations which are more adjusted to the tourism demand.

References


Smart destinations as complex systems: understanding the development of smart destinations through the framework of complexity theory

Jennie Gelter
Mid Sweden University, Sweden
Jennie.Gelter@miun.se

Abstract

The development of digital sensors, connected to the next levels of the Internet, Internet-of-Things (IoT), has resulted in “Smart Homes” where most functions of a home are connected to the Internet, being smartly controlled from anywhere. In the same way “Smart Cities” are under development, and as a consequence even “Smart Destinations”. IoT in combination with Artificial Intelligence will give the e-tourists a new smartness by processing a large amount of information and present it in an intelligent form on digital platforms. Adapting to these digital technologies and service opportunities, will open up new challenging opportunities within tourism to obtain knowledge and resources for this digital transformation. This research proposal aims to apply the theoretical context of complexity theory to analyse patterns and influencers in emerging smart destinations, answering the research question: How can we understand the development of smart destinations as a complex human-technology system from the perspective of complexity theory?

Keywords: Smart Destinations, IoT, AI, e-tourist, complexity theory

1. Problem Definition

The research proposal intends to investigate smart destinations as complex systems using the framework of complexity theory, with the aim to understand the development of smart destinations as a human-technology complex system. The recent rapid development of small digital sensor that can be connected to the next levels of the Internet, IoT, has resulted in smart homes where most functions can be smartly controlled from anywhere. In the same way smart cities are under development, and as a consequence even smart destinations. IoT in combination with the rapidly developing Artificial Intelligence (AI) and Big Data have the opportunity to provide digital smart tourism services to the future e-tourist and present it in an intelligent form on a multitude of digital platform media.

The concept of smart destinations, with technology being embedded on many levels, have the potential to develop synergies between technologies to support the improvement of tourist experiences (Buhalis & Amaranggana, 2015). In addition to the digital transformation, tourism industry is presently undergoing a paradigm shift from being mainly a service industry to become a provider of designed and staged experiences, adapting to the concept of the experience economy. In the same way as the Internet has developed from providing static information (Web 1.0) to the more interactive Web 2.0 with user-generated content, the experience economy has moved from providing staged experiences to co-produced or even customer-driven experiences, the consumer becoming a producer in the form of prosumer (Neuhofer et.al., 2012). The tourism industry is trying to adapt to the disruptive digital technology, which has created a complex technological environment. The present disruptive digital transformation of the tourism industry, and the tourist’s behavioural responses to this digital development, has created a complex and disruptively evolving ecosystem, where
human-technology interactions create new structures and stakeholders. How traditional destinations adapt, contribute to or vanish from this evolution will be critical for the future structure of the tourism industry. The present rising interest of destination to become smart as an adaption to this digital transformation of the tourism industry need to be researched in a critical way. There are several possible approaches to the concept of smart destinations, such as a technological approach to contextualise the interactions of IoT, AI, Big data and tourist services as smart destinations. A more human centred approach is to research the e-tourist experiences and adaption to the new technological possibilities. A third approach is a more holistic approach incorporating both these two approaches in a human-technology complex system approach, which can be analysed through the complexity theory framework, which is the approach my thesis attempts to develop.

2. Literature Review

1.1 Tourism and Destination

Tourism destinations are known to be the amalgams of tourism products and services, considered to be the core of the tourism industry as well as complex systems which are difficult to manage (Buhalis, 2000; Neuhofer et al., 2012). Destinations as complex systems are based on the fact that there are a high variety of interconnected stakeholders involved causing developmental fragmentation (Boes et al., 2015). Cohen (2012) proposes the model of The Smart City Wheel, using six dimensions: Smart Governance, Smart Environment, Smart people, Smart Living, Smart Economy and Smart Mobility. This model emphasising the plurality of a smart destination and complexity of its structures and are as well built on theories of social capital, ICT, social regional competitiveness, economics and infrastructure (Boes et al., 2015). Smart destinations transform Internet-of-Things (IoT) infrastructure of Smart Cities into iService design for visitors (Lamsfus & Alzua-Sorzabel, 2013), through sensor network, smartphones with location and context applications. This enable the creation of intelligent systems in tourism that can supply tourism consumers and service providers with more relevant up-to-date information, decisions-support and more enjoyable tourism experiences (Buhalis & Amaranggana, 2015).

There is a paradigm shift in the digital world towards the experience of digital applications, where the focus has shifted from “Quality of Service” (QoS) of digital devices (efficiency and performance such as memory capacity, speed, etc.) to “Quality of Experience” (QoE) that puts focus on the user experience and user satisfaction with the experience, and Experience Design of information technology. This technological endowment has played a fundamental role in the development and growth of contemporary tourism and extensively, tourist destinations and smart destinations. Today the travel and tourism industry is one of the most significant users of Internet technology, and Internet has influenced travel behaviour and tourism industry in a variety of ways and resulted in fundamental changes in industry structures and travel behaviour (Gretzel & Fesenmaier, 2012).

1.2 Human-Centred Approach

Intelligent systems are the next-generation information systems that promise to supply tourism consumers and service providers with more relevant information, greater decision-support, greater mobility, and, ultimately, more enjoyable tourism experiences. They currently encompass a wide range of technologies relevant for tourism contexts such as recommender systems, context-aware systems, autonomous
agents searching and mining Web resources, and ambient intelligence. There are two components of intelligence that are usually emphasized when distinguishing intelligent systems from those which are not (Gretzel, 2011): (1) the ability to sense the environment; and, (2) the ability to learn from actions to maximize success in achieving particular objectives. Thus, intelligent systems are in communication with their environment and continuously evaluate the responses they receive from this environment, to their actions to determine the favourability of these actions. They perceive, reason, learn and act and intelligent systems can provide great value if they help in collecting and pre-processing information according to personal and efficiency gains and value creation (Lamsfus et al., 2013).

Early approaches to intelligent systems in tourism mostly focused on expert systems providing support for tourism industry professionals. Nowadays, intelligent systems in tourism are typically envisioned as fully autonomous travel counsellors or concierges that have the ability to determine user preferences and anticipate user needs while having a large and at the same time specialized knowledge repository at their fingertips and continuously evaluate their suggestions based on feedback received from their user (Lamsfus et al., 2013). Intelligent systems in tourism are also developed to provide functions traditionally offered by tour operators and travel guides, such as travel planning/scheduling tasks, navigation and interpretation (Lamsfus et al., 2013). The potential of the intelligent system in tourism is within product development contexts, tourism demand forecasting, and areas of process automation.

These autonomous travel counsellors, so called E-Agents (Lamsfus et al., 2013), within tourism will consist of an artificial intelligence device, permanently connected to the internet, which has the ability to immediately understand the tourists. The system will have the potential to customize all the tourist travel experiences, and the E-Agent will gather detailed and personalized experiences from the data published by users on various social networks, and will perform a scan of online searches and using predictive algorithms to offer personalized suggestions (Lamsfus et al., 2013). These systems of E-Agent relationships stress one example of the complexity issues at smart destinations.

1.3 Technology Approach

Smart destinations transform IoT infrastructure of Smart Cities through ecosystems of computers with the infrastructure oriented applications aiming to improving the quality of life of citizens (Lamsfus & Alzua-Sorzabel, 2013). This complexity stems, among other factors, from the mobility of tourists as complex networks as well as distributed data sources and systems character of the Smart destination. Thus, a definition for smart destinations has been proposed as “[A] destination is a Smart Destination when the investments in human social capital and traditional transport and modern ICT communication infrastructure meet the social, cultural, economic, leisure and personal needs of visitors.” IoT also drive business transformations into the digital world, and by IoT collects Big data for business intelligence and strategic decisions. Thus, smart destinations behave very much as dynamic complex systems, encompassing numerous components and activities that are interdependent as well as highly nonlinear (Vargas-Sanchez, 2015). A system is considered complex if its parts interact in a nonlinear manner, and according to Baggio (2008) cause and effect relationships among the elements rarely exist and instead a very little stimulus may cause large effects or no effect at all. Russell and Faulkner (2004) suggest the principles of Complexity Theory as: “the more pertinent of chaotic system that are particularly relevant to the examination of destination development are (1) ‘edge-of-chaos’ phenomenon, (2) ‘self-
organising behaviour’, (3) the ‘butterfly effect’, (4) ‘lock-in effect’, (5) ‘self-similarity’ and (6) ‘bifurcation’. Self-organisation is typically in many-components systems and are characterised by the ability to bottom-up create new structures (Baggio, 2008; Helbing, 2009), requiring an adaptive ability, generated by its entities. In a complex system, global structures may emerge when certain parameters go beyond a critical threshold (Baggio, 2008). Thus, new hierarchical level appears reducing the complexity causing the system to evolve, and the complexity increase up to the next self-organization process. According to Baggio (2008), one effect of such a characteristic is the capability to show a good degree of robustness to external (or internal) shocks.

The ‘Butterfly effect’ refers to a major change in the system caused by small changes in the trajectory, for example disruptive changes like the sharing economy with technology innovations and e-tourism behaviour changes like Uber Cab and Airbnb. These changes lead to different dynamics, cause the behaviour of chaotic systems to be unpredictable (Baggio & Sainaghi, 2011; Helbing, 2009). The ‘Lock-in effect’ refers to the pervasiveness of initial conditions creating something that has sustained over time although surrounding and elementary conditions have changed (Russell & Faulkner, 2004). For example, traditional patterns of travel, traditional business value-chain, business practises such as dependence on phone booking and other behavioural patterns that are “locked-in”. ‘Self-similarity’ refers to different elements that forms a system as well as a result of the functioning of the system and each entity may be similar within the system but not identical regarding effects (Baggio & Sainaghi, 2011). Thus, self-similarity implies that the system considered will look like itself on a different scale. The self-similarity is evidence of possible internal complex dynamics of a system and it is at a critical state between a chaotic state and a completely ordered one (Baggio, 2008). For example, how tourism information is presented on micro and macro level through local, regional and national destination level. ‘Bifurcation’ refers to the edge of chaos when a system reaches a critical point when it is seriously challenged (Helbing, 2009), and take a new direction, undergoing changes (Baggio & Sainaghi, 2011), providing a platform for the emergence of innovative ways of dealing with the challenges of a system, for example the sharing economy that challenges traditional tourism systems.

Thus, complexity theory and its principles can provide a lens through which to observe and understand activities within smart destinations, with the attempt to fill a gap in conventional approaches to deal with changes and turbulence. Complexity theory could offer the opportunity of describing how complex systems can generate simple outcomes while looking at the whole system and not just its components. Similarly, a smart destination deals with tourists and as every human is a complex system in his or her own, complexity theory can account for both micro (tourist) complexity as well as macro (destination) complexity, understanding and interpreting the changing behaviours of contemporary tourism.

2. Conceptual Development

For this research proposal, I aim to study smart destinations through the theoretical framework of complexity theory to get a more comprehensive understanding of the phenomenon in the interface between smart destinations and tourists. The purpose is to analyse patterns and influencers in emerging smart destinations, to answer the research question: How can we understand the development of “smart destinations” as a complex human-technology system from the perspective of complexity theory? Smart destinations create complex infrastructures of Internet-of-Things and complex
information systems through Big Data. This complexity might be difficult to grasp and overview for Destination Organisations, policy makers and stakeholders, thus, I refer to develop a theoretical framework through complexity theory to comprehend the emerging smart destinations, extensively to provide a tool for DMO’s and policy makers to clarify the concept of smart destinations.

3. Proposed Methodology

This research proposal intends to study smart destinations through the theoretical context of complexity theory framework. Stage 1 will be a critical concept analysis of the concept of smart destinations to contribute to a better understanding of the concept, and use complexity theory to understand the complex structure within smart destinations. The second phase will be case studies of existing and emerging “smart destinations” with a descriptive approach, to understand how the concept is being applied within the tourism industry, and to understand what structure compose the complexity of the destination, i.e. stakeholders, relations, processes etc. A methodological triangulation will be applied using surveys, semi-structured interviews and direct observations. Data collection will be conducted through interviews with DMO’s, stakeholders and policy makers and qualitative observations from strategically chosen smart destinations as cases - can be characterized by actively incorporating Internet-of-Things and thereby being smart. In a phase three, the results from the two previous phases will be used to develop a theoretical framework based on complexity theory, for the adaption of digital transformation in tourism industry regarding IoT, AI and e-tourism in smart destinations. The aim is to facilitate the industrial digital transformation.

4. Conclusion

To understand contextual conditions of smart destinations, it requires a holistic approach on the phenomenon through human-technology complex system, which can be analysed through the complexity theory framework. The contemporary tourism industry can be argued to be a chaotic, non-linear, non-deterministic system, hence, studying the complex relationships that exist between and among the various elements that constitute a smart destination system, I argue this approach will contribute to the body of knowledge about smart destinations as complex systems. As smart destinations are characterised of a high level of interactions between the different elements, smart destinations can be understood as complex adaptive systems where complexity theory could provide a comprehensive understanding behind smartness. To generate an understanding of the nature of smart destinations and its past, present, and potential future trajectories, cannot be done by an analytical process in which we reduce the system conceptually to its elements and model it in terms of those elements. More important are the interactions among them, which constitutes smart destinations, where interactions, facilitated and magnified by its tech endowment, are fundamental for new opportunities (Baggio, 2008) – the whole is greater than the sum of its parts.

References


The role of artificially intelligent robot in the hotel industry as a service innovation

Stefi Primawati
Linnaeus University, Sweden
sp222pu@student.lnu.se

Abstract

The purpose of this proposal is to explore the role of artificially intelligent robot in the hotel industry as a service innovation and how it will affect the change of interaction with human. By looking at existence literature about tourism and digital, this paper will bring out the issue and introduce the artificially intelligent robot in interaction with the hotel guest. Furthermore, this artificially intelligent is proposed to create guest ultimate experience and add value in hotel competitiveness. This proposal has implication for future research development in robotic experiments specifically in the hospitality industry and improves the tourism development in information technology (IT).

Keywords: robot, artificial intelligence, service innovation, hotel, interaction

1. Problem Definition

IT (Information Technology) is best seen as the latest in a series of broadly adopted technologies that have reshaped industry over the past two centuries. Digital innovation has also transformed more potential from strategic resources into commodity factors in production (Carr, 2003). Every hotel now displays the competitive advantage and meets guest expectations for quality, value, promptness, responsiveness, and flexibility (Edwards, 2016). Two of the intuitive technologies have been considered recently to be adopted by several big hotel chains are artificial intelligence (AI) and robot.

Research has discussed how robot is oriented to manage the hotel tasks towards the constructions of a hotel assistant system where robots are able to execute task autonomously, such as guide guests to their rooms and other places in the hotel, provide hotel information to guests, or deliver small items to their rooms (López et al., 2013). Thus, the development can be achieved by improving robots to understand and comprehend certain laws. In other words, it is no longer robot with orders only, but contains ethic and human-like robot this would not just include movement, but could incorporate a variety of parameters, resulting in more human-like drives (Salge & Polani, 2017).

This advanced robot is created as a part of digital business strategy, mainly in the hotel industry. The ability of human employee and machine to work and collaborate effectively will be a highlight feature on the next generation workforce. In regards with the new innovation in the digital and tourism context, an innovative service approach using IT capabilities continuous strives for better solutions to sustain a competitive advantage for the hospitality industry (Bhatt and Grover 2005; den Hertog et al., 2010). Seeing from Hertog’s six-dimensional capabilities, including new service concept, new customer interaction, new business partners, new revenue model, and new organizational or technological service delivery system, intelligent robots may also be included to obtain the maximum service to create personal experience for the guest (den Hertog et al., 2010). New customer interactions address the value creation for customers in the given interaction process of service encounters (Chathoth et al., 2016;
Payne et al., 2008). At this point, the importance to create new innovation in robot will be expected to boost the hotel performance and give advantage for its business.

The writer’s idea to develop artificially intelligent robot is derived from the initiative to create an advanced innovation in service industry, mainly in the big hotel, also the potential to discuss about the change of the interaction, which can be considered in ethical perspective. This paper applies the exploratory design in which the basic concern is familiar, yet also has potential to develop new ideas and assumptions (Cutill, 2002). Thus, the following research question is how does this artificially intelligent robot play an important role in hotel industry and what are the changes in the interaction process seeing from the ethical perspective.

2. Literature Review

2.1 Digital disruption in hotel industry (what it means to implement artificial intelligence and robot in the hotel industry)

Hospitality, mainly hotel is currently struggling in the digital disruption which may obtain the potential to overturn incumbents and reshape markets faster than perhaps any force in history. Yet recently, hospitality has found its way to develop its business into the advance level. One of the examples is by implanting AI in their search process, and chat platforms in the online communications to improve customer service and engagement (Kressmann, 2017).

AI in most tourism industries assists the customer service part, when it boosts the outcome of experience and retention in personal way. AI, nevertheless serves insightful and relevant information more often which not directly related to guests’ inquiry. And in tourism, this kind of assistance is such a vital element and much convenient when guests demand support for any directions or recommendations (Murison, 2016). While the application of artificial intelligence in travel, tourism and hospitality companies has received some, although not sufficient, attention by scholars (Borràs, Moreno & Valls, 2014), research in the field of service automation and the adoption of robots by themis extremely scarce (Murphy et al., 2017).

Robots, however has also rapidly made a significant movement to enter the tourism industry. Logan (2016) quoted from Professor of Bournemouth University, Stephen Page’s statement that “Robots represent a major innovation in the tourism sector and their potential impact and use offers many new avenues to enhance and develop the visitor experience of travel and hospitality. Understanding how consumers will embrace and interact with this new technology will be critical to their adoption and dissemination in an industry that is one of the market leaders in the use of technology.” Additionally, according to Pinillos et al. (2016), there are two main criteria that robots must have in tourism market; robots must offer good service at affordable price and perform the tasks with minimal failure.

2.2 How the artificially intelligent robot adds value in business perspective

The idea to create intelligent robot is literally derived from the intelligent system. There are two components of intelligence that are usually emphasized when distinguishing intelligent systems from those which are not: (1) the ability to sense the environment; and, (2) the ability to learn from actions to maximize success in achieving particular objectives (Gretzel & Kang, 2011). Thus, intelligent systems are in communication with their environment and continuously evaluate the responses they receive from this
environment with respect to their actions to determine the favourability of these actions (Fritz, 2006).

