Effect of Privacy Concern, Risk, and Information Control in a Smart Tourism Destination

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Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
Tourism Management

Eastern Mediterranean University
September 2021
Gazimağusa, North Cyprus

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ABSTRACT

The smart tourism industry is growing, with the use and application of technology to make travel more enjoyable, but the information privacy concerns of today's tourists obtained by the big data available to the destination and service providers constitute a major problem for smart tourism. The issue of data privacy can affect the sustainability and economic gains of the various smart tourism destinations around the world. This study investigates privacy concerns, perceived risk, control of information, service provider trusts in a smart tourism destination, and the resulting behavioral intentions. The results were obtained using an online survey of 384 respondents that have visited Dubai, one of the world's most popular smart tourism destinations. The results showed that using context as an environmental factor is helpful to mitigate the tourists' negative privacy concerns and perceived risk towards trust in a smart tourism destination. Therefore, previous privacy violation experience as a personal factor is a risk that is negatively related to trust in the smart tourism destination and the service providers. The study provides meaningful and applicable contributions on smart tourism to destination management organizations (DMO's) and service providers on what influences and mitigates the privacy concern of today's tourists using mobile application location-based services available in a smart tourism destination, building on the social cognitive theory and risk-benefit analysis of the privacy calculus theory.

Keywords: smart tourism destination; mobile application; service providers; trust; privacy concern; location-based services; destination management organization.

ÖZ

Akıllı turizm endüstrisi, seyahati daha keyifli hale getirmek için teknolojinin kullanımı ve uygulanması ile büyüyor, ancak destinasyon ve hizmet sağlayıcılara sunulan büyük verilerle elde edilen günümüz turistlerinin bilgi gizliliği endişeleri akıllı turizm için büyük bir sorun teşkil ediyor. Veri gizliliği konusu, dünyadaki çeşitli akıllı turizm destinasyonlarının sürdürülebilirliğini ve ekonomik kazanımlarını etkileyebilir. Bu çalışma, mahremiyet endişelerini, algılanan riski, bilginin kontrolünü, hizmet sağlayıcının akıllı bir turizm destinasyonuna olan güvenini ve sonuçta ortaya çıkan davranışsal niyetleri araştırmaktadır. Sonuçlar, dünyanın en popüler akıllı turizm destinasyonlarından biri olan Dubai'yi ziyaret eden 384 katılımcının katıldığı çevrimiçi bir anket kullanılarak elde edildi. Sonuçlar, bağlamı çevresel bir faktör olarak kullanmanın, turistlerin olumsuz mahremiyet endişelerini ve akıllı bir turizm destinasyonunda güvene yönelik algılanan riski azaltmaya yardımcı olduğunu göstermiştir. Ayrıca, kişisel bir faktör olarak önceki mahremiyet ihlali deneyimi, akıllı turizm destinasyonuna ve hizmet sağlayıcılara duyulan güven ile olumsuz ilişkili bir. Çalışma, akıllı turizm destinasyonunda mevcut olan mobil uygulama konum tabanlı hizmetleri kullanan günümüz turistlerinin mahremiyet endişesini neyin etkilediği ve azalttığı konusunda destinasyon yönetimi organizasyonlarına (DMO'lar) ve hizmet sağlayıcılara akıllı turizm konusunda anlamlı katkılar sağlamaktadır. mahremiyet hesabı teorisinin risk-fayda analizi.

Anahtar Kelimeler: akıllı turizm destinasyonu; mobil uygulama; servis sağlayıcıları; güven; gizlilik endişesi; konum tabanlı hizmetler; destinasyon yönetimi organizasyonu.

DEDICATION

I dedicate this dissertation to myself.

ACKNOWLEDGMENT

Throughout the process of my Ph.D. and writing this dissertation, I received a great deal of support and encouragement.

I would like to thank my supervisor Professor Ali Ozturen for accepting me as his student and for his invaluable contribution and patience with me all through this process using his knowledge and expertise to make my research a success. I would like to also thank my co-supervisor Professor Mustafa Ilkan for both his professional and personal contribution to my success all through my university academic studies a huge part of my achievement is courtesy of his influence. I would also like to thank the whole staff and faculty members of the school of computing and technology my academic family especially Assist. Prof. Dr. Nazife Dimililer for mentoring me.

I would like to thank my partner Amara Nwaala for providing me emotional support and motivation, for believing in me, holding my head, and cheering me on when things were hard and when things were good during this process.

I would like to thank my Mother Olukemi Oyinlola and my chosen father Daddy Koko for believing in me and providing me the financial support needed to complete this process.

Finally, I would like to thank my friends and chosen family for giving me a listening ear and being ready to help me with whatever I need for my success.

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Chapter 1

INTRODUCTION

The tourism industry is one of the most profitable industries in the world. With its rapid development and growth, the tourism industry impacts every travel destination's social, economic, and environmental aspects (Wang, Xie, Huang, Morrison, 2020). Tourism contributes to the economy by generating income and providing jobs (Sedarati & Baktash, 2017). It contributes socially by creating interaction and communication among people from different backgrounds (Cimbaljevic, Stankov & Pavlukovic, 2018; Jovicic, 2017), and it contributes environmentally with the conceptualization of sustainable tourism (Kim & Kim, 2017).

The use of personalized services with the implementation of technology is necessary for keeping up with current and future developments of tourism (Buhalis & Amaranggana, 2015; Kontogianni & Alepis, 2020). The concept of smart tourism has emerged as a result of technological developments in tourism. Smart tourism uses personalization of services, location-aware services, and a wide range of data collecting, and tracking technology all through the tourist travel life cycle. These data provide better and enjoyable services to tourists (Buhalis & Amaranggana, 2015; Neuhofer, Buhalis & Ladkin, 2015).

The concepts of smart tourism, smart tourism destination, and smart tourist are becoming popular and gaining attention in the domain of tourism with special issues

and publications focused on the smart concept (Xiang, Tussyadiah, & Buhalis, 2015; Koo, Yoo, Lee & Zanker, 2016; Koo, Park, & Lee, 2017; Femenia-Serra &, Neuhofer, 2018). Smart tourism has been defined by different authors focusing on a variety of its aspect. The common factor in these definitions is that it is a combination of tourism and technology, using cloud computing, the internet of things, artificial intelligence, and generating big data, to provide improved tourism experience and personalized services to the tourists (Buhalis & Amaranggana, 2014; Lopez de Avila, 2015; Hunter, Chung, Gretzel & Koo, 2015). In this study, Gretzel, Sigala, Xiang, and Koo's (2015b) definition of smart tourism is adopted because it is the most referenced definition of smart tourism by researchers, and it considers all dimensions of smart tourism destination as discussed in this research, technology, organization, infrastructure and social connections; therefore, the smart tourism destination is defined thus:

> "*tourism supported by integrated efforts at a destination to collect and aggregate/harness data derived from physical infrastructure, social connections, government/organizational sources and human bodies or minds in combination with the use of advanced technologies to transform that data into on-site experiences and business value-propositions with a clear focus on efficiency, sustainability, and experience enrichment" (Gretzel et al., 2015b, p. 181).*

It is acknowledged that even with the attention being paid to smart tourism, there are several subtopics about the smart concepts that need to be addressed (Femenia-Serra & Ivars-Baidal, 2018, Femenia-Serra et al., 2019).

Femenia-Serra and Ivar-Baidal (2018) further explained the shortage of study, a limitation, and a gap in the literature about tourists' behaviour, attitude, and perceptions towards the smart tourism setting. Wang et al. (2016) called for papers on tourists' perceptions towards the smart tourism destination. There is a paradox in the information system domain, which also extends to the tourism industry concerning

tourists recognizing that the benefits technology provides and gives to their touristic experience, can also negatively affect them (Tussyadiah & Wang, 2016). Additionally, Femenia-Serra et al. (2019) noted that tourists' privacy concern towards a destination is very important and can influence the future of smart destinations. Furthermore, understanding the impact and effects of the current growing technology on smart destinations is gaining attention (Femenia-Serra et al., 2018).

Finally, with the technology being used and the amount of big data generated in the smart tourism destination, there is a need to study the tourists' privacy and security concerns in relation to the data made available to service providers, as well as the effect these privacy concerns can have on the tourists' trust in the context of the smart tourism destination.

1.1 Statement of the Problem

Within smart tourism, tourists use technology in all phases of their travel experience. Smart tourism destinations' experiences, most especially, are dependent on the usage of a range of technologies at different stages in the travel experience. Location-based services are also one of the most popular mobile applications in smart tourism destinations. They are used to provide different personalized and location-based services to tourists. With the continuous development of information technology, growth has also been evident in location-based services, which largely affect the mobile tourism industry (Saravanan & Ramakrishnan, 2016). Smart tourism destinations need a location-based application to improve the tourists' experience. However, the privacy concerns of the tourists towards the use of their data in these smart tourism destinations is very important as this could influence the growth and sustainability of the smart tourism destination (Femenia-Serra et al., 2019). Users

always face a dilemma when deciding between the benefit of a location-based application or the risk involved in divulging their location information (Lee & Rha, 2016). It is important to know the factors that influence the tourists' final choice. If the locations information of a tourist is compromised, serious security and privacy risk to the tourists can arise (Saravanan & Ramakrishnan, 2016), thereby negatively influencing the reputation of the destinations. Location-based mobile applications form one of the major threats to security and privacy concerns and violations (Wang & Lin, 2017).

The privacy and personalization paradox has not been largely studied and researched in the tourism industry, and least of all, the smart tourism destination (Femenia-Serra et al., 2018). It is important to know what influences tourists' privacy concerns negatively and their behavioral intentions regarding privacy concerns (Femenia-Serra et al., 2018). There is a need for research to evaluate the post behaviors of the tourists (Tussyadiah & Wang, 2016), as the tourists themselves have been neglected in the smart tourism destination research (Femenia-Serra et al., 2018). Also, studies encourage research to consider the characteristics of the smart tourism destination, technology adoption behavior, and societal characteristics (Kim, Ferrin, & Rao, 2008; Sedarati & Baktash, 2017). Several studies are encouraging the integration of tourism with other domains, but while tourism is collaborating with technology, the problems of technology also spill over to tourism. Context has not been widely studied in the tourism domain as it is a technology construct (Kim, Chang, Chong & Park, 2019). There is a gap in the literature and research on the innovation of smart tourism technology and the effects and influence on the tourists. This dissertation is carried out to provide knowledge to fill this gap. Therefore, we provide the following research questions:

Research Question (RQ)1: How to mitigate privacy concerns in mobile application location-based services for smart tourism destinations?

Tourism research concerning what influences tourists' technology disconnection is still in an "emerging state" (Dickson, Hibbert & Filimonau, 2016; Lalicic & Weismayer, 2018). Therefore, with the different destinations trying to implement smart tourism technologies, it is important to know the effects of the privacy paradox in a smart tourism destination for present and future implementations.

RQ2: How can privacy concerns and privacy risk affect the trust of a smart tourism destination and trust in location-based services?

With the amount of user data generated and used by the smart tourism destination, the privacy and security of the tourists have to be considered, as the reputation of one smart tourism destination can affect the general acceptance of smart tourism destinations (Hew et al., 2017; Femenia-Serra et al., 2018). Tourists have used technology even before visiting a smart tourism destination. Their previous experience with technology and their privacy concern can influence how they receive the technology and their trust in the smart tourism destination.

RQ3: How can privacy-related experiences and concerns influence tourists to trust a smart tourism destination, want to re-visit, and/or recommend to others?

Trends in tourism research have always shown that the context of the research has an impact on the attitudes and behavioral responses of tourists and the study results. Tourism research has studied privacy concerns in the context of mobile booking

(Ozturk et al., 2017). There is a research gap as regards the context of a smart tourism destination (which is a unique tourism destination) on tourist's privacy concerns, response, and behavior to the smart technologies in the destination.

RQ4: What role can context have on privacy concerns in a smart tourism destination?

1.2 Rationale and Purpose of the Study

This section discusses the aims and objectives, the scope of the study, and the contribution of the study. The issues, the problems, and the benefits of the study are also addressed, as well as the rationale for going ahead with this research.

1.2.1 Aims and Objectives

Tourism is one of the world's fastest developing industries. It affects people on different levels, from being a source of employment and economic development to being a source of leisure and relaxation for other people. Tourists, the locals, and the destination all benefit from tourism. Technology is gaining ground in tourism, as these days there can be no tourism service without the integration of technology. This integration is evident from the move in the different conceptualizations of tourism destinations moving from traditional tourism to e-tourism, mobile tourism, and now smart tourism (Kontogianni & Efthimios, 2020). Smart mobile phones are being used by different people worldwide, and privacy concern is one of the major problems that the use of technology can have on the smart tourism destination. The purpose of this study is to investigate how privacy affects the destination trust, from the perspective of the tourists, with the use of mobile application location-based services in the smart tourism destination. Another purpose of this study is to investigate how destination management organizations in the smart tourism destination can mitigate privacy concerns, reduce the privacy risk with information control, and use the technology of

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the mobile application location-based services provided in the destination by the service providers.

Furthermore, this research investigates the effects of privacy concern, risk, and information control in mobile application location-based services, and how previous privacy experience in a smart tourism destination, as well as trust in location-based service providers, can affect the smart tourism destination. The study investigates further the influence of context in mitigating privacy concerns and how control of the privacy information can influence tourists to trust a smart tourism destination and want to visit and recommend it to others. The aim would be achieved with the below-listed objectives:

1. To review the literature based on the privacy concerns relating to mobile application location-based services of the tourists in tourism destinations.

2. To develop a theoretical model to explain the determinants of destination trust in the context of privacy, which influences re-visit intention, and intention to recommend a destination

3. To develop a theoretical model to investigate the relationship between mobile application location-based services privacy concern, destination, and service provider trust and the resulting influence on tourists' behavioral intentions.

4. To assess the theoretical model and test the hypothesized relationships empirically.

5. To contribute to the body of literature in terms of privacy paradox and context studies for data generation in smart tourism destinations

6. To report on tourists' perception of privacy concerns in smart tourism destinations.

7. To investigate and introduce the role of previous privacy violations and context on tourist privacy concerns.

Finally, to draw managerial implications and theoretical contributions for academicians, future researchers, service providers, and destination management organizations of smart tourism destinations.

1.2.2 Scope of the Study

Tourists are the ones whose personal information and data are being used to provide historical and personalized services, and they are also the ones that benefit from the services. Therefore, the study will investigate the tourists who have visited the United Arab Emirates (Dubai), one of the most famous smart tourism destinations (Khan et al., 2017) and have used location-based services on their mobile phones. Online survey questionnaires will be shared using various social media platforms to target respondents that tag "Dubai" and "Vacation" on their pictures. Finally, this study is extremely important for smart tourism destination managers or organizations, service providers, and stakeholders developing strategies and promoting smart tourism destinations.

1.2.3 Contribution of the Study

This research contributes significantly to knowledge in different ways, both academically is in literature and practice. The first contribution of this study is developing a theoretical model that examines the privacy concern and risk of mobile technology in a smart tourism destination and the influence on behavioral intentions. The theoretical model is developed on social cognitive theory (SCT) (Bandura, 1989), which explains the related components of the model within the smart tourism context. The study validates the privacy risk problem in a smart tourism destination.

Secondly, the acceptance of the technology implementation in smart tourism destinations would require the tourist to be actively involved in applying and designing the technology (Femenia-Serra et al., 2018). The investigation of the privacy risk concern of tourists while using mobile application location-based services contributes to the research on tourist participation in technology implementation.

Thirdly, useful insights are provided for practitioners and managers of smart tourism destinations. With previous privacy experience, this research covers tourists' pre-visit concerns about privacy, and with trust and use context, this study further investigates what can mitigate privacy concerns and risk, thus contributing to the research on privacy calculus theory.

Finally, the knowledge of tourist perceptions is expanded on in different ways with response, behavior, and environment. The study provides insights into tourists' perception of smart tourism destinations and the service providers in the destination. This knowledge can help Destination Management Organizations (DMOs) better promote their destination to predict positive behavioral intentions from the tourists, it provides new insights and contribute to future studies on tourists' privacy and security concern and extends the literature on improving trust of tourist in a smart tourism destination as Frank and Harnisch (2014) suggested.

1.3 Structure of the Dissertation

Chapter 1 of the dissertation has provided important background information about the research with a brief introduction, statement of the problem, aims and objectives, research background, the scope of the study, and contribution. The remaining part of this dissertation is structured as follows.

Chapter 2 comprises of literature review of existing research introducing and discussing all the constructs with the hypothesized relationship. The theoretical backing and the development of the model are explained and presented.

Chapter 3 comprises information about the research design, research approach, research strategy, methodology, and measurements.

Chapter 4 presents the results of the hypothesized relationships.

Chapter 5 presents discussions, conclusions, limitations, and future studies of the research.

Chapter 2

LITERATURE REVIEW

2.1 Research Background

Service providers of tourism in a smart tourism destination have information available to them to create a centralized platform where they can provide better services and improve business decisions using the data gathered from the tourists (Buhalis & Amaranggana, 2015). The use and availability of information technology in tourism destinations create large data sets technically called big data analyzed to predict trends and patterns by the service providers. A smart tourism destination has and would continue to use the big data generated from the tourist activities to create better-personalized services. These developments are encouraged by the current rate of technology use and the amount of information being gathered by the service providers (Jovic, 2017; Kim, Yoon & Zemke, 2017). Personalization is expected at a smart tourism destination. The quality of personalization of the destination may influence how a tourist values their trip (Buhalis & Amaranggana, 2015). The quality of personalization makes the destination competitive (Baltescu, 2018; Ma & Liu, 2011). Studies have shown that personalized services are offered to tourists, especially in a smart tourism destination, as smart destinations use technology in every stage of tourist travel to provide enjoyable services to the tourists (Jeong & Shin, 2020). These services are provided and improved by collecting real-time information about the tourists, their patterns, location, and preference (Buhalis & Amaranggana, 2014).

Personal information about the tourists is made available to multiple stakeholders and service providers in the smart tourism destination (Femenia-Serra et al., 2019).

The integration of technology and the generation of data in the smart tourism environment is aided by mobile communication technology's rapid and continuous growth. Mobile devices make it easier for users to search for information, connect to the internet, and access applications and other users while using their mobile technology (Zhou, 2011). The information provided to mobile devices is available to the users anytime, anywhere, and this is possible because they can carry their mobile devices with them everywhere they go (Wang, Park & Fesenmaier, 2012). The improvement and growth of mobile communication are made possible because of the different functions and features the mobile technology provides (Gavalas & Kenteris, 2011). The tourists can take pictures and share them with their friends while on the trip (Buhalis & Foerste 2014). They can also gather information about different sites and make better and informed decisions (Wang, Xiang, & Fesenmaier, 2014). Mobile technology is increasingly growing in the number of users. Developing innovative applications to meet the various tourists' needs focuses on service providers and different stakeholders in a destination (Wang & Lin, 2017). The development of mobile technology has also changed the tourism industry and how tourists search for tourism-related information, hotel booking, flight reservation (Wang et al., 2014). Tourists now use their mobile devices to once use their desktops and laptops (Ozturk et al., 2017).

Location-based services are one of the popular applications available to mobile technology device users. Location-based service is a type of application that detects the location of the device (Ruzic et al., 2012; Hong et al., 2015). The location-based

services allow the user's location information to be available for personalized services, sharing their location history, allowing the service provider to store information about the user location (Tsai et al. 2010; Buhalis & Amaranggana, 2015; Wang & Lin, 2017). Location-based services are used by smart tourism destinations to suggest sightseeing locations, share information, send events notifications, use real-time personalized services based on the user's location and preference. Closest shops, location-based advertising, transport information can easily be provided to the tourist (Garcia et al., 2019; Hunter et al., 2015; Neuhofer et al., 2015) that is mostly possible by location-based mobile applications.

Where does this information usage cross the line between privacy risk and personalization benefit? There has been one big paradox in the literature about information privacy and personalization (Hallam & Zanella, 2017; Mosteller & Poddar, 2017).

2.2 Smart Tourism

Smart tourism has become a popular topic influenced by the rapid development and growth of technology and smart systems (Park et al., 2016; Wang et al., 2016). Technology development has caused an evolution called smart tourism (Xiang & Fesenmaier, 2017). There are several layers and factors of smartness that smart tourism is involved with. Smart tourism encompasses three main layers supporting information communication technology: smart experience, smart business ecosystem, and smart destinations (Fig. 3) (Gretzel et al., 2015; Lee et al., 2020).

The ability of tourism destination management organizations and service providers to not only gather a massive amount of tourist's data, but also to intelligently store,

process, integrate, analyze, and apply big data to create tourism transactions, business innovation, and services is central to the smart tourism concept (Fesenmaier & Xiang, 2016).

Smart tourism is founded on multidimensional technology, which consists of context-aware information system, mobile technology, ubiquitous infrastructure, and multifaceted connection that enables interaction dynamically with an individual's physical environment, community, and society all directly or indirectly associated with the tourist.

Smart tourism development is founded upon the collecting, exchanging, and processing of big data generated from the interconnectivity of the three different components of the smart system, smart experience (the consumer), smart business ecosystem, and smart destinations. More specifically, the total network of information about the traveler from the moment they plan their trip, all their technology footprints capture a huge amount of data. The structure of the smart tourism destination and the process of the tourists making a trip provides such a large amount of data to the tourism DMo's that they can better predict and understand the preference of a current visitor or a potential visitor.

These business analytics available to service providers and DMo's help to create smart tourism by enhancing consumer intelligence, streamlining organization operations, and allowing the deployment of new strategies for navigating a continuously competitive tourism industry.

Compared to previous traditional ways of promotion, research, and development, big data analytics as a toolbox is much more unique with the way data and technology have become important (Xiang et al., 2015b). The analytical capability that the availability of big data provides for organizations, marketing, and the consumer market has an unprecedented effect, influence, and depth (Boyd & Crawford, 2012). The structure and boundaries of the smart tourism concept are still widely studied, but importantly noted is, smart tourism development framework provides several conditions and contexts for big data analytics in tourism (Xiang & Fesenmaier, 2016).

Smart tourism focuses on using intelligent systems, providing timely and comprehensive data for developing experiences in tourism. The purpose of tourism big data is defined to provide dynamic, real-time, and context-rich representation to provide the understanding and promote opportunities to the tourists in authentic ways.