Machines are no longer tools, but have instead gradually turned into social actors or social interactive objects (Gerdes, 2016). Several departments in hotel have direct interaction between hotel staff and guest. Potential opportunities to adopt such a service robot can be done in some departments such as front desk, concierge, housekeeping, meetings and events (Ivanov, Webster, & Berezina 2017). In this sense, the role of intelligent robots is significant in attracting a particular market of new customers (Scherer et al., 2015). Customers can create their value in the self-service process when they interact with service robots out of a sense of fun, enjoyment, and curiosity (Grönroos and Ravald, 2011).

When robot is adopted in the hotel industry, it can be seen as an ultimate personalisation service for the guest. Further, tourism services are product class in which there are an extraordinarily high number of options available. The larger the number of alternatives to be considered, the more the expression of preferences is likely to reflect a constructive process (Payne et al., 1999). Although the novelty of using new robotic technologies may attract a great deal of attention and consumers, it is the successive waves of robotic innovations that will make robotic interactions more pleasant and efficient (Ivanov, Webster, and Berezina 2017).

### 2.3 How this intelligent robot improves the service innovation and affects the change of interaction

Social and practical objectives, such as serving people by providing information or assisting in hospitals and hotel environments, drive social robotics research to facilitate the gradual integration of robots into the real world (Zalama et al., 2014). Robot can be useful to hotel industry in certain job such as cleaning the room or delivering luggage to guest room. To large extents, robot may develop its ability to work in other job field such as front office when it can greet or directly interact with human (not short interact) in the front office or concierge part. Robot may be able to be personal guide for the guest in the hotel. This milestone according to Bossmann (2016) is actually the start of an age where people will frequently interact with machines as if they’re human.

This robot interaction in hotel industry, however has led to the new challenges how people experience the hotel services since the interaction is not just means by which users communicate input to the system and systems provide feedback; interactivity changes the state of mind of the user (Choi, 1997). There is new dimension that this interaction process between the provider and the client is an important source of innovation, especially when the business service itself is offering support for innovation (den Hertog et al., 2010). However, there are still lacks of literature reviews which provide the practical guidance towards human – robot interaction in ethical perspectives.

### 3. Conceptual Development

The meta-analysis and exploratory design is proposed through this paper. Indeed, the exploratory design requires direction for future research (Streb, 2010). Yet meta-analysis is done by evaluating and summarizing the results from a number of individual studies (Walker et al., 2008). The paper is developed from the idea of robot implementation in the hotel industry and to create an advanced model such as intelligent robots. The writer adopts the deductive approach as this paper is going to start exploring
with no preconceived ideas on the findings. The developed concept will be gathering the data, looking for pattern / analysing, and developing theory. Moreover, the idea is also supported by the experiential knowledge with technical knowledge and personal experience. The writer’s background as hotelier in 4 and 5 star hotel and current study in tourism and sustainability have led to propose the topic about the advanced technology development in tourism mainly hospitality.

4. Proposed Methodology

The first step for the methodology will be conducting the desk research. It means that collecting secondary data for sufficient result, and literally the major advantages associated with secondary analysis are the cost effectiveness and convenience it provides (Smith & Smith, 2008). It is also called as desk research. Typically, the desk research uses the so-called “secondary data”, that is open source information, annual and monthly reports, statistics, surveys of companies and markets in the media and others (Yelizarova, Kruhlenko, and Rusakevych 2014).

Since the research question was more likely addresses to ‘what’ and ‘how’, thus the most suitable methodology according to the writer’s understanding is qualitative method. There are various types of instruments used to collect data for qualitative research, and of them is by conducting in depth interview. This in-depth interview is designed to obtain the vivid picture of participant’s perspective on the research topic. During in-depth interviews, the person being interviewed is considered the expert and the interviewer is considered the student. The researcher’s interviewing techniques are motivated by the desire to learn everything the participant can share about the research topic (Milena, Dainora, & Alin 2008). Thus, the writer’s plan is to interview the hotel manager, hotel representative, and digital expert (robotic engineers) about the challenge in adopting the artificially intelligent robot for tourism business. Therefore, this will be the challenge for the writer to conduct the questions which can effectively address the research question.

5. Anticipated Results

The mindful robot, however, has by many been tossed aside as being merely in realms of science fiction; as a result, the topic is not even discussable by some scientist (Nicolelis, 2010). Likewise, the goal of this study is to develop better understanding about how digital and tourism are always relevant each other. Digital or information technology, however, it will continuously develop with new innovation and model, and most importantly in tourism industry. In the business perspective, the idea of intelligent robot as an option to be implemented in the hotel industry will be expected to be useful for future hotel business and provide basic foundation as a valuable point to be considered as competitive value, also maximize the service performance.

In the academic perspective, the research is expected to contribute knowledge in the tourism and digital for the future development. By implementing the new design and concept innovation in intelligent robot, it is anticipated to generate deeper penetration about how this intelligent robot has such crucial role in the tourism knowledge, which part is the best to apply, and which other considerations need to be included. This is not as simply to comprehend, nevertheless, there is nothing is inherently wrong with such a practice.
References


A smart model for the personalization of the web of things in the hospitality industry

Ronald Ojino
University of Dar es Salaam, Tanzania
ronojinx@gmail.com

Abstract

Personalization of the Web of Things in order to meet customer needs in the hospitality accommodation facilities carries with it numerous merits but faces challenges that include: vertical vendor solutions that are quite expensive and closed in nature. This paper proposes the usage of the Web of things to address these challenges through a context aware smart model that utilizes a novel personalization based system to match a customer’s profile to objects settings in a particular context. The model will be built from comprehensive literature review, factorial analysis of customer needs in accommodation facilities, work on the Semantic Web of Things and recommender systems.

Keywords—web of things; personalization; context aware

1. Problem Definition

Hospitality markets are shifting and new customer trends are emerging that reject the homogeneous character of much of the commercial accommodation sector (Timothy and Teye, 2009): guests want a more connected, personal and informed experience while their motivations have become increasingly fragmented and harder to segment into clearly definable customer groupings (Talwar, 2012). Likewise, operators want to deliver on the promise, increase profits, optimize facility usage, decrease costs, increase customer loyalty, and be energy efficient.

For a hotel to compete effectively it needs to establish a close relationship with its customers and meet their needs; which can be achieved through personalization. Personalization of the Web of Things (WoT) is still at its infancy, and the few solutions put forward are hardware dependent, vendor specific and not context aware, implying difficulty in programming and limitation of their adoption. WoT heralds a promise of realizing harmonious symbiosis of humans, computers and things in the emerging hyper-world through offering cross platform inter-operability by integrating sensor data from different manufacturers through the reuse of web principles. This research builds upon a literature review, and seeks to create a model that can be used to understand and act upon the evolving requirements of hotel guests hence provide them with personalized experiences through the WoT. It proposes the use of semantic technologies to enable interoperability of different objects, context aware recommender techniques, and WoT to enable the provision of the most appropriate and personalized experience within the hospitality industry.

2. Literature Review

Lashley and Morrison (2001) define hospitality as requiring the guest to feel that the host is being hospitable through the feelings of generosity, a desire to please and a genuine regard for the guest as an individual. From the definition, it is evident that personalization plays a key role in meeting individual guest needs. The hospitality industry is moving rapidly towards automation and millennials, who make up a large percentage of the population, are tech savvy and expect a high level of efficiency from...
facilities such as hotels. Hotels seek automation in order to cut a competitive edge, have higher efficiency or for differentiation (Orfila-Sintes, Crespi-Cladera, and Martínez-Ros, 2005). To remain competitive, it is crucial to tailor hotel services to the changing needs and lifestyles of customers (Min, Min and Chung, 2002).

Lee, Baker and Kandampully (2003) found the application of technology in hotels to be at 2 levels i.e. for in-room services and at managerial level. The quality of a room is so fundamental that it no longer affects prices between luxury hotels (Zhang, Ye and Law 2011). Technology has been utilized for in-room services such as self-wake up systems, electronic meal ordering, and video entertainment. In automated hotels, the most important differentiation becomes the ubiquitous technology (Miljanic and Nikolic, 2016) which can be achieved via WoT. WoT can support hotel employees by enhancing their capacity to serve customers for example: through automatic regulation of the room’s temperature and light intensity to the customer’s liking. WoT lets devices integrate into the fabric of the web and our lives (Atzori Iera, & Morabito, 2010) by using open web standards to make smart things open and manageable. WoT heralds a vision of making life easier for application developers by providing a simple scripting model, and enabling the interaction of multiple services from varying protocols with different data formats. Our work focuses on WoT and SWoT (Semantic Web of Things) as they enable integration and interoperability of smart objects both horizontally and vertically. In dealing with large volumes of heterogeneous and distributed data, issues related to interoperability, automation and data analytics will require common representation frameworks and machine-readable data descriptions (Barnaghi, 2014) which can be achieved through semantic technologies. Semantic technologies associate semantically rich and easily accessible information to real world objects, location and events by means on inexpensive, unobtrusive micro-devices (Ruta, Scioscia and Sciascio, 2012). Enriching the WoT with the semantics of individual elements and their interactions allows for widespread common descriptions, reuse and reference of components. It also facilitates effective data access and integration, resource discovery, semantic reasoning and knowledge extraction (Barnaghi et al., 2012).

4.1 Personalizing the Web of Things

Personalization is the ability to provide contents and services tailored to individuals based on knowledge about their needs, expectations, preferences, constraints and behaviours (Berkovsky & Freyne, 2015). In essence personalization aids in achieving differentiation that to Zhang et al. (2010) can be viewed as a bundle of attributes or characteristics. Personalization services can reduce information overload and hence increase user satisfaction while accommodating differences between individuals to increase usability (Liang et al. 2006). In order to offer quality individualized service to customers, personalization will take into consideration the individuals’ behaviors which can keep changing from time to time, their needs which may vary over time, and expectations which call for knowledge discovery and constraints which need consideration.

However, Vallee et al. (2016) argue that users’ preferences and needs may not be easy to elicit since the number of alternatives may be large or a user could provide an inconsistent set of preferences. They further suggest that this challenge could be solved by learning automatically from the data previously gathered, for instance: using complex reference models or via partial preference patterns. Xiong and Geng (2010) present a personalized intelligent hotel recommendation system for hotel reservation. The system extracts hotel characteristic factor, analyses customer browsing and
purchasing behaviours, constructs a recommendation system polymerization model for different types of customers, and presents a Matlab procedure for implementing the personalized recommendation. Lin, Lai, Chen, and Hwang (2015) utilize users’ browsing behaviour on mobile devices by applying text-mining techniques to construct user interest profiles to make personalized hotel recommendations. However, Cai, Lau, Liao, Li, Leung, and Ma (2014) contend that most recommender systems are weak in handling WoT’s sparse recommendation space and may not efficiently scale in managing things. Cai et al. (2014) propose Recommendation based on Typicality (RoT) that recommends things to users based on their typicality with respect to a specific user interest group and the typicality of items that the user group is most interested in. It proved more effective in terms of mean absolute error using the Netflix benchmark dataset that simulates the vast WoT recommendation system. Most of the existing WoT personalization research partly implement personalization as they have users inputting their data for personalization and are thus not context-aware, making it hard to give new users who have no prior information stored about them personalized services.

By making the personalized systems context-aware, algorithms exist that can take into account the ever-changing behaviour of system users and new preferences. For instance: Lakar, Samal, Muthupandi and Patil (2015) used a browser based web mining middleware for mining co-occurring patterns with device logs, browser history and WoT data on target devices. They derived context based on user’s WoT sensor data, mined the data sets to generate most frequent item sets and used a novel a priori algorithm to predict user’s browsing behaviour.

5. Conceptual Development

The research has focused on the accommodation segment that could be personalized using WoT. The research is based on the guest’s characteristics i.e. through customer’s actions, interactions and choices in a hotel’s accommodation, their preferences to specific accommodation provisions can be learnt. The literature on the web of things in personalization identifies important challenges of interoperability to be explored in order to improve the hospitality experience. It proposes the use of modern (non-classical) recommender systems and semantic web of things to personalize a hotel customer’s room.

Our work is anchored on the theory of personalization of appearance put forward by Blom and Monk (2003), which states that a high personalization disposition leads to a high scope of personalization. It considers the dispositional factors to personalize e.g. users, system, context and the effects of personalization on the users, which are cognitive, social and emotional. This psychological theory implies a degree of causality where dispositions predict behaviour.

6. Proposed Methodology

The proposed study whose proposal has been defended at the departmental board will be based on experimental computer science research design which is effective on problems that require complex software solutions and is used to identify concepts that facilitate solutions to a problem and then evaluate the solution through the construction of a prototype system. Our work will be carried out in the lodging sub-system of the luxury hotels in Nairobi, Kenya. According to hotel estimates, an average of 60,000 guests check into hotels rated under category 4 and 5 within Nairobi, Kenya on a monthly
basis (Eka hotel, 2017). Simple random sampling will be used to identify the number of accommodation sector reviews in establishing the important dimensions of the accommodation sector that can be automated via WoT. The estimated sample size will be given by the formula:

\[ n = \frac{(Z^2 \times pq)}{d^2} \]

The formula is appropriate when the population under study (N) is more than 10,000. where:
\( Z \) = the value of the desired confidence level, at 95% confidence level, i.e. \( z = 1.96 \).
\( p \) = the proportion of the subjects expected to respond, taking \( p = 0.5 \) (or the proportion of respondents with a specific characteristic of interest within the population)
\( q \) = (1-\( p \)), the proportion expected not to respond (1-0.5 = 0.5)
\( d \) = acceptable margin of error or degree of accuracy, (the span between the minimum and maximum values the proportion lie), allowing \( d = 0.05 \)

\[ n = \frac{(1.96^2 \times 0.5 \times 0.5)}{0.05^2} \]
\[ n = 384 \text{ respondents} \]

The minimal sample size is calculated as 384 respondents in 4 and 5 star rated hotels within Nairobi County, Kenya.

This method will ensure that each member has an equal chance being selected. Customer reviews of the luxury hotels in-room service will be collected from the hotel websites, social media platforms like Facebook and popular travel websites like TripAdvisor which will then be analysed via factorial analysis to determine the important dimensions of a hotel room to a guest. The dimensions (variables) will be the input to the experiment that will be collected and learnt over time using algorithms to offer innovative and exciting personalized services within the hotel room. Customer reviews data will be collected in late 2017 over a period of 3 months.

The researchers will then deploy sensor platforms that will continuously collect data based on important room variables determined earlier. The sensors will automatically record the variables of interest from 5 subjects whose preferences will be analyzed over a period of time for service personalization. The sensors will be placed in the experiment room within the research facility. This approach is proposed, as it is economically viable. The research will adopt a mixed research design for the verification of results, enabling greater accuracy in measurement and establishment of associations among the variables. Sensors and actuators will automatically collect quantitative data. The sensors will automatically collect large streams of quantitative data at regular intervals during the experiment. The data from sensors will be large data streams that will be location and time related.

7. Anticipated Results

The current PhD proposal aims to enrich the hotel guest experience by supporting the creation of a context aware personalized environment through WoT. In terms of contributions, we intend to apply: (i) profiling and recommendation algorithms; and (ii) web of things to create the model for the personalization of the web of things.
References


Developing the concept of social media power in tourism and hospitality
Fuad Mehraliyev
The Hong Kong Polytechnic University, Hong Kong
fuad.mehraliyev@connect.polyu.hk

Abstract
The influential power of social media has been acknowledged by both scholars and practitioners. However, the concept of power itself in a social media setting has been overlooked. Whilst many studies suggest that social media is powerful, no study has conceptualized social media power or tested the causal effects of power attributes in this setting. The study has two phases. First, through a qualitative study, this thesis will conceptualize social media power by interviewing users, industry experts and scholars. Second, to test certain power attributes of social media platforms, four experimental studies will be conducted with U.S. residents recruited from MTurk. Specifically, the effects of platform expert power, platform reward power and platform’s use of power on customer attitude and behaviour will be tested. The mediating effects of customer perceptions will also be examined.

Keywords: social power, social media, social media power

1. Research Background
Social Media (SM) are gaining increasing importance in our daily lives (Zeng & Gerritsen, 2014). Over the past decade, SM users have increased exponentially with an estimated number of 2.8 billion users globally in 2017 (Kemp, 2017). The profound impacts of SM on consumers and marketers have been acknowledged by both researchers and industry practitioners (Leung, Law, van Hoof, & Buhalis, 2013). Whilst the topic of SM has already made its way into various disciplines (Ngai, Moon, Lam, Chin, & Tao, 2015), its special role in tourism should be noted. Many scholars support the view that SM plays a role of crucial importance in the research stage of travel planning process (Leung et al., 2013). Huang, Basu, and Hsu (2010) even argued that the primary motivation of travellers to use SM is to obtain travel related information. Considering the increasing importance and impact of SM, tourism academia should continue focusing on SM research (Leung et al., 2013).

The rise of SM has transformed power relations among different stakeholders in the digital age, decreasing the power of practitioners in favour of consumers (Akehurst, 2009). Time magazine declared that the person of the year in 2006 is “you”, referring to SM and/or its user(s). The editor mentioned that “[i]t's about the many wresting power from the few and helping one another for nothing” (Grossman, 2006). Arguably, SM are not simply a “trendy” research topic of today but also the new “stakeholder” whose power is worthy of attention.

Along with empowering customers and businesses, SM platforms have become powerful stakeholders within the tourism industry. Tourists and tourism businesses recognize the power of TripAdvisor and other similar popular SM platforms (Bassig, 2012). Now it is no longer about whether SM are powerful or not. The power of SM has been acknowledged by the tourism industry and by academics, and cannot be underestimated (Ngai et al., 2015). The important question, however, is what components specifically constitute the power of social media. The concept of power on its turn is considered to be not just important but “fundamental” in social sciences (Russell, 1938) in general or in tourism (Church & Coles, 2007) in particular.
Interestingly, although the influential power of SM has already been acknowledged by previous studies, no research has conceptualized the Social Media Power (SMP) phenomenon and/or examined it empirically. Based on these discussions the following research question is introduced.

RQ1. What constitutes the power of Social Media?

Whilst the first section of the thesis qualitatively explores the components of social media power, the second section proposes a conceptual model to be tested quantitatively. Tourist attitudes and behavioural intentions seem to be two of the most researched and important constructs in social media studies (Zeng & Gerritsen, 2014). Whilst the casual effects of many social media attributes (e.g. volume, valence, review/reviewer characteristics) on attitude and/or behaviour were tested, power attributes were not conceptualized as antecedents of customer attitude and behaviour in social media setting. In recognizing that power is one of the most important factors explaining customer attitude and behaviour, this thesis suggests a conceptual model to illustrate the effects of certain power attributes of platforms on customer attitude and behaviour.

2. Theoretical Framework

Social power theory will be used as a theoretical framework for the study. This theory explains how individuals and/or social groups influence the attitudes and behaviours of others (French & Raven, 1959). Social power theory has been widely used in social sciences to explain dynamic power relations. However, there have been few applications to SM research in general (Ngai, et al., 2015) or in the tourism field in particular. Social power theory proposes five types of power that social groups and individuals use to influence other(s), namely, a) reward power, b) coercive power, c) legitimate power, d) referent power, and e) expert power. Originally the theory was developed to discuss the power of either individuals or social groups (French & Raven, 1959). One of the significant contributions of this thesis is extending influencers to refer to medium, more specifically, to social media platforms as well.

3. Study Purpose and Conceptual Model

The purpose of the study is twofold. First, the study aims to develop the concept of SMP with its tripartite dimensions represented by key SM stakeholders: i) individual users of SM; ii) business users of SM and iii) SM platforms. This will be achieved through the conduct of a critical and constructive literature review followed by a qualitative study. SM users, industry experts and scholars in the field will be interviewed and their perspective on the concept of SMP will be analysed.

Second, focusing on the platform side, this thesis aims to empirically test the influence of the power attributes of platforms on customer attitudes and behavioural intentions (see figure 3.1). The first experiment will test the effects of expert power on attitude and behavioural intention through the mediating role of perceived trustworthiness. Platform expert power will be represented by its i) experience, ii) specialization or ii) both. The second experiment will examine the influence of reward power on attitude and behaviour through the mediating role of perceived acquisition value. Platform reward power will be represented by i) the provision of price comparison, ii) best price guarantee or iii) both. The third experiment will focus on the effects of platform’s use of power which is conceptualized as recommendation of a specific hotel. This will be
represented by the certificate of recommendation. The final experiment will put the three power attributes together to retest the findings.

**Fig 1. Conceptual Model for Social Media Platform Power**

4. **Research Plan**

A qualitative study will provide the perspective of users, industry experts, and influential scholars in the field to the concept. Semi-structured interviews will start with general questions about the power of social media. They will be followed by questions related to each of the three dimensions of SMP. Specifically, interviewees’ opinions about the factors that make users/businesses/platforms in social media more powerful compared to other customers/businesses/traditional media will be asked.

Second, four between-subjects, well-controlled, online experiments will be adopted to test the causal effects proposed in the conceptual model. A hypothetical online review platform will be developed and power variables will be manipulated. Features of platform will be partially adopted from Sparks and Browning (2011). Participants will be exposed to different platform scenarios in which they will be asked to evaluate the platform as if they are considering to book a hotel for one week vacation through this platform. Post-experiment questionnaire will follow after the exposure.

In the first experiment, expert power will be represented by two independent variables: experience and specialization. A 2 (platform experience: absence vs presence) x 3 (platform specialization: generalist, specialized in travel, specialized in hotel) experiment will take place. To manipulate the experience, a logo will be developed in a way of explicitly presenting “since 1999” under which the sentence - “with 18 years of experience” - will also be available. For the condition of the absence of experience, a similar logo will be developed but neither “since 1999” nor “with 18 years of experience” will be shown. For specialization variable, the first is a generalist review platform (e.g. Craigslist). Non-tourism related categories such as, apartments for lease, apartments for sale, offices and commercials, rooms and shares will also be available in the platform. In the second condition, platform will be designed to be specialized in
travel (e.g. TripAdvisor). In addition to hotels category, other categories in the platform will include restaurants, flights, events, things to do. In the third condition, the platform will be specialized in the hotel sector (e.g. hotels.com). No other categories will be available in the platform other than hotel and the statement of “Hotel Experts” will be presented under the logo to highlight the hotel specialization of the platform.

The second experiment focuses on platform reward power which refers to the benefits a platform can provide. The focus will be on monetary benefits. Many SM platforms (e.g. TripAdvisor) provide best provide by comparing prices offered by various online travel agencies. A traditional way, on the other hand, is to provide the best price guarantee to insure customers that no cheaper price is available. Therefore, a 2 (comparison of available prices: presence vs absence) x 2 (best price guarantee: presence vs absence) experiment will be designed containing 4 platform scenarios.

The third experiment focuses on the platform’s use of power since possessing power does not necessarily mean that the power holder will use it to persuade others. Recommendation is one of the elements of persuasion (Senecal and Nantel, 2004). Two conditions of recommendation will be available in this study (certificate of recommendation: presence vs absence).

Finally, the fourth experiment will put all three power attributes together to re-test findings and investigate the interaction effects. A 2 (expert power: absence vs presence) x 2 (reward power: absence vs presence) x 2 (use of power: absence vs presence) experiment will be designed. Manipulations of the variables will depend on the results of previous three experiments. The scenario with the most influential power in each experiment will represent the presence of respective power variable.

All four experiments will be conducted with U.S. residents. The participants will be recruited via Amazon’s Mechanical Turk (MTurk) to Qualtrics where experiments will take place. Previous studies have supported the reliability of using MTurk database and have confirmed the familiarity of U.S. residents with online purchasing (Smith & Anderson, 2016). The collected data will be analysed using Exploratory Factor Analysis, ANOVA, ANCOVA, and Structural Equation Modelling (SEM).

5. Expected Outcomes

This thesis is expected to produce meaningful theoretical and practical implications. First, the study will conceptualize SMP by analysing the attributes of three stakeholders that comprise the power of SM. By doing so, the findings can establish the groundwork for future studies to use the SMP concept as an antecedent of attitudes and behaviours. Second, social power theory will be extended to social media research within the context of tourism. No study has systematically applied social power theory to explain the influential power of SM. Third, although the importance of mediums in the process of communications has long been acknowledged, no study has empirically tested the power attributes of platforms.

From a managerial perspective, industry practitioners will also acquire valuable knowledge. First, influential attributes of businesses in SM will be revealed. These factors can be used by businesses to influence customers. Second, influential attributes of individual users will also be revealed. The results may be used by individuals to create an image of “influencer” in social media. Businesses may also use the results. The knowledge of attributes of influencers that make them powerful, provides businesses criteria for identifying powerful influencers to work with. The power
attributes of platforms will also be revealed. The findings would be useful for SM programmers, developers, and marketers to influence their users and to choose influential platforms for targeting customers respectively.

References


Interaction of information cues in online hotel reviews: moderating effect of rating on text and helpfulness

Seunghun Shin
Virginia Tech, United States
ssh15@vt.edu

Abstract
There is a growing interest in understanding online reviews and their impact on consumer behaviour as electronic word-of-mouth in hospitality and tourism. Despite a considerable number of studies conducted recently, the interactions between different information cues in online reviews (e.g. review rating, text, and helpfulness vote) have been largely overlooked. This research aims to explore how the interactions of different information cues in online hotel review influence user’s evaluation. Several hypotheses regarding are proposed to examine the moderating role of review rating on the relation between four characteristics of review text (i.e., review topic, sentiment, length, and readability) and review helpfulness. This study will help us better understand the nature of online reviews as user-generated content within the context of hotel products.

Keywords: Online hotel reviews; interaction; social media analytics; rating; text; helpfulness.

1. Introduction
Nowadays, online product reviews have become essential in people’s decision making in everyday life, from buying commodities to choosing travel destinations (Li, Zhang, Meng, & Janakiraman, 2017). Online reviews are a rich information source representing consumers’ experience and evaluation of products, and each individual review can be considered a bundle of information including various information cues such as review text, rating, reviewer profile, and helpfulness vote (Xiang, Du, Ma, & Fan, 2017). In recent year, there has been extensive research on understanding the information value and potential impact of online reviews on consumer behaviour in hospitality and tourism (O’Connor & Murphy, 2004). However, existing research has treated cues in online reviews as being independent of each other without taking into consideration the potential interactions between these cues. Therefore, this research aims to explore how the interaction of different cues in online review impacts online user’s evaluation in the online hotel review context. In particular, this research focuses on the interaction between review text and review rating as they are identified as the most important cues in online reviews (Hong, Xu, Wang, & Fan, 2017). Specifically, this study examines the moderating effect of review rating on the relationships between review text characteristics (i.e., review topic, valence, length, and readability) and review helpfulness.

2. Literature Review
Online reviews refer to “peer-generated evaluations about products or services posted on retailer or third-party websites” (Hong et al., 2017, p.1). An early study confirmed that the hotels with more online reviews have better performances, higher room sales and booking rates (Duan, Gu, & Whinston, 2008; Ye, Law, & Gu, 2009). Recently, researchers have started to focus on the effects of various cues in online review. Zhou and Guo (2015) found review rating and text characteristic significantly impact on
review helpfulness. As a component of online review, each cue has different meaning: review rating shows how satisfied reviewers are with the product; review text details the customer’s experience and product attributes (e.g. facility or service in case of hotel); and helpfulness vote shows other users’ evaluation of the information value of the review (Xiang, Schwartz, Gerdes, & Uysal, 2015). Because of this, each cue has been employed in research as distinctive representation: rating is regarded as indication of the valence of online review, text as core message of online review, and helpfulness vote as ultimate measure of online review quality and value (Hong et al., 2017). However, previous studies have considered these cues as independent of each other. While finding significant effects of review rating (Zhou & Guo, 2015), product information in review text (Xiang et al., 2017), length and readability of review text (Liu & Park, 2015), previous research overlooked the possible interactions between these cues (X. Zhang, Yu, Li, & Lin, 2016). Some researchers investigated the possible interactions in online review, interaction between reviewer profile and review text (Forman et al., 2008; Karimi & Wang, 2017) and between review rating and review text (Korfiatis et al., 2012; Schlosser, 2011; L. Zhang et al., 2016; Zhou & Guo, 2015). However, most of them only used text valence for review text, considering only whether rating valence could be interacted with text valence (Forman et al., 2008; Schlosser, 2011; L. Zhang et al., 2016; Zhou & Guo, 2015). By considering more diverse textual characteristics of review text, this research further develops the existing knowledge about interactions in online review.

3. Research Model and Hypotheses

Figure 1 shows the research model we would like to test within the context of online hotel reviews. According to Xiang et al. (2017), the text characteristics of an online review can be deconstructed into linguistic features (length and readability), semantic features (meanings of the review), and sentiment (valence). Their study, along with others, has shown that these characteristics have significant impact on the perceived quality of the review, which is measured by review helpfulness vote. This research extends their study to evaluate the moderating effect of rating on these relationships.

![Fig. 1. Research model](image)

To share their experiences through online hotel reviews, travellers talk about various hotel attributes related to the hotel product (e.g. facility, service, and cleanliness)
Hence, more than one topic will be derived from review text. The impact of these attributes on hotel guest satisfaction has been explained with the two-factor theory of motivation. On the one hand, the hygiene attributes of the experiential products (e.g. cleanliness) do not affect positively guest satisfaction but their absences cause dissatisfaction. On the other hand, the motivator attributes (e.g. higher service) positively contribute to satisfaction but they are not related to dissatisfaction (Frederick, 1966; Noe & Uysal, 1997). As such, people may perceive information about each attribute differently; that is, hygiene attribute information is more helpful when it is negative, while motivator attribute information is more helpful when it is positive (Xiang et al., 2015).

**H1.** Product attribute information in review text has a significant effect on review helpfulness.

**H1a.** Review rating (valence) moderates the effects of review topics on review helpfulness. Hygiene attribute information increase the review helpfulness when they are matched with negative rating, while motivator attribute information increase the review helpfulness when they are matched with positive rating.

Communication studies maintain that individuals tend to trust the information presented consistently (Schlosser, 2011). In the online review context, rating represents the overall satisfaction of the product; therefore, it is expected that the valence of these two cues should be consistent (Zhou & Guo, 2015). If there is an inconsistency, users are not likely to trust the review (e.g., it may look suspicious) (Schuckert, Liu, & Law, 2016).

**H2.** Valence in review text (review sentiment) has a significant effect on review helpfulness.

**H2a.** Review rating moderates the effect of review sentiment on review helpfulness. Review helpfulness is increased when rating and sentiment is consistent (i.e., positive rating-positive text or negative rating-negative text).

On the one hand, some text characteristics (e.g. review topic and sentiment) are expected to interact with review rating; on the other hand, other linguistic features (e.g. review length and readability) might not interact with review rating (Hu, Koh, & Reddy, 2014). As long as review text is readable and meaning, people may not consider review rating in a serious way (Zhou & Guo, 2015). It is because people do not want to spend additional cognitive efforts when it is sufficient to satisfy the information needs using review text (Shah & Oppenheimer, 2009). Finally, as the star class of focal hotels is expected to have impacts on several interactions, the impact of hotel’s star class would be controlled.

**H3.** Length of review text has a significant effect on review helpfulness.

**H3a.** Review rating does not moderate the effect of review length on review helpfulness.

**H4.** Readability of review text has a significant effect on review helpfulness.

**H4a.** Review rating does not moderate the effect of review readability on review helpfulness.
4. Methodology

This research will be performed through social media analytics process (see Fan & Gordon, 2014). From three major online review platforms (i.e. TripAdvisor, Expedia, and Yelp), online hotel reviews written in English will be collected with web crawlers created by the Python and Java programming language program. All searchable hotels of specific destination will be the data sources and the required cues for this research (hotel’s star class, review rating, the whole text of review, and the number of helpful votes) will be collected. With two pre-processing approaches, namely tokenization and stop words removal, the review corpus will be utilized to extract text features. Specifically, review topics will be identified through a topic modelling procedure resulting in a list of important topics in the text (i.e., hotel product attribute information in review text) and each topic’s possible distribution in the text (the expected weight). As a result, several different topic groups will be presented and these groups will be sub-variables of review topic (Figure 1). The topic score (i.e. representation of possibility that specific topics would be referred in the review text) will be assigned to each online hotel review. Review sentiment and readability will be computed; a higher score represents positive text (range of sentiment score is from 0 to 1) and more readable text (range of readability score is from 0 to 100) respectively and vice versa. The number of words will be used to measure review length. Finally, review helpfulness will be measured by helpfulness vote collected from these websites. With the measured variables, the moderated regression analyses will be performed to test the hypotheses proposed in the research model. First, the main effects of four review text variables on review helpfulness will be examined. In the second model, interaction variables, production of text features and review rating, will be added to examine the moderating effect of review rating. In order to detect structural improvements, the performances of both models will be compared.

5. Anticipated Results and Implications

The research results would allow us to examine several unexplored issues including the possibility to infer topic’s distribution in review text by comparing review rating and helpfulness (H1 and H1a), the effect of consistent review on user’s evaluation (H2 and H2a), and the confirmation of performance of review text (H3, H3a, H4, and H4a). This research will likely add to the growing body of literature focusing on online reviews as social knowledge and provide more realistic explanation with respect to the information value of online reviews as well as online user behaviour.

References


Hotel website evaluation model in the context of Web 3.0 paradigm

Patrick Owoche
Kibabii University, Kenya
owoche@ yahoo.co.uk

Web 3.0 offers a new level of connectivity, communications and information on customers, including their attitudes and preferences which can be used to enhance online marketing of hotels through their websites. This research aimed at developing a hotel website evaluation model in the Web 3.0 era. Mixed research design that combined content analysis, Focus Group discussion and fuzzy analytic hierarchy process were used to collect both qualitative and quantitative data. It was modelled on the five principles of dialogic theory of communication. Online tools were used to collect and analyse data from hotel websites. Results show that the principles of dialogic theory of communication are being partially met by hotel websites.

Keywords: hotel website; Web 3.0; Semantic Web; social media; website evaluation.

1. Introduction

The recent developments in Web technologies is shifting the balance of power towards the consumer in hotel industry. Hotel industry is feeling the impact of a much deeper trend where the guests have a higher say. Some of the ways in which digital age is affecting hotel industry are the empowerment of tourists, accelerated competition and globalization of markets. These have created a fundamental challenge for strategy development processes in hotel industry as they need to be founded on deeper insights about tourists and travellers. From marketing perspective, some of the themes that hotel 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 (Saunders, 2015).

Online marketing through a website is one of the best channels hoteliers have to brand their business and showcase their products and services to a large audience (Khalifa, et al., 2014). However, having a website is not a guarantee to success in the turbulent market. The main limitation of today’s Web is the data heterogeneity and isolation (Fensel, et al., 2016), everything is on the Web, but there is lack of tools of locating and processing what’s already there. This is the case with Web 2.0.

Web 2.0 is a trend in the use of Web technology and web design that aims to enhance creativity, information sharing, and, most notably, collaboration among users. It is about participation, standards, decentralization, openness, modularity, user control, and identity (Murugesan, 2010). Web 2.0 is all about people, collaborations and media, it is a scenario where the computers do the easy task of the presentation and people do the hard task of linking and interpreting data and information. To benefit from the current technologies, hotels must now shift to a more promising Web 3.0. The main obstacle to provide better support to Web users is that, at present, the meaning of Web content is not machine readable.

Web 3.0 presents a scenario where machines will read web pages much like humans and Internet “user agents” such as search engine spiders will troll the Internet to find precisely what a user is searching for. A case where Web provides the necessary conditions for individuals and organizations to use information in ways that facilitate the exchange of content, independently of the devices and the networks (Almeida, et
al., 2013). The concept of Web 3.0 comprises of the Semantic Web, Social Web, open web standards, Pervasive Web, 3D Web, mediacentric Web, as well as OpenID, large database presented as Web pages or a combination of all of these (Murugesan, 2010; Basistha, 2014). The key features of Web 3.0 are intelligence, integration and personalization (Lai, et al., 2013; Almeida, et al., 2013).