Smart tourism uses location-based transaction data of the tourists to get real-time information about the interactions of the users, forming knowledge about tourist economic relationships using structure and content gotten from location transaction data (Scaglione, Favre & Trabichet, 2016). Travelers today are connected socially which means big data in tourism can make use of traveler's information collected from their social activities (Wood et al., 2013). Technologies like smart name badges, social media, email, and video surveillance over the course of time, using the smart technology embedded in smart tourism, offers analytical information about human relations, communities, and travel groups (Hunter et al., 2015; Olgun, Gloor & Pentland, 2009). The wearable technology, virtual and augmented reality, plays a crucial role in the interaction of technology with the network, and the internet of things

collecting of tourist's data to understand and predict tourist activities, trends, and preferences (Uysal, Sirgy, Woo & Kim, 2016).

Smart tourism provides enormous information that creates huge competition as the control of information in tourism provides economic power and business value. With building and sharing resources, big data in tourism also encourages partnership among different businesses, the government, and stakeholders in tourism.

Using smart technology to transform the touristic place is the unique case of smart cities which are referred to as smart destinations. Smart destinations use all the principles and guidelines of smart cities and apply them to different areas, both rural and urban, in smart destinations (Wang, Xie, Hang & Morrison, 2020). The residents are not the only concern. The tourists are also considered in a smart destination effort to provide resources, mobility, and sustainability. Smart tourism considers the quality of life of the residents and the quality of visit of the tourists.
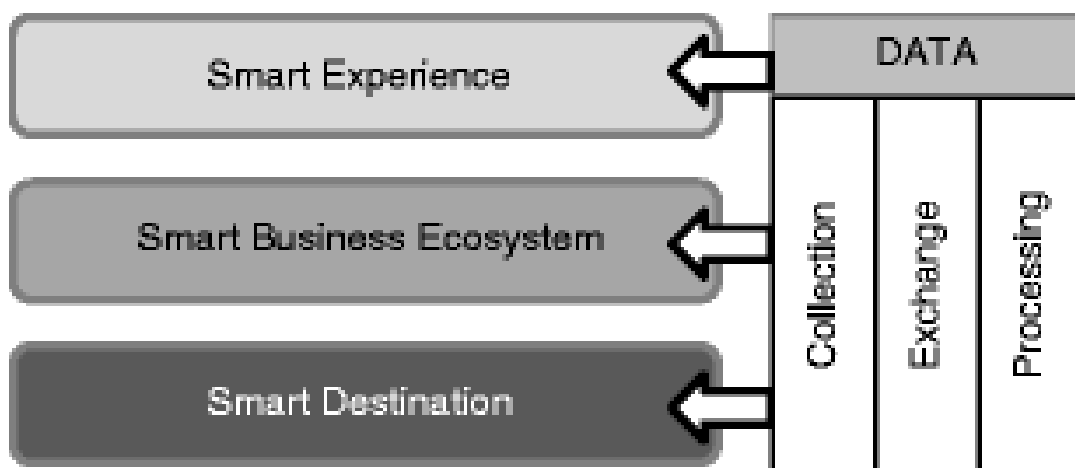
Figure 2.1: Components and layers of smart tourism (Source: Gretzel et al., 2015)

2.2.1 Smart Tourism Destination

In the smart tourism ecosystem, the major focus of research is a smart tourism destination (Jovicic, 2017). For a tourism destination to be regarded as smart, stakeholders should be automatically interconnecting, using technology and intelligent systems as a platform for tourism-related activities and instant information exchange (Neuhofer, Buhalis & Ladkin, 2015). The technology platform used in smart tourism destinations has several interfaces, enabling different end-users to use the system to share information in real-time dynamically that is used for the effectiveness and improvement of the tourism experience and destination resource management. Technology is used in all aspects of the tourism destination. A smart tourism destination aims to:

1. Include technology in all aspects of the destination environment.
2. Enable automatic and dynamic systems at both upper and lower levels in the destination.
3. Enabling end-to-end devices with several access points.
4. Integrate the technology platform to involve its use by different stakeholders.

To ultimately create an improved tourism experience, be a competitive destination, and be sustainable over a long time (Sun et al., 2016). In a smart tourism destination, three aspects of information technology are important.

Cloud computing which its purpose is to provide an easy way to store and access data without restricting a physical location through the internet. Cloud computing is useful for smart tourism destinations. It encourages the sharing of information, which is important for developing smart tourism destination projects, as this information is used through smart systems. For instance, cloud computing systems are used by tour guides.

All tourists use one central cloud computing source of data without installing the application on their smart devices (Wang et al., 2013).

Another aspect of information technology being used in smart tourism destinations is the internet of things (IoT). Internet of things provides control, analysis, and automation of information in a smart tourism destination (Chui et al. 2010). An instance of this is destinations install chips in entrance and transportation tickets that allow the service provider to know tourists' consumption behavior, location information and use this information to provide location-based and real-time advertising (Lin, 2011). Sensors are used at various tourism sites to control usage and manage many tourists at a time (Mingjun et al., 2012). In Dubai, one of their most popular service providers, Etisalat, provides near field communication that lets mobile phones access bus stations' location, time, and make payment (Khan et al., 2017).

Lastly, the third aspect of information technology being implemented in smart tourism destinations is internet service for end-user devices; this combines the internet of things and cloud computing to provide tourist applications. An example of such a system is implemented in Barcelona. There is an interactive hub in electrical buses that provides charging point locations for mobile phones, maps that can be accessed on different users' devices, and location information about the tour can be provided.

2.2.1.1 Dubai as a Smart Tourism Destination

Dubai is a city located in the United Arab Emirates (UAE). It is one of the major and fastest developing cities in North Africa and the Middle East, concerning economic development and growth in the regions. These developments in Dubai highly influence different city sectors, technology, transportation, healthcare, education, and tourism (Kaur & Maheshwari, 2016).

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The significant development, infrastructure, and growth that Dubai has experienced in the past few decades have transformed the city from a desert to an urban metropolis, making it a benchmark and a standard for the economies of both developed and developing countries all over the world (Khan et al., 2017). Dubai has experienced rapid and steady growth in its Travel and Tourism industry. The number of tourists reported that visited Dubai reaching 14.87 million in 2016, making Dubai rank 4th in the number of international tourist visitors (Statista and Maeda, 2017). Dubai also ranked first in the number of international tourists spending in 2017 with 28.5 billion dollars spent by overnight visitors (McCarthy, 2017); that is not surprising as Dubai mall is one of the world's most famous and largest malls. In 2018 Dubai tourism reached a new high of 15,92 million international overnight tourists' (Wam, 2019). In 2019 Dubai attracted 16.73 million tourists, which is a 5.09% increase from 2018. Dubai has continuously maintained increasing tourist visitors until 2020; they had 5.5million tourists visiting because of the coronavirus pandemic (Dubai-online, 2021).

The strategic importance of the tourism industry is acknowledged by the government and other stakeholders in Dubai, and this importance attached to tourism has contributed to the economy, and also the boost of tourists in Dubai with estimation and projection for the number of Dubai international tourists reaching 20 million by the year 2020 (Wam, 2019). Dubai continues to allocate resources and implement the latest technologies towards its smart tourism. Dubai's smart city initiative and vision have been the foundation for building a "city of the future" using smart technologies. Smart tourism, a subset of smart city, is a medium that Dubai has used and continues to use to accomplish its tourism development and goals, aligning with the smart city initiative (Lee, Hunter & Chung, 2020). The smart technologies implemented by Dubai range from e-gate services at airports, mobile parking, online license renewal, using

palm tree hubs to serve as Wi-Fi hotspots at several locations, e-ticketing, e-permit, there is also location-based advertising (LBA) where adverts can be sent to your mobile phone based on your location (Lin et al., 2016). The smart city concept gives rise to smart tourism, which uses the internet of things, cloud computing, and artificial intelligence all through the city to create positive experiences and serve the objectives and goals of major stakeholders.

2.3 Smart Tourism Technologies (STTs)

Smart tourism destinations integrate different technologies as part of their resources and these technologies are used to gain the competitive advantage they serve as a marketing resource (Buhalis & Foerste, 2015). Smart tourism technologies generally aim to provide both broad and specific applications that can generate revenue, provide value (Femenia-Serra et al., 2019; Gretzel, Werthnner, Koo & Lamsfus, 2015a; Um & Chung, 2019), and improve the touristic experience (Nuehofer, Buhalis & Ladkin, 2015; Tussyadiah et al., 2018). The core element of smart tourism and smart tourism technology is the integration of physical infrastructure with information communication technology. These integrations of tourism and technology have generated interest in research and academicians towards smart tourism. As a result, the tourists are now requiring smart integration. Tourists will choose destinations that provide more technology infrastructure channeled towards their personalized needs. For example, having internet connectivity and Wi-Fi in different public places (Ghaderi, Hatamifar & Ghahramani 2019; Kelly & Lawlor, 2019; Li, Hu, Huang & Duan, 2017). Technology has been integrating with tourism and as technology evolves the integration with tourism evolves. Studies and research are always trying to comprehend, and define these changes and developments (Koo et al., 2015). Initially, there was the phase of website integration with tourism research (Chung, Han, Joun,

2015). Online travel agency includes online sharing of information, reservations, and the connecting of demand to supply in the tourism domain (Huang et al., 2017). Websites integration with tourism was categorized by No and Kim (2015) into four categories of online information sources personal travel blogs to promote word of mouth, social network website, public website this is usually the official website of the tourism destination and company-specific websites which can be hotel, restaurant, or tour guide website. The difference in the way technology has been integrating with tourism and the way it is integrating with smart tourism is in the amount of big data generated. Initially, the data gotten from websites are not as private and users feel they have more control over their information. Compared to smart tourism where the technology is integrated into almost every infrastructure collecting more personal information about the tourists and their whereabouts (Gretzel et al., 2015a; Um & Chung, 2021). The technologies that distinguish a smart tourism destination include Internet of things (IoT), Cloud computing, Artificial intelligence, Virtual and augmented reality, Mobile technology, and location-based services are the core technology supporting smart tourism (Wang et al., 2020). This study focuses on the mobile application and location-based services of smart tourism.

Smart tourism technologies are multidimensional constructs, and to measure the influence of smart technologies in tourism destinations, research scholars have categorized them into four unique dimensions' accessibility, informativeness, interactivity, and personalization (Huang et al., 2017; Jeong & Shin, 2020; Lee et al., 2018; No & Kim, 2015). Additionally, Jeong and Shin (2020) examined security and privacy in smart tourism destinations as an effective construct in the smart technology dimension. The security of the digital information sharing transaction and the

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protection of tourist's privacy is important in the smart tourism destination (No & Kim, 2015).

The first attribute is accessibility. Accessibility in smart tourism technology is an individual's ease of use and ease of access to the technology provided in the destination (Jeong & Shin, 2020). Tourists want information accessible and reachable to them to enhance and improve their touristic and travel experience (Huang et al., 2017). Additionally, accessibility can also be in the form of having internet access to the destination (Dominguez Vila, Alen Gonzalez & Darcy, 2019). Accessibility influences the behavioral intention of the tourist (Shafiee & Es-Haghi, 2017) and their satisfaction with the destination (Tussyadiah & Fesennmaier, 2009). Accessibility also supports the value co-creation of experiences popular in smart tourism destinations (Buhalis, 2019; Buhalis & Foerste, 2015).

The second construct informativeness is the accuracy, quality, and trustworthiness of the information shared to tourists using the STTs available in a tourism destination (Lee et al., 2018; No & Kim, 2015). Using smart technologies virtual and augmented reality, tourists will receive different types of information regarding their activities and visits (Jeong & Shin, 2019). Tourism is a service industry and is intangible in nature this makes the accuracy and quality of information very important factors that influence the tourists' experience in the destination (Jeong & Shin, 2019). Moreover, Pavlov, Melville, and Plice. (2008) referred to informativeness as the extent to which travel and destination websites provide the information necessary, helpful, and resourceful to the tourists. This would in general improve the tourist experience and perception. Chung and Koo (2015) referred to trustworthiness as a major factor tourists consider when using social media for information search.

The third construct interactivity is the mutual communication among individuals and stakeholders using smart tourism technology (Jeong & Shin, 2019). When users participate in the value creation in a smart destination, it promotes relevant information sharing and the needs of the tourist can be met (Yoo, Kim & Sanders., 2015). The bilateral interactivity in STTs improves travel experiences (Gretzel et al., 2105b), and promotes the use of dynamic tourist data to aid destination marketers in promoting personalized and relevant services.

Fourthly, Personalization is one of the core selling points of the smart tourism destination it is the potential of tourists to obtain specific information about their travel needs to be tailored specifically for them (Huang et al., 2017). Personalization helps tourist maximize their travel experience and improves their approval of smart tourism destinations (No & Kim, 2015). Buhalis and Amaranggana (2015) described personalization as the process of collecting tourist information and preference and providing relevant proposals that are suitable to their needs and requirements using their individual information. For example, in a smart destination, traffic routing applications can use the tourist mobile application location-based service to efficiently map their route and suggest less congested areas and reduce driving time and stress (Jeong & Shin, 2019).

2.4 Trust Concept

Trust in general can be perceived as the perception, belief, and attitude towards another party (Taylor et. al, 2009). Trust is a broad and multifaceted concept (Mayer et al., 1995). Although trust exists in different ways, according to McKnight et al. (2002) there are three main factors of trust; ability the ability to depend on and have confidence in an exchange partner (Moorman et. al, 1993, p. 135), integrity; the belief

in an exchange partner's credibility, integrity and reliability (Doney & Cannon, 1997) and benevolence which also includes confidence in the quality of the services provided (Garnarino & Johnson, 1999).

In the tourism and hospitality industry where service is the predominant product that is being delivered, there is a need for the consumers to have trust in the service provided. Because of the multifaceted concept of trust, in the domain of tourism and hospitality trust has been studied by several researchers in different sectors (Cohen, Pravag & Moital, 2014). The transportation and airline (Forgas, Moliner, Sánchez, & Palau, 2010), the travel agencies (Wu & Chang, 2006), the restaurant industry (Oh, 2002), the hotel and accommodation (Ert, Aliza & Nathan, 2016; Lovell, 2009), and tourism destination (Abubakar, 2016; Artigas et al., 2017). The focus of trust in the hospitality sector has to be towards the suppliers of tourism (Álvarez, Casielles, & Martín, 2009).

This study investigates trust from two perspectives. The tourist trust in the destination which is a tourism product (Pop et al., 2021), and tourists trust in the technology location-based service provider.

Trust has been studied to be a useful concept for adapting to different types of technology-mediated exchange among people (Park, 2020). In this study LBS (Location-based service) provider trust is defined as the tourist's cognitive belief about the integrity, ability, and benevolence of the service provider using McKnight et al. 's (2002) definition. Mobile devices are portable, and tourists carry them everywhere they go which makes the activities of the users traceable and allows the service providers to collect personal information about the location and preference of the

users. (Chen, Zhang & Lee, 2013). The geographic location of mobile application users is requested by service providers to provide personalization in a smart tourism destination (Zhang, Chen & Lee, 2013). Ozturk et al. (2017) study emphasize that in Mobile hotel booking service provider trust is important to reduce perceived risk and build loyalty. When Users trust mobile application service providers, there are fewer chances of them expecting a negative impact of dealing with the service provider (Okazaki, Li & Hirose, 2009). Mobile application users are cooperative when they trust the service provider, and this results in positive behavioral intention and loyalty (Hong & Cho, 2011). Moreover, consumers tend to be very cooperative with trustworthy service providers by demonstrating behavioral evidence of their loyalty (Hong and Cho 2011; Kim, Chung, Lee, 2011).

2.4.1 Destination Trust

Artigas, et al. (2017) investigated destination trust and concluded that if a destination does not have trust from its tourist, even if the touristic experience is beautiful without trust it is useless. Abubakar et. al. (2016) defined destination trust with respect to a medical tourism destination as the ability for the destination to provide its advertised functions. This can also be applied to a smart tourism destination, few articles and published studies have focused on tourist's trust in tourism destinations (Artigas, et. al, 2017). The tourists having trust for the destination is a very important issue in the hospitality and tourism industry, it is more emphasized as trust is an antecedent of loyalty and satisfaction of consumers (Kim et al., 2011; Orth & Green, 2009), in tourism destinations specifically. Wang et al. (2014) considered trust in a tourism destination as having several dimensions. Destination trust is a "meso concept" that acts between individuals and also between institutions and individuals (Rousseau, Sitkin, Burt, & Camerer, 1998). With smart tourism destinations requiring the

involvement of the tourists in a touristic destination, the tourists' experience with the several services and products provided by the destination is important in strengthening and creating trust between the tourists and the tourism destination (Crotts, Coppage, & Andibo, 2001; Hyun, 2009; Kim et. al, 2009; Wu & Chang, 2006).

2.5 Privacy Concern

One of the distinct features of the smart destination is the ability to offer experiences made especially towards tourist preference. This is possible because of the access to big data, information mining, and the exploitation of tourist data to facilitate the creation of patterns and predictions for improved services (Buhalis & Amaranggana, 2015). Almost all personalization in the smart experience requires accessing tourist's personal information to gain insights into each tourist-specific preference. Data collected can range from basic information (like nationality, gender, and age, etc.), to more personal and specific information (e.g., real-time location, personal shopping preference, social media activities, email, phone number, etc.) (Buhalis & Foerste, 2015). This information availability to service providers creates tourist's security and privacy concerns in the smart tourism destination (González-Reverté, Díaz-Luque, Gomis-López, & Morales-Pérez, 2018).

Privacy concern refers to how a user is concerned about the disclosure and accessibility of their personal information. The concern can be that they do not trust the service providers to access, use, and store their personal information correctly (Zhou & Li, 2014). With the development of technology, big data, and cloud computing information privacy concern is a big issue that cannot be ignored. Users are now worried about the collection and use of their personal data, according to Kokolakis (2017), and therefore have a high degree of privacy concern.

According to Smith, Milberg, and Burke (1996), there are five dimensions regarding the handling of personal privacy by organizations:

1. A comprehensive collection of identifiable data;

2. Service providers unauthorized use of secondary data;

3. Third-party unauthorized use of secondary data;

4. Unauthorized access;

5. Deliberate and unintentional data management errors.

Different research studies have repeatedly referred to privacy concerns as a multifaceted construct. Mobile device makes data about the user and also their location information available faster for the service provider to access, it is also easier to track users and their activities as the user carries the device with them everywhere (Chen, Huang, Gao & Petrick. 2018). The invention of mobile smartphones with a built global positioning system (GPS) has created an opportunity for unique personalized experiences for users through different location-based services applications (Yun, Han, & Lee, 2013).

Despite the immense application prospects introduced by location-based services for improving protection, convenience, and usefulness in everyday lives as well as during vacations, LBS also raises a slew of privacy concerns due to its ability to capture, store, use, and reveal users' exact location (Beinnat, 2001). While some users can see significant benefits from using LBS, if privacy issues are too great, they may prefer not to use it (Junglas & Spitzmuller, 2006). Privacy concern is a technology issue but for location-based services, privacy concern is much higher as most users are most susceptible of their location for security and safety (Junglas & Spitzmuller, 2005). This makes the privacy concern in mobile application location-based services more unique.

The ability of service providers to know the exact location of users increases information privacy concerns (Zhang et al. 2013). Tourists would be more concerned about the use of their information during a trip as they do not know the service providers

2.6 Perceived Risk

When consumers are exposed to unwanted and ambiguous situations because of something they bought, they perceive risk (Bauer, 1967). In the electronic shopping domain, perceived risk is defined as customers concluding that ambiguous and unwanted outcomes would proceed with their transaction on the internet (Kim et.al, 2008). In general, the existence of risk is linked to a lack of information about a phenomenon, resulting in a sense of doubt and uncertainty about the potential effects of taking a particular action (Williams & Balaz, 2013).

In the study of tourists' holiday decision-making, there is consensus that perceived risk will lead tourists to change their minds on where they want to spend their vacation (González-Reverté et al., 2018). Perceived risk is different for each tourist (Kahneman & Tversky, 2013). The different understanding and perception of risk by tourists are explained by the different factors of risk which are; Motivational (Lepp & Gibson, 2008), cultural (Reisinger & Mavondo, 2006), socio-demographic (Dowling & Staelin, 1994; Gibson & Yiannakis, 2002), organizational (Roehl & Fesennmaier, 1992), and psychosocial factors (Carr, 2001; Pizam et al., 2004). Other considerations, such as the context in which the tourism process is established and how it varies from everyday life, should be addressed in addition to the previously considered factors when assessing the risk associated with the use of smartphones in tourism (Kaasinen, 2003). Awareness of the destination and experience with the service provider, as well as skills

in technology and travel are factors that influence risk in tourism (Anuar & Gretzel, 2011).

While perceived risk is a broad construct that affects different domains, perceived risks are of different types with characteristics that are influenced by different factors, perceived risk with the usage of smartphones affects tourist behavior differently (González-Reverté et al., 2018). Gretzel (2011) identified different types of risks linked to tourists and their use of smartphones. The ability of the smartphone's inbuilt GPS to track tourists' location and their personal information (Minch, 2004) raises ethical concerns and unconscious risk (Turkle, 2017). "*Privacy risk refers to the intrusion, collection and storage of tourists' personal data and their unauthorized use by others*" (Smith et al., 1996). This study focuses on the perceived risk of mobile application location-based services of tourists in a smart tourism destination. Users have been known to have a high level of risk perceptions when they are exposed to completing their activities with new technology, like smart devices, the internet of things, or embedded systems (Kim & Qu, 2014; Lee, Ha, Oh, Park, 2018; Ozturk 2016).

2.7 Perceived Ability to Control Information

Perceived ability to control one's personal information access and usage from online and technology platforms is defined as the power of users to decide what information about them they allow to be used, or not used (Spiekermann, 2007; Taylor et. al, 2009).

When users have the right to control their personal information, it mitigates the risk of negative privacy outcomes (Dinev & Hart, 2004). Westin (1967) defined privacy as the right of the users to disclose personal information. Thus, the freedom to withhold

personal information from being revealed is a condition of privacy. When technology is being implemented and the user cannot control their personal information when and how it is utilized it is a breach of privacy and an impediment of the technology acceptance (Dinev & Hart, 2004).

According to the description provided by Margulis (1977), privacy entails the "control of transactions," which would include information sharing. Control allows individual's power over the perceptions people have of them (Goffman, 1963).

Individuals consider sharing their personal information to be less intrusive to their privacy when they feel, among other factors, that they would be able to control how the information is handled in the future and that the information will be used to make factual conclusions regarding them (Culnan & Armstrong, 1999). When users do not have control over how their information is used, they are not trusting, and do not want to disclose their information.

Limiting self-disclosure (Derlega & Chaikin 1977) or deciding how information revealed can be used (Stone and Stone 1990) are two ways consumers exert control. Concerning privacy in mobile location-based services, users' being able to turn on their location choose when an advert is sent to their phones decide if they want or not to allow service providers access their information is control.

2.8 Behavioral Intention

Behavioral intention is popular in the tourism research field. Several research has shown that it is possible to predict the behavior of tourists (Alegre & Garau, 2010). Behavior can be classified into three categories, pre-visit, during the visit, and post-visit behavior (Kozak & Decrop, 2009). Behavioral intention is an individual's planned

future behavior (Oliver & Swan 1989). It is the study of a specific behavior a person shows depending on the situation and setting and the possibility that they would act in a certain type of way (Fishbein & Ajzen, 1975). The behavioral intention in this study is the willingness of the previous tourist to visit the same tourism destination again (Luo & Hsieh (2013), that is their Revisit intention, and the willingness of the tourists to recommend the destination to other people (Wang et al., 2015).

In the study of destination trust, revisit intention to the destination, and positive recommendation is an important behavioral consequence (Poon & Koay, 2021; Su, Hsu, Swanson., 2017). One of the factors that encourages a rise in the economic development of a tourism destination is the promise of having revisits tourists. Revisit intention is a broadly acknowledged economic phenomenon in the tourism industry. Destinations always hope to have the tourist's revisit. With the rise in global competition, destinations do not achieve enough success in attracting first-time visitors. But with tourist's revisiting and also passing positive word of mouth to other potential visitors, they can achieve a competitive advantage (Ghafari, Rezaei Dolatabadi & Dehgghani, 2014). Promoting revisit intention is desirable among tourism destination marketers for different reasons. The marketing cost of promoting the destination to the first-time tourist is much more than the marketing cost of having to revisit tourists. A tourist revisiting a destination is a positive review that shows they have a positive attitude and feelings towards the destination and are even more likely to come back with other people and recommend (Alegre & Juaneda, 2006). When tourists are satisfied with a destination, this leads to their revisit and when they recommend to others, they are inclined to believe them as previous visitors are the most reliable source of information about a destination (Guntoro & Hui, 2013; Liu & Lee, 2016).

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Heydari, Sanayei, and Ansari (2019) study found that revisit intention impacts recommend intention, and word of mouth (Soleimani & Einolahzadeh, 2018). When a tourist trusts a destination, they would be inclined to revisit and recommend others. Because of its importance, researchers have always investigated factors that contribute to promoting revisit intention in different domains of tourism. In other to grow economically, smart tourism destinations need to consider the different factors that can influence the positive behavioral intention of tourists.

2.9 Previous Privacy Violation Experience (PPVE)

Experience is witnessing a specific occurrence that leaves a more or less permanent memory that can be recovered at a later time. Individuals create, perceive, and view their environment using their experiences as an information resource (Masur & Trepte, 2021).

Individuals use their prior experiences to evaluate familiar or novel events within different contexts. As a result, a painful or negative personal experience would serve as a motivator for avoidance or defensive behavior (Janoff-Bulman & Schwartzberg, 1991).

Weinstein (1989, p. 47) suggested two possible theories for such effects: First, people judge the experience of hazards, emergencies, or other potentially dangerous situations to be more likely following previous encounters with them because they see themselves as potential possible casualties. As a result, there is a greater emphasis on prevention. Second, personal experiences allow people to learn about the threats they face more often and clearly, improving their chances of engaging in preventative and defensive activities.

Unwanted access during an online conversation between an individual Internet user and other users or entities is described as a privacy violation. What constitutes a privacy infringement for a particular person is highly dependent on the circumstance and context (Masur, 2018; Nissenbaum, 2009).

Different researchers have argued that the acceptance of new technology and individuals' belief towards privacy is governed by the users' own personal characteristics, and also the individuals' experience (Xu, 2007). People interpret privacy differently when it comes to information technology (Choi & Bazarova, 2015). The inter-network capability of technology and the internet complicates the boundary of privacy management. Privacy violation can be caused by several ways such as:

1. Intentional violations of previously defined laws (e.g., exchanging information with others outside the boundary)

2. inaccurate understanding of privacy rules (e.g., incorrect conclusions on who is allowed to possess the information)

3. the introduction of ambiguous boundaries (e.g., by imprecise rule communication),

4. disparate rule orientations (due to different socialization processes),

5. and privacy dilemma (Petronio, 2002).

The previous study has shown that boundary turbulences such as stalking or abuse by others, circulating damaging rumors, and the unintentional disclosure of personal information have all been linked to privacy violations (Chen & Atkin, 2020; Trepte, Dienlin & Reinecke, 2014.).

2.10 Use Context

Van de Wijngaret and Bouwman (2009, p. 86) defined use context as "*the very concrete environment in which a technology is going to be used*". The environment can be the place, the type of application, or the technology device (Dey, 2001; Lee, Kim & Kim, 2005). In mobile computing and the smart technology environment, the importance of the "user" is emphasized to the point that, when users use a service, system, or device, all contextual data and factors that may exert control over the user of the service, system, or device directly or indirectly are considered significant. (Lee et al., 2005).

Use context refers to the contextual knowledge concerning an individual's technology usage that can help describe the individual's behavior with respect to the situation in the technology is used (Lee et al., 2005). Additionally, internet accessibility, cost of access, social conditions, location, time, and beliefs are contextual factors that can influence an individuals' attitude (Schilit, Adams & Want, 1994).

Use context is a construct introduced in the domain of mobile technology use and acceptance, as the context of use of a mobile technology application influences the feelings of the user (Kim, Chung, Lee & Preis, 2015). With the continuous use of mobile smartphones in which users carry with them everywhere, mobile technology is exposed to different social and use contexts which influences the user's behavior (Liu & Li, 2011). Users are more likely to use a mobile application depending on where they are using the technology (Van der Heijden, Ogertschnig, Gast, & van der Gaast, 2005).

Use context is an important factor in determining user's acceptance of mobile technology, use context has not been studied extensively empirically (Kim et al., 2019). In the domain of computer science, research continues to study the contextual problems of using mobile applications (Kim et al., 2019) Technology and social conditions are factors that affect user's acceptance of mobile technology. Where it is socially acceptable and convenient.

The use of mobile technology is exposed to shifting use contexts and use context has frequently been described as an important factor influencing the adoption of mobile innovations (Liu & Li, 2011). Initially, Liu and Li (2011) proposed three categories of context:

1. Where is the user located when using the technology?
2. Whom the users are with when using the technology
3. What resources are available to aid the use of the technology.

Kim et al. (2019) carried out more recent and comprehensive research on user context and its measurement constructs. Based on previous studies, four main categories of use context were proposed. See Figure 2.2.
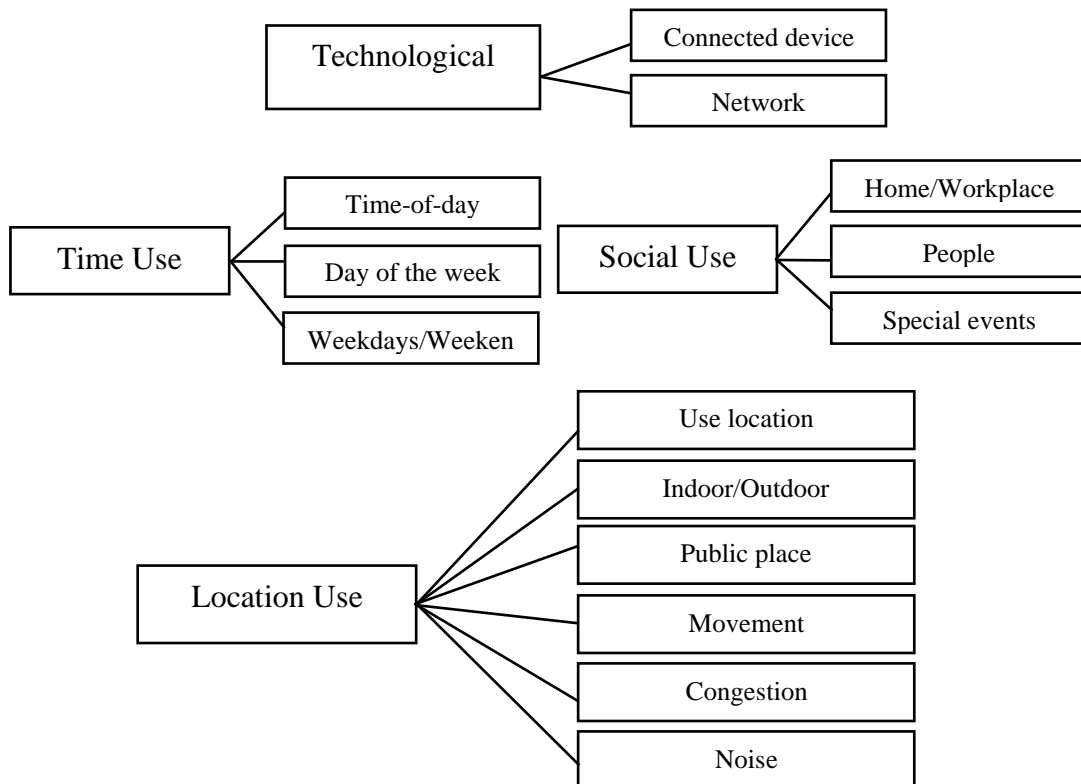
Figure 2.2: Four categories of use context of digital services (Source Kim et al., 2019)

2.10.1 Time and Location Use Context

Time and location are important factors that determine the use and acceptance of mobile technology and the internet (Balasubraman, Peterson & Jarvenpaa, 2002; Hong, Chan, Thong & Dhillon, 2014). The location that technology is been used greatly impacts human behavior and attitude towards the technology (Balasubraman et al., 2002; Germain & Bloom, 1999). Individuals' emotions and attitudes are influenced by where they reside, work, and visit, as well as the geographical position they are in at any given time and the type of social space they participate in (Balasubraman et al., 2002; Germain & Bloom, 1999). An example of location dynamics is people living in cities having better access to technological infrastructure and education, compared to people who live in rural areas. These different location dynamics create different opportunities for social participation with technology.

Additionally, people use information technology based on their location. When working in an organization, a person must use workstation technology such as a desktop computer or tablet that is specifically built for a specific task. Sharp (1981) highlighted the importance of time, stating that "*since the scarce resource of time must be spent, a basic problem of human existence is to spend it well, to use it to bring in the greatest return of happiness that can be achieved*" (p. 2). As a result, it seems almost natural to conclude that location preferences and time allocation decisions for daily life are vital components of one's satisfaction and well-being as a member of society (Kim et al., 2019).

Perceived time use contexts are characterized as a user's perceptions of time-related situational factors that can motivate the individual when using a computer, system, or service (Kim et al., 2019). Perceived location use context is an individual's cognizance of location-related contextual characteristics that may motivate them when utilizing a technology system. For example, when tourists are on vacation, they are more relaxed and when they visit smart tourism destinations that provide technologies for personalization and comfort, they are more likely to use the technology because it is available everywhere in the destination.

2.10.2 Social Use Context

(Junglas, Goel, Abraham & Ives, 2013) referred to social as "a characteristic that describes experiences, behaviors, or interactions of individuals forming groups". According to the popular and renowned philosopher Aristotle "*Man is by nature a social animal; an individual who is unsocial naturally and not accidentally is either beneath our notice or more than human*". Humans by nature are social and they cannot exist without communication and engagement with one another which creates society. Furthermore, societies and civilizations keep changing because of social activities and

interactions. The field of information systems was built on the belief that information systems are a socio-technical framework that refers to the interdependence of humans and systems.

Depending on the service provider or user, as well as the organization or environment, these systems may work well. As a result, when using technology, the social background of users is important (Junglas et al., 2013). Perceived social use context is defined as the user's opinions of socially influenced contextual factors, such as the place and the possibility of relating socially with other individuals (Kim et al., 2019). Social context represents the factors that would encourage human interactions with each other (Junglas et al., 2013).

A particular context can elicit a wide range of emotions and feelings in users, as well as promote a variety of different behaviors in response to the same object. For example, in mobile gaming, a user can perceive gaming as a useful tool for relaxation when at home with friends and family, on the other hand, the game can be a form of distraction and unethical behavior when they play the same game at the workplace.

In smart tourism, destinations users are more likely to use the technology provided because it is socially acceptable, and seeing other people use the same technology can influence their personal beliefs and attitude towards said technology. Tourists would use technology more during their vacation as they would have more time, they would like to update and communicate with their friends and family (Porter & Heppelmann, 2014; White & White, 2007).

2.10.3 Technology Use Context

Not everybody with secure access to computers or smartphones can use the Internet or digital services regularly and from any place. The main factor for people's everyday media use and goals toward digital services is technology access or availability. Because of technical advancements and the technological model of information, the current "network society" is possible (Castells & Cardoso, 2006). In the research of the digital divide, availability, and access to technology have been broadly studied (Chang, Kim, Wong & Park, 2015; Chang, Wong & Park, 2016). Quality and access to technology have always been influential factors in motivating an individual's behavior, belief, and attitude towards technology (Chang et al., 2015; Chang et al., 2016; Wei, Teo, Chan & tan, 2011).

Technology use context refers to technological situations and settings (like the availability of 3G networks Wi-Fi connectivity and accessible digital devices) that a person finds available while attempting to use digital services. Users' opinions of influential technology-related contextual variables like connected digital devices and network access are referred to as perceived technology use contexts.

Tourists would use mobile application location-based services in a smart tourism destination even though they might not use it in their work or living life. With the availability of technology, some tourists can come from countries where their GPS is not accurate. Tourists might not use location-based services in their usual life because there is a benefit of knowing their way around, but while on vacation in a new destination they are more likely to find the need of using location-based services.

2.11 Theoretical Frameworks

2.11.1 Social Cognitive Theory (SCT)

The social cognitive theory suggests that mutual reciprocal interaction exists between behavior, environment, and personal factors (Bandura, 1989), represented by Figure 2.3. Bandura's initial theory was "social learning" and he later altered it to social cognitive theory. Bandura highlights the importance of cognition in people's abilities to create reality, self-regulate, encode knowledge, and influence behavior (Pajares, 2002). Learning, according to social cognition theory, happens through a variety of processes: symbolic, vicarious, and self-regulatory, all of which play a significant part in the influence of behaviors, and the acquisition of new information.

Symbolic: Symbolic activity underpins the ability to take deliberate action. People process and store experiences. People can conceptualize events and solve issues through symbolizing instead of enacting all of the possible answers.

Vicarious: 'Observing others gives one an understanding of how new behaviors are done, and this coded knowledge eventually acts as a guide for action' (Bandura, 1977). People can see behaviors and their effects by observing others. in social cognition theory when it comes to how individuals learn, enables future deliberate action.

Self-Regulatory: Self-regulatory abilities are a key component of learning, according to social cognitive theory. Individuals can reflect on and exert some control over their behavior by integrating environmental, societal, and personal influence.

Personal factors in SCT represent a person's goals, thoughts, attitude, intention, and self-perception (Bandura, 1986). These personal factors influence behavior and

behavior intention (Bandura, 1986; Benight & Bandura, 2004). There is an inter-relationship between personal factors and environment, personal factors and behavior.

Individuals' views of a certain behavior might influence how they act; it's also worth noting that behavior can vary depending on the situation. Personal factors are self-efficacy beliefs, understanding of goal, logical reasoning, and successful self-reactions to various situations (Bandura, 1999a).

With respect to the interaction between personal factors and environment, "People evoke different reactions from their social environment by their physical characteristics, such as their age, size, race, sex and physical attractiveness" (Bandura, 1999b). People with different social statuses and positions are also likely to exhibit a different response to the environment. Personal factors, for instance, may have an impact on the environment when people avoid tough situations in which they feel they will fail and seek out settings in which they believe they will succeed (Guan et al., 2013). Personal factors and environmental factors determine each other, the environment can modify people, and people can modify the environment.

Several studies have used the social cognitive theory to explain personal factors influence on behaviors, for instance, predictor variables in this study, privacy concern (Hoffmann, Lutz & Meckel, 2015), control (Lee, Park & Kim, 2013), and trust (Boateng et al., 2016) have been studied as personal believes that influence behavior.

SCT suggests that environmental factors influence both behavior and personal factors. The environment can influence a person's expectations and beliefs and the environment can be physical and social (Boateng et al., 2016). The environment factor

of the social cognitive theory has also been conceptualized to comprise both the virtual and real-world (Narayan, 2013).

The environment in which a person exists can influence their beliefs, expectations, and competencies (Dewan, Macdermid & Packham, 2013). Furthermore, people's experience in their environment can develop and change their beliefs, cognitive abilities, and behavior (Fertman & dan Allensworth, 2010). The processes of SCT are not mechanical in which people are just passive partaker. Individuals are not passive receivers of various stimuli in their environments. Mostly, they have the control to be free agents who actively seek out and analyze various information in order to take suitable behaviors (Bandura, 1997). This control can also be influenced by personal factors. Environmental factors include "socio-cultural contexts" in which behavior is shaped through reactions to environmental stimuli, constant learning, and observations.

This study employs this relationship with "use context" which is "the very concrete environment in which technology is going to be used" (Van de Wijngaert & Bouwman, 2009, p. 86) and the smart tourism destination which is a smart connected environment (Femenia-Serra et al., 2018).

Lastly, the social cognitive theory suggests that there is a relationship between behavior and environmental factors. The environment depends on people's behaviors and it, in turn, influences people's behavior. Behavior also influences personal factors, cognitive abilities, and self-perception. people would choose to participate in activities that they can be successful at (Bandura, 1989). Individuals create and select environments through their activities; behavior decides which of the numerous

potential environmental effects will be evaluated and what actions people will exhibit. for example, when a tourist has visited a destination, they have experienced the destination which can make them comfortable with it to revisit and recommend.

Different domains have used the social cognitive theory, as it is adaptive, and it considers the behavior of people (Kock, 2004). It has been used in the study for technology adoption (Rana & Dwivedi, 2015), tourism sustainability (Font, Garay & Jones, 2016), adoption of internet banking (Boateng et al., 2016). Social cognitive theory can explain current or future behavior under a different context (Ratten, 2015); it also integrates the theory of reasoned action, planned behavior, and theories of previous technology innovation (Ratten, 2010) which is why the social cognitive theory is suitable for this study. The technology acceptance model is not used in this study, as it does not consider changes in human behavior (Boateng et al., 2016). Considering the interrelationship between the three factors that makes up the social cognitive theory, this study uses this theory to build on the influence of personal (privacy concern, risk, control, previous violation, trust) and environmental factors (use context, smart tourism destination) to predict behavior factors (intention to revisit and recommend) in a smart tourism destination.

BEHAVIOR FACTOR

Motor responses

Verbal Responses

Social interactions

ENVIRONMENT FACTOR

Physical surroundings

Family and friends

Other social influences

PERSONAL FACTOR

Cognitive abilities

Physical characteristics

Beliefs and attitudes
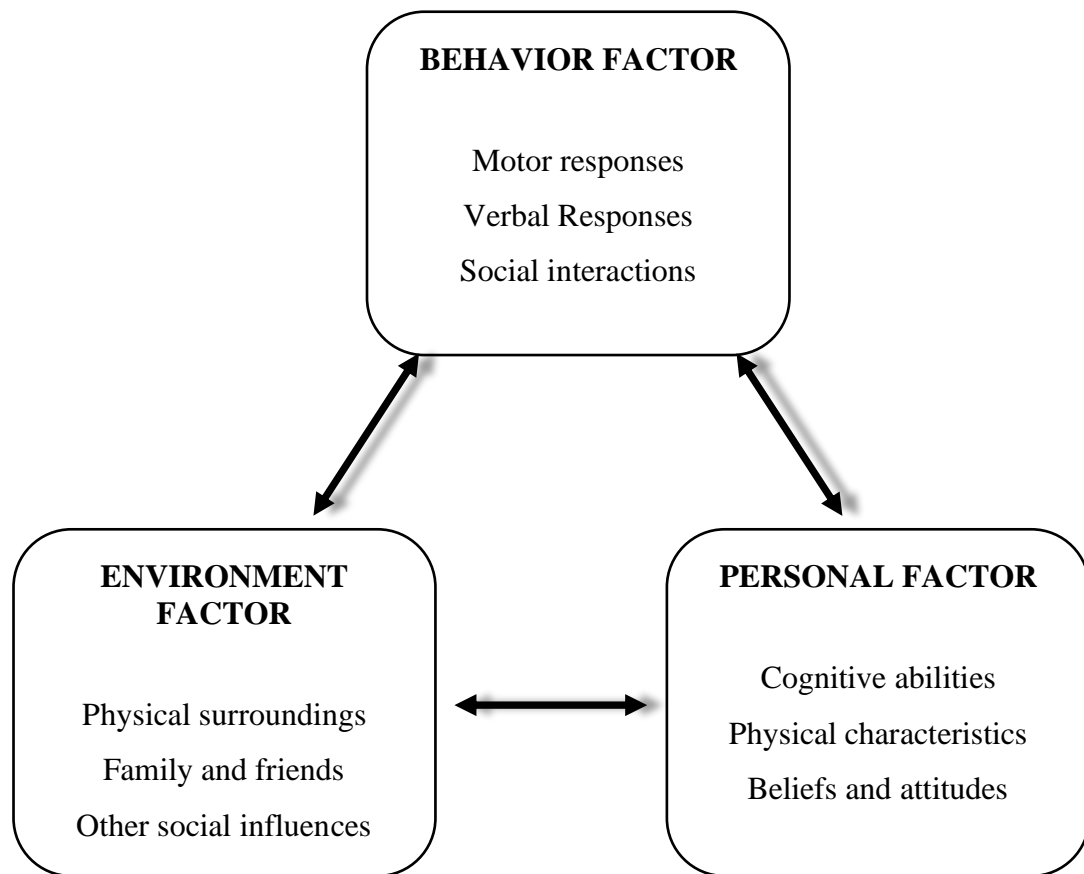
Figure 2.3: The model of triadic reciprocal causation in Social Cognitive Theory (Source Bandura, 2001)

2.11.2 Privacy Calculus Theory

In the study of the privacy paradox, the privacy calculus model is a popular theoretical model that has been widely studied towards user's information disclosure behavior (Ngai, Tao & Moon, 2015; Sun, Wang, Shen & Zhang, 2015). Privacy calculus theory argues that individuals' perceptions about the disclosure of their personal information are different based on the evaluation of the benefit they get for revealing their information and the risk they face based on their behavior of disclosure (Culnan & Bies, 2003; Dinev & Hart, 2006). Specifically, the privacy calculus theory is based on the "cost-benefit" tradeoff analysis which interprets that perceived risk is negatively related to information disclosure behavior, and on the other hand individuals will disclose their personal information in exchange for perceived benefit (Xu et al., 2011).