In a study carried out to establish the level of uptake of current web technologies, it was found out that most hotel websites are inadequately taking advantage of such technologies (Duerra, et al., 2013; Stavrakantonakis, et al., 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 large volumes of studies available in the literature, none of them provides an extensive analysis of uptake of the Web 3.0 technologies in the hotel website domain nor gives guidelines on how to evaluate hotel websites in Web 3.0 era. This informs the present study. This research therefore aims at developing a hotel website evaluation model in Web 3.0 era using data from Kenyan hotel websites. The objectives of the study are to: (i) analyse the application of social media in hotel websites, (ii) evaluate the exploitation of Web 3.0 technologies in hotel websites and (iii) develop a model for evaluation of hotel websites in Web 3.0 era.

1.1 Social Media

Historically, the concept social media has been used to describe as a group of Internet based applications that exist on the Web 2.0 platform and enable the Internet users from all over the world to interact, communicate, and share ideas, content, thoughts, experiences, perspectives, information, and relationships (Chan, et al., 2011; Kaplan, et al., 2011).

1.2 Web 3.0 Technologies

Web 1.0 and Web 2.0 were built predominantly for human consumption and for web content to be consumed by machines, they expect some amount of structured data. Resource Description Framework in attribute (RDFa), Microdata and JSON-LD (JavaScript Object Notation for Linked Data) are some of the technologies that allow addition of structured data to HTML pages directly (Meusel, et al., 2014). For social network sites (SNS), Facebooks’ Open Graph Protocol (OGP) and Twitter Card (Open Graph Protocol, 2014; Yu, 2014) can be used to enable any web page to become a rich object in a social graph.

Through the pervasive Web, users should be able to access and manipulate information where and when it matters even while on the move (Rajiv, et al., 2011). To cater for variety of devices, website developers have three options in web development. They can either use Responsive Web Design (RWD), Adaptive Web Design (AWD) or Separate URLs. More than 21% of online bookings and nearly 19% of room nights are generated from non-desktop devices, while 45% of web visitors and nearly 40% of page views come from tablets and mobile devices (Starkov, et al., 2016).

With more than half of all new internet connections coming from mobile devices, ensuring great performance for mobile users has become critical. Some of the techniques that can be used to optimize websites for mobile devices are reducing page size and use of caching, minification of files and use of Gzip compression for code. By using HTML5’s new abilities that allow persistent caching of files and data that survives browser sessions and power cycles, developers can enhance page caching.
1.3 Hotel Websites Evaluation

A review of website evaluation in tourism research for papers published between 1996 and 2009 revealed that methodological approaches used for evaluation of tourism website were counting, user judgement, numerical computation, automated and combined methods (Law, Qi, & Buhalis, 2010). Law, Qi, & Buhalis (2010) suggest that to enhance the research methodology, theories, algorithms, and models from other disciplines could, and should, be incorporated into the tourism website evaluation process. This study used dialogic theory of communication and fuzzy analytic hierarchical process (AHP).

2. Theory

This study will be modelled on the five principles of dialogic theory of communication (Kent & Taylor, 2002). It’s a theory-based strategic framework to facilitate the relationship with public though the Web. The five principles are: (i) dialogic loop, (ii) generation of return visits (RV), (iii) usefulness of information, (iv) intuitiveness/ease of the interface and (v) the rule of conservation of visitors.

As used in the research, Social Web is a good platform for implementing the dialogic loop principle. The dialogic loop in Web 3.0 focuses on community and relationship building via social venues. The second principle explores ways to create the foundation for long lasting relationships through the generation of RV. Hotels in this digital era use websites to provide support for tourists through the range of travel activities from inspiration, preliminary search, comparison to decision making and booking (Neuhofer, et al., 2014). Web 3.0 enhances the usefulness of these information through its personalization feature where information can be segmented and contextualized by individual interests and by each network contact (Almeida, et al., 2013). The pervasiveness of Web 3.0 entails the development of mobile ready websites that is responsive or adaptive to the guests’ device. This corresponds to the fourth principle of Dialogic theory of communication. The fifth principle, the Conservation is a tool for fostering relationships out of respect for the valued visitors. Web 3.0 has the capability to add features that will allow the guest to benefit from vastly personalized experience, context-aware, precise response and efficient management of time spent on the Web which can retain a customer on website (Sabbagh, et al., 2011).

3. Methods

This study is using mixed research designs that combines content analysis, Focus Group discussion and fuzzy Analytic Hierarchy Process (AHP) (Bhattacherjee, 2012; Krosnick, et al., 2015). The target population are three to five star rated hotels in Kenya which were obtained from Tourism Regulatory Authority (KTA) (Tourism Regulatory Authority 2016). The sample size will be determined using Yamane formula (Israel, 2013, Singh & Masuku, 2014).

The research data was collected using automated tools. An automated approach is useful for testing the technical performance of certain features of a website using software systems. The advantages of an automated method include consistency in evaluation and is a relatively faster process, compared to human based (Law, et al., 2010). See Table 1 for the online evaluation tools.
Focus group discussion was chosen because it presents a scenario where people tell their perceptions on the topic, thus providing a deeper understanding of the phenomena being studied more economically which cannot be so easily achieved in an individual interview or other form of data collection. It was used to validate the data and information in the model development phase. Sampling in Focus Group discussion was purposive. Each interview included two hotel customers, two hotel managers, two hotel website designers and two senior researchers in Web engineering.

### 3.1 Model Development

The research is ongoing and the model has not yet been developed. Literature review and research data gathered from content analysis 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 discussions that will be conducted with multiple stakeholder groups to verify the techniques, functions and technologies to be included in the model. The findings from the first focus group interview will be further discussed in the second FG discussion, to refine the model. To further refine the proposed model, fuzzy analytic hierarch process (AHP) approach will be used to prioritize relative importance of criteria and sub-criteria of hotel website quality criteria. AHP is commonly used decision-making tool in various multi-criteria decision-making problems. Ip et al. (2013) used fuzzy AHP to model the evaluation of hotel website functionality. The approach involves triangular fuzzy numbers and analytic hierarchy process to develop a fuzzy AHP model. This is to complement the human judgement that is often uncertain and vague, the use of fuzzy set theory rather than exact numbers enables us to capture decision makers’ uncertainty.

### 4. Results

#### 4.1 Social Media Application in Hotel Websites

Research data was collected over a period of two month (September and October 2017) using Fanpage Karma. The study analysed 64 (12 five-star, 21 four-star and 31 three-star) hotel websites. See Table 2 for hotel websites that are connected to social media sites. Facebook is the most used platform with 67% of hotel websites being connected. The least used SNS is Google+ and YouTube both being connected at 7%. The use of Google+ and YouTube is least in three star hotels with both having a paltry 3% connection.
Table 2. Adoption of Social Media in Star Rated Hotel Website

<table>
<thead>
<tr>
<th></th>
<th>5 Star</th>
<th>4 Star</th>
<th>3 Star</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>9</td>
<td>18</td>
<td>16</td>
<td>43</td>
</tr>
<tr>
<td>Twitter</td>
<td>9</td>
<td>13</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>Instagram</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Google+</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>YouTube</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>21</td>
<td>31</td>
<td>64</td>
</tr>
</tbody>
</table>

See Table 3 for key performance indicators of social media sites of hotel websites. Engagement rate (ER) is an indicator of the website achieving the first principle of dialogic loop. From the analysis, it was found that the ER of Facebook, Twitter and Instagram are all below the 2% which is very low compared to the average range of successful SNS, which is between 2% and 6% (Zorkociova, et al., 2016). This shows that dialogic loop is not fully utilized. There are averagely three unanswered posts indicating little concern in customer engagement. The average number of posts per day of less than 1 per day indicates that more focus is required to enhance the RV aspect of dialogic communication. Visitor are likely to revisit a website if they expect frequent post in SNS. The high follower-to-following ratio means that more people are following out of good will, which suggests the user friendliness of the interfaces. Sharing posts or commenting on posts is averagely at the level of 155 of which 75% are images, videos comprise 14% and hyperlinks stand for 11%, from which it becomes clear that images are considered to be the most popular type of posts related to the hotels social media pages. The presence of Open Graphic Protocol in hotel websites was analysed and 15 of the 64 websites have integrated it in their websites. Structured data such as OGP and Twitter Card indicates the usefulness of information aspect of dialogic communication.

Table 3. Key Performance Indicators for Social Network Sites

<table>
<thead>
<tr>
<th></th>
<th>Fans/ Followers</th>
<th>Follower/ Following Ratio</th>
<th>Page Performance Index (%)</th>
<th>Average Weekly Growth (%)</th>
<th>Post Per Day</th>
<th>Engagement (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>Mean</td>
<td>45843</td>
<td>12.63</td>
<td>0.22%</td>
<td>0.50</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>83695</td>
<td>0.1292</td>
<td>0.0025</td>
<td>0.63</td>
<td>0.004</td>
</tr>
<tr>
<td>Twitter</td>
<td>Mean</td>
<td>11914</td>
<td>7.94</td>
<td>17.03</td>
<td>0.44%</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>30664</td>
<td>11.25</td>
<td>0.22</td>
<td>0.013</td>
<td>1.18</td>
</tr>
<tr>
<td>Instagram</td>
<td>Mean</td>
<td>11766</td>
<td>52.74</td>
<td>12.73</td>
<td>2.46%</td>
<td>1.08</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>23285</td>
<td>105.78</td>
<td>0.1316</td>
<td>0.0277</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Out of the 64 hotel websites analysed, only seven had YouTube accounts. On average, the analysed hotels have 81.33 uploads with 652 subscribers. The average number of views is 1,015,862 with 4316 views happening in the last 30 days from the time the data was collected. The average subscribers in the last 30 days is 18.

Of the 64 hotel websites analysed only seven have Google+ connection of which none is correctly setup. The correct Google+ Setup requires url on G+ page, on-site tags and G+ connection. Of the seven hotels with Google+ account, none have both url on G+ page and on-site tags while four have G+ connection. It's critical that a website is connected to a Google+ brand page correctly, and therefore the accounts are not adequately branding the hotels. In terms of Google+ connections, on average the hotels...
have 359 connections, 1.14 posts and less than four collections. Since collections is an overall way to be more specific with post on the Google+ platform and therefore to attract more like-minded people to a specific topic that is of interest, the few numbers of collections indicate that these objectives are not being achieved.

4.2 Structured Data

The study analysed the presence or absence of structured data in the websites. The research revealed that Facebook’s Open Graph Protocol, Twitter’s Twitter Card, RDFa, Microdata, JSON-LD and Generic RDFa are the structured data technologies that being implemented by hotels in their websites. See Fig. 3 for the adoption level of structured data in hotel websites.

![Structured Data Adoption Level in Hotel Websites](image)

Of the 64 hotel websites analysed, 34 (53.12%) have integrated structured data in their websites. The research data shows that 11 websites are using one technology, seven have implemented two different structured data technologies, ten are using three technologies and three websites are using four technologies. OGP and Twitter Card have been implemented in 17 websites.

4.3 Pervasive Computing

The study analysed the mobile readiness and how the websites are optimised for mobile computing devices. The results show that only eight (12.5%) of the websites analysed employed the technique. GZip is used by 39 (60.9%) of to reduce the web page size. The average page size of the analysed websites is 4.43MB which is above upper bound of the recommended page size of 4MB. The average images size is 2.94MB which is almost the equal total page size for an optimised page size. The average serve response time is 0.94s which is acceptable. The average mobile page load speed is 42.67 on a scale of one to 100 as determined by Google PageSpeed Insights which rates 80 and above as Good speed.

The third objective was to develop a model for evaluation of hotel websites in the context of Web 3.0 paradigm. The objective has not been accomplished since the research is work in progress. Focus group discussion and Fuzzy AHP are yet to be done. The model will have Social media, online visibility, mobile computing, Performance, usability and security as the main dimensions in a hierarchical order (having weights) and their attributes.
5. Conclusion

The research is in the data analysis stage and therefore the discussion at this stage is limited. However, the model to be developed in this study will enable hoteliers to assess their websites and be informed of the new features that start to appear in other hotels websites and in web marketing generally in order to foster a long-term relationship with customers. Academics could also use it as a tool to evaluate hotel websites and their intentions. It will give new ideas to web designers and especially to those who work on Tourism and Hospitality web pages. Tourism authorities could take active role by informing, educating and financially supporting domestic Tourism and Hospitality to increase the richness of their website contents.

References


Duerra, M., Küng, N., Scheggb, R., & Stanglc, B. (2013). eFitness of DMO Websites—Still more to go.


Morgan, D. L. (2013). Focus groups as qualitative research: planning and research design for focus groups. n.c: SAGE Research Methods.


Open Graph Protocol. (2014, October 20th). The Open Graph protocols. Retrieved from The Open Graph protocol: OpenGraphProtocol.org


Extending the Homophily Theory to human images with applications to hotel websites

Irene Cheng Chu Chan  
The Hong Kong Polytechnic University, Hong Kong  
irene.cc.chan@connect.polyu.hk

Abstract

The purpose of this study is to investigate the effect of customizing and corresponding human images on hotel websites to appeal to respective customers, thereby leverage the potential of targeted marketing. Based on the homophily theory and Stimuli-Organism-Response (S-O-R) model, a conceptual framework is developed to understand the mechanism of homophily (or similarity) effects on consumers’ purchase behaviour in hotel website. In addition to the mediator in the original model, which is Affective States, this study extends the model by introducing the effect of two mediators, Cognition towards the Hotel and Website Stickiness. The result of this study provides theoretical contributions to the homophily theory and offers practical recommendations to hotel practitioners on effective website design.

Keywords: hotel website, human image, homophily, similarity, booking intention

1. Problem Definition

A hotel serves experiential products, which are often purchased in advance and distant from the actual place of consumption. A hotel website thus plays an important role in signalling the service standards of the hotel, which form into important evaluation criteria in customer decisions (Barreda, Bilgihan, Nusair, & Okumus, 2016). The heavy reliance on hotel websites for information search and reservation has drawn ample attention from researchers and practitioners in establishing effective websites. Existing website design research has been predominated by evaluation and impact studies. They involve identifying critical attributes of effective website design and connecting customer online experience with offline behaviours (Au Yeung & Law, 2004, 2006; Ip, Law, & Lee, 2012; Leung, Law, & Lee, 2016). Despite their potential differences in requirements toward website design (Cry, 2013), customers evaluate a hotel based on a generic website. It is, however, evident that customers with different backgrounds demand different information on a hotel website. For instance, Asian users pay more attention to facilities information and reservation information than their western counterparts (Rong, Li, & Law, 2009).

Targeted advertising suggests that marketing messages should be customized and personalized to target specific segments in the market based on their interests and preferences (Schumann, von Wangenheim, & Groene, 2014). Correspondingly, this study posits that human images of hotel websites should be customized to leverage the benefits of targeted marketing. Drawing on the homophily theory, which suggests that people are more attracted by similar-others than dissimilar-others (McPherson, Smith-Lovin, & Cook, 2001), this study seeks to develop a conceptual framework to investigate the mechanism of how “similar human images” affect consumer behaviours in the online consumption environment.
2. Literature review

2.1 Website Design

Websites play a significant role in consumers’ decision-making process of hotels, from information search, to evaluation of alternatives, to final decision making (Barreda et al., 2016). The existing literature of website design reflects an apparent shift from identifying the basic features of website functionality and usability (e.g., Au Yeung & Law, 2004, 2006; Ip et al., 2012; Leung et al., 2016) to investigating the effect of other peripheral and hedonic factors such as visual appearance, interactivity, and experiential features (e.g., Jeon & Jeong, 2017). This transcends website design from a narrow focus of evaluating website features to the whole usage experience. Scholars also become more interested in understanding the feelings and affections generated from using the websites toward tourism products rather than simply concerned about their satisfaction and purchase intention (e.g., Wang, Law, Guillet, Hung, & Fong, 2015).

2.2 Human Images

Communication in the online environment is impersonal. Users frequently rely on cues as heuristics to form expectations and determine service quality, and human images are one of such cues. Human image refers to the visual representation of humans (Cyr, Head, Larlos, & Pan, 2009). Research on human images comes in light only recently, and most studies focus on identifying the effect of adding human images to websites, which is described as a process of “virtual re-embedding” human interactions to the virtual environment (Riegelsberger, Sasse, & McCarthy, 2003). This process brings the impersonal online experience closer to face-to-face interaction and increase trustworthiness of websites (Cyr et al., 2009; Steinbrück, Schaumburg, Duda, Krüger, 2002). Human images give people a feeling of warmth and belongingness (Cyr et al., 2009) which enhance the overall browsing experience of customers (Hassanein & Head, 2007). Although research suggests that adding human images influence consumers’ emotions and behaviours in the online environments, the effect of similar human images has yet to be studied extensively in the hospitality and tourism field.

2.3 Homophily Theory

“Birds of a feather flock together” is the most frequently quoted expression when scholars tried to explain the homophily theory (Lazarsfeld & Merton, 1954). It means that people having similar characteristics and interests tend to “move” in the same way. Specifically, homophily refers to “the degree to which pairs of individuals who interact are similar with respect to certain attributes, such as beliefs, values, education, social status, etc.” (Rogers & Bhowmik, 1970, p. 526). Communication and interaction happen more frequently between two individuals who are similar with each other (Rogers & Bhowmik, 1970). Lazarsfeld and Merton (1954) conceptualized homophily into two levels: (1) status homophily, which refers to the similarity in demographic characteristics, and (2) value similarity, which is based on deep-level characteristics such as attitudes and beliefs. The homophily theory was first explored in social relationships such as marriage and friendships (Lazarsfeld & Merton, 1954; McPherson et al., 2001; Rogers & Bhowmik, 1970), and was later on applied to other disciplines such as advertising and consumer behaviours. Recently, researchers are interested in the impact of homophily in the online context such as persuasiveness of online reviews (Ayeh, Au, & Law, 2013; He & Bond, 2013).
2.4 Research Gaps
Existing studies related to hotel website design have mainly focused on measuring performances of website performance, and identifying the right mix of functionality and usability features, while the role of other design elements such as human images has been significantly ignored. The homophily theory, which was previously explored in interpersonal relationships, represents promising potential in identifying the effective human images for hotel website design.