The privacy calculus paradigm is based on the Justice or equity theory which states that people strive to conduct behaviors that provide more benefits for the same cost, or behaviors that provide the same benefit at a less cost (Adams, 1963).

Because users tend to conceal their private information, extra motivators are needed to persuade them to relinquish their right to their information and provide it to service providers (Sun et al., 2015). Dinev et al. (2006) argued based on the justice theory that the benefits gotten from individual's behavior to disclose their personal information may mitigate their privacy concern and encourage them to provide access to their personal information. Awad and Krishnan (2006) stated that people assess a utility function like the below formula in deciding either or not to share personal information.

$$Utility = Benefit - Cost$$

The above formula shows the fundamental assumption of the privacy calculus theory. Service providers have access to big data of people's personal information, privacy concern has become more prominent. As a result, the usage of location-based services frequently requires users to engage in a continuous dynamic adjustment process in which privacy concerns are balanced against the advantages of information exposure, making the privacy calculus extremely important and relevant in location-based services context (Xu et al., 2009; Zhao, Lu & Gupta, 2012).

The privacy paradox has been widely studied using the privacy calculus theory towards mitigating the privacy concern of technology users. Different studies have modified the cost-benefit analysis of the privacy calculus theory to explain the willingness to disclose personal information in different contexts (Li, Wu, Gao & Shi, 2016) eCommerce (Awad & Krishnan, 2006; Xu et al., 2009), healthcare (Li et al., 2016), social network (Chiu et al., 2013; Zhao et al., 2012).

Based on the privacy calculus cost-benefit analysis, different studies explain enjoyment (Krasnova et al., 2010).), personalization (Ozturk et al., 2017; Zhao et al., 2012), Xu et al. (2009) examined information delivery mechanism as benefits, and Chen (2018) examined social capital as a benefit to moderate the negative influence of privacy concern. Using the privacy calculus theory, this study introduces the use of context as a benefit in the mitigating of privacy concerns in a smart tourism destination. For example, tourists would use location-based services if it would help them find spots of interest and help them find their way.

Furthermore, previous privacy violations as a risk to information privacy disclosure (Bansal & Gefen, 2010). Mosteller and Poddar (2017) found previous privacy violation experiences to be negatively related to privacy concerns and user's willingness to disclose their personal information. Based on the privacy calculus theory, social awareness and having an understanding of privacy risk makes individuals not interested in disclosing their personal information (Hoffman, Lutz & Rannzini, 2016). Previous privacy violation experience of an individual makes them aware of the risk of disclosing their personal information. Therefore, In the risk-benefit analysis of the privacy calculus theory, this study uses previous privacy violation experiences as a risk.

Several academicians call on the utilization of the privacy calculus theory as the theoretical foundation anytime involvement in the commercial or technological ecosystem is associated with any level of privacy risk (Krasnova et al., 2012). The privacy calculus theory is an important framework in addressing mitigation and hindrance of privacy concerns with personal information disclosure (Li, 2012). This study uses the privacy calculus theory as the second theoretical framework.

2.12 Hypotheses Development

2.12.1 Privacy Concern, Destination Trust, and LBS Provider Trust

Privacy concern deals with how a user is concerned about the disclosure and accessibility of their personal information (Ooi, Hew & Lin, 2018). The concern can be that they do not trust the service providers to access, use, and store their personal information correctly (Zhou & Li, 2014). Privacy concern has been studied against its effect on users' online behavior in the settings of electronic commerce. The user privacy concern has been acknowledged as one of the main hindrances and concerns of online consumers, which restrict their online activities (Featherman et al., 2010; McCole, Ramsey & Williams, 2010; Wu et al., 2012).

Privacy concerns as been studied to negatively influence affective trust on airlines brand (Ngelambong et al., 2018). Furthermore, the privacy concern has been regarded as a major issue for the domain of mobile commerce, which comes with distinct privacy concerns of its own (Chen et al., 2013; Kim, 2016; Zhang et al., 2013).

 Mobile devices make data about the user and also their location information available faster for the service provider to access, it is also easier to track users and their activities as the user carries the device with them everywhere (Chen et al., 2013). This makes the privacy concern in mobile application location-based services unique. Ozturk et al., (2017) studied users' privacy concerns of mobile hotel booking and found it negatively related to trust in the service provider, and found it negatively related to the user's loyalty to the brand. The privacy concerns negatively influence people's trust in disclosing their personal information (Bansal et al., 2015). Therefore, we hypothesize that:

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Hypothesis (H)1: Privacy concern is negatively related to (a) trust in a smart tourism destination, (b) trust in location-based service (LBS) provider.

2.12.2 Perceived Risk, Destination Trust, and LBS Provider Trust

Perceived privacy risk has been studied to be negatively related to intention to provide a service provider information that is personal when using location-based services (Xu & Gupta, 2009). Service providers exposing personal information to other entities without asking them is the fear of users and this would make them not want to use location-based services (Zhou, 2012).

Trust is an important factor when it comes to consumers' perceived risk (Grabner-Kräuter & Faullant, 2008). This is because trust minimizes the complication in a situation where people have to adapt to uncertain situations. Research has shown that privacy risk is negatively related to the consumers' shopping behavior online, and negatively related to consumer loyalty (Bhatnagar & Ghose, 2004; Chiu et al., 2014). When consumers perceive risk, they are not going to be loyal to a service provider (Ozturk, 2017). Furthermore, customers' intention to repurchase was found to be negatively related to the perceived risk of the customer (Chiu et al., 2014). Additionally, perceived risk is influential in predicting a tourist's behavior, in that when a risk is perceived the experience would be avoided by the tourist (Choi, Law & Heo, 2016; Lim, 2003).

Ozturk (2017) also reports that in the mobile hotel booking context, privacy risk would also negatively influence trust and privacy concerns. Previous experience and awareness of a destination, trust in the service provider, and knowledge of technology are factors that are associated with risk in tourism (Anuar & Gretzel, 2011). When

there is perceived risk, this leads to change in the tourist behavior (González-Reverté et al., 2018). Based on previous studies and discussions, we hypothesize that.

H2: Perceived privacy risk is negatively related to (a) trust in a smart tourism destination, (b) trust in LBS providers.

2.12.3 Information Control, Destination Trust, and LBS Provider Trust

Stability in an imbalanced relationship can be improved when the more powerful entity gives up some control to the less powerful entity in the relationship (Palmatier, Stern, & El-Ansary 2015, p.308) this supports the study by Mosteller and Poddar (2017) which posits that when consumers believe they have control over how their personal information is shared, then they believe the relationship is equitable, and this can help foster trust.

Taylor et.al (2009) studied information control as a moderator between privacy concerns and behavioral intentions and found that secondary control of information can make consumers revisit an online website but did not find control of information a significant moderator between privacy concern and trust. Secondary control of information for online consumers on their personal data has also been found to be positively related to trust in social media websites, and negatively related to consumer's privacy concerns (Mosteller & Poddar, 2017).

Perceived control of information has also been found to be negatively related to perceived risk (Hajli & Lin 2016; Wang et al., 2016) and positively related to intention to share information online (Hajli & Lin 2016). When users have control how their information is used in the smart tourism destinations, they have the capability to choose to or not to use a location-based service in the destination and turn off the

mobile application location information they would be more trusting This study argues that secondary control of tourist's personal information is a positive factor of privacy and can influence tourists to trust in the destination and the service provider.

H3: Perceived ability to control information is positively related to (a) trust in a smart tourism destination, (b) trust in LBS provider.

2.12.4 Moderating Role of Use Context

The privacy concern and the approach or perception towards privacy by online users are determined contextually (Palen & Dourish, 2003; Nissenbaum, 2009). Depending on the context of the data that is being used; this influences the privacy concern of the user. For example, if location information is being collected by travel agents or tour agents' websites, the privacy concern would be less than if location information is being requested by a fitness application. The tour operators and travel agents need this information, and the fitness application does not necessarily need user location that makes the privacy concern different even if it is the same data being requested from the user. Gambino et al. (2016) studied the security and privacy behaviors of different online focus groups and the results showed that the rationale behind the decision-making of users online is extended beyond the traditional cost and benefit analysis but governed by a different context. Also, Behavioral theory suggests that context affects user attitude and therefore influences acceptance of technology (Mallat, et al., 2009). Context has also been suggested as a determinant of consumer's value of mobile internet adoption (Yang et. al, 2012). Previous studies have also found that use context has a mediating effect on the formation of attitude and behavior intention of using particular information technology (Dabholkar & Bagozzi, 2002; Mallat et al., 2009; Yang et al., 2012). Use context is found to have a fully mediating role between timesaving and satisfaction as well as between mobility and satisfaction (Myung Ja

Kim, 2013). Furthermore, studies should start to identify the contexts of both the benefits of use and in learning to use mobile technology (Mallat, et al., 2009).

The time, the place, and the usefulness of the technology can help users mitigate their privacy risk perceptions about mobile location-based services. An individual's attention to their social context can influence perceived usefulness. Kim et al., 2019).

H4: Use context to moderate the relationship between (a) privacy concern and destination trust, (b) privacy concern and LBS provider trust.

H5: Use context to moderate the relationship between (a) perceived risk and destination trust, (b) perceived risk and LBS provider trust.

H6: Use context moderates the relationship between (a) perceived ability to control information and destination trust, (b) perceived ability to control information, and LBS provider trust.

2.12.5 Moderating Role of Previous Privacy Experience

A social contract is initiated when a user provides their information to service providers or online companies, and there are expectations or generally understood social norms that influence the user to be comfortable with providing such information (Caudill & Murphy, 2000). An understood social contract is that the organization will be responsible to manage the user's personal information properly and ethically (Phelps, Nowak & Ferrell, 2000), a user can perceive that their privacy has been violated if their personal information or data has been exploited or the social contract is breached (Culhan, 1995; Phelps et. al, 2000).

In the domain of online marketplace, a study has found that if one seller violates the privacy social contract of a user, this violation can affect the user perception about all other online marketplaces, which can invariably negatively impact the online marketplace community (Pavlou & Gefen, 2005). Additionally, users learn from their personal experiences, and a negative experience can lead to mistrust of websites that solicit or provide the same service and require similar information (Mosteller & Poddar, 2017; Poddar, Mosteller & Ellen 2009).

Previous privacy experience affects the behavior of seniors towards technology (Kim & Preis, 2016). People who have had previous violation experiences, that caused them harm or left them feeling exposed have greater privacy concerns (Smith et al., 1996). Previous privacy violation experience influences users to have privacy invasion concerns (Stone & Stone, 1990), and perceived risk of information disclosure (Xu et al., 2009). If tourists have experienced previous violations, they would have high information privacy concerns. Therefore, we hypothesize that:

H7: Privacy violation experience moderates the relationship between (a) privacy concern and destination trust, (b) privacy concern and LBS provider trust.

H8: Privacy violation experience moderates the relationship between (a) perceived risk and destination trust, (b) perceived risk, and LBS provider trust.

H9: Privacy violation experience moderates the relationship between (a) perceived ability to control information and destination trust, (b) perceived ability to control information, and LBS provider trust.

2.12.6 Destination Trust, LBS Provider Trust, and Behavioral Intention

Tourists want to be able to trust the destination they are visiting they want optimum service provided to have confidence that the destination would provide adequately what they had promised in terms of (reliability, credibility, and integrity). Trust is an important construct in predicting the behavior of tourists in a tourism destination (Morgan & Hunt, 1994), trust is crucial in a successful tourist destination relationship (Moorman et al., 1993).

Trust has been studied in the tourism research by different scholars, under the different contexts of tourism. In the context of medical tourism, Abubakar and Ilkan (2016) concluded destination trust has a positive impact on tourists' revisit intention. Pujiastuti, Nimran, Suharyono, and Kusumawati (2017) found that destination trust influences touristic behavior in rural tourism destinations. In travel destination Pujiastuti, Utomo, and Novamayanti (2020) also found destination trust has an important effect on revisit intention. And that tourist trust influences positive word of mouth referral (recommend) (Su, Hsu, & Marshall, 2014).

In tourism word heritage sites Su et al. (2017) concluded that trust in-destination service provider influences revisit intention and positive word of mouth recommendation towards the world heritage sites. Trust has been related to purchasing intention (Chiu et al., 2012). Trust can be related to a significant influence with revisit intention (Abubakar et al., 2017; Arici & Gucer, 2018). The destination should promote trust in all its stakeholders (Poon and Koay, 2021).

Although there are several studies in tourism research that have investigated trust, the factors that influence trust in a travel destination are still lacking (Pujiastuti et al.,

2020). Mostly in smart tourism destinations and technology providers in the destination. When there is trust towards a destination service provider, it influences positive tourism loyalty (Su et al., 2014). And loyalty would influence positive behavioral intentions.

The LBS provider in the smart tourism destination is an important stakeholder and they control the information and data about the tourists. There is a research gap in the perception of tourist trust in the technology service provider.

H10: LBS trust is positively related to (a) destination trust, (b) behavioral intention.

H11: Destination trust is positively related to behavioral intention.
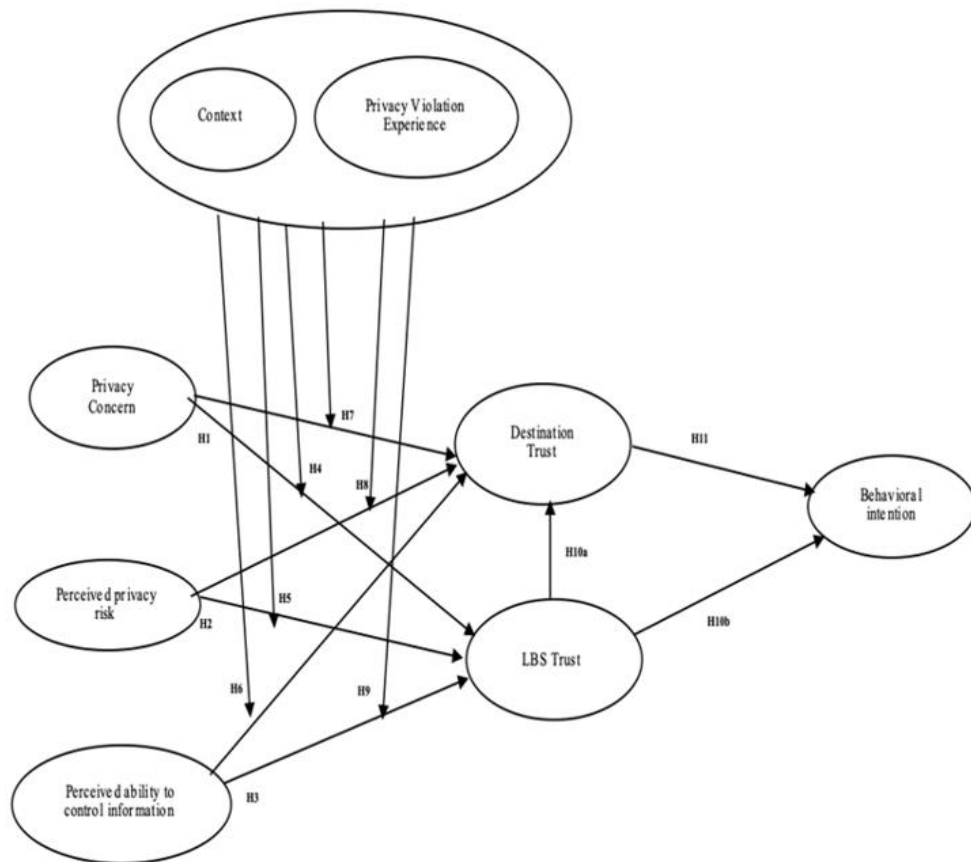
Figure 2.4: Research model

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Chapter 3

RESEARCH METHODOLOGY

This chapter of the dissertation presents the methodology, research approach, research strategy, data collection measurements, and the procedure of data analysis for the research.

3.1 Research Approach

The approach of the research is one more important principle for research philosophy and researchers (Evans & Erkan, 2015). There are two major approaches to research that are popularly used by researchers, there are inductive and deductive approaches (Bryman & Bell, 2011). The approach generally related to the quantitative research method is the deductive approach, in this approach the theory leads the study (Collis & Hussey, 2013).

In quantitative research, objective theories are tested by inspecting the connection between items relations (Creswell & Creswell, 2017). When implementing the deductive research approach, the study usually begins with the hypothesis then it proceeds with examinations that are empirical to either reject or confirm the hypothesis (Altinay & Paraskevas, 2008). This implies that the deductive approach is related to the positivist paradigm, this study adopts the deductive approach.

3.2 Research Design

Research design can be described as the general strategy used in the research study to gather knowledge and answers to the research questions presented in the research

(Saunders, Lewis & Thornhill, 2009). A meticulous strategy which comprises of the comprehensible questions of the research, the objectives of the research, a definite source for collecting data, and a method for analysis of the data collected is very important and useful for researchers to focus and direct their research study (Saunders et al., 2009).

The research design in this study presents three major phases for planning the research, preparing the design of the research, and understandable review of the literature is carried out, and the needs of the research are identified. Furthermore, the hypothesis and the theoretical model of the study are developed and based on this the strategy of the research is identified. A pilot study is conducted to investigate the validity and reliability of the questionnaire items.

This study adopts the quantitative research approach, this is because the main objective of this study is to analyze the conceptual model and investigate the connections between the study variables using statistical data. The analysis and collection of data implementing statistical procedures and techniques are used in the quantitative research method (Creswell & Creswell, 2017). Quantitative research involves using statistical analysis, in an attempt to quantify definite relationships, through which the hypothesis identified are reported as not supported or supported depending on the result of the analysis (Aaker, Kumar, Day, Lawley, & Stewart, 2007).

3.3 Research Strategy

The primary use of the survey method as a research strategy is to gather data from a population to analyze the data statistically and to generalize the result (Collis & Hussey, 2013). The survey strategy grants researchers a chance to gather a large

quantity of data from a population that is also large, in a way that is also economical (Saunders et al., 2009). The method of survey is generally associated with the deductive approach (Bryman & Bell, 2011).

Furthermore, when a study wants to confirm a theory to improve or validate knowledge of a social circumstance, the survey method is deemed appropriate (Collis & Hussey, 2013). This makes the survey method suitable for this study. One of the aims of this research is to have its hypothesis tested, this would need a large amount of data for the statistical analysis. An advantage of the survey research strategy is that it is an easy, cost-effective, and fast method of data gathering from a large number of respondents, this survey method is deemed suitable for this research (Malhotra, Nunan & Birks, 20127 Saunders et al., 2009).

The survey research method presents data that are consistent because the respondents are given a questionnaire with fixed answers, this makes collecting, answering the question items, and the data analysis easier (Malhotra et al., 2017). Three important sections of performing a survey were underlined by Fowler (2013) they are; the method of collecting the data, the development of the research instrument, and finally the sampling method and size. Therefore, this study implements the survey research method.

3.4 Survey Method

There are different methods of collecting data when using survey strategy, a self-administered questionnaire, one on one interviews, and telephone interview. Deciding which method is suitable and efficient for research relies on the pros and cons of each method towards achieving the objectives and aim of the study. This study aims to

perform an empirical investigation that is large scaled to confirm the hypothesis and validate the theoretical model. To accomplish the aim of this study, a self-administered questionnaire is used as the method of data collection.

For collecting data from a large sample, one of the applicable tools used are questionnaires (Saunders et al., 2009). The survey method is convenient for the researcher, and the respondents, as the respondents can quickly reply to the questions and the coding of the questions for analysis by the researcher can be done timely (Gray, 2013). Nonetheless, one on one interview and telephone survey method are not as convenient as using the self-administered questionnaire, the researcher and respondents would have to schedule a location that would be convenient to carry out the interview or phone call, for example without noise or distractions and time would have to be scheduled to be suitable for both parties to conduct the research, these constraints make the number of respondents when using the other survey methods. This forms the rationale of using the questionnaire survey method in this research.

Researchers that want to implement the questionnaire method for data collection in their study have to consider some important points. How the questionnaire is designed can influence the validity, response rate, and reliability of the data, this requires a special amount of responsibility (Collis & Hussey, 2009; Saunders et al., 2009). Previous studies and researchers have designed some appropriate recommendations, one is having a user-friendly questionnaire, this can help with the response rate making it high to increase validity and reliability. Giving comprehensive instructions to the respondents and using a cover letter, making the questions as short as possible, and lastly using a layout that is appealing is part of the major points suggested by Bryman and Bell (2011) to be applied by researchers for efficient design of survey

questionnaires. Therefore, this research considers this suggestion for the questionnaire design process.

3.5 Sampling Strategy

Selecting a section of the population, performing an investigation on the population that has been selected, and finally generalizing the results towards the population is referred to as sampling strategy (Burns, 2000). Any section of the population that is selected for investigation, and if the selected section of the population can account for the different cases that are the study sample (Bryman & Bell, 2011; Saunders et al., 2009). Providing the context of this research, the population of the study are tourists visiting Dubai that is a smart tourism destination (Khan et.al, 2017). However, it is not efficient for this research to study all the tourists that visit Dubai which is over 16 million (Wam, 2019), the constraint would be on time, access to all the tourists, and money (Bryman & Bell, 2011); therefore, this study chose a selection from the sample population.

Two major approaches are implemented by different researchers for choosing the appropriate sample, "probability and non-probability sampling".

Every case within the whole population has the same opportunity to be chosen in a probability sampling (Bryman & Bell, 2011), different methods are used in probability sampling; stratified, cluster, systematic and simple sampling (Saunders et al., 2009). Alternatively, with non-probability sampling not every case within the whole population has the same opportunity to be chosen (Saunders et al., 2009). There are also distinct methods used in non-probability sampling, purposeful or judgment sampling, and convenience sampling (Bryman & Bell, 2011).

The researcher employed a non-probability convenience sampling method to obtain a representative sample of the study's participants' population. Convenience sampling is a non-probability approach that allows the researcher to collect data from a conveniently available pool of respondents (Given, 2008). The rationale for choosing this sampling method is because it is known for high performance with respect to the money, effort, and time. Convenience sampling is suitable for this study as it allows data to be accessed by the researchers using the most straightforward subjects.

3.5.1 Sampling Size

An important problem for researchers is determining the sample size. It is critical for the researcher to choose a sample size that would account for the whole population that is to the studied. It would be easier to generalize the results of the study if the sample reflects the population (Collis & Hussey, 2009). Generalization is important for achieving the objectives and aim of this research. Wam (2019) reports the amount of international tourists that land in Dubai is summed up to 16.5 million tourists in 2018.