3. Conceptual Development
Mehrabian and Russell (1974) proposed the S-O-R model in their study of environmental psychology. The model suggests that all responses to an environment can be considered as either approach or avoidance behaviours, such as the desire to stay in or get out of the environment, and they are the results of the emotional states an individual experiences with the environment. In other words, emotional states mediate the influence of environmental stimuli on behavioral responses. Drawing on the S-O-R framework, relationships are hypothesized between the two levels of similarity and affective states and cognitive states, which may influence customer responses, including website stickiness (i.e., spending more time on the website and browsing more information) and more importantly, booking intention. Status homophily is operationalized as demographic similarity, while value homophily is operationalized as behavioral similarity, and is defined as the similarity in the choice of tourist activities (Smith, Maas, & van Tubergen, 2014). The following lists the hypotheses developed for this study, which will be empirically tested:

H1a: Demographic similarity has a positive influence on browsers’ affective states.
H1b: Demographic similarity has a positive influence on browsers’ cognition towards the hotel.
H2a: Behavioral similarity has a positive influence on browsers’ affective states.
H2b: Behavioral similarity has a positive influence on browsers’ cognition towards the hotel.
H3a: Behavioral similarity has a stronger influence on browsers’ affective states than demographic similarity.
H3b: Behavioral similarity has a stronger influence on browsers’ cognition towards the hotel than demographic similarity.
H4a: Behavioral similarity moderates the effect of demographic similarity on browsers’ affective states, so that the relationship is stronger when behavioral similarity is high rather than low.
H4b: Behavioral similarity moderates the effect of demographic similarity on browsers’ cognition towards the hotel, so that the relationship is stronger when behavioral similarity is high rather than low.
H5: Affective states is positively related to cognition towards the hotel.
H6a: Affective state has a positive influence on website stickiness.
H6b: Affective state has a positive influence on booking intention.
H7a: Cognition has a positive influence on website stickiness.
H7b: Cognition has a positive influence on booking intention.
H8: Website stickiness has a positive influence on booking intention.
4. Proposed Methodology

Three between-subjects experiments will be conducted to test the conceptual model. The effect of demographic similarity and behavioural similarity will be investigated independently in the first and second experiments respectively, while their combined effects will be studied in the third experiment. The subjects are young Chinese adults as they are more engaged in seeking information online for travel planning (Bilgihan, 2016). Three sets of simulated websites will be developed. Apart from the manipulated variables, i.e., the human images appearing on the homepage of the hotel website, all other elements on the websites will be the same to avoid any confounding effects. Two pre-tests will be conducted before the main studies to understand (1) the specific nationality displayed from human images that will generate similarity/dissimilarity within Chinese students; and (2) the preferred tourist activities of Chinese young adults during leisure trips. The manipulations and simulated websites will be prepared based on the results of the pre-tests. For example, nationality rated highest in similarity level will represent high demographic similarity condition, while nationality rated lowest will represent low demographic similarity condition. Similarly, the most preferred tourist activities will represent high behavioural similarity, while the least preferred activities will represent low behavioural similarity. A control group, i.e., a website without any human images, will be added to each experiment.

The procedure for each of the three experiments will be the same, and involves three steps. After confirming participants’ eligibility for the study through screening questions, participants will be instructed to click on a hotel website. As soon as the participants click on the link to the hotel website, they will be randomly assigned to one of the three (or five for study 3) conditions represented by the two (four) levels of independent variable(s) and control. Meanwhile, customers’ responses in terms of website stickiness will be recorded as the time they spend browsing the website and the information they browse in the website. Leaving from the hotel websites, the participants will then respond to a series of questions, including their affective and cognitive states, purchase intention, manipulation check questions, followed by questions for the control variable and their socio-demographic characteristics. The measurement scales for the major constructs used in this study, including demographic similarity, behavioral similarity, affective states, cognition, and booking intention, will be adapted from existing studies. For example, affective states will be measured by adapting the scale of Zhao, Muehling, and Kareklas (2014). Sample item is "I feel positive toward the hotel website."

5. Anticipated Results

This study represents the first attempt to explore the homophily theory on hotel website. The use of human images is often seen in practice, but the effectiveness of “similar other” in these images has rarely been assessed. Considering the effect of similar-other images on customers’ hotel booking intention could enhance website persuasiveness and effectiveness, and more importantly, re-embed the social aspect into previously impersonal websites. This study bridges the gap in the literature by employing the homophily theory as the theoretical foundation and extending it to human images online. This is expected to contribute to existing works related to website visual design. Hotels have to constantly improve their websites to keep pace with technological advancement and increasingly sophisticated customer. Findings from this study will provide valuable insights to hotel marketers and website designers in terms of the effective human images to be put on their websites. For example, assuming that similar-
other images are found to positively influence customers’ purchase behaviours, respective human images eliciting similarity with target customers should be placed in hotel websites.

**References**


The effectiveness of online Cause-Related Marketing message framing on hotel brand evaluation

Hyerhim Kim
University of Surrey, United Kingdom
hyerhim.kim@surrey.ac.uk

Abstract
The purpose of this study is to examine the interaction effect between online Cause-Related Marketing (CRM) ad and brand reputation on consumers’ brand evaluation in the hotel industry, and to show how this relationship can be explained by consumer-related factors, including process fluency, social cause attitude, and perceived fit. To test the proposed research model, two controlled experimental studies will be conducted, which include a survey with 2x2 between-subjects factorial design and laboratory experiments using psychophysiological measurements of automatic emotional reactions via biosensors.

1. Problem Definition
Corporate Social Responsibility (CSR) has become an important focus of attention among companies as a tool for generating goodwill among customers (Chernev & Blair, 2015). A strategically well-planned CSR initiative attracts consumers, forms positive brand image and eventually improves a company’s reputation (Du et al., 2010). CRM, which directly links sales to supporting of a charity (Barone et al., 2007), is one of the effective tools for implementing strategic CSR initiatives. Companies applying CRM donate a certain amount of their revenues to a non-profit organization or a social cause when customers purchase certain products and services (Nan & Heo, 2007). As focusing on social responsibility has become a trend in the hospitality and tourism industry, the hotel industry is no exception, especially with regards to environmental-related issues (Shang et al., 2010). This is because, when consumers make purchasing decisions, they are influenced not merely by tangible attributes such as price and quality, but also by intangible characteristics, such as brand image, or corporate reputation (Cretu & Brodie, 2007). Indeed, finding ways to effectively communicate CRM in order to enhance consumers’ positive responses and to support brand reputation should be considered a very important issue (Kim et al., 2012). Prior research suggests that emphasizing a company’s ulterior motives to maximize profit in marketing communication may backfire on the company (Jo & Na, 2012). However, little research has been done to elucidate the dynamic relationship between advertising message framing, brand reputation, and brand evaluation to minimize the possible negative effects of CRM communication. Therefore, this research aims to investigate the effectiveness of different types of message appeals of social causes, especially in online charity advertising by hotels. To emphasize the importance of communicating CRM campaigns, the current study introduces three consumer-related factors that influence the effect of CRM ad on customers’ brand evaluation. These include: subjective experience of the ease with which people process information (processing fluency); consumers’ attitude toward helping others and social cause organisations (social cause attitude); and the level of perceived fit between the company and the cause (perceived fit). Specifically, this research will achieve the following objectives:

• Examine whether brand reputation has a moderating role in the relationship between advertising message framing and consumers’ brand evaluation in the context of CRM campaigns in the hotel industry.
• Examine consumer-related factors that help explain the interaction effects between message framing and brand reputation.

2. Literature Review

2.1 Message Framing in CRM Advertising

Advertising has long been used as a communication tool to tackle social problems, affecting directly consumers’ evaluations of a brand (Chattopadhyay & Basu, 1990). Advertising messages in CRM are constructed to highlight a charity incentive with the product taking a lesser role in the advertising copy (Lafferty & Edmondson, 2009). Consumers view two purposes for CRM messages: social motivation (i.e., to raise awareness of the cause) and profit motivation (i.e., to increase sales) (Ham & Choi, 2012). Via CRM messages, consumers can be swayed to participate in socially responsible behaviour by donating to charity since they are usually persuaded more by altruistic social motives (Kim et al., 2012). However, sometimes the benefits of CRM arouse suspicion to consumers, because CRM ad likely reveals that the company is more interested in their profit motives than social motives (Forehand & Grier, 2003).

This study relies on regulatory focus theory (RFT). As an underlying form of motivation when people pursue their goals, RFT tries to distinguish between goals with two basic motivational orientations: promotion-focus (i.e., the desire to make good things happen or to achieve positive outcomes) or prevention-focus (i.e., the desire to keep bad things from happening and to avoid negative outcomes) (Higgins, Shah, & Friedman, 1997). In advertising persuasion research, RFT has been widely used as a theoretical framework called “regulatory focus framing” (Baek & Reid, 2013). Advertising message can be framed either positively, by highlighting the desired outcomes that can be attained, or negatively, by highlighting the undesired outcomes that can be avoided by using the advertised product (Kulkarni & Yuan, 2015). While promotion-framed messages communicate that emphasize the potential gains to consumers in a situation, prevention-framed messages communicate that point out the potential losses to consumers in a situation.

2.2 The Moderating Role of Brand Reputation

General marketing communication research shows that consumers’ pre-evaluations of a brand affect communication effectiveness (Dahlén & Lange 2005). Companies with poor reputations may experience their social initiatives backfiring (Yoon et al., 2006), whereas companies with good reputations are more likely to succeed with CSR communication (Du et al., 2010). As with CRM, this can be explained by the attribution of more self-serving motives when a company has a poor reputation, because consumers are suspicious of a company’s involvement in social cause and view the initiative as a tactic for improving the company’s reputation (Skard & Thorbjørnsen, 2014).

3. Conceptual Development

One factor in CRM success is prior brand experience (Christofi et al., 2015). A favourable social responsibility image reflects brand associations that tend to have a positive effect on consumer brand/product attitudes (Sen & Bhattacharya, 2001). Existing brand social responsibility images elicit a positive influence on consumer responses to a brand’s marketing programme in different contexts, in such forms as consumer donations to non-profit organizations (Lichtenstein et al., 2004). Thus, the
image of existing brand social responsibility positively relates to consumers’ intention to purchase a CRM sponsor brand (He et al., 2016), and prior brand experience has a greater impact on positive outcomes related to CRM success (Christofi et al., 2015).

**H1**: There is an interaction effect between message framing (promotion-framed message vs. prevention-framed message) and brand reputation (good vs. bad) on customers’ brand evaluation.

### 3.1 Processing Fluency

Processing fluency plays an important role in human judgment and decision-making (Zhang, 2014). Prior studies indicate that when individuals are processing advertising messages, an unpleasant experience of processing disfluency results in less favourable attitudes toward the message (Lee & Aaker, 2004). The disfluency caused by inconsistency between a brand concept and CSR activities could lead to unfavourable brand evaluation (Torelli et al., 2011). On the other hand, if processing fluency is misattributed to the brand being popular or a well-established, it could lead the consumer astray (Yoon et al., 2009).

**H2**: Processing fluency mediates the interaction effect postulated in H1.

### 3.2 Social Cause Attitude

Social cause attitude refers to consumers’ overall judgment of the CRM campaign itself and overall attitudes toward perceived responsibilities to address social cause issues (Skard & Thorbjørnsen, 2014), which is a predictor of higher-level brand responses. If an individual feels a responsibility to help others and has a favourable opinion about charitable organizations, they are more likely to support philanthropic initiatives (Sciulli et al., 2017). Further, learning that a brand sponsoring a good cause will likely influence consumers’ brand evaluation.

**H3**: Social cause attitude mediates the interactive effect postulated in H1.

### 3.3 Perceived Fit

The CRM literatures demonstrating the positive effect of company-cause fit on relevant marketing outcomes have confirmed that marketing communication can positively affect perceived fit (Simmons & Becker-Olsen 2006). Furthermore, a company’s reputation positively influences perceived fit between a company and a cause. Based on this, consumers’ brand schema will be more congruent with a social cause when it involves a brand with a high reputation rather than one with a low reputation (Skard & Thorbjørnsen, 2014).

**H4**: Perceived fit mediates the interactive effect postulated in H1.

Fig 1 illustrates these relationships and proposed conceptual framework of this research.
4. Proposed Methodology

To address the research aims, two experimental studies will be employed. Study I will examine the interaction effects of CRM message framing and consumers brand reputation on brand evaluation, as well as examining three key mediators (processing fluency, social cause attitude, and perceived fit) to explain the interaction effect. As emotional arousal or engagement with ad has been proven to be an effective tool for social initiatives (Bennett, 2015), Study II will test the psychophysiological measurements of automatic emotional reactions to ad collected using biosensor equipment, which will be used to complement the findings of Study I.

4.1 Study I

A 2 (message framing: promotion-framed vs. prevention-framed) x 2 (brand reputation: good vs. bad) between-subjects factorial design will be used to test the hypotheses. The experiment will be executed online, including UK-based 250 participants from an internet customer panel service. Participants will be asked to evaluate the brand’s reputation. Two conditions for reputation will be manipulated by a short introduction to a fictitious hotel, which discloses information about social responsibility. Then, the participants will be randomly exposed to one of the ad messages. The ad will describe the fictitious hotel’s CRM campaigns and will ask participants to purchase the promoted room. To manipulate the message types, two versions of a website advertisement advocating the world’s water crisis will be designed, highlighting ideas about attaining positive outcomes or avoiding the negative outcomes, respectively. Pre-test will be conducted to identify two levels of message framings and brand reputations. To test H1-H4, a two-way ANOVA will confirm that there will be an interaction effect between message and reputation on processing fluency, social cause attitude, perceived fit, and overall brand evaluation. To further test H2-H4, this study will employ the Preacher and Hayes’s (2004, 2008) INDIRECT macro for SPSS.

4.2 Study II

Study II will be conducted in a laboratory utilizing biosensor equipment: Tobii X2-30 eye tracker, Shimmer3 GSR+ (galvanic skin response and optical pulse sensor), and Affectiva AFFDEX facial coding system, which are useful to assess the attention and emotional states of the respondents. Participants fitted with biosensors will be invited to the study through personal communication in a professional networking setting. The data collection and analysis will be facilitated by iMotions biometric research platform for real-time synchronisation of all complementary sensors. The study will involve approximately 30 UK-based respondents who did not participate in Study I. This study will use the same stimuli and randomization procedure as in Study I.

5. Anticipated Results

Firstly, this study will fill the gap in the literature by providing a better understanding of the underlying relationship between CRM message framings, and consumers’ brand reputation. It is thereby contributing to knowledge on how companies can mitigate the potential negative implications of CRM by choosing the right communication contents. Secondly, this study will offer marketers relatively actionable implications for controlling advertising environments to enhance the effectiveness of message framing. By minimizing consumers’ scepticism towards a company’s true motive in their pro-social activities, the company can boost the credibility of their CRM campaigns. Future studies should extend the current study by not only testing other countries that differ
with respect to cultural differences, but also using other channels (agency’s website or SNS) to identify the differences between message sources.

References


Decoding user generated images in VFR travel

Marlini Bakri
Victoria University Wellington, New Zealand
marlini.bakri@vuw.ac.nz

Abstract
This study explores the role of consumers as image-makers, able to spread persuasive word of mouth (WOM) through user-generated images (UGI). This study is placed within the neglected VFR (visiting friends and relatives) travel context, where it seeks to showcase the pertinence of engaging communities, such as transilient migrants, and leveraging on existing ties in VFR travel, to spread WOM through UGI, or what this study introduces as image-supported WOM.

1. Problem Definition
The prevalence of Internet connectivity, online platforms and mobile technology have led to the rise of User Generated Content (UGC). Recent studies illuminate how consumers are increasingly reliant on UGC in shaping travel decisions (Munar & Jacobsen, 2014; Tham et al., 2014), signalling the eroding influence destination marketing organisations (DMOs) have on consumers. The growing popularity, and understanding of the potential effects UGC have on tourism’s multi-trillion-dollar industry have spurred numerous studies (e.g. Schmalleger & Carson, 2008; Jin & Phua, 2016). However, despite the global popularity of online platforms with greater visual emphasis, a majority focus on textual forms of UGC, found mostly on open review sites and blogs (Lu & Stepchenkova, 2015). Attention on textual forms of UGC has led to little being known about the influence of User Generated Images (UGI), its potential as a form of word of mouth (WOM), and the role of tourism consumers as key influencers, able to construct persuasive marketing rhetoric in UGI.

The purpose of this research is to understand 1) the role of UGI as being carriers of messages, or what is proposed in this study as image-supported word of mouth (IWOM), able to spread positive impressions of destinations and stimulate travel intentions, 2) and the role of tourism consumers as key influencers able to compose and spread persuasive marketing rhetoric through IWOM. This study is further placed within the VFR travel context. VFR travel is defined as ‘tourism experiences that involve a prior personal relationship between a visitor and resident no matter the stated trip purpose, accommodation used, or activities engaged in’ (Griffin, 2013, p. 235). VFR travel is also often linked to migration of people (Jackson, 1990) and accounts for about a 25% of international travel (https://tinyurl.com/pq4sz9r [2015]). Despite VFR travel’s proven merits, it is often overlooked (Yousuf & Backer, 2015). Backer and King (2015) highlight the absence of research bridging VFR travel to information communication technology (ICT), stressing that VFR travel has much to gain. Further, the growing use of ICT and migration numbers result in the need for greater understanding of UGI and VFR travel. According to the United Nations (https://tinyurl.com/hxwfr9h [2016]), the number of migrants climbed from 222 million in 2010 to 224 million in 2015. Among the many different forms of migration, transilient migration actively fuels the tourism-migration link (King & Dwyer, 2015). Transilient migration is defined as the migration of individuals ‘who exhibit a high propensity to move backwards and forwards between two or more countries without becoming permanently rooted in any one’ (Richmond, 1968, p.263). Transilient migrants, such as skilled migrants are found to exhibit traits of tourists on an extended
form of tourism (King & Dwyer, 2015), making them ‘consumers and producers of tourism development and experiences’ (Griffin, 2015, p. 73).

2. Literature Review

2.1 Visual Images and Destination Image

The link between visual images, destination image and decision making have spurred the growth of picturesque tourism, where DMOs have capitalised on visual images to spread place myths through mass media (Urry & Larsen, 2011). This has resulted in research around different forms of media, such as postcards, advertising images and film (e.g. Campelo et al., 2011; Garrod, 2008; Marwick, 2001). However, the availability of online platforms, devices with cameras, and UGI-doctoring apps have democratised the art of image making. Consumers are now capturing, and sharing their experiences online visually, constructing images that rival those of DMOs. According to Rossolatos (2017, p.4) user-generated visuals are ‘cultural mirrors’, able to provide marketers with insights for possible ‘expressive and semantic avenues’ for brand communications planning. Additionally, the sharing of personal experiences, such as UGI, signify an amplified form of WOM, and act as non-verbal signs that express the attitude of consumers towards brands (Blazevic et al., 2013). Despite the rising culture of sharing and consuming UGI, there is limited understanding about the role of consumers as producers of persuasive UGI, and of UGI as a form of WOM.

2.2 VFR Travel: The central role of transient migrants as key influencers

The significance of VFR travel was first highlighted in Jackson’s (1990) seminal article. Research that followed further strengthened the legitimacy of VFR as a travel segment, able to make significant contributions to individual countries and regions (Bischoff & Koenig-Lewis, 2007; Seaton, 1997). Progressively, studies in VFR travel have shifted its focus from economic contributions to include more social aspects that are integral to VFR travel (Griffin, 2013; Yousuf & Backer, 2015). This is perhaps attributed to residents, such as transient migrants, playing a vital role in bridging the gaps between potential tourists (overseas friends and relatives) and the other elements of the tourism system (Backer, 2008). However, even with the growing interest in online platforms and shift towards the social aspects of VFR travel, the impact of technology on the upkeep of personal ties within VFR travel has been neglected. There is also an evident gap in understanding about the interaction of residents with the destination, and the potential of UGI as a form of WOM and a trigger for travel intentions. Investigation of these gaps become increasingly pertinent as research has linked attractiveness of destinations and VFR travel, questioning the notion of VFR travel being only a form of obligatory travel that cannot be influenced (Backer, 2008).

2.3 The Evolution of Word of Mouth (WOM)

WOM has been used to explain how consumers rely on personal recommendations to guide purchasing decisions, where it affects individual attributions and attitudes towards the object (Kozinets et al., 2010). The importance of WOM continues in this technologically driven era, where Web 2.0 platforms have led to the evolution of WOM into its electronic form, eWOM (Jalilvand, Esfahani & Samiei, 2011; Kozinets et al., 2010). The social web provides greater opportunity to raise visibility of destination images (Tham et al., 2013), particularly with the rise of more visual platforms. According to reports Facebook, Instagram, Flickr, Whatsapp, and Snapchat saw 1.8 billion UGI uploaded daily (https://tinyurl.com/y9hn5ebw [May 29, 2014]). Despite the
nascent trend of sharing and consuming UGI, studies in WOM and eWOM focus on verbal and textual content (e.g. Buttle, 1998; Jin & Phua, 2016). Thus, providing room for the exploration of UGI as a form of WOM.

3. Conceptual Development

The gaps within literature give rise to the following research questions: 1) What is the nature of IWOM shared? 2) Do the IWOM communicate the attributes identified by the DMO and lead to a positive impression? 3) What tourism attractions or categorical features represented in IWOM do potential tourists favour or lead to an intention to visit? And what is the relationship between these categorical features and the latent component of destination image? 4) Does a positive impression positively mediate the relationship between IWOM and an intention to visit the destination?

This research draws on the theory of visual rhetoric as a theoretical perspective that explains the role of images as persuasive forms of communication (Blair, 2004; Foss, 2005), and is guided by Kim and Stepchenkova’s (2015) framework that showcases the viability of employing UGI as a mode for destination image studies. Visual images contain both manifest and latent content. Manifest content is described as visible, explicit signs depicted in the image, such as buildings and natural landscapes (Kim & Stepchenkova, 2015). Here, the manifest content is represented by destination attractions or categorical features (Lew, 1987). Cognitive and affective used in the measure of destination image, make up the latent content of IWOM, where IWOM is assumed to spread positive impressions of the destination. The attributes found in Fig.1 are those found in Kim and Stepchenkova’s (2015) study and represent attributes that will be refined after phase one. Personal and stimulus factors that impact destination image act as control variables (Baloglu & McCleary, 1999). To grasp the role of consumers as key influencers requires a comparison of the DMO’s idealised destination image against the perceived image of the overseas audience.
4. Proposed methodology

Phase one will involve semi-structured interviews with key members of the DMO. The objectives are to 1) gain an understanding of the idealised image of the destination 2) unearth categorical features and attributes of the manifest and latent components of the IWOM model, which will be tested 3) and inform the development of the survey instrument. The categorical features would be used to guide IWOM submissions. Participating transilient migrants will submit five UGI in each category. Phase two involves a content analysis of the IWOM. The objective is to understand the nature of IWOM submitted, and the ability of tourism consumers in composing persuasive images. Phase three involves a web-based survey with nominated overseas friends and relatives of transilient migrants, where the IWOM will be embedded into the survey. The cognitive and affective components of IWOM will be measured through a 7-point semantic differential scale. The objectives are to 1) test and generalise findings 2) understand the mediating role of ‘Positive Impression’ between IWOM and the ‘Intention to Visit’, and 3) compare the perceived destination image held by overseas friends and relatives of transilient migrants against the idealised destination image of DMOs. Regression analysis will be used to analyse survey data.

5. Anticipated results

The aim of this study is to contribute to the literature of VFR travel, visual rhetoric theory, destination image and WOM, where it offers a conceptual framework for image-supported WOM (IWOM). Anticipated results that highlight the mediating role of positive destination image between IWOM and visit intentions in VFR travel, strengthens the merits in targeting local communities, and providing proof to support the pertinence of UGI as persuasive forms of WOM. According to Griffin (2014, p. 496), the role of the marketer has changed from ‘convention chaser to community brand manager’, which could in turn encourage greater word-of-mouth or, what is identified as IWOM, within targeted communities.

References

Technology adoption in developing countries: the impact of the sharing economy in tourism businesses

Yuniarti Hidayah Suyoso Putra
Macquarie University, Australia
yuniarti-hidayah.suyoso-put@students.mq.edu.au

Abstract
The proposed research aims to investigate how tourism stakeholders perceive the sharing economy in developing countries using Indonesia as an example. The sharing economy has disrupted the tourism sector and it is important to understand the implications of this in developing countries as these countries rely on tourism to support their economies. The impact is likely to be different in developing countries than in developed countries. This study will focus on small businesses, customers, and government’s roles. A mixed research method will be used to achieve the research aims. The implications for theoretical development and the implications for practice will be explained.

1. Problem Definition
This document is the final draft of a PhD proposal. This research aims to investigate the impact of the sharing economy on small businesses, customers and government policy in developing countries, particularly in the tourism industry. This is important because small businesses (SBs) in developing countries have been a long way behind developed countries when adopting new technologies such as e-Commerce (Rahayu & Day, 2015). SBs will need to adapt to new business models and adopt new technologies that support the sharing economy if they are to stay competitive. It is important to examine technology adoption in developing countries because in most technology adoption research in e-Commerce and the sharing economy relate to developed countries. The sharing economy is just starting to become more prevalent in developing countries which raises adoption questions such as appropriate legal frameworks (Moon, 2017). Tourism is one of the most important socio-economic forces, especially in developing countries. Developing countries refers to all the countries which are not classified as being developed economically and socially (Telfer & Sharpley, 2016). SBs in the tourism sector and related industries such as retail, and transportation are affected with the rise of technology adoption and the sharing economy. If the business owner cannot see that adopting the technology contributes to the bottom line, it is very difficult to justify the investment (Norris & Yin, 2008). Consequently, their ability to compete is limited (Chishakwe & Smith, 2012), particularly in new business models such as the sharing economy. This problem has been researched in developed countries, however there is limited research available on the implications for SBs offering tourism related services in developing countries.

2. Literature Review
The sharing economy has the potential to contribute to economic development in developing countries because there is a low cost to enter the market (Lee, Chan, Balaji, & Chong, 2016). An individual or small business can offer their services (e.g. accommodation and transport) through the sharing economy platform to find customers. Customers (users of the platform) are able to find products and services at affordable prices that may otherwise be unavailable such as in cities or rural areas where commercial accommodation and transportation may not be widely available (Moon,
Limited research has been done associated with the effect of these sharing economies in developing countries (Hira, 2017), particularly the relationships between small business, customers, and government. As an example of a developing country’s adoption of technologies to participate in the sharing economy, Indonesia has been selected as the case study. Indonesia has prioritized the tourism sector as an essential driver of economic development but also is dealing with several obstacles to further develop the tourism sector (Hampton & Clifton, 2016). In Indonesia, the sharing economy has become quite well established. Indonesia has a sharing platform application called Go-jek (www.go-jek.com [Nov 24, 2017]). Go-jek started as a transport service that uses motorcycles in 2010 as the solution to solve the unemployment and transport problems. Go-jek now includes meal delivery, grocery shopping, cleaning service, beauty, massages, deliver prescribed medicine, mechanic. Currently, two competitors of Go-Jek, Grab and Uber Indonesia are trying to take market share. Meanwhile, Airbnb also operates in Indonesia mostly in the tourism sector (https://www.airbnb.com.au/s/Indonesia_[Nov 24, 2017]).

3. Relevant Theories

The section provides an overview of underpinning theories to answer research questions. The Unified Theory of Acceptance and Use of Technology (UTAUT), socio-technical theory and social-political theory.

UTAUT theory was originally proposed by Venkatesh, Morris, Davis, and Davis (2003). The theory will be used to understand the key factors of the sharing economy adoption among users (small businesses and customers) in developing countries. Although, this theory has been used by many researchers, it is not without criticism. The main issues with the theory relate to the lack of consideration of other factors that may be derived from the characteristics of technology adoption in different contexts (Idris, Edwards, & McDonald, 2017). This study will refine the UTAUT theory by considering the drivers and barriers factors in adopting sharing economy. Socio-technical theory, initially proposed by Cherns (1976), explains the fit between technical and social factors to meet the organizational objectives. This theory enables to explain the emergence of a new technology that attempts to create and maintain a new method of social interaction and contributes to improving the performance and convenience of working, living, and coordinating with other people (Allen, 2003; Bostrom & Heinen, 1977). Meanwhile, the social-political theory uses a legal perspective to explain social phenomena. The social-political theory used in this research is political economy. Political economy is an appropriate theory for understanding government’s role in economic development and political trust. Government intervenes economic development through formal ministries and other institutions (Nunkoo, 2015). The socio-political theory along with the socio-technical theory will provide the conceptual framework for explaining the government perspective for the sharing economy legislation and regulation.

4. Proposed Methodology

This research will employ mixed method approach that will combine both qualitative and quantitative data collection and analysis methods following Creswell (2009). The research will be divided into three main studies outlined below.
4.1 First Study: Small Businesses – A Mixed Method Approach

The first paper will examine how the sharing economy impacts SBs in developing countries. The study will use the UTAUT theory to underpin the research and refine the model by integrating the key drivers of the sharing economy adoption. The study is mixed method. The first phase will use semi-structured interview questions to collect data from SBs. The second phase will use a survey. Research will be conducted in Indonesia. Unit analysis in this research is SBs with the criteria satisfied the National Act Republic of Indonesia No. 28 of 2008 of Micro, Small, and Medium Enterprises. SBs in this research operate in the tourism sector, retail, and transportation where the technology and sharing economy is mostly used to conduct business. The example of the sharing economy platform to examine is Go-jek Indonesia and Airbnb Indonesia. Both platforms are accessible via smartphones. The number of planned interviews is between 10 and 20 with snowballing sampling strategies for SBs (offline and online). Snowball sampling is when the researcher accesses participants through contact information provided by other participants until it reaches saturation (Noy, 2008). This phase will enable the researcher to gain an overall understanding of the current stages of the sharing economy platform adoption by SBs in Indonesia. The sample of interview questions may include: what technologies and sharing economy platform used by SBs to obtain tourist interest in their services, what are the motivations, barriers, and challenges, and how SBs see the future of using technologies to attract tourists to their business. In the second phase, the survey will be modified to test the research model using the UTAUT theory by considering the findings from interviews. Data collection is sourced from the sharing economy platform Go-jek, Airbnb, social media groups, and publicly open data organized by the Ministry of Cooperative, Small and Medium Enterprises Republic of Indonesia and related organisations. A pilot study will be conducted to ensure the reliability and validity the instrument, and the accuracy of translation from English to Bahasa Indonesia. Then, the survey questionnaire will be revised before conducting the full survey. Data Analysis with PLS and other statistical software will be used.

4.2 Second Study: Customers – A Mixed Method Approach

The second paper will investigate how customers use the sharing economy in developing countries. Technology such as smartphone and access to sharing economy platforms and applications have changed how customers interact with small businesses to access services. Customers can use sharing applications to tailor activities and obtain services to suit their interests and needs in real time. Research suggests that we have limited understanding of why customers use a sharing application (Lee et al., 2016). Therefore, we need to understand the key drivers and barriers from a customer’s perspective when using sharing economy applications in developing countries (Hira, 2017). The study will use the UTAUT theory to underpin the research and refine the model by integrating the key drivers of the sharing economy adoption from a customer’s perspective. The study is mixed method and will use the same research method as in the first paper. Figure 1 illustrates the proposed research model for first and second studies.
4.3 **Third Study: Government’s Role – A Qualitative Approach**

The third paper will investigate the different governments’ roles (central and local) to overcome the barriers of the sharing economy and encourage adoption. Previous studies have acknowledged the growing use and the potential contribution of the sharing economy to economic and social development, but the legal framework is a major concern particularly in developing countries (Moon, 2017; Hira, 2017). The government’s role is crucial to mitigate and control the negative impacts of technology adoption and the sharing economy to support appropriate business practices while at the same time supporting entrepreneurship and innovation (Ferrari, 2017). This research will use the socio-technical and social-political framework. The research design is qualitative research and will use semi-structured interview questions to collect data from government representatives. Unit analysis of this research is the Indonesia’s governments and related organizations includes Ministry of Tourism, Ministry of Cooperative, Small, and Medium Enterprises, Ministry of Transportation, Ministry of Information and Communication Technology. Supporting data will comprise government’s website, policies, regulations, and documents.

As this research involves human participants, ethics approval will be obtained prior to distribution from the Macquarie University Human Research Ethics Committee to ensure ethical principles of merit and integrity, beneficence, respect, and justice.

5. **Anticipated Results**

This research will contribute to the literature in two ways. First, the findings will provide a better understanding how tourism stakeholders in developing countries engage with the sharing economy. The expected outcome for this paper is to refine the UTAUT theory by determining the key drivers and barriers for small businesses and customers (users) when using sharing economy applications in developing countries. Second contribution is to understand how government agencies manage the risks and

![Proposed Research Model for First and Second Studies](image-url)
negative impacts of technologies and sharing economy adoption and related issues using the socio-technical and social-political theories.

**References**


Application of geospatial information technologies in assessing rural tourism potentials for sustainable development and management in Akwa Ibom State, Nigeria

Obot Akpan Ibanga
University of Uyo, Nigeria
obotabasiibom@yahoo.com

(Recipient of 2018 IFITT ICT4D Scholarship)

Abstract

Globally, tourism is one of the leading and fast-growing sectors. The industry has been frequently regarded as a practical means of raising the economic activity of regions both in developed and developing economies. However, Akwa Ibom State is a rich tourism destination offering unrivalled wealth of scenic landscape, long sandy coast, wealth of wildlife and culture, warm and friendly people known for their exceptional culinary skills. This research seeks to apply geospatial information technologies in assessing rural tourism potentials in Akwa Ibom State, Nigeria. Specific objectives are to identify and map the rural tourism potentials, assess the existing transportation infrastructure, develop a geodatabase of services providers as well as map the existing security systems. GPS, remote sensing and GIS will be used in data acquisition, analysis and presentation. Expected maps and geodatabase will serve as tools that will aid policy decision in sustainable development and management in the State.

Keywords: Rural tourism, Sustainable development, Geospatial information technologies, mapping, Akwa Ibom State

1. Problem Definition

According to Dempsey (2014), “the word geospatial is used to denote a collection of data and associated technology”. But for a data to be termed “geospatial”, “information about a particular phenomenon has to be well organized in order to understand how locational attributes vary in space (Torbick, 2012). Thus, geospatial information technology (GIT) refers to “equipment used in visualization, measurement, and analysis of earth’s features, typically involving such systems as global positioning systems (GPS), geographical information systems (GIS) and remote sensing (RS)” (Cimons, 2011). When acquisition, management, analyses and presentation of huge volumes of various data relevant to many local and regional planning activities is mentioned, GITs provide an invaluable framework.

Interestingly, there is a nexus between tourism and GITs. They are unique in basic traits, both being multidisciplinary and application areas (Shyti and Biçaku, 2010; Kushwaha, Chatterjee and Mandal, 2011; Pareta, 2013). The application of GITs in tourism planning, development and management therefore, becomes imperative (Ofobruku, Onabanjo and Iheabunike, 2013) due to the role it plays as key tool for analysing the tourism resource base spatially and providing insights into planning challenges (Van der Merwe and Van Niekerk, 2013).

However, tourism includes countless opportunities nature has offered mankind to engage in widespread activities and industries with the view to providing several recreational services to visitors. It exists in various dimensions and typologies ranging
from domestic to international as well as urban and rural tourism. The form of tourism that is particularly linked with rural development due to its strong affinity to nature and rural resources is known as rural tourism. Nigeria is not only a developing country in West Africa but an emerging economy in sub-Saharan Africa. With over 50% of her population residing in rural areas, the country has rich rural tourism resources and attractions spread across the 36 States of the Country and the Federal Capital Territory (FCT). Also, Akwa Ibom State, one of Nigeria’s 36 states and based on Akpan-Ebe (2015) is abundantly blessed with human and other natural resources. With about 75% of the population living in rural areas with fishing and farming as their major occupation, rural tourism has the potential of becoming another secret goldmine for rapid rural development in the state.