A statistical calculation was used to choose the sample size with the creative research systems (2019, http://www.surveysystem.com/sscalc.htm) using confidence level 95% and a confidence interval of 5% (Sekaran, 2006), with the number of tourists visiting the smart tourism destination Dubai is millions (Fidelli & Tabachnick, 2014). The sufficient number of respondents was calculated as 384.

3.6 Procedure

3.6.1 Study Setting

In this study, a pilot test was first conducted with 30 respondents to test the understandability and readability of the questionnaire items. Subsequently, the main

study was done using an online survey for questionnaire have been popularly used in the domain of current tourism research, especially with regards to technology innovations (Morgan-Thomas & Veloutsou, 2013). The questionnaire targeted respondents that have visited Dubai smart tourism destination in the past two years, using Instagram and Facebook holiday picture's location tags.

The survey starts with a question asking the respondent if they have visited Dubai and a yes or no option was provided. If the respondent chooses no, then the survey ended without any further questions and the response is discarded. If the respondent chooses yes, then a new page is opened containing the questionnaire items composed into three sections. The first section contained questions regarding the tourists' demographic information. The second section contained items to measure the frequency of visits. The third section contained questions to measure the study variables; privacy concern, perceived risk, perceived ability to control information, use context, previous privacy experience, destination trust, location-based service provider trust, and behavioral intentions respectively.

3.6.2 Data Collection

The survey was available online using google forms from February 2019 to May 2019. A sample size of 384 tourists that have visited the smart tourism destination was collected, the size of the sample is appropriate because the number of tourists visiting the smart tourism destination Dubai is millions (Fidelli & Tabachnick, 2014). The survey link was shared on different social media platforms, for example, Facebook, Instagram, and Reddit. Direct messages were also sent to different respondents with Dubai holiday location tags on their photos. The link was also shared on different Dubai travel and tourism pages on social media. In total, 427 respondents clicked the survey, but 43 choose no they have not been to Dubai thereby making their response

discarded. Finally, 384 respondents that have been in Dubai completed the survey, the data were extracted and used for data analysis for this study.

3.7 Measurements

3.7.1 Measure of Privacy Concern

Privacy concern was measured using 4 items from Son and Kim (2008). A Likert scale of 1 strongly disagree to 7 strongly agree was used. The questions were adopted to fit the smart tourism destination context, a sample item is "I am concerned that the information I disclosed to the service provider could be misused".

3.7.2 Measure of Perceived Risk

Perceived risk was measured using 3 items adapted from (Pavlov & Gefen, 2004) and modified to suit the context of the study. A Likert scale of 1 strongly disagree to 7 strongly agree was used. a sample question from the item is "It is risky to provide personal information to smart tourism destination service providers"

3.7.3 Measure of Information Control

Perceived ability to control personal information was measured using 4 items from (Liu, et. al, 2005). A Likert scale of 1 strongly disagree -7 strongly agree was used, a sample item is "The service provider explained the reason my personal information was being collected at any time".

3.7.4 Measure of Use Context

Use context was measured using six items adapted from Kim et al. (2005), Lee et al. (2005), Liang and Yeh (2011), Liu and Li (2011), and Kim et al. (2015) and worded to suit this study context. A Likert scale of 1 strongly disagree -7 strongly agree was used, a sample item is "I use location-based services in a destination if using location-based services would not cost me money".

3.7.5 Measure of Previous Privacy Experience

Previous privacy violation experience was measured using 2 items from Smith et. al, (1996) with a Likert scale of 1 strongly disagree -7 strongly agree. The questions were adopted to fit the context of this study, a sample item is "I have felt a personal invasion of my privacy by a smart tourism destination".

3.7.6 Measure of Destination Trust

Destination trust was measured using 8 items adapted from (Abubakar et. al., 2016), the items were adopted to fit the context of smart tourism destinations. The tourists were asked on a scale of 1 to 5; 1 strongly disagree and 5 strongly agree a sample item is "I feel confident in Dubai as a smart tourism destination".

3.7.7 Measure of LBS Provider Trust

Location-based service provider trust was measured using 3 items adapted from (Pavlov & Gefen, 2004) and modified to suit the context of the study. A Likert scale of 1 strongly disagree -7 strongly agree was used, a sample question is "The service provider in smart tourism destination is trustworthy".

3.7.8 Measure of Behavioral Intention

Behavioral intentions were measured using 3 items from Liu, et al. (2005). A Likert scale of 1 strongly disagree -7 strongly agree was used, a sample question is "I would recommend this tourism destination to my friends".

3.8 Data Validity and Reliability

Results of confirmatory factor analysis performed in AMOS 20.0 showed that all items converged on their underlying construct except for one item from destination trust and one item from behavioral intention construct respectively which were discarded. The model fit statistics ($\chi 2$ = 891.933., df = 375, $\chi 2$ /df = 2.38; CFI = 0.96; PNFI = 0.80; RMSEA = 0.060) indicated a good fit and all standardized loadings exceeded the

minimum requirement of 0.5, the t-statistics of all loaded factors is greater than 1.96, thus, confirming convergent validity. Composite reliability score (CR) and average variance extracted (AVE) for each construct were above the 0.7 and 0.5 minimum required values respectively. Table 2 gives the details of all loading, AVE, and CR. Further, we performed a bivariate Pearson correlation with a 2-tailed significant test. The result as shown in Table 3 indicate that all constructs are moderately correlated. The bold-faced figures on the diagonal represent the square root of AVE, which is greater than the inter- construct correlation, thus confirming the discriminant validity of the data (Chih & Lin, 2019). In sum, preliminary checks of the data provided an initial understanding of the significance of the study variables. Specifically, each dimension of privacy concerns perceived privacy risk perceived ability to control information, use context, previous privacy violation, destination trust, service provider trust, and behavioral intentions are significantly related. Thus, providing support for further investigation of the proposed hypothesized relationships.

Chapter 4

RESULTS OF STUDY

4.1 Respondents Profile

Table 4.1 shows the demographic profile of the respondents. About thirty-four percent of the respondents are aged between 18 and 23 years, twenty-four percent are aged between 24 and 29 while the others are 30 years or older. In terms of gender, the distribution is almost equal with the females slightly are more than the males at fifty-two percent. The respondents are highly educated as an overwhelming majority of them (73.3%) are graduated from either university or hold a graduate certificate. Interestingly, more than half of them (55.2%) are first-time visitors to the smart destination under investigation. The sample cut across some nationalities with Nigerians representing a quarter of them, followed by British at 8.9% and Americans at 8.1%. The full demographic profile of the respondents is given in Table 4.1.

Table 4.1: Respondents' profile (n = 384)

	Frequency	%
Age		
18-23	133	34.6
24-29	93	24.2
30-34	36	9.4
35-40	27	7.0
41-46	40	10.4
47 above	55	14.3
Gender		
Male	183	47.7
Female	201	52.3
Education		
High School	53	13.8
College (two-year program)	60	15.6
University (four-year program)	152	39.6
Graduate degree (Masters or Ph.D.)	119	33.7
Frequency of visit		
First time (Once)	212	55.2
More than twice	101	26.3
Second time (Twice)	71	18.5
Nationality		
Nigeria	99	25.8
United Kingdom	34	8.9
United States	31	8.1
Turkey	19	4.9
Kenya	19	4.9
Ghana	17	4.4
Pakistan	14	3.6
Iran	12	3.1
Zimbabwe	12	3.1
Oman	10	2.6
Others	117	30.6

Table 4.2: Scale items and measurement properties

Construct and items	Standardized loadings	t-values	AVE	CR	α
Destination Trust			0.701	0.942	
					0.94
I feel confident in Dubai as a smart tourism destination	.867	18.562			
Dubai tourism destination guarantees satisfaction	.906	25.226			
Dubai as a smart tourism destination meets my expectation	.820	30.884			
Dubai as a tourism destination would make an effort to satisfy me	.850	22.221			
I was not disappointed with Dubai tourism services	.804	20.107			
Dubai smart tourism destination would be honest and sincere in addressing my concerns	.823	20.975			
I could depend on Dubai as a tourism destination to meet all my touristic needs	.783	19.233			
Dubai as a tourism destination would compensate me in some way in case of data misuse	-----				
Privacy Concern			0.876	0.966	
					0.97
I am concerned that the information about me which is private can be found by another person on the internet	.922	32.382			
I am concerned about what other people might do to my information which is private if I provide them to service providers	.948	35.304			
I am concerned that my personal information would be used in a way I did not permit by the service providers	.934	33.529			
I am concerned about misuse of my information which is disclosed to service providers	.940	34.224			
Use Context			0.710	0.923	
					0.92
I use location-based services in a destination if using location-based services is the best way to get to my destination	.955	18.326			
I use location-based services in a destination if I am in a hurry to get to my destination	.918	34.533			
I use location-based services in a destination if I do not know where I am going	.926	35.652			
I use location-based services in a destination if using location-based services would not cost me money	.747	20.129			
I use location-based services in a destination if my location information has no value	.616	14.472			
Perceived Ability to Control Personal Information			0.698	0.901	
					0.90
The service provider explained the reason my personal/private information is being collected at any time	.915	20.258			
The service provider describes how personal information about me would be collected and used	.919	27.896			
I am aware of the personal information the service provider would collect about me	.821	22.227			
The service provider gives me an option to accept or decline before using my personal information	.661	15.311			
Perceived Risk			0.891	0.961	0.96
There will be much uncertainty associated with providing personal information to a service provider	.967	34.264			
There will be much potential loss associated with providing personal information to a service provider	.928	38.397			
It is risky to provide personal information to a service provider	.937	40.103			
Location-based Service (LBS) Provider Trust			0.886	0.959	0.96
The service provider in the smart tourism destination keeps its promise	.975	33.375			
The service provider in the smart tourism destination is trustworthy	.926	39.309			
The service provider in the smart tourism destination keeps tourists interest in mind	.922	38.431			
Previous Privacy Experience			0.637	0.778	0.78
How often have you personally been a victim of what you felt was an invasion of privacy	.763	10.256			
How often have you heard or read during the last year about the use and potential misuse of personal information about tourists	.832	14.235			
Behavioral Intention			0.761	0.864	0.91
I would revisit Dubai tourism destination	.834	15.369			
I would recommend Dubai as a tourism destination to my friends	.909	19.591			

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Construct and items	Standardized loadings	t-values	AVE	CR	α
I have positive things to say about this tourism destination	----				

Model fit statistics: $\chi2$ = 891.933., df = 375, $\chi2$ /df = 2.38; CFI = 0.96; PNFI = 0.80; RMSEA = 0.060. Notes: All loadings were significant. AVE = Average variance extracted; CR = Composite reliability; CFI = Comparative fit index; PNFI = Parsimony normed fit index; RMSEA = Root mean square error of approximation.

Table 4.3: Descriptive statistics and correlation of observed variables

Constructs	Age	Gender	Education	Income	PPE	DESTTR	PC	UCT	PCTRL	RISK	LBSTRU	BI
Age												
Gender	.068											
Education	.362**	.131*										
Income	.450**	.103*	.226**									
PPE	.086	.039	.039	-.030	**0.798**							
DESTTR	-.153**	-.107*	-.060	-.126*	-0.310**	**0.837**						
PC	.230**	.107*	.058	.148**	0.597**	-0.321**	**0.936**					
UCT	-.215**	-.138**	-.042	-.139**	-0.096*	0.457**	-0.150**	**0.843**				
PCTRL	-.361**	-.134**	-.096	-.242**	0.014	0.366**	-0.232**	0.385**	**0.836**			
RISK	.230**	.033	.075	.228**	0.523**	-0.252**	0.656**	-0.171**	-0.246**	**0.944**		
LBSTRU	-.334**	-.151**	-.116*	-.260**	-0.164**	0.591**	-0.394**	0.383**	0.493**	-0.326**	**0.941**	
BI	-.205**	-.116*	-.106*	-.154**	-0.304**	0.723**	-0.250**	0.407**	0.286**	-0.216**	0.534**	**0.872**
Mean	2.77	1.52	2.87	5.34	3.25	4.15	4.98	5.76	4.08	4.94	4.54	5.80
STD	1.84	0.50	1.00	3.32	1.88	0.812	1.90	1.34	1.67	1.76	1.54	**1.42**

Note: **p < 0.001; *p < 0.005 (2-tailed test); Square root of AVE is given in bold face across the diagonal; PPE = Previous privacy experience; DESTTR = destination trust; PC = privacy concern; UCT = use context; PCTRL = perceived ability to control information; RISK = perceived privacy risk; LBSTRU = location-based service provider trust; BI = behavioral intention
.

4.2 Hypothesis Testing

To test the hypotheses H1 to H3, linear regression analysis (LRA) was performed using SPSS. We regressed destination trust and LBS provider trust on privacy concerns. In the first linear regression equation, privacy concern negatively and significantly predicted destination trust, $R^2 = .103$, $R^2_{adj} = .101$, $F(1, 382) = 43.81$, $p < .001$. For the second equation, privacy concern negatively and significantly predicted LBS provider trust, $R^2 = .155$, $R^2_{adj} = .153$, $F(1, 382) = 70.09$, $p < .001$. Which implies that privacy concern has a negative impact on both destination trust and location-based service provider trust. Thus, hypotheses H1a and H1b were supported.

Similarly, we regressed destination trust and LBS service provider trust on perceived privacy risk. In the first linear regression equation, perceived privacy risk negatively and significantly predicted destination trust, $R^2 = .064$, $R^2_{adj} = .061$, $F(1, 382) = 25.95$, $p < .001$. In the second equation, perceived privacy risk negatively and significantly predicted LBS service provider, $R^2 = .106$, $R^2_{adj} = .104$, $F(1, 382) = 45.49$, $p < .001$. Perceived risk of mobile application location-based services negatively influences tourists' perception of trust for the destination as well as the LBS providers. Thus, the hypotheses H2a and H2b were supported.

To test the positive effect of information control, we regressed destination trust and LBS provider trust on perceived ability to control information. In the first linear regression equation, perceived ability to control information positively and significantly predicted destination trust, $R^2 = .134$, $R^2_{adj} = .132$, $F(1, 382) = 59.01$, $p < .001$. In the second equation, perceived ability to control information positively and significantly predicted LBS service provider, $R^2 = .243$, $R^2_{adj} = .241$, $F(1, 382) =$

122.50, $p < .001$. In essence, tourists will trust a smart destination and its LBS service providers to the extent with which they have the assurance of control over their data use and access. Thus, hypotheses H3a and H3b were supported.

4.3 Use Context Moderation Analysis

For the investigation of the hypotheses H4 to H9, we performed several moderated hierarchical regression analyses (HRA). The main effects of privacy concern on both smart destination trust and LBS provider trust were moderated by the effect of use context in H4. To minimize the potential of multicollinearity issue, all predicting variables were mean-centered before the cross-products of the predictors were computed for the examination of all interaction effects (Aiken & West, 1991).

4.3.1 Use Context Moderates Privacy Concern on Destination Trust

The first hierarchical regression where privacy concern, context, and the privacy concern $\times$ context interaction predicted destination trust explained 27.2% (R^2_{adj}) of the change in the regression equation, $F(3, 380) = 48.81$, $p < .001$. The initial step (concern) showed 10.1% of the change, $F(1, 382) = 43.81$, $p < .001$), although in the second step, context showed 17.1% of the change, $F(1, 381) = 90.00$, $p < .001$. The privacy concern $\times$ context interaction in the third step showed an added .04%, $F(1, 380) = 2.02$, $p = .16$, of the total change. The results showed that there exists main influence of privacy concern ($\beta =- .25$, $p < .001$) and context ($\beta = .43$, $p < .001$), and the partially significant interaction influence of privacy concern $\times$context ($\beta = -.06$, p $< .16$). Thus, the partial significant interaction indicates that use context moderates the relationship between privacy concern and destination trust such that high use context reduces the negative effect of privacy concern on destination trust. Therefore, the hypothesis H4a was supported.

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Figure 4.1: Moderation effect of context on the association between privacy concern and destination trust (context weakens the negative relationship between privacy concern and destination trust)

4.3.2 Use Context Moderates Privacy Concern on LBS Provider Trust

In the second HRA, privacy concern, context, and the privacy concern× context interaction predicted LBS provider trust. The total model showed 25.7% (R^2adj) of the change in the regression comparison, F (3, 383) = 45.10, $p < .001$. Privacy concern in the initial step explained 15.3% of the change, F (1, 382) = 70.09, $p < .001$, although in the second step use context explained 10.70% of the change, $F(1, 381) = 55.45$, $p = .001$, finally the interaction privacy concern × context showed an added 0.1% of the total change, $F(1, 380) = 8.63$, $p < .75$. The results showed a main effect of the privacy concern ($\beta = -.34$, $p < .01$) and use context ($\beta = .33$, $p < .01$) constructs. However, the interaction effect of privacy concern × context was not statistically significant. Therefore, the hypothesis H4b was not supported.

4.3.3 Use Context Moderates Perceived Risk on Destination Trust

For testing hypothesis 5, the first hierarchical regression, where perceived privacy risk, context, and the perceived privacy risk × context interaction predicted destination trust, explained 27.2% (R^2adj) of the change in the regression comparison, $F(3, 380) = 25.95$,

$p < .001$. The initial step (risk) showed 6.1% of the change, $F(1, 382) = 43.81$, $p < .001$), although in the second step, context showed 17.7% of the change, $F(1, 381) = 88.68$, $p < .001$. The perceived privacy risk × context interaction in the third step showed an additional 3.7%, $F(1, 380) = 19.53$, $p = .001$, of the total change. The results show that there were main effects of perceived privacy risk (β =- .71, $p < .001$) and context (β = .44, $p < .001$), and a significant interaction effect of perceived privacy risk ×context (β = -.91, $p < .001$).

Suggesting that the negative perception of privacy risk and higher levels of use context were associated with stronger destination trust. The significant interaction indicated that the negative relation between privacy risk and destination trust was weaker when the use context levels were high, therefore hypothesis H5a was supported.

4.3.4 Use Context Moderates Perceived Risk on LBS Provider Trust

In the second hierarchical regression analysis, perceived privacy risk, context, and the perceived privacy risk × context interaction was used to predict LBS provider trust. The total model showed 21.5% (R^2_{adj}) of the change in the regression comparison, $F(3, 383) = 67.27$, $p < .001$. Perceived privacy risk in the initial step showed 10.6% of the change, $F(1, 382) = 45.49$, $p < .001$, whereas in the second step use context showed 11.0% of the change, $F(1, 381) = 53.62$, $p = .001$, and finally the perceived privacy risk × use context interaction explained an additional 0.4% of the total variance, $F(1, 380) = 2.08$, $p < .15$. The results established a main effect of the perceived privacy risk (β = -.32, $p < .01$) and use context (β =- .27, $p < .01$) variables; the effect of privacy risk× use context was statistically significant (β = -.30, $p < .15$).

The significant interaction indicated that the negative privacy risk–LBS provider trust relation was weaker when the use context levels were high, which indicates that use

context moderates the relationship between privacy risk and LBS provider trust. Therefore, hypothesis H5b was supported.
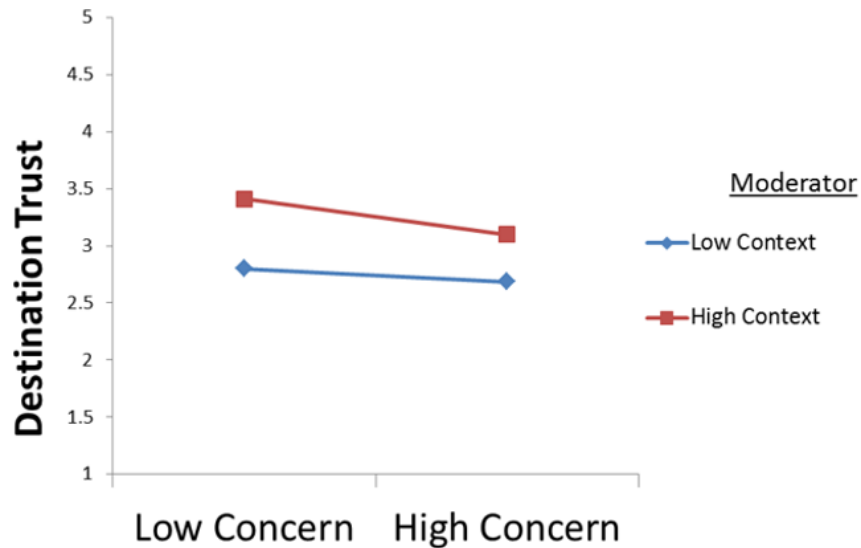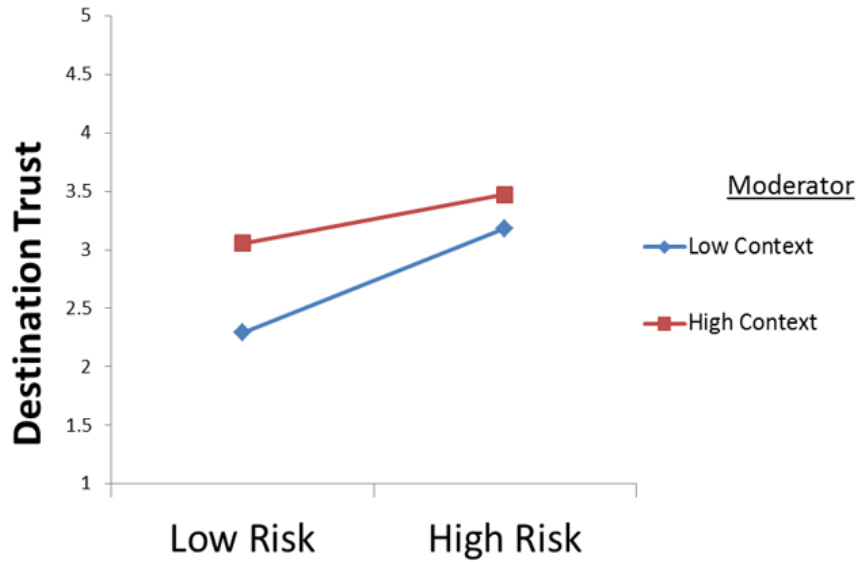

Figure 4.2: Moderation effect of context on the relation between perceived privacy risk and destination trust (context weakens the negative relationship between risk and destination trust)
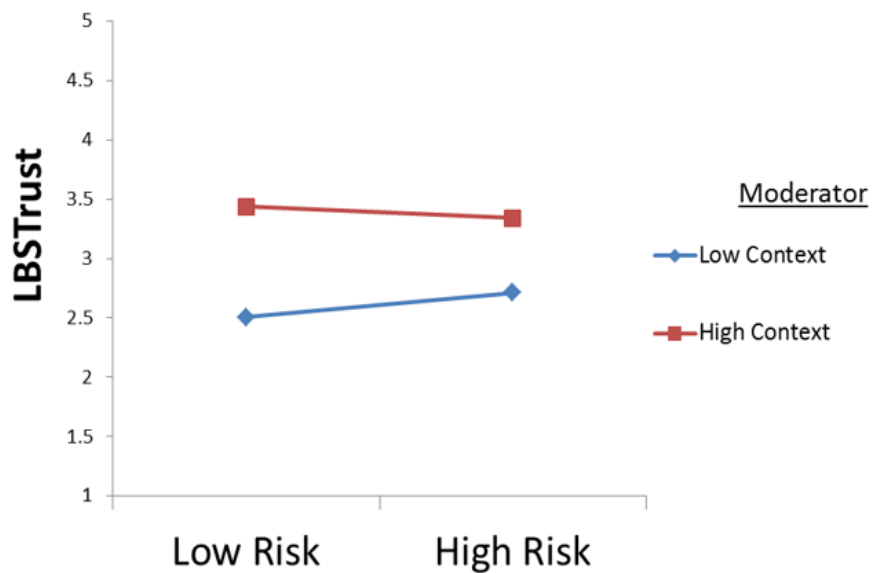
Figure 4.3: Moderation effect of context on the relation between perceived privacy risk and LBS trust (Context weakens the negative relationship between perceived privacy risk and destination trust)

4.3.5 Use Context Moderates Perceived Control on Destination Trust

The first hierarchical regression where perceived ability to control information, context, and the perceived ability to control $\times$ context interaction predicted destination trust explained 24.9% (R^2_{adj}) of the change in the regression comparison, F (3, 380) = 43.43, $p < .001$. The initial step (control) showed 13.2% of the change, F (1, 382) = 59.01, $p < .001$), although in the second step, context showed 11.8% of the change, $F(1, 381) = 59.94$, $p < .001$; the interaction perceived ability to control information $\times$ context in the third step showed an added .4%, $F(1, 380) = 1.94$, $p = .16$, of the total change. The results indicate there were direct effects of perceived ability to control information ($\beta = .37$, $p < .001$) and context ($\beta = .22$, $p < .001$), and a non-significant interaction effect of perceived ability to control information $\times$ context.

This implies that although the perceived ability to control information and use context individually exert a significant effect on destination trust, the non-significant interaction effect indicated that the effect of the ability to control information – destination trust was unaffected by changes in levels of use context.

4.3.6 Use Context Moderates Perceived Control on LBS Provider Trust

In the second hierarchical regression analysis, perceived ability to control information, context, and the perceived ability to control information $\times$ context interaction was used to predict LBS provider trust. The total model showed 28.2% (R^2_{adj}) of the change in the regression comparison, $F(3, 383) = 51.22$, $p < .001$. Perceived ability to control information in the initial step showed 24.3% of the change, $F(1, 382) = 122.50$, $p < .001$, although in the second step use context showed 4.3% of the change, $F(1, 381) = 23.44$, $p = .001$, finally the perceived ability to control information $\times$ use context

interaction showed an added 0.1% of the total change, $F(1, 380) = .68$, $p < .42$. The results established a main influence of the perceived ability to control information ($\beta = .26$, $p < .01$) and use context ($\beta =- .24$, $p < .01$) variables; the effect of privacy ability to control information$\times$ use context was not statistically significant.

Thus, control and use of context individually were linked to greater LBS provider trust. The non-significant interaction effect however indicated that the control‑LBS service provider trust relation was not altered by changes in levels of use context. Thus, hypotheses 6a and 6b were rejected. Overall, hypotheses H4 and H5 were supported, while hypothesis 6 was rejected. See Table 4.4 for the moderated regression results when use context is used as the moderating variable and Figures 4.1 to 4.3 for the plots.

Table 4.4: Moderated hierarchical regression analyses of context predicting destination trust and location base trust

Variables	Model 1 (β)		Model 2 (β)		Model 3 (β)	
	DESTTRU	LBSTRU	DESTTRU	LBSTRU	DESTTRU	LBSTRU
Privacy Concerns	-.321**	-.394**	-.258**	-.344**	-.248**	-.342**
Context			.419**	.331**	.425**	.333**
Privacy concerns X Context					-.063	-.014
R^2	.103	.155	.274	.262	.278	.263
Change in R^2			.171	.107	.004	.001
Change in F			90.005	55.453	2.021	.098
Significant F change (p <)			.001	.001	.156	.754
Perceived Privacy Risk	-.252**	-.326**	-.179**	-.268**	.708**	.032
Context			.427**	.337**	.435**	.340**
Perceived Privacy Risk X Context					-.906**	-.307*
R^2	.064	.106	.240	.217	.278	.221
Change in R^2			.177	.110	.037	.004
Change in F			88.680	53.617	19.530	2.078
Significant F change (p <)			.001	.001	.001	.150

Variables	Model 1 (β)		Model 2 (β)		Model 3 (β)	
	DESTTRU	LBSTRU	DESTTRU	LBSTRU	DESTTRU	LBSTRU
Perceived ability to Control Info	.336**	.493**	.223**	.405**	-.039	.257**
Context			.372**	.227**	.393**	.239**
Perceived ability to Control Info X Context					.261	.149
R^2	.134	.243	.252	..287	.255	.288
Change in R^2			.118	.044	.003	.001
Change in F			59.935	23.446	1.935	.658
Significant F change (p <)			.001	.001	.164	.418

Note: **p < 0.001; *p < 0.005 (2-tailed test). Destination trust= DESTTRU, Location-based service provider trust = LBSTRU.

4.4 Previous Privacy Violation Experience Moderation Analysis

Hypotheses H7, H8, and H9 were constructed to investigate the moderating effect of previous privacy violation experience (PPVE) on the mean-centered predictors and dependent variables. As earlier explained, moderated hierarchical regression analysis was used to examine these hypotheses.

4.4.1 PPVE Moderates Privacy Concern on Destination Trust

In hypothesis H7, previous privacy violation experience (experience) was proposed to moderate the effect of privacy concern on both smart tourism destination trust and LBS provider trust. In the initial moderated regression, privacy concern, previous privacy experience, and the privacy concern $\times$ experience interaction predicted destination trust explained 12.5% (R^2_{adj}) of the change in the regression comparison, $F(3, 380) = 19.19$, $p < .001$. The initial step (concern) showed 10.1% of the change, $F(1, 382) = 43.81$, $p < .001$), although in the second step, experience showed 2.2% of the change, $F(1, 381) = 9.52$, $p < .002$; the privacy concern $\times$ experience interaction in the third step showed an added 0.7%, $F(1, 380) = 2.99$, $p = .08$, of the total change. The results

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establish that there were main effects of privacy concern (β =- .15, $p < .001$) and experience (β = -24, $p < .001$), and a partially significant effect of privacy concern $\times$ experience (β = -10, $p < .08$).

The results suggested that the perception of concern and prior negative experience were associated with weaker destination trust. The partial significant interaction effect, however, indicated that the negative concern‑destination trust relation was slightly strengthened in situations with prior privacy violation experiences.

4.4.2 PPVE Moderates Privacy Concern on LBS provider Trust

In the subsequent HRA, privacy concern, experience, and privacy concern $\times$ experience interaction predicted LBS provider trust. The total model showed 16.0% (R^2adj) of the change in the regression equation, $F(3, 383) = 25.27$, $p < .001$. Privacy concern in the initial step showed 15.3% of the change, $F(1, 382) = 70.08$, $p < .001$, although in the second step prior privacy violation experience explained 0.8% of the change, $F(1, 381) = 3.61$, $p = .05$, finally the privacy concern $\times$ experience interaction showed an added 0.3% of the total change, $F(1, 380) = 1.53$, $p < .22$. The results demonstrated a main effect of the privacy concern (β = $-.42$, $p < .01$) and experience (β = .11, $p < .05$) variables; the effect of privacy concern $\times$ experience was however partially statistically significant (β = $-.07$, $p < .22$).

Thus, privacy concerns and previous privacy violation experiences were linked to less LBS provider trust. The partial significant effect indicated that the negative privacy concern-LBS service provider trust relation was slightly strengthened by previous experience. Thus, hypotheses H7a and H7b were supported.

Figure 4.4: Moderation effect of experience on the relation between privacy concern and destination trust (experience strengthens the negative relationship between privacy concern and destination trust)

Figure 4.5: Moderation effect of experience on the relation between privacy concern and LBS provider trust (experience strengthens the negative relationship between privacy concern and LBS trust)

4.4.3 PPVE Moderates Perceived Risk on Destination Trust

The hypothesis H8 proposed that prior privacy violation experience moderates the effect of perceived privacy risk (risk) on both smart tourism destination trust and LBS provider trust. In the initial moderated regression, perceived privacy risk, previous

privacy violation experience, and the perceived privacy risk× experience interaction predicted destination trust explained 14.7% (R^2_{adj}) of the change in the regression comparison, $F(3, 380) = 22.94$, $p < .001$. The initial step (risk) showed 6.1% of the change, $F(1, 382) = 25.95$, $p < .001$), although in the second step, experience showed 4.4% of the change, $F(1, 381) = 18.65$, $p < .001$; the perceived privacy risk× experience interaction in the third step explained an additional 4.6%, $F(1, 380) = 20.64$, $p = .001$, of the total change. The results establish there were main effects of perceived privacy risk ($\beta =- .25$, $p < .001$) and experience ($\beta = -31$, $p < .001$), and a significant effect of perceived privacy risk ×experience interaction ($\beta = .23$, $p < .001$).

Suggesting that perception of risk and previous experience were associated with weaker destination trust. The significant interaction effect indicated that the negative risk–destination trust relation was strengthened in situations with previous privacy violation experiences.

4.4.4 PPVE Moderates Perceived Risk on LBS Provider Trust

In the subsequent hierarchical regression analysis, perceived privacy risk, experience, and the perceived privacy risk × experience interaction was used to predict LBS provider trust. The total model showed 15.4% (R^2adj) of the change in the regression comparison, $F(3, 383) = 24.18$, $p < .001$. Perceived privacy risk in the initial step showed 10.4% of the change, $F(1, 382) = 45.49$, $p < .001$, although in the second step previous experience showed 0.2% of the change, $F(1, 381) = 0.029$, $p = .87$, finally the interaction perceived privacy risk × previous experience showed an added 5.2% of the total change, $F(1, 380) = 24.36$, $p < .001$. The results demonstrated a main effect of the perceived privacy risk ($\beta = -.23$, $p < .01$) and experience ($\beta = -.06$, $p < .04$) variables; the effect of privacy risk× experience interaction was statistically significant ($\beta = .25$, $p < .001$).
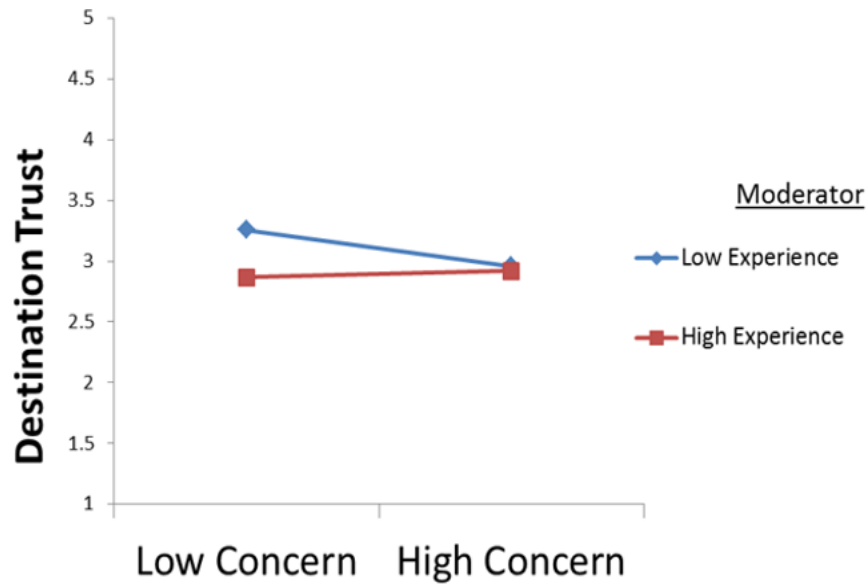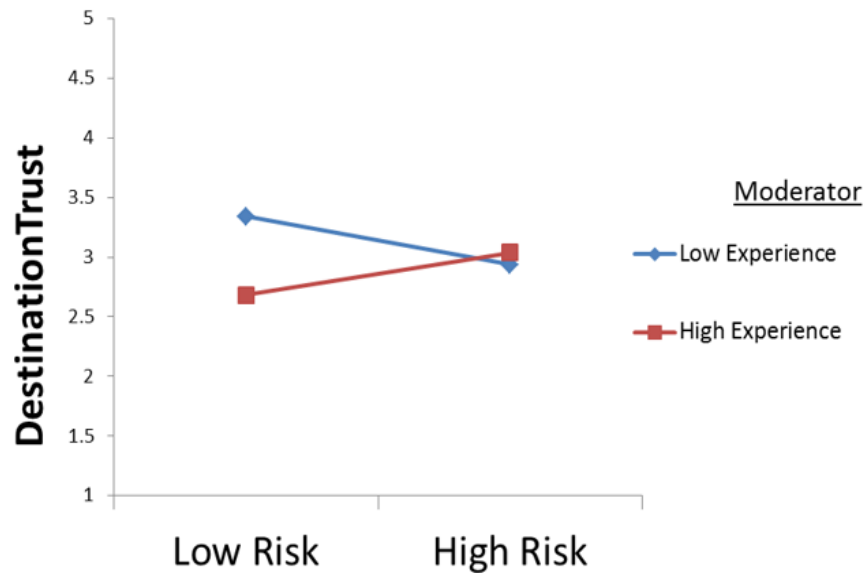
Figure 4.6: Moderation effect of experience on the association between perceived privacy risk and destination trust (experience strengthens the negative relationship between perceived privacy risk and destination trust)
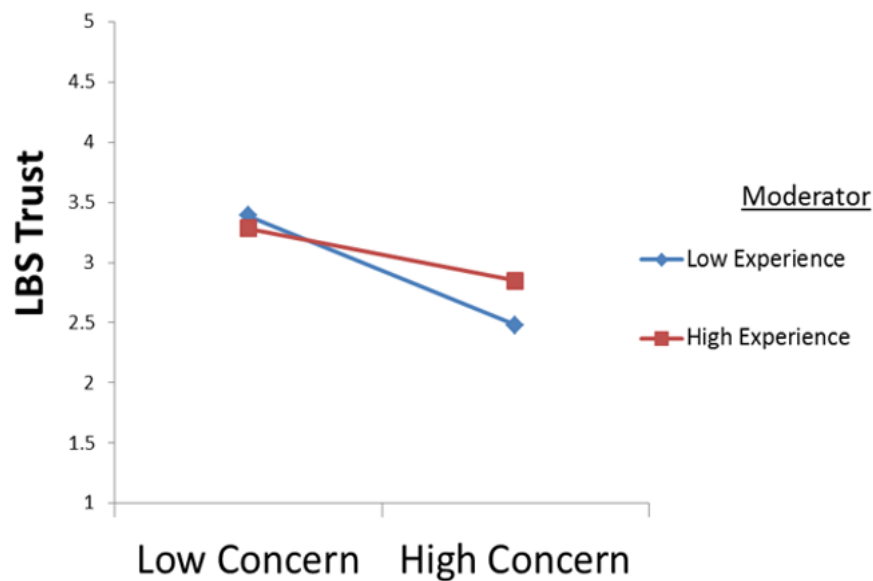

Figure 4.7: Moderation effect of experience on the association between perceived privacy risk and LBS trust (experience strengthens the negative relationship between perceived privacy risk and LBS trust)

Thus, perceived privacy risk and prior violation experience were linked to less LBS provider trust. The significant interaction indicated that the negative privacy risk-LBS provider trust relation was strengthened by previous experience of an information violation. Thus, hypotheses H8a and H8b were supported.

4.4.5 PPVE Moderates Perceived Control on Destination Trust

In hypothesis H9, previous privacy violation experience was proposed to moderate the effect of perceived ability to control information on both smart tourism destination trust and LBS provider trust. In the initially moderated regression, perceived ability to control information, previous privacy violation experience, and the perceived ability to control × experience interaction predicted destination trust explained 23.2% (R^2_{adj}) of the change in the regression comparison, $F(3, 380) = 39.56$, $p < .001$. The initial step (control) showed 13.2% of the change, $F(1, 382) = 59.01$, $p < .001$), although in the second step, experience showed 9.3% of the change, $F(1, 381) = 45.85$, $p < .001$; the interaction perceived ability to control information× experience in the third step showed an added 1.1%, $F(1, 380) = 5.54$, $p = .01$, of the total change. The results indicate there were main effects of perceived ability to control information ($\beta = .35$, $p < .001$) and experience ($\beta = -.32$, $p < .001$), and a significant interaction effect of perceived ability to control information ×experience ($\beta = .11$, $p < .01$).

Suggesting that perception of control strengthens users' destination trust, while previous privacy experience was associated with weaker destination trust. The significant interaction effect indicated that the positive control–destination trust relation was weakened in situations with previous privacy violation experiences.

4.4.6 PPVE Moderates Perceived Control on LBS Provider Trust

In the subsequent hierarchical regression analysis, the perceived ability to control information, experience, and the perceived ability to control information × experience interaction was used to predict LBS provider trust. The total model showed 27.0% (R^2adj) of the change in the regression comparison, $F(3, 383) = 83.92$, $p < .001$. Perceived ability to control information in the initial step showed 24.1% of the change, $F(1, 382) = 122.5$, $p < .001$, although in the second step experience showed 2.5% of

the change, $F(1, 381) = 12.79$, $p = .001$, finally the interaction perceived ability to control information $\times$ experience showed an added 0.8% of the total change, $F(1, 380) = 4.29$, $p < .04$. The results establish a main effect of the perceived control ($\beta = -.48$, $p < .01$) and previous experience ($\beta = -.17$, $p < .001$) variables; the effect of perceived ability to control $\times$ experience interaction was statistically significant ($\beta = .09$, $p < .001$). Thus, perceived ability to control was linked to stronger LBS trust, while previous privacy violation experience was linked to weaker LBS provider trust. The significant interaction indicated that the positively perceived ability to control-LBS provider trust relation was weakened by previous experience of information violation by LBS service providers. Thus, hypotheses H9a and H9b were supported. Overall, hypotheses H7, H8, and H9 were supported. See Table 5 for the moderated regression results when previous privacy experience is used as the moderating variable and Figures 6 to 11 for the plots.
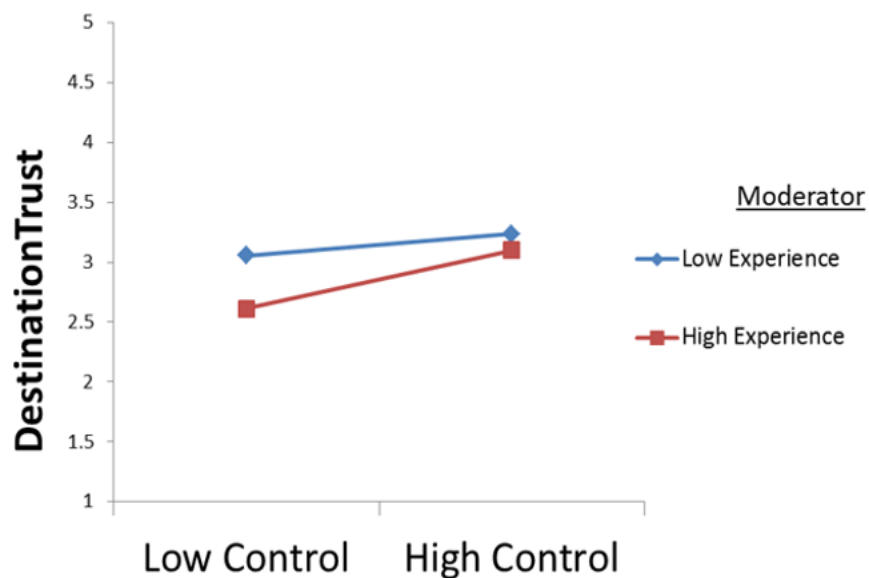
Figure 4.8: Moderation effect of experience on the association between perceived control and destination trust (experience weakens the positive relationship between perceived control and destination trust)
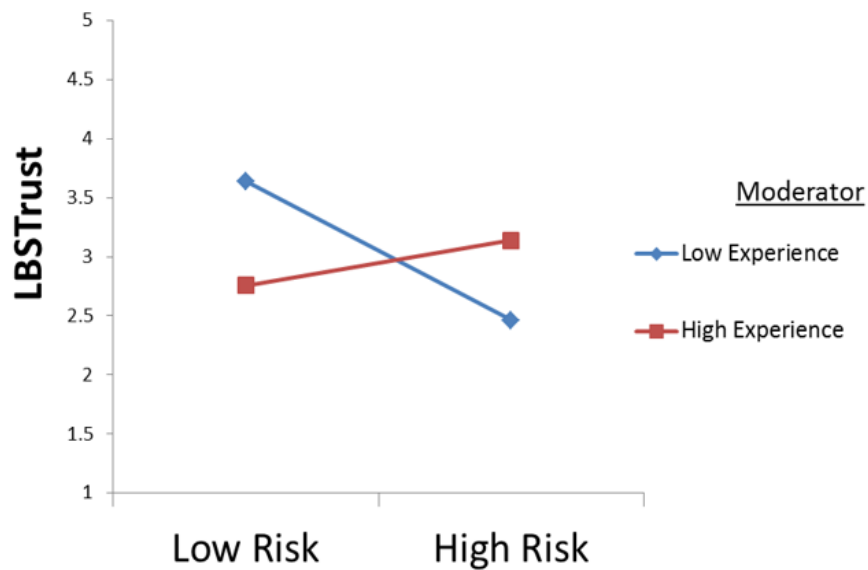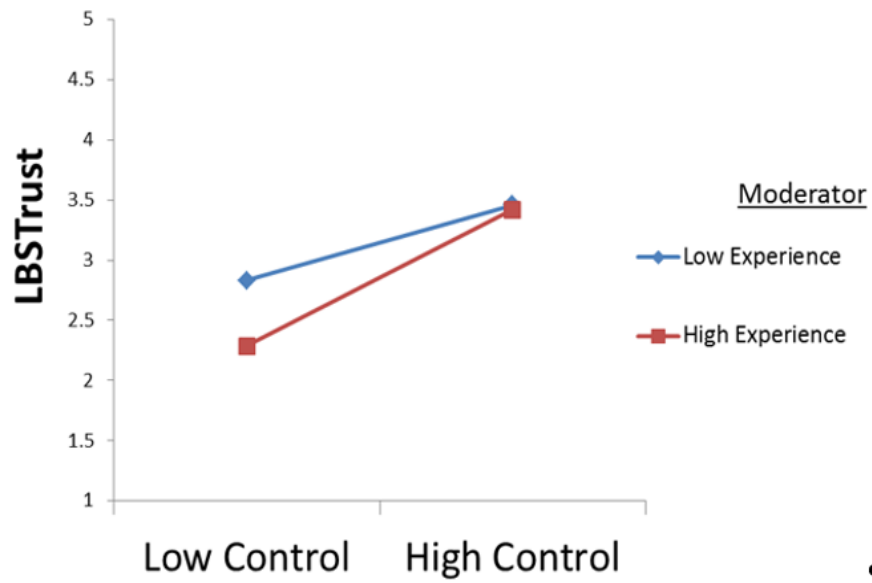
Figure 4.9: Moderation effect of experience on the association between perceived control and LBS trust (experience weakens the positive relationship between perceived control and LBS trust)

Table 4.5: Moderated hierarchical regression Analyses of previous privacy experience (PPE) predicting destination trust and location base trust

Variables	Model 1(β)		Model 2(β)		Model 3(β)	
	DESTTRU	LBSTRU	DESTTRU	LBSTRU	DESTTRU	LBSTRU
Privacy Concerns	-.321**	-.394**	-.211**	-.460**	-.146**	-.415**
PPE			-.184**	.111*	-.235**	.076
Privacy concerns X PPE					.098*	.069
R^2	.103	.155	.125	.163	.132	.166
Change in R^2			.022	.008	.007	.003
Change in F			9.516	3.606	2.989	1.530
Significant F change (p <)			.002	.058	.085	.217
Perceived Privacy Risk	-.252**	-.326**	-.124**	-.331**	-.026	-.225**
PPE			-.245**	.010	-.309**	-.059
Perceived Privacy Risk X PPE					.231**	.249**
R^2	.064	.106	.107	.106	.153	.160
Change in R^2			.044	.000	.046	.054
Change in F			18.654	.029	20.642	24.360
Significant F change (p <)			.001	.865	.001	.001
Perceived Ability to Control Info	.366**	.493**	.362**	.491**	.348**	.473**
PPE			-.305**	-.157**	-.319**	-.169**
Perceived Ability to Control Info X PPE					.107**	.092**
R^2	.134	.243	.227	.267	.238	.276
Change in R^2			.093	.025	.011	.008
Change in F			45.853	12.788	5.543	4.291
Significant F change (p <)			.001	.001	.019	.039

Note: **p < 0.001; *p < 0.005 (2-tailed test).