Nevertheless, the role of rural tourism in socio-economic transformation of many rural areas in developed and developing economies cannot be over-emphasised. It is a key approach to rural development and poverty alleviation (Gao and Wu, 2017) as well as increasing job opportunities and boosting employment in rural regions (Azimi and Avetisyan, 2016). Amin, Murshed and Rahman (2017) asserted that “the contribution of tourism in rural development can be expressed not only in financial terms, but also in terms of contributions towards funding conservation, encouragement of adopting new working practices, enjoyment for improved quality life and injection of new vitality for weekend economies”.

In spite of the opportunities offered by rural tourism in sustainable wealth creation and poverty reduction in rural communities, the subsector in Nigeria in general and Akwa Ibom State in particular, remains obscured and underdeveloped due to lack of tourism databases and discrepancies in data. It is also disheartening to observe that there is insufficient site-specific information about sources of visitors’ origin and destination, travel motivation, spatial patterns of recreation and tourism use, visitor expenditure patterns, levels of use and impacts, and suitability of sites for recreation/tourism development. These have serious policy, planning, development and management implications and there is no gainsay of the fact that geospatial information technologies (GITs) are capable of addressing it.

Close to a decade, available literature on the use of GITs in evaluating tourism potentials in Nigeria and Akwa Ibom State place major emphases on urban tourism products and services. For instance, Omitogun and Oyinloye (2008) assessed Osogbo’s grove in Osun State with the aid of remote sensing and GIS in order to get the sacred grove registered on the World Tourist Map. In a related study, Ofobruku et al (2013) utilised the technology for tourism management in Victoria Island Lagos. Also, Ojiako, Sagir and Igbokwe (2015) used this approach to conduct location and spatial analysis of tourism facilities in Abuja Municipal Area Council, FCT. In Lokoja, the capital city of Kogi State, Abubakar, Idoko and Ocholi (2017) deployed a multi-scenario approach offered by GIS in efficient tour planning for tourist sites visitation. Surprisingly, in Uyo, the capital city of Akwa Ibom State, Obot and Mohd Din (2010) mapped tourists’ facilities with the view to determine its positive and negative contributions to development. All these studies were in urban centers.

These are in sharp contrast to scholarship on GITs’ application in rural areas of many developed and developing countries. Therefore, the need to bridge these gap by properly identifying, capturing, storing, processing and presenting the different localities in the state where tourism potentials abound in order to make available useful insights and valuable information to tourist, developers, investors, and stakeholders
becomes absolutely essential. These are the prime motivation for this study which will not only contribute to existing body of knowledge with regards to tourism and recreation but also as a decision support that in turn will facilitate efficient planning, development and management of those localities with the view to attracting investors as well as creating sustainable livelihood and infrastructures in those localities.

Therefore, the following research questions become necessary in filling the research gaps:

i) What are the rural tourism potentials in Akwa Ibom State and how can they be mapped using GITs?

ii) How can the existing transportation infrastructure e.g. roads, airports and, seaports in the study area be captured using GITs?

iii) Is there any geodatabase of services providers e.g. restaurants, hotels and accommodation in the study area and how can it be developed?

iv) Where are the security systems (police post/stations, Quick Response Squad – QRS and Operation Thunder) on ground and their spatial coverage in the study area?

2. Literature Review

Tourism is an activity that implies the geographical dimension for users (the tourists) providers and planners. Besides its spatial dimension, tourism involves aspects of social, economic and environmental implications. The United Nations World Tourism Organisation (UNWTO) statistics showed that, more than one billion tourists travel to an international destination annually, making the industry among the leading economic sector, contributing 10% of global GDP and 6% of the world’s total exports. By region, Europe, the Americas and Asia and the Pacific all recorded approximately 5% growth in 2015. Arrivals in the Middle East increased by 3% while data in Africa, albeit limited, pointed to an estimated 3% decrease largely due to weak results in North Africa, which accounts for over one third of arrivals in the region (UNWTO, 2016).

However, the last three decades has seen a growth in active indigenous and countryside tourism as more and more urban dwellers try to find recreation and leisure in rural areas. As Dashper (2014) puts it, “the interplay between ‘nature’ (as characterised by the physical environment) and ‘culture’ (as characterised by tourism practices and experiences) is a key element of rural tourism that attracts tourists, offers opportunities for developing appealing and distinctive tourism products and offerings, and contributes to the sustainability of rural communities in the face of changing economic, social and cultural patterns and widespread rural restructuring” (Dashper (Ed.), 2014).

Butler (2014) as cited in Dashper (2014) opined that “rural areas offer the required natural resources and quiet, picturesque settings necessary to enable tourists to experience rurality and, frequently, controlled risk and excitement as an alternative to the perceived pressures and constraints of urban life. Local recreational activities like walking, horse riding, and bird watching as well as the increasingly popular ‘adventure sports’ or ‘extreme sports’, such as snowboarding, windsurfing and kayaking are seen taking place in rural setting” (Costa and Chalip, 2005 cited in Dashper, 2014). This may perhaps offer rural areas new opportunity for development and regeneration.

Furthermore, the link between rural tourist and destination is a function of the product deliverables and are critical in the assessment and development of rural tourism as a business. Issues like changes in the preferences and needs of visitors, destination of the
natural and manmade environment as well as security are vital. Other concerns include change or disappearance of those attractions, which brought tourists to the area, identification of potential consumer, as well as understanding the rural tourists buying behaviour.

Globally, there are countless empirical evidences on the application of GITs in assessing the exploration and exploitation of rural tourism potential for sustainable wealth creation. Kheiri, J. and Nasihatkon, B. (2016) used quantitative methodology and questionnaire to evaluate the impacts of tourism on sustainable livelihoods of local people of Lavij rural in Iran. Data collected from 230 local residents of the study area were analyzed using Pearson’s correlation and linear regression. The results showed that rural tourism has been able to play an effective role in sustainable livelihoods of people and there is a significant relationship between the development of rural tourism and sustainable livelihoods in Lavij. Result also showed that rural tourism can predict a high percentage of changes in people's livelihoods sustainability. The authors concluded that, with a proper planning, rural tourism can be used to development of sustainable livelihoods, quality of people's lives, job opportunities and poverty reduction.

In Basque Country (northern Spain), Peña, Casado-Aruzaga and Onaindia (2015) used GIS-based approach to estimate and map ecological and social factors illustrating recreation supply and demand in the region. The methodology for recreation supply was based on recreation potential and accessibility, and the social demand was determined using a convenience sample of 629 persons that reported preferences for recreation activities using photo questionnaires. Results showed that 23% of the viewsheds showed a high demand and higher recreation potential than accessibility, whereas only 3% showed a high demand and higher accessibility than potential. The authors concluded that people's assessments on the basis of their aesthetic preferences may serve as a reasonable proxy for mapping recreation demand. In Langkawi Island, Kedah, Malaysia, Masron, Mohamed and Marzuki (2015) focused on a GIS-based spatial decision support system (SDSS) application that integrates GIS functions and SDSS designs with user friendly graphic user interfaces (GUI) in helping visitors of the Langkawi Island to choose and plan their activities more effectively, according to their personal preferences and constraints. The result came in the forms of interactive maps, texts, videos and pictures web-based tourism information systems built to provide detailed information about the tourist destinations.

Rahayuningsih, Harini Muntasib and Prasetyo (2016) developed a spatial model of natural tourism planning based on criteria of attractiveness and accessibility of object in Bogor. The attractiveness of the object was developed based on the variety of landscape in term of land cover and physical condition of villages, while the accessibility was determined based on distance from the sub-district capital. Result showed there were seven typologies of areas, namely (a) high attractiveness and accessibility (b) high attractiveness and medium accessibility, (c) high attractiveness and low accessibility, (d) medium attractiveness and high accessibility, (e) medium attractiveness and accessibility, (f) medium attractiveness and low accessibility (g) low attractiveness and accessibility.

Thus, to fully harness rural tourism potentials for sustainable development of any region, geospatial information technologies (GITs) becomes essential. Tourism and GITs are unique in basic traits, being both cross multidiscipline and application areas (Kushwaha, Chatterjee and Mandal, 2011). The demand for spatially explicit
information among stakeholders across public and private institutions at various scales is also growing. As such, the potential for GITs applications in tourism is significant and can also be seen in the work of Van der Merwe and Van Niekerk (2013), Njike, Nmeregini and Onukaogu (2013), Juodkienė (2014) and Alexander (2015) among others.

3. Conceptual Development

Three concepts shall be used as philosophical rudders that pilot this research. There are concepts of rural tourism, multimedia GIS and sustainable development. A straightforward definition of rural tourism points it to the fact it is a tourism that takes place in rural areas of the country. Barbu (2013) opined that “rural tourism includes tourism activity itself (accommodation, guesthouse, tourist movement, running programs, provision of basic services and supplementary) - economic activities (mainly agriculture, but also the practice of traditional occupations) and how to party leisure segment, for those who require this type of tourism”.

Similarly, the term “multimedia” in the 1970s meant a sound track synchronized to one or more slide projectors and an automatically advancing collection of slides. Today, multimedia implies the use of a personal computer (PC) with information presented through the following media: 1) text (descriptive text, narrative and labels); 2) graphics (drawings, diagrams, charts, snapshots or photographs); 3) digital video (television-style material in digital format); 4) digital audio sound (music and oral narration); and 5) computer animation (changing maps, objects and images) (Hu 2001 cited in Alexander, 2015). Multimedia technology has been extensively utilized by commercial encyclopedia ROMs such as Microsoft Encyclopedia CD-ROM to provide a multi-sensory learning environment and the opportunity to improve the understanding of a concept. Although the interactivity is not the essence of multimedia system, it is, however, the feature of a hypertext system. The essential feature of a hypertext system is the concept of hypertext (nodes or concepts) and hyperlinks (relationships) (Nielson 1990 cited in Alexander, 2015).

In other word, hypertext represents a single concept or idea and is connected to other information by activating pre-defined hyperlinks. Interactive multimedia combines the ideas from both multimedia and hypertext system. It utilizes multimedia information in various formats and features interactivity and non-linear information retrieval (i.e., forward, backward, and cross-referencing). Geospatial Information Technology (GIT) is a computer-based information system for the capture, storage, retrieval, analysis and display of geographic information tied to a common geographic coordinate system. Therefore, it is a logic step forward to integrate multimedia technology with a GIT. The integration of multimedia and GIS, or multimedia GIS, will combine the strength from both technologies and provide more useful tools for the capture, storage, retrieve, analysis and display of spatial, temporal and multimedia geographic information. The concept of multimedia GIS will therefore form another philosophical pivots which is research is underpinned.

Another is the concept of sustainable development. It is the development of resources that does not jeopardise future interest. It is the crucial role played by tourism sector that informs it mainstreaming in the global development agenda. Tourism is unequivocally recognized in the internationally endorsed Agenda 2030 popularly referred to as sustainable development goals (SDGs) as a key sector contributing to job creation, sustainable consumption and production (SCP), and the preservation of our
world’s natural resources. Among the 17 SDGs and 169 associated targets, tourism is explicitly featured in Goals 8, 12 and 14 for its capacity to foster economic growth and decent work for all, promote sustainable consumption and production, and advance conservation and sustainable development of aquatic resources (UNWTO, 2016). These concepts will be considered in details as the research progresses.

4. Proposed Methodology

The study area for this research is Akwa Ibom State of Nigeria (Fig. 1) and is located between latitudes 5.529549° – 4.471250° North of Equator and longitudes 7.462608° – 8.343750° East of Greenwich. The state occupies a total land area of 8,412km² of the tropical rainforest in south-eastern Nigeria (Akpan-Ebe, 2015). It adopts a methodology proposed by Alexander (2015). Equipment that will be used for this study shall include Garmin 76 CSX Hand held GPS and mobile mapper .eu, Field Book and writing materials, Digital Camera (Sony), Digital Video Camera (Sony Digital), and Microphone for recording sound. Hardware requirements will include HP Laptop Computer with following configurations: (15” monitor, 1T Hard disk, 4G Ram, Processor (intel core i7)), USB to Serial Cable, One (1) No. of Hp desk jet 3650 (A3 size) Printer and A0 Scanners. Software requirements will comprise of Microsoft office word 2015, Arc GIS 10.1, Microsoft excels, Ulead Video Studio Pro X2, Ulead Video DV X2.

In terms of data, it includes political map of Nigeria, administrative map of Akwa Ibom State, Satellite image of the state, attribute data, multimedia data such as video, audio sound, text etc., and Google map. However, data sources to address research questions No. i, ii and iv shall include (i) Existing maps, aerial photographs and satellite imagery of Akwa Ibom State shall be obtained from the State Ministry of Land, Surveys and Housing. (ii) Handheld GPS shall also be used to acquire primary data for geo-referencing and update of the existing map. (iii) Attribute data will be acquired through personal interview from each of the 31 Local Government Area (LGA) in the state.

The primary datasets will be obtained through field visits. They include (i) Geographic coordinates rural tourism sites, restaurants, hotels/guest houses, police post/stations, QRS and Operation Thunder using GPS (GARMIN GPSMAP 76X). (ii) Video clips will be directly recorded by the Digital Video Camera (Sony Digital). (iii) Photographs of the tourism sites will be taken by using the Digital Camera. Similarly, secondary dataset for the study will be generated from on-screen digitization of available map data stated earlier. Attribute data (for geodatabase) which are non-spatial description information of such sites of interest will be acquired through personal interview. Information about the tourism locations, major roads and some minor roads tourist facilities and brief history of some tourism location shall also be collected.

Several data processing procedures shall be followed to facilitate geodatabase creation. Mapping of tourism site in Akwa Ibom State will be done by integrating different datasets (i.e. exiting maps, satellite imagery and aerial photographs and Google map) in Arc-GIS Environment. Analogue map will converted be to digital format using scanner (A0). Handheld GPS will be used to obtain primary data for geo-referencing and updating of map. Onscreen cartographic digitization method will be used to convert the raster data to vector format using Arcmap 10.1., to enable updating, attribute creation and further analysis. Relational data structure shall be adopted for this study. This consists of table of attributes (columns) and (rows). The attributes and rows contained information (data) which bore relations to one another.
Fig. 1. Location Map of the Study Area (Akwa Ibom State)
In terms of data model vector data model shall be adopted for this research. Vector data model is a representation of an object-based model as a collection of nodes, areas and polygons. Usually vector data represents map features in graphic elements known as points, lines and polygons (areas). Vector graphics coordinates are represented as single or a series of x y coordinates. Roads, tourism facilities/attractions, communities and LGA boundary shall form key entity types in this research. The geodatabase will be executed using following steps: (1) Selection of hardware and software based on data to be stored and the format. (2) Physical database creation, to inputs data into the database, and (3) finally, the graphical display of the spatial data content of the database. Compilation and addition of textual information to features location will be followed by development and editing of pictures and images to text labels shall be carried out while hot linking of images to their respective features shall be done using Arc GIS software. This will aid in querying. All pictorial files, video clips and sound shall be converted into wave files and AVI format and hyperlinked to the geodatabase.

In terms of data analyses, basic geospatial data analysis shall be performed. They shall include measurement techniques, attribute queries, proximity analysis, overlay operation and analysis of surface and networks. Another form of geospatial analysis shall be spatial search. The tables containing information about the tourist locations and attraction, services and infrastructure will be assessed by clicking any layer of choice and right clicking to open the attribute table. This attribute table is a general attribute table containing locations, name, and features present in the layer. Further check on the individual information of the feature will be made possible by right click and selecting 'attribute'. Only the information pertaining to that feature appears.

Further information can be obtained through the hyperlink. This would be through the use of the hyperlink icon on the tool bars and then clicking on the feature. A clear digital photograph of the feature appears, giving one the opportunity of seeing the feature before even locating it in real life situation. This aids in the identification when looking for it on ground.

5. Anticipated Results

The expected output shall include a user-friendly geodatabase that will constitute a great resource for producing various tourist maps of Akwa Ibom State. This detailed geodatabase has the capability of delivering textual information guide, descriptions of status of rural tourism infrastructures, ancillary services and locations and other interest areas in study area. Also maps, graphics, pictures and tourism guides of Akwa Ibom State in different formats (anologue and digital formats).

This type of study has important implications for decision making in landscape management based on recreation activities. Moreover, the maps that will be produced in this study can also be used in other ways for landscape management, e.g., as a communication tool to initiate discussions with stakeholders, identify areas where landscape and recreation management should be improved.

6. Relevance of Research for Local Tourism Development

The cardinal goal of every GITS project is to aid in decision making process. Thus, this research is to demonstrate how rural tourism can be developed and managed in a sustainable manner through the application of GITS in the production of digital maps. The study when completed will serve as a masterpiece and guide in policy formulation,
development and implementation of sustainable rural tourism master plan. Potential investors and tourists will find it as a veritable tool for informed decisions about ‘where’ ‘what’ is located and ‘how’ they can be accessed to maximise resources.

The unique multidisciplinary perspectives exhibited in this research, i.e. information and communication technology (ICT) Systems, tourism studies and development studies, not only bridge the gap between ICT research and tourism research, focusing on technology adoption, but also add to the very sparse literature on rural tourism not only in Nigeria but among developing countries. This multi-disciplinary perspective will also helped identify critical areas of research in Akwa Ibom State for future ICT, GISs and rural tourism researchers.

References


Tussyadiah, Lalicic, & Mariné-Roig (eds.)
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Modelling impacts of information and communication technologies on rural tourism organizations performance: Case of Souss Massa Region, South of Morocco

Kamal Loux
University of Ibn Zohr Agadir, Morocco
k.loux@uiz.ac.ma

Abstract

In this paper we discuss the performance, role and benefits of Information and Communication Technology (ICT) in the region of Souss Massa in the South of Morocco. Nowadays, tourist destinations have become within reach of hands. ICT are playing a relevant role to reach this goal. A tourist can travel to any destination he desires, just through few clicks on digital platforms. The use of ICT has become a necessity for most companies operating in the tourism sector. However, nothing will guarantee the contribution of this use to the companies’ performance. Recently, Moroccan rural destinations are investing considerable amounts in ICTs expecting to improve their attractiveness and to promote their image. Souss Massa region, as one of the most attractive rural destination in the south of Morocco, has launched an important project to connect rural accommodation facilities to the Internet via satellite transmission. It expects to improve their visibility and make them very attractive.