4.5 LBS Provider Trust on Destination Trust and Behavioral Intentions

Hypotheses H10a and H10b proposed a direct effect of LBS trust on destination trust and behavioral intentions respectively. A simple linear regression analysis was conducted to estimate the effect of the proposed relationships. In the first linear regression equation, LBS provider trust positively and significantly predicted destination trust, $R^2 = .349$, $R^2_{adj} = .347$, $F (1, 382) = 204.83$, $p < .001$. In the second

equation, LBS provider trust positively and significantly predicted tourists' behavioral intention, $R^2 = .285$, $R^2_{adj} = .283$, $F(1, 382) = 151.99$, $p < .001$.

Thus, hypotheses H10a and H10b were supported. In sum, tourists' trust toward location-based service providers in a specific smart destination will greatly influence their decision to trust the destination and display positive behavioral intention towards the destination.

4.6 Destination Trust and Behavioral Intentions

The final hypothesis proposed a direct effect of destination trust on behavioral intention. Similar to the other direct relationship proposed, we performed a simple linear regression analysis. The result indicated that destination trust positively and significantly predicted tourist's behavioral intention to a smart destination, $R^2 = .523$, $R^2_{adj} = .522$, $F(1, 382) = 418.43$, $p < .001$. Thus, destination trust enhances tourists' display of behavioral intentions. Therefore, hypothesis H11 was supported.

Chapter 5

DISCUSSIONS AND CONCLUSIONS

5.1 Discussions

The results of this study reflected that privacy concerns and perceived risk of mobile application location-based services are negatively related to trust in a smart tourism destination and location-based service provider. This is consistent with previous studies on privacy concerns and perceived risk related to trust, in the context of mobile advertising, mobile hotel booking, and in the context of location-based service adoption (Okazaki, Navarro-Bailon & Molina-Castillo, 2012; Ozturk et al., 2017; Zhou, 2012). When tourists have a negative perception of information privacy concerns and risks, they would not trust a smart tourism destination and the location-based service provider in the smart tourism destination.

The results further showed a positive relationship exists between tourists' perceived ability to control information and their trust in both the smart tourism destination and location-based service provider. When the tourists feel they have control over the information collected by the service provider and the destination in the use of their mobile application location-based service, it builds their trust. This is in consistent with previous studies on control and trust as providing an equitable relationship (Mosteller & Poddar, 2017).

The moderator variable use context, which is a positive environmental factor, showed interesting results that add to the knowledge of the literature, the smart tourism destinations, and service providers. The variable did not strengthen the positive relationship of information control with destination trust and location-based service provider trust. The results showed that use context influence is in mitigating negative relationship privacy concerns and perceived risk on destination trust and service provider trust. Use context is an important factor to consider in future studies and should be considered in the development and implementation of smart tourism destinations. If the context of use is existent, the privacy and risk concern of a tourist using mobile application location-based service is reduced when they know why their information is being collected and how it is useful for them. This is supported by the theory proposed that environmental and situational factors can influence personal beliefs. How to mitigate the effect of privacy concerns seems to be still a black box (Zhou, 2016), and use context has shown to be an interesting factor that can help mitigate privacy concerns and risk of information disclosure in a smart tourism destination.

Previous violation experience, which is used as the second moderator, strengthened the negative relationship between privacy concern and perceived risk; it also further weakened the positive relationships of perceived ability to control information that shows it has a strong effect on trust perceptions in a smart tourism destination. These results are consistent with the study by Pavlou and Gefen (2005) that previous violations can affect the trust of service or market; it is also supported by the study of Xu et al. (2011) that found previous violations experience positively influences perceived risk of information disclosure. The results have shown that previous violation experience is a very strong negative factor in information privacy studies.

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The results further support previous privacy violation experience as a risk using the privacy calculus theory. The destinations and service providers have to make sure that they do not lose the trust of the tourist as this violation can influence the tourists' trust, even when control, which is a positive variable, is given, the previous violation would still be significant in negatively influencing the tourists' trust.

Furthermore, the results showed location-based service provider trust is positively related to destination trust and behavioral intention. When there is trust in the service provider, there would be trust in the destination and it would lead to positive behavior intentions, which makes service provider trust important in the development and growth of smart tourism destinations.

Finally, this study showed that destination trust would both positively influence the behavioral intentions of the tourists to visit a destination and recommend the destination to others. This result is consistent with previous studies on trust by Abubakar et al. (2016). The results of these studies have shown that trust in destination and service providers is important in the future of smart tourism destinations. Trust greatly influences revisit intention and intention to recommend which is important for DMO's.

5.2 Managerial Implications

The DMO's, the service provider, and the tourists are three major stakeholders that are involved in smart tourism destinations (Boes et al., 2016; Femenia-Serra, 2018; Wang et al., 2013). This study investigates the tourist privacy perceptions towards the smart tourism destination and the service providers. This study provides implications specifically for smart tourism destination management organizations, technology

service providers, and generally for other smart tourism destination stakeholders. Fostering trust in a smart tourism destination is very important. With the use of technology all through the tourist travel cycle building trust with the service providers is also important for the development and sustainability of a smart tourism destination. As the results of this study have shown that trust in the service provider would influence trust in the destination and influence tourists to revisit and recommend the destination.

Information privacy risks and privacy concerns of mobile application location-based service are negatively related to destination trust and trust in the service provider. The service providers and DMO's in smart tourism destinations should take effective measures to mitigate this concern when implementing and developing location-based services in the tourism destination.

To address the above privacy problems faced by DMO's, information control has been proven in this study to be positively related to trust. The destination managers, service providers, and other stakeholders in the smart tourism destination should work towards developing software and applications used in the destination with control where the users can accept or decline for their information to be used, get the information about why data is been collected, and how it is used. The location-based service providers should make effort to not send push notifications without the user's consent.

Additionally, the results of this study have shown that privacy concerns and privacy risks can also be mitigated with use context. Marketers should emphasize the importance, purpose, and use of personal information and technology in smart tourism destinations. For instance, if the service provider informs the tourist how their location

information is used to help them find their way if they get lost, they will reduce the privacy concern of the tourist towards their location data collection.

While promoting smart technologies' implementation, destinations should also try to differentiate themselves from other smart tourism destinations so as previous privacy violations of the tourists would not affect the tourists' trust. This also gives way to future research to check privacy violations across different smart tourism destinations.

The results of this study have shown that previous violation experience negatively influences user beliefs towards trust in a smart tourism destination and location-based service provider. Future studies can consider a longitudinal study comparing if a violation in one smart tourism destination influences privacy concerns in another smart tourism destination. Future studies can also build on this study to further research the privacy paradox in the smart tourism destination with different contexts and finally, the influence of use context can also be studied concerning the privacy paradox.

5.3 Contribution to Literature

This dissertation contributes to tourism, and technology management literature in several ways. First, it contributes to the existing literature in both fields by theoretically and empirically developing the unique research model, gathering data, and testing the relationships among the variables. With the supported hypothesis, the research presents results that are relevant to the literature.

Understanding the tourist's privacy concern, and the role of use context in moderating the negative effects on trust in the use of mobile application LBS. This is missing from current research and a very important factor for DMO's seeking to develop smart tourism destinations. The research contribution arises from first using the social

cognitive theory which suggests inter-relationship between personal factors (privacy concern, perceived risk, information control, previous privacy violation experience, and trust), environmental factor (use context, smart tourism destination), and behavioral factor (intention to recommend and revisit). Secondly, the research contributes to the literature by using the user context and previous privacy violation experience to further contribute to the privacy calculus theory risk-benefit analysis.

5.4 Conclusion

This dissertation following the objectives stated earlier proposed and empirically tested a research model on the impact of privacy concern, perceived risk, perceived ability to control information on smart tourism destination trust, and mobile application location-based service provider trust. The research model further examined the moderating role of user context and previous privacy violation experience on the earlier proposed direct relationships of concern, risk, and control.

The research model also examined the direct effect of LBS provider trust on destination trust and behavioral intentions, and finally, the model examined the direct relation of destination trust on positive behavioral intention. These interrelationships were established based on the social cognitive theory, using empirical evidence from previous studies, and data collected and analyzed to support the hypothesized relationships. There exist several pieces of literature on destination trust and behavioral intentions in tourism research. This dissertation fills in the gap on technology-influenced factors for destination trust and behavioral intentions.

Results of the analysis performed show that use context mitigates privacy concerns. Information control builds destination trust. Tourists are willing to use mobile

application location-based services and trust the destination and the service provider when they can understand why their data is collected and they can have control to accept or decline the use of their personal data.

This research hope that future studies would continue to contribute to the body of knowledge by investigating how to grow and promote smart tourism with the future of the world continuously dynamic smart tourism becomes even more important towards tourism sustainability. This study showed use context, information control, and previous violation experience are very important factors in information privacy concern studies. The body of literature should continue to investigate new practices, factors, and influence that can mitigate information privacy concern in the smart tourism destination. As technology continues to abide in tourism, researchers should continue to investigate how it affects the tourists.

5.5 Limitation and Future Research

One of the limitations of this study is its focus on the privacy concern of mobile application LBS. However, there are different technologies used in smart tourism destinations. Future studies can research the privacy concern of tourists towards the other mobile technologies different from location-based services used in the smart tourism destination and the effects on service providers. Another limitation is in the demographics of the respondents as they do not completely reflect the general demographics of tourists visiting Dubai. Future studies can increase the sample size to consider a more general demographic. Finally, the study did not consider the privacy concern of tourists that do not use any technology. Future studies can expand the scope of this study by including the privacy concerns of tourists who do not use any technology in a smart tourism destination. The results of this study have shown that

previous violation experience negatively influences user beliefs towards trust in a smart tourism destination and location-based service provider.

Future studies can consider a longitudinal study comparing if a violation in one smart tourism destination influences privacy concerns in another smart tourism destination. Finally, this study shows the influence of use context which has not been largely studied, use context is introduced as a benefit using the privacy calculus theory, future studies can further research the full extent of use context as a benefit in the privacy paradox. Future studies can further investigate its influence on the information privacy paradox.

REFERENCES

Abubakar, A. M., & Ilkan, M. (2016). Impact of online WOM on destination trust and intention to travel: A medical tourism perspective. *Journal of Destination Marketing & Management*, *5*(3), 192-201.

Abubakar, A. M., Ilkan, M., Al-Tal, R. M., & Eluwole, K. K. (2017). eWOM, revisit intention, destination trust, and gender. *Journal of Hospitality and Tourism Management*, *31*, 220-227.

Adams, J. S. (1963). Towards an understanding of inequity. *The journal of abnormal and social psychology*, *67*(5), 422.

Aaker, D. A., Kumar, V., Day, G. S., & Lawley, M. D. Stewart (2007). *Marketing Research: The Second Pacific Rim Edition. Avusturalya: Job Wiley And Sons*.

Alegre, J., & Juaneda, C. (2006). Destination loyalty: Consumers' economic behavior. *Annals of Tourism Research*, 33(3), 684–706. doi:10.1016/j.annals.2006.03.014.

Alegre, J., & Garau, J. (*2010*). Tourist satisfaction and dissatisfaction. *Annals of tourism research*, *37*(1), 52-73.

Álvarez, L. S., Casielles, R. V., & Martín, A. M. D. (2009). The role of commitment perceived by the consumer in service industries. *Management Research: Journal of the Iberoamerican Academy of Management*.

Altinay, L., & Paraskevas, P. (2008). Data collection techniques. *Planning Research in Hospitality and Tourism*, 107-135.

Anuar, F., & Gretzel, U. (2011, January). Privacy concerns in the context of location-based services for tourism. In *ENTER 2011 Conference*.

Arıcı, N. Ç., & Güçer, E. (2018). The antecedents of revisit intention in medical businesses. *İşletme Araştırmaları Dergisi*, *10*(2), 740-757.

Artigas, E. M., Yrigoyen, C. C., Moraga, E. T., & Villalón, C. B. (2017). Determinants of trust towards tourist destinations. *Journal of Destination Marketing & Management*, *6*(4), 327-334.

Awad, N. F., & Krishnan, M. S. (2006). The personalization privacy paradox: an empirical evaluation of information transparency and the willingness to be profiled online for personalization. *MIS Quarterly*, 13-28.

Balasubraman, S., Peterson, R. A., & Jarvenpaa, S. L. (2002). Exploring the implications of m-commerce for markets and marketing. *Journal of the Academy of Marketing Science*, *30*(4), 348-361.

Bǎltescu, C. A. (2018). Smart tourism technologies and sustainable tourism development: evidence from brașov county. Annals of' Constantin Brancusi' University of Targu-Jiu. Economy Series, (3).

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191.

Bandura, A. (1986). Social foundation of thought and action.

Bandura, A. (1989). Human Agency in Social cognitive theory. American Psychological Association.

Bandura, A. (1997). Self Efficacy. The Exercise of Control, New York: W H. *Freeman & Co. Student Success*, *333*, 48461.

Bandura, A. (1999a). Social cognitive theory of personality. *Handbook of personality*, *2*, 154-96.

Bandura, A. (1999b). Social cognitive theory: An agentic perspective. *Asian journal of social psychology*, *2*(1), 21-41.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual review of psychology*, *52*(1), 1-26.

Bansal, G., & Gefen, D. (2010). The impact of personal dispositions on information sensitivity, privacy concern, and trust in disclosing health information online. *Decision support systems*, *49*(2), 138-150.

Bauer, R. A. (1967). Consumer behavior as risk-taking.

Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior research and therapy*, *42*(10), 1129-1148.

Beinat, E. (2001). Privacy and location-based services: stating the policies clearly. *GeoInformatics*, *4*, 14-17.

Bhatnagar, A., & Ghose, S. (2004). Segmenting consumers based on the benefits and risks of internet shopping. *Journal of Business Research*, 57(12), 1352–1360.

Boateng, H., Adam, D. R., Okoe, A. F., & Anning-Dorson, T. (2016). Assessing the determinants of internet banking adoption intentions: A social cognitive theory perspective. *Computers in Human Behavior*, *65*, 468-478.

Boyd, D., & Crawford, K. (2012). Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon. *Information, communication & society*, *15*(5), 662-679.

Bryman, A., & Bell, E. (2011). Business Research Methods 3rd ed. New York.

Buhalis, D., & Amaranggana, A. (2014). Smart tourism destinations.In Z. Xiang, & I.Tussyadiah (Eds.), *In Information and communication technologies in tourism 2014* (pp. 553-564). Springer, Cham.

Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations enhancing tourism experience through personalization of services. *In Information and communication technologies in tourism 2015* (pp. 377-389). Springer, Cham.

Buhalis, D., & Foerste, M. (2015). SoCoMo marketing for travel and tourism: Empowering co-creation of value. *Journal of Destination Marketing & Management*, 4(3), 151-161.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management*, 29(4), 609-623.

Buhalis, D. (2003). eTourism: Information technology for strategic tourism management. Pearson Education.

Buhalis, D. (2019). Technology in tourism-from information communication technologies to eTourism and smart tourism towards ambient intelligence tourism: a perspective article. *Tourism Review*.

Burns, R. B., & Bursn, R. B. (2000). Introduction to research methods.

Carr, N. (2001). An exploratory study of gendered differences in young tourists perception of danger within London. *Tourism Management*, *22*(5), 565-570.

Castells, M., & Cardoso, G. (2006). *The network society: From knowledge to policy*. Center for Transatlantic Relations, Jhu-Sais.

Caudill, E. M., & Murphy, P. E. (2000). Consumer online privacy: Legal and ethical issues. *Journal of Public Policy & Marketing*, *19*(1), 7-19.

Cimbaljević, M., Stankov, U., & Pavluković, V. (2018). Going beyond the traditional destination competitiveness–reflections on a smart destination in the current research. Current Issues in Tourism, 1-6.

Chang, Y., Kim, H., Wong, S. F., & Park, M. C. (2015). A comparison of the digital divide across three countries with different development indices. *Journal of Global Information Management (JGIM)*, *23*(4), 55-76.

Chang, Y., Wong, S. F., & Park, M. C. (2016). A three-tier ICT access model for intention to participate online: a comparison of developed and developing countries. *Information Development*, *32*(3), 226-242.

Chen, J. Q., Zhang, R., & Lee, J. (2013). A cross-culture empirical study of M-commerce privacy concerns. *Journal of Internet Commerce*, *12*(4), 348-364.

Chen, H. T. (2018). Revisiting the privacy paradox on social media with an extended privacy calculus model: The effect of privacy concerns, privacy self-efficacy, and social capital on privacy management. *American behavioral scientist*, *62*(10), 1392-1412.

Chen, C. C., Huang, W. J., Gao, J., & Petrick, J. F. (2018). Antecedents and consequences of work-related smartphone use on vacation: An exploratory study of Taiwanese tourists. *Journal of Travel Research*, *57*(6), 743-756.

Chen, H., & Atkin, D. (2021). Understanding third-person perception about Internet privacy risks. *New Media & Society*, *23*(3), 419-437.

Chih, C., & Lin, C. P. (2019). The impact of employees' perceptions of HR practices on identification with the company and citizenship behavior: A moderated mediation model. *Employee Relations: The International Journal*.

Choi, Y. H., & Bazarova, N. N. (2015). Self-disclosure characteristics and motivations in social media: Extending the functional model to multiple social network sites. *Human Communication Research*, *41*(4), 480-500.

Choi, M., Law, R., & Heo, C. Y. (2016). Shopping destinations and trust–tourist attitudes: Scale development and validation. *Tourism Management*, *54*, 490-501.

Chui, M., Loffler, M., & Roberts, R. (2010). The internet of things. McKinsey Q. *Open interactive popup. Recuperado el*, *1*.

Chiu, C. M., Hsu, M. H., Lai, H., & Chang, C. M. (2012). Re-examining the influence of trust on online repeat purchase intention: The moderating role of habit and its antecedents. *Decision Support Systems*, *53*(4), 835-845.

Chiu, C. M., Cheng, H. L., Huang, H. Y., & Chen, C. F. (2013). Exploring individuals' subjective well-being and loyalty towards social network sites from the perspective of network externalities: The Facebook case. *International Journal of Information Management*, *33*(3), 539-552.

Chiu, C-M., Wang, E.T.G., Fang, Y-H., Huang H-Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value, and perceived risk. *Information Systems Journal*, 24(1), 85–114.

Chung, N., Han, H., & Joun, Y. (2015). Tourists' intention to visit a destination: The role of augmented reality (AR) application for a heritage site. *Computers in Human Behavior*, *50*, 588-599.

Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics*, *32*(2), 215-229.

Clifford Sharp, The Economics of Time, John Wiley, New York, 1981

Cohen, S. A., Prayag, G., & Moital, M. (2014). Consumer behavior in tourism: Concepts, influences, and opportunities. *Current Issues in Tourism*, 17(10), 872–909.

Collis, J., & Hussey, R. (2013). *Business research: A practical guide for undergraduate and postgraduate students*. Macmillan International Higher Education.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Crotts, J. C., Coppage, C. M. A., & Andibo, A. (2001). Trust-commitment model of buyer-supplier relationships. *Journal of Hospitality & Tourism Research*, *25*(2), 195-208.

Culnan, M. J., & Armstrong, P. K. (1999). Information privacy concerns, procedural fairness, and impersonal trust: An empirical investigation. *Organization Science*, *10*(1), 104-115.

Culnan, M. J., & Bies, R. J. (2003). Consumer privacy: Balancing economic and justice considerations. *Journal of social issues*, *59*(2), 323-342.

Dabholkar, P. A., & Bagozzi, R. P. (2002). An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the academy of marketing science*, *30*(3), 184-201.

Del Chiappa, G., & Baggio, R. (2015). Knowledge transfer in smart tourism destinations: Analyzing the effects of a network structure. *Journal of Destination Marketing & Management*, 4(3), 145-150.

Derlega, V. J., & Chaikin, A. L. (1977). Privacy and self-disclosure in social relationships. *Journal of Social Issues*, *33*(3), 102-115.