1. Problem definition

Information and communication technology is a general word that describes any technology that helps to produce, communicate, and circulate information (Wertlen & Ekhava, 2014). Therefore, ICT is a range of facilities that enable storage, treatment and sharing of data and information. In fact, modern ICT is largely about the capacity to electronically input/output, store, transmit, and receive data and information (Musingafi & Chikudza, 2014). ICTs have brought about profound changes affecting individuals, organizations or society in general. The effects of ICT can be translated by the acceleration of new sources of information, which influence the choice of the tourist.

This may lead us to ask the following question: How does the tourist recognize the destination that wants to visit? Before reaching any destination, the tourist passes through several means of prospecting and research that are planned or hazardous. There are those who opt for classical methods like: brochures, magazines, ads, etc. There are others who prefer to go directly to travel agencies to avoid all the logistics to which they can call before traveling. There is another category that chooses to know everything about a destination by targeting forums, fairs or shows dedicated to tourism and touristic destinations.

With the emergence of ICT, another category of tourist stands out. We can call it: the tourist 2.0. Websites, YouTube, TripAdvisor, Trivago, and social networks like Facebook and Instagram are all technologies used by tourists to learn about their future destination before reaching it. Using these tools, users can know about the destination’s attractiveness, transport plan, reception capacities, political system, safeness, as well as all the information related to his stay: transportation map, recommended places, cruises, prices, weather, cultural traditions, customs, etc.

Using ICT, the tourist can also know the rating of each touristic institution, but also the comments of other tourists who have already visited the same destination. Thanks to
these comments, the tourist can get an idea of the cleanliness, quality and hospitality of touristic institutions where he aims to stay. This can also be said about other places that can attract the tourist such as: cafes, restaurants, leisure parks etc. Central factor in the relationship between ICT and destinations, the tourist can be deducted in the following categories: age, nationality, travel season (winter, summer, spring, Christmas, holidays, festivals, events), etc.

Why choosing rural areas? A rural area can be introduced as a spot characterised by scattered population, and where the infrastructure is mainly weak due to poor development and lack of road links (Sibanda et al., 2011). Agriculture, commercial farmers, subsistence farmers, small towns and villages, including nature reserves and other natural resource based activities provide the basis for many livelihoods in rural areas.

When reviewing the rural tourism performance, and so as to reflect the changing nature of rural tourism in certain rural ranges, it is important to study the evolutionary rural tourism development model (Lewis, 1998; MacDonald, Jolliffe, 2003). A considerable number of theoretical tourism development models in the scientific literature have been published (Butler, 1980; Harris, 2000; Kotler, 1991, 1999; Stabler, 1997; Mc Kercher, 1993). These theories willing to clarify the development of tourism can be adapted to the rural tourism development and analysis. There are several important tourism development theories that analyse the advancement of the tourism, which is relying on the travel life cycle (Butler, 1980; Butler, Miossec, 1993). These theories describe the evolution of tourism in a cyclical form. Therefore, the changes that are happening in the tourism market are mainly due to the changing tourist motivation (Streimikiene & Bilan, 2015) not to the economic or social reasons.

In this paper, we are going to focus on rural touristic areas in the region of Souss Massa. Our work will focus on the relationship between Information and Communication Technologies and tourism companies operating in the following territories: Agadir Ida Outanane, Inezgane Ait Melloul and Chtouka Ait Baha, taking into account the following dimensions: Spatial, human and sociology.

Nowadays, competition in the sector of tourism has become increasingly tough. The rivalry that exists between the urban and the rural destinations can testify. A financial clash that favours the urban ones in terms of number of nights, tourist activities, hotel units, litter capacity etc. However, this advantage cannot be decisive. The tourist version 2.0 is always looking for new destinations, new horizons or new niches. These ones are located in rural areas, in most cases. And this can be considered as a strong point for those rural destinations which can benefit from this situation to compete with the touristic companies located in urban areas. The latter deploy colossal resources in marketing and communication: Advertising spots, social networks, posters, newspapers, magazines etc.

We will seek throughout this thesis to study the role of ICT in the performance of rural touristic companies in the territory of Agadir. We will target 30 tourist institutions: hotels, guesthouses, clubs, hostels and residences, from rural and suburban areas in the territory Agadir:

- Prefecture of Agadir Ida Outanane
- Prefecture of Inezgane Ait Melloul
- Province of Chtouka Baha
The use of ICTs (including websites, social networks) has become a necessity for most companies operating in the tourism sector, but there is no guarantee that such use can be sufficient. Many websites and social networks, used by rural touristic institutions from the territory of Agadir, are not all updated. This pushes us to ask the following question: Is there a relationship between the use of Information and Communication Technologies and the performance of rural tourism enterprises operating in the territory of Agadir?

2. Literature Review

During the first International Conference on Information Systems in 1980, Keen (1980) referred to the lack of the scientific basis in Information Systems research and argued that mandatory variables (e.g., user satisfaction, usage) would continue to mislead researchers and dodge the information theory issue. In searching for the IS success, there are many studies have been shown. This is understandable when considers as “information”, an output of information systems or a message in communication systems, can be viewed at different levels (technical, semantic and effectiveness level). In communication context, Shannon & Weaver defined technical level as the propriety and efficiency of the system that effectiveness the information; semantic level as the intended the information in promulgate the intended meaning; and effectiveness level as the effect of the information to the receiver. Based on this basis, Mason considered “effectiveness” as “influence” and defined information influence level as “hierarchy of events which take place at the receiving end of an information system which may be used to identify the various approaches that might be used to measure output at the influence level”. According to DeLone & McLean (1992, 2002, 2003), the influence events include the receipt of the information, and the application of the information, leading to a change in recipient behavior and a change in system performance.

The DeLone and McLean (1992; 2002; 2003) or D&M success model consists of six interdependent variables which are theoretically connected (see Figure 1). The IS output is measured by Information Quality. Use is seen as the demand or consumption of IS output. User Satisfaction describes the reaction of the recipient to the use of the IS output. The impact of information on user/receiver behaviour is measured by Individual Impact. Finally, Organizational Impact describes the influence of information on overall organizational success.

DeLone and McLean (1992) commented on the model: “This success model clearly needs further development and validation before it could serve as a basis for the selection of appropriate I/S measures”. Referring to this limitation, IS success research conducted meta-analyses and standardized measuring methods to validate the IS Success Model.

![Fig. 1. D&M Success Model](image-url)
3. Conceptual Development

The main objective of this proposal is to develop a model that highlights impacts of the ICT on rural tourism organisations. We attempt to answer the following question: what are the impacts of the ICT on the performance of rural tourism organisations. To do we based on IS success model developed by DeLone and McLean in 1992 and revisited in 2003. Moreover, we referred to the literature revue on impact of ICT on tourism destination.

Modelling impacts of ICTs on rural tourism organisation performance will help rural tourism managers and tourism IT managers to assess easily the value created by these technologies. It also leads to understand how ICT impacts the tourism organisation attractiveness.

4. Proposed Methodology

The use of ICTs (including websites, social networks) has become a necessity for most companies operating in the tourism sector, but there is no guarantee that such use can be sufficient. Many websites, social networks, those rural touristic institutions from the territory of Agadir use, are not updated.

This pushes us to ask the following question:

- Is there a relationship between the use of Information and Communication Technologies and the performance of rural tourism enterprises operating in the territory of Agadir?
- What is the sociological impact of these technologies on the socio-cultural environment of tourism companies?

To answer this, we will adopt a hypothetic-deductive approach to be able to respond to the following hypothesis:

**H1. The introduction of ICT has a positive impact on the performance of rural tourism companies operating in the territory of Agadir.**

**H2. ICT contribute to the promotion of rural tourism in the territory of Agadir**

Among the tools we will use, there is "external research of the organisation" that will be carried out outside the targeted organizations. The data will be obtained through the Internet and through the use of existing databases in institutions concerned with tourism entities such as the Chamber of Commerce of Agadir, Regional Council of Tourism, Council of the Region of Souss Massa, and Regional delegation of Tourism. This will enable us to have a large database of rural touristic companies located in the territory of Agadir.

From the list of rural touristic companies we have received from the above-mentioned bodies, we will proceed to the construction of our sampling. Given that the number of these entities that cover the prefectures of Agadir Ida Outanane and Inzegane Ait Melloul and the province of ChoukaAit Baha is only 30 units, we will therefore work on all of these companies. Firstly, these touristic companies are in a closer geographic area. And secondly, it will be easier for us to move to carry out questionnaires, interviews etc. The targeted audience of these companies will be: Owners, Managers and Administrative staff.
After completing the collection of the data corresponding to our problems, using the questionnaire, we will proceed to the second stage, which includes interviews and Focus Groups. We find it useful to employ both tools (interviews + Focus Groups). One will complete the other. Indeed, this combination is known as the "mixed methodology" which allows the strategic marriage of qualitative and quantitative data in a coherent and harmonious way, in order to enrich the results of the research.

5. Anticipated Results

Through this overview about our doctoral research (in progress) on rural tourism, we are expecting the following results:

- To highlight a new aspect in the management of rural touristic organisations in the south of Morocco
- To determine the real use of ICT in rural touristic organisations located in the south of Morocco
- To open new study tracks on this theme.

References


Work and leisure in the digital age: A border exploration

Mattia Rainoldi
Bournemouth University, United Kingdom
mrainoldi@bournemouth.ac.uk

Abstract

The modern wave of technological advancement is having an impact of unprecedented scale on the way people work and experience leisure. While technological advancements are driving the temporal and physical mobilisation of working practices, the historical borders between work and life have started dissolving. Thus, this research aims to explore the role of technology in the management of work-life borders in leisure settings thought the lens of Border Theory.

Keywords: work, leisure, technology, border theory.

1. Problem Definition

In the increasingly challenging global business environment an understanding of the dynamics that influence human behaviour is of fundamental importance for effective management practices and is the key for the success of every organisation (Mullins, 2016). In contemporary research, technology has been pictured as a determinant piece of the puzzle leading to new work-life balance management practices (Holtgrewe, 2014). Technology has in fact ceased to be an instrument to be used only within the work environment and evolved into a tool that support demands generating in the work and private contexts (Ludwig, Dax, Pipek, & Randall, 2016). However, while crossing borders between work and private life realms has become much easier the distinction between work and private life is becoming more and more blurred (Haeger & Lingham, 2014). Technological innovations have created conditions in which people perform work, family and leisure activities in the same time frame (D’Abate, 2005; Ludwig et al., 2016) and from multiple locations (Boswell, Olson-Buchanan, Butts, & Becker, 2016; Ladkin, Willis, Jain, Clayton, & Marouda, 2016).

Recent studies suggest that work gradually infiltrates into times formerly dedicated to family and leisure such as evening, weekends and holidays (Dickinson, Hibbert, & Filimonau, 2016; Kossek, Valcour, & Lirio, 2014). Thus, while the use of technologies proliferates, people find increasingly difficult to take a break and relax (Kossek, 2016).

However, much of the literature focusing on the role of technology in mediating the boundaries between work and private life domain have almost exclusively concentrated on the work-family dichotomy (Cousins & Robey, 2015; Piszczek, 2017) while the relationship between work and leisure realms remain undertheorised (Knecht, Wiese, & Freund, 2016). It is therefore essential to create an understanding of the role of technology in shaping the mechanisms and practices adopted by individuals to manage and control the work-leisure interplay.

2. Literature Review

In 1930, the economist John Mynard Keynes (1930) forecasted a world in which, a century later, leisure would be the centre of people's daily life, and work would be limited to a three-hour shift and a fifteen-hour working week. Technical improvements and inventions were predicted to drive this change. Today, technology has become a central element of the contemporary working life and it is used, at some level, in every type of organisation (Mullins, 2016; Orlikowski & Scott, 2008). New technology has
fostered the development of new products, services, and processes. It has supported new forms of information and communication. It has nurtured the development of new ways of working (Barley, 2017; Mullins, 2016) and contributed in creating a paradigm shift in the way people’s work and life are structured and organised (Brougham & Haar, 2017; Haeger & Lingham, 2014; Holtgrewe, 2014).

As technology becomes increasingly integrated in the workplace it promises to create greater freedom and opportunities for leisure (Brynjolfsson & McAfee, 2014). However, the rapid technological advancement, which characterises modern society, left us with a paradox. While the time needed to carry out processes, communication and transportation has substantially shrunk, people still work forty hours a week and work appears to be more intense (Hoonakker & Korunka, 2014). In creating spatial and temporal bridges between individuals and their work (Tennakoon, Da Silveira, & Taras, 2013) technological innovations have indeed enabled an anytime and anyplace connectedness to the workplace (Ludwig et al., 2016). As a result, major shifts in the work system are becoming evident (Boell, Cecez-Kecmanovic, & Campbell, 2016; Harrington & Ladge, 2009). Regular work schedules and hours are becoming less common (Kossek, 2016) and work settings and situations are increasingly being distributed across multiple contexts both inside and outside the organisational environment (Bødker, 2016).

Hence, in an environment in which technology increasingly permeates our lives, research has demonstrated that engaging in leisure pursuits represent a mechanism to increase the individual positive functioning in the various spheres of life (Knecht et al., 2016) and substantially contributes to the achievement of a sense of balance between work and private life domains (Denovan & Macaskill, 2017; Iwasaki, 2016). Leisure is a key domain in people’s lives (Iwasaki, 2016) and its central role is demonstrated by the increasing importance attributed to time off work and holidays (Kossek et al. 2014) as well as by the continuous growth of the tourism industry (Newman, Tay, & Diener, 2014). Leisure contributes to detach from work, recover from stress and build up resources (Fritz & Sonnentag, 2005; Newman et al., 2014). In line with this thinking, Urry and Larsen (2011) argue that the statement “‘I need a holiday’ reflects a modern discourse based on the idea that people’s physical and mental health will be restored if only they can ‘get away’ from time to time” (p. 6). This assumption is however increasingly challenged by modern technologies as tourists who escape from their everyday environment can easily remain connected and interact with their workplace (Dickinson et al., 2016; Tanti & Buhalis, 2016).

Technology is transforming the way in which the work and the private sphere of life come into contact creating opportunities and challenges for work-life balance (Kreiner, Hollensbe, & Sheep, 2009). In fact, while technology can be used to reinforce and control boundaries it also facilitates domain intrusions and violations (Kreiner et al., 2009). We are moving towards a novel paradigm and new standards of living and working defining how balance is created and maintained (Haeger & Lingham, 2014). In this context, technology can be described as both an enabler and an inhibitor of balance empowering individuals to actively manage boundaries separating not only work and family but also all other aspects of life (Mazmanian, Orlikowski, & Yates, 2013; Reyt & Wiesenfeld, 2015).
3. Conceptual Development

Drawing upon Border Theory (Clark, 2000), this study aims to empirically explore the use of technologies and their implications for work-life boundary management in leisure settings. This is particularly relevant in an environment where technologies enable rapid transitions between work and private life roles (Ashforth, Kreiner, & Fugate, 2000) not only in the workplace and at home but also during times generally devoted to personal endeavours, such as holidays (Middleton, Scheepers, & Tuunainen, 2014). Border Theory is based on the assumption that physical, temporal and psychological borders separate work and life domains (Clark 2000). Borders serve to determine the roles that an individual holds in the different domains and define which behavioural and cognitive patterns take place. However, borders can be crossed and blended, depending on which degree of work-life separation or integration leads to the individual’s desired sense of balance. Thus, Border Theory offers a theoretical lens for investigating the mechanisms through which borders between working and private life spaces are established and crossed in the attempt to attain a satisfying balance (Clark, 2000). Thereby, it is of fundamental importance to create an understanding of how individuals use technologies for managing work-life borders while transferring resources across domains by means of behavioural and cognitive actions (Matthews, Winkel, & Wayne, 2014).

4. Proposed Methodology

Given the exploratory nature of this study and considering the limited literature engaging with the relationship between technology, work and leisure a qualitative, inductive framework is proposed. This is because qualitative methods are particularly suited for uncovering apparently observable practices in the social world which depend upon complex social phenomena (Silverman, 2013) as the management of work-life borders in the digital age. In particular, data will be collected from 30 knowledge workers (e.g. managers, academics, researchers) during and after their annual holiday through daily diaries and follow-up semi-structured interviews. The proposed data collection strategy aims at collecting rich qualitative data for developing a holistic understanding of the phenomena under investigation while at the same time overcoming the limitations characterising both data collection methods. There are two reasons for selecting knowledge workers as study sample. First, the transformational role of technology is particularly evident in the way knowledge work is conducted (Holtgrewe, 2014). Second knowledge workers generally enjoy personal control over their work-life borders and are likely to engage with technologies that allow anytime-anywhere connectedness to work (Duxbury, Higgins, Smart, & Stevenson, 2014).

5. Anticipated Results

This work aims to make a two-fold theoretical contribution. First, knowledge in the field of work-life balance and technological developments will be advanced by exploring the role of technologies in “mediating, dissolving, enforcing, changing, negotiating and maintaining boundaries” between work and life (Bødker, 2016, p. 534). Second, by adding a leisure lens to the work-life debate, this research will reduce current deficits in the literature and open a novel area of inquiry that extends beyond the predominant focus on work and family issues (Knecht et al., 2016). In fact, this work will contribute to the further development of Border Theory depicting the overlooked relationship between work and leisure and its work-life balance.
implications. By proposing an original theoretical framework depicting individuals’ behavioural patterns in relation to the ongoing fusion of work and life realms (Knecht et al., 2016) this research will also contribute to the management and leisure discourse through the development of actionable knowledge. In this way this research will also make a contribution to practice by addressing the need of organisations to understand how their workers’ manage the demands of work and life in light of the current technological advancements (Haeger & Lingham, 2014; Ludwig et al., 2016).

References