Dewan, N., MacDermid, J. C., & Packham, T. (2013). Role of a self-efficacy-based model of intervention: the LEARN approach in rehabilitation of distal radius fracture. *Critical Reviews™ in Physical and Rehabilitation Medicine*, *25*(3-4).

Dey, A. K. (2001). Understanding and using context. *Personal and ubiquitous computing*, *5*(1), 4-7.

Dickinson, J. E., Hibbert, J. F., & Filimonau, V. (2016). Mobile technology and the tourist experience:(Dis) connection at the campsite. *Tourism Management*, 57, 193-201.

Dinev, T., & Hart, P. (2004). Internet privacy concerns and their antecedents-measurement validity and a regression model. *Behaviour & Information Technology*, *23*(6), 413-422.

Dinev, T., Bellotto, M., Hart, P., Russo, V., Serra, I., & Colautti, C. (2006). Privacy calculus model in e-commerce–a study of Italy and the United States. *European Journal of Information Systems*, *15*(4), 389-402.

Dinev, T., & Hart, P. (2006). An extended privacy calculus model for e-commerce transactions. *Information systems research*, *17*(1), 61-80.

Domínguez Vila, T., Alén González, E., & Darcy, S. (2019). Accessible tourism online resources: a Northern European perspective. *Scandinavian Journal of Hospitality and Tourism*, *19*(2), 140-156.

Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, 61(2), 35–51.

Dowling, G. R., & Staelin, R. (1994). A model of perceived risk and intended risk-handling activity. *Journal of consumer research*, *21*(1), 119-134.

Dubai-online, (2021). https://www.dubai-online.com/essential/tourism-statistics/ (Accessed 17 April 2021).

Ert, E., Fleischer, A., & Magen, N. (2016). Trust and reputation in the sharing economy: The role of personal photos in Airbnb. *Tourism Management*, *55*, 62-73.

Evans, C., & Erkan, I. (2015). The Influence of Electronic Word of Mouth in Social Media on Consumers' Purchase Intentions. In *Managing Intellectual Capital and Innovation for Sustainable and Inclusive Society: Managing Intellectual Capital and Innovation; Proceedings of the MakeLearn and TIIM Joint International Conference 2015* (pp. 2007-2007). ToKnowPress.

Featherman, M. S., Miyazaki, A. D., & Sprott, D. E. (2010). Reducing online privacy risk to facilitate e-service adoption: the influence of perceived ease of use and corporate credibility. *Journal of Services Marketing*, *24*(3), 219-229.

Femenia-Serra, F., & Neuhofer, B. (2018). Smart tourism experiences: conceptualization, key dimensions, and research agenda.

Femenia-Serra, F., & Ivars-Baidal, J. A. (2018). Do smart tourism destinations really work? The case of Benidorm. *Asia Pacific Journal of Tourism Research*, 1-20.

Femenia-Serra, F., Neuhofer, B., & Ivars-Baidal, J. A. (2019). Towards a conceptualization of smart tourists and their role within the smart destination scenario. *The Service Industries Journal*, 39(2), 109-133.

Fertman, C. I. (2010). dan Allensworth, DD. *Health Promotion Program From Theory To Practice Society For Public Health Education*, *75*.

Fidell, L. S., & Tabachnick, B. G. (2014). Using multivariate statistics (New International Edition ed.).

Fishbein, M., & Ajzen, I. (1975).Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Font, X., Garay, L., & Jones, S. (2016). A social cognitive theory of sustainability empathy. *Annals of Tourism Research*, *58*, 65-80.

Forgas, S., Moliner, M. A., Sánchez, J., & Palau, R. (2010). Antecedents of airline passenger loyalty: Low-cost versus traditional airlines. *Journal of Air Transport Management*, *16*(4), 229-233.

Fowler Jr, F. J. (2013). *Survey research methods*. Sage publications.

Frank, J., & Harnisch, M. J. (2014). Review on benefits and risks of personalization and solutions for privacy concerns. *Computer Communication & Collaboration*, *2*(1), 35-46.

Gavalas, D., & Kenteris, M. (2011). A web-based pervasive recommendation system for mobile tourist guides. *Personal and Ubiquitous Computing*, 15(7), 759-770.

Garcia, A., Linaza, M. T., Gutierrez, A., & Garcia, E. (2019). Gamified mobile experiences: smart technologies for tourism destinations. *Tourism Review*, 74(1), 30-49.

Garbarino, E., & Johnson, M. S. (1999). The different roles of satisfaction, trust, and commitment in customer relationships. *Journal of Marketing*, *63*(2), 70-87.

Gambino, A., Kim, J., Sundar, S. S., Ge, J., & Rosson, M. B. (2016, May). User disbelief in privacy paradox: Heuristics that determine disclosure. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 2837-2843). ACM.

Gray, D. E. (2013). Doing research in the real world. Sage.

Germain, C. B., & Bloom, M. (1999). *Human behavior in the social environment: An ecological view*. Columbia University Press.

Ghaderi, Z., Hatamifar, P., & Ghahramani, L. (2019). How smartphones enhance local tourism experiences?. *Asia Pacific Journal of Tourism Research*, *24*(8), 778-788.

Ghafari, M., Rezaei Dolatabadi, H., & Dehghani, F. (2014). Analysis of the factors affecting tourists loyalty to destinations (Case Study: Foreign tourists of Isfahan). *Organizational Culture Management*, *12*(3), 551-568.

Gibson, H., & Yiannakis, A. (2002). Tourist roles: Needs and the life course. *Annals of tourism research*, *29*(2), 358-383.

Given, L. M. (Ed.). (2008). *The Sage encyclopedia of qualitative research methods*. Sage publications.

Goffman, E. (1963). Stigma: notes on the management of spoiled identity. *Englewood Cliffs, N]: Prentice-Hall*.

González-Reverté, F., Díaz-Luque, P., Gomis-López, J. M., & Morales-Pérez, S. (2018). Tourists' risk perception and the use of mobile devices in beach tourism destinations. *Sustainability*, *10*(2), 413.

Grabner-Kräuter, S., and R. Faullant. 2008. "Consumer Acceptance of Internet Banking: The Influence of Internet Trust." *The International Journal of Bank Marketing*, 26 (7): 483–504.

Gretzel, U. (2011). Intelligent systems in tourism: A social science perspective. *Annals of tourism research*, *38*(3), 757-779.

Gretzel, U., Werthner, H., Koo, C., & Lamsfus, C. (2015a). Conceptual foundations for understanding smart tourism ecosystems. *Computers in Human Behavior*, 50, 558-563.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015b). Smart tourism: foundations and developments. *Electronic Markets*, 25(3), 179-188.

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., ... & Li, Y. (2013). Career adaptability, job search self-efficacy, and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior*, *83*(3), 561-570.

Guntoro, B., & Hui, T. K. (2013). *Travel satisfaction and revisit intention of Chinese visitors: The case of Singapore: Vol 9. Advances in hospitality and leisure* (pp. 29–47). Bingley, UK: Emerald Group Publishing Limited.

Hajli, N., & Lin, X. (2016). Exploring the security of information sharing on social networking sites: The role of perceived control of information. *Journal of Business Ethics*, *133*(1), 111-123.

Hallam, C., & Zanella, G. (2017). Online self-disclosure: The privacy paradox explained as a temporally discounted balance between concerns and rewards. *Computers in Human Behavior*, 68, 217-227.

Hew, J. J., Tan, G. W. H., Lin, B., & Ooi, K. B. (2017). Generating travel-related contents through mobile social tourism: Does privacy paradox persist?. *Telematics and Informatics*, 34(7), 914-935.

Heydari Fard, M., Sanayei, A., & Ansari, A. (2019). Determinants of Medical Tourists' Revisit and Recommend Intention. *International Journal of Hospitality & Tourism Administration*, 1-26.

Hoffmann, C. P., Lutz, C., & Meckel, M. (2015). Content creation on the Internet: A social cognitive perspective on the participation divide. *Information, Communication & Society*, *18*(6), 696-716.

Hong, I. B., & Cho, H. (2011). The impact of consumer trust on attitudinal loyalty and purchase intentions in B2C e-marketplaces: Intermediary trust vs. seller trust. *International journal of information management*, *31*(5), 469-479.

Hong, W., Chan, F. K., Thong, J. Y., Chasalow, L. C., & Dhillon, G. (2014). A framework and guidelines for context-specific theorizing in information systems research. *Information systems research*, *25*(1), 111-136.

Hong, C. P., Kim, C. G., Kim, K. J., & Kim, S. D. (2015). A polymorphic service management scheme based on virtual object for ubiquitous computing environment. *Multimedia Tools and Applications*, 74(16), 6183-6196.

Howie, F. (2003). Managing the tourist destination. Cengage Learning EMEA.

Hunter, W. C., Chung, N., Gretzel, U., & Koo, C. (2015). Constructivist research in smart tourism. *Asia Pacific Journal of Information Systems*, 25(1), 105-120.

Huang, C. D., Goo, J., Nam, K., & Yoo, C. W. (2017). Smart tourism technologies in travel planning: The role of exploration and exploitation. *Information & Management*, *54*(6), 757-770.

Hyun, S. S. (2009). Creating a model of customer equity for chain restaurant brand formation. *International Journal of Hospitality Management*, *28*(4), 529-539.

Janoff-Bulman, R., & Schwartzberg, S. S. (1991). Toward a general model of personal change. *Handbook of social and clinical psychology: The health perspective*, 488-508.

Jeong, M., & Shin, H. H. (2020). Tourists' experiences with smart tourism technology at smart destinations and their behavior intentions. *Journal of Travel Research*, *59*(8), 1464-1477.

Jovicic, D. Z. (2017). From the traditional understanding of tourism destination to the smart tourism destination. *Current Issues in Tourism*, 22(3), 276-282.

Junglas, I. A., & Spitzmuller, C. (2005, January). A research model for studying privacy concerns pertaining to location-based services. In *Proceedings of the 38th Annual Hawaii International Conference on System Sciences* (pp. 180b-180b). IEEE.

Junglas, I., & Spitzmuller, C. (2006, June). Personality traits and privacy perceptions: an empirical study in the context of location-based services. In *2006 International Conference on Mobile Business* (pp. 36-36). IEEE.

Junglas, I., Goel, L., Abraham, C., & Ives, B. (2013). The Social component of information systems—How sociability contributes to technology acceptance. *Journal of the Association for Information Systems*, *14*(10), 1.

Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99-127).

Kaasinen, E. (2003). User needs for location-aware mobile services. *Personal and ubiquitous computing*, *7*(1), 70-79.

Kaur, M. J., & Maheshwari, P. (2016, March). Building smart cities applications using IoT and cloud-based architectures. *In 2016 International Conference on Industrial Informatics and Computer Systems* (CIICS) (pp. 1-5). IEEE.

Kelly, P., & Lawlor, J. (2019). Adding or destroying value? User experiences of tourism self-service technologies. *Journal of Hospitality and Tourism Insights*.

Khan, M., Woo, M., Nam, K., & Chathoth, P. (2017). Smart city and smart tourism: A case of Dubai. *Sustainability*, 9(12), 2279.

Kim, H., Kim, J., & Lee, Y. (2005). An empirical study of use contexts in the mobile internet, focusing on the usability of information architecture. *Information Systems Frontiers*, *7*(2), 175-186.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44(2), 544-564.

Kim, M. J., Chung, N., & Lee, C. K. (2011). The effect of perceived trust on electronic commerce: Shopping online for tourism products and services in South Korea. *Tourism Management*, 32(2), 256-265.

Kim, M., & Qu, H. (2014). Travelers' behavioral intention toward hotel self-service kiosks usage. *International Journal of Contemporary Hospitality Management*.

Kim, M. J., Chung, N., Lee, C. K., & Preis, M. W. (2015). Motivations and use context in mobile tourism shopping: Applying contingency and task–technology fit theories. *International Journal of Tourism Research*, *17*(1), 13-24.

Kim, J. (2016). An extended technology acceptance model in behavioral intention toward hotel tablet apps with moderating effects of gender and age. *International Journal of Contemporary Hospitality Management*, *28*(8), 1535-1553.

Kim, M. J., & Preis, M. W. (2016). Why seniors use mobile devices: Applying an extended model of goal-directed behavior. *Journal of Travel & Tourism Marketing*, *33*(3), 404-423.

Kim, J., Yoon, S., & Zemke, D. M. V. (2017). Factors affecting customers' intention to use of location-based services (LBS) in the lodging industry. *Journal of Hospitality and Tourism Technology*, 8(3), 337-356.

Kim, D., & Kim, S. (2017). The role of mobile technology in tourism: Patents, articles, news, and mobile tour app reviews. *Sustainability*, 9(11), 2082.

Kim, J., Chang, Y., Chong, A. Y. L., & Park, M. C. (2019). Do perceived use contexts influence usage behavior? An instrument development of perceived use context. *Information & Management*, *56*(7), 103155.

Kock, N. (2004). The psychobiological model: Towards a new theory of computer-mediated communication based on Darwinian evolution. *Organization Science*, *15*(3), 327-348.

Kokolakis, S. (2017). Privacy attitudes and privacy behaviour: A review of current research on the privacy paradox phenomenon. *Computers & Security*, *64*, 122-134.

Koo, C., Gretzel, U., Hunter, W. C., & Chung, N. (2015). Editorial The Role of IT in Tourism. *Asia Pacific Journal of Information Systems*, *25*(1), 99-102.

Koo, C., Yoo, K. H., Lee, J. N., & Zanker, M. (2016). Special section on generative smart tourism systems and management: Man-machine interaction. *International Journal of Information Management*, 6(36), 1301-1305.

Koo, C., Park, J., & Lee, J. N. (2017). Smart tourism: Traveler, business, and organizational perspectives.

Kontogianni, A., & Alepis, E. (2020). Smart Tourism: State of the art and literature review for the last six years. *Array*, *6*, 100020.

Kozak, M., & Decrop, A. (Eds.). (2009). *Handbook of tourist behavior: Theory & Practice* (Vol. 16). Routledge.

Krasnova, H., Veltri, N. F., & Günther, O. (2012). Self-disclosure and privacy calculus on social networking sites: the role of culture. *Business & Information Systems Engineering*, *4*(3), 127-135.

Lalicic, L., & Weismayer, C. (2018). Being passionate about the mobile while travelling. *Current Issues in Tourism*, 21(8), 950-963.

Lee, I., Kim, J., & Kim, J. (2005). Use contexts for the mobile internet: a longitudinal study monitoring actual use of mobile internet services. *International Journal of Human-Computer Interaction*, *18*(3), 269-292.

Lee, H., Park, H., & Kim, J. (2013). Why do people share their context information on Social Network Services? A qualitative study and an experimental study on users' behavior of balancing perceived benefit and risk. *International Journal of Human-Computer Studies*, *71*(9), 862-877.

Lee, J. M., & Rha, J. Y. (2016). Personalization–privacy paradox and consumer conflict with the use of location-based mobile commerce. *Computers in Human Behavior*, *63*, 453-462.

Lee, H., Lee, J., Chung, N., & Koo, C. (2018). Tourists' happiness: are there smart tourism technology effects?. *Asia Pacific Journal of Tourism Research*, *23*(5), 486-501.

Lee, S., Ha, H. R., Oh, J. H., & Park, N. (2018, July). The impact of perceived privacy benefit and risk on consumers' desire to use internet of things technology. In *International Conference on Human Interface and the Management of Information* (pp. 609-619). Springer, Cham.

Lee, P., Hunter, W. C., & Chung, N. (2020). Smart tourism city: Developments and transformations. *Sustainability*, *12*(10), 3958.

Lepp, A., & Gibson, H. (2008). Sensation seeking and tourism: Tourist role, perception of risk and destination choice. *Tourism Management*, *29*(4), 740-750.

Li, Y. (2012). Theories in online information privacy research: A critical review and an integrated framework. *Decision support systems*, *54*(1), 471-481.

Li, H., Wu, J., Gao, Y., & Shi, Y. (2016). Examining individuals' adoption of healthcare wearable devices: An empirical study from privacy calculus perspective. *International journal of medical informatics*, *88*, 8-17.

Li, Y., Hu, C., Huang, C., & Duan, L. (2017). The concept of smart tourism in the context of tourism information services. *Tourism Management*, *58*, 293-300.

Liang, T. P., & Yeh, Y. H. (2011). Effect of use contexts on the continuous use of mobile services: the case of mobile games. *Personal and Ubiquitous Computing*, *15*(2), 187-196.

Lim, N. (2003). Consumers' perceived risk: sources versus consequences. *Electronic Commerce Research and Applications*, *2*(3), 216-228.

Lin, Y. (2011, December). The application of the Internet of things in Hainan tourism scenic spot. In *2011 seventh international conference on computational intelligence and security* (pp. 1549-1553). IEEE.

Lin, T. T., Paragas, F., Goh, D., & Bautista, J. R. (2016). Developing location-based mobile advertising in Singapore: A socio-technical perspective. *Technological Forecasting and Social Change*, 103, 334-349.

Liu, C., Marchewka, J. T., Lu, J., & Yu, C. S. (2005). Beyond concern—a privacy-trust-behavioral intention model of electronic commerce. *Information & Management*, *42*(2), 289-304.

Liu, Y., & Li, H. (2011). Exploring the impact of use context on mobile hedonic services adoption: An empirical study on mobile gaming in China. *Computers in Human Behavior*, *27*(2), 890-898.

Liu, C. H. S., & Lee, T. (2016). Service quality and price perception of service: Influence on word-of-mouth and revisit intention. *Journal of Air Transport Management*, *52*, 42-54.

Lovell, G. (2009). Can I trust you? An exploration of the role of trust in hospitality service settings. *Tourism and Hospitality Planning & Development*, *6*(2), 145-157.

Lopez de Avila, A. (2015, February). Smart destinations: XXI century tourism. In ENTER2015 conference on information and communication technologies in tourism, Lugano, Switzerland (pp. 4-6).

Luo, S. J & Hsieh, L. Y. (2013). Reconstructing revisit intentions scale in tourism. *Journal of Applied Sciences*, 13(18), 3638-3648.

Ma, Y., & Liu, J. (2011). The enormous prospects of the smart tourism applications. 智慧旅游应用前景巨大. *China Tourism News*, 13.

Maeda, C. Tourist Numbers Outpace Dubai Population: New Study. Gulf News, 27 July 2017. Available online: http://gulfnews.com/business/sectors/tourism/tourist-numbers-outpace-dubai-population-newstudy-1.2064961 (accessed on 28 February 2019).

Mallat, N., Rossi, M., Tuunainen, V. K., & Öörni, A. (2009). The impact of use context on mobile services acceptance: The case of mobile ticketing. *Information & management*, *46*(3), 190-195.

Malhotra, N. K., Nunan, D., & Birks, D. F. (2017). *Marketing research: An applied approach*. Pearson Education Limited.

Margulis, S. T. (1977). Conceptions of privacy: Current status and next steps. *Journal of Social Issues*, *33*(3), 5-21.

Masur, P. K. (2018). *Situational privacy and self-disclosure: Communication processes in online environments*. Springer.

Masur, P. K., & Trepte, S. (2021). Transformative or Not? How Privacy Violation Experiences Influence Online Privacy Concerns and Online Information Disclosure. *Human Communication Research*, *47*(1), 49-74.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Acad Management Rev*, 20(3), 709–734.

McCarthy, N. The Cities where Tourist Splash the Most Cash. Forbes, 27 September 2017. Available online: https://www.forbes.com/sites/niallmccarthy/2017/09/28/the-cities-where-tourists-splash-themost-cash-infographic/#73ca3db161c4 (accessed on 28 February 2019).

McCole, P., Ramsey, E., & Williams, J. (2010). Trust considerations on attitudes towards online purchasing: The moderating effect of privacy and security concerns. *Journal of Business Research*, *63*(9-10), 1018-1024.

McKnight, H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for E-commerce: an integrative typology. Information Systems Research, 13(3), 334–359.

Meehan, K., Lunney, T., Curran, K., & McCaughey, A. (2013, March). Context-aware intelligent recommendation system for tourism. In 2013 IEEE international conference on pervasive computing and communications workshops (PERCOM workshops) (pp. 328-331). IEEE.

Minch, R. P. (2004, January). Privacy issues in location-aware mobile devices. In *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the* (pp. 10-pp). IEEE.

Mingjun, W., Zhen, Y., Wei, Z., Xishang, D., Xiaofei, Y., Chenggang, S., ... & Jinghai, H. (2012, October). A Research on experimental system for Internet of things major and application project. In *2012 3rd International Conference on System Science, Engineering Design and Manufacturing Informatization* (Vol. 1, pp. 261-263). IEEE.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20-38.

Morgan-Thomas, A., & Veloutsou, C. (2013). Beyond technology acceptance: Brand relationships and online brand experience. *Journal of Business Research*, *66*(1), 21-27.

Moorman, C., Deshpande, R., & Zaltman, G. (1993). Factors affecting trust in market research relationships. *Journal of Marketing*, 57(1), 81–101.

Mosteller, J., & Poddar, A. (2017). To share and protect: Using regulatory focus theory to examine the privacy paradox of consumers' social media engagement and online privacy protection behaviors. *Journal of Interactive Marketing*, 39, 27-38.

Narayan, B. (2013). Social Media Use and Civil Society: From Everyday Information Behaviours to Clickable Solidarity'. *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, *5*(3), 32-53.

Ngai, E. W., Tao, S. S., & Moon, K. K. (2015). Social media research: Theories, constructs, and conceptual frameworks. *International journal of information management*, *35*(1), 33-44.

Ngelambong, A., Nor, N. M., Abdullah, D., & Kamal, S. B. M. (2018). Perceived privacy concern, affective relationship trust and relationship risk in airlines brand online community: The moderating role of perceived benefit and risk-taking behaviour. *International Journal of Academic Research in Business and Social Sciences*, *8*(15), 68-81.

Nissenbaum, H. (2009). Privacy in Context: Technology, Policy, and the Integrity of Social Life, 70–72.

Neuhofer, B., Buhalis, D., & Ladkin, A. (2015). Smart technologies for personalized experiences: a case study in the hospitality domain. *Electronic Markets*, 25(3), 243-254.

No, E., & Kim, J. K. (2015). Comparing the attributes of online tourism information sources. *Computers in human behavior*, *50*, 564-575.

Okazaki, S., Li, H., & Hirose, M. (2009). Consumer privacy concerns and preference for degree of regulatory control. *Journal of advertising*, *38*(4), 63-77.

Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach. *The Journal of Marketing*, 21-35.

Olguın, D. O., Gloor, P. A., & Pentland, A. S. (2009, September). Capturing individual and group behavior with wearable sensors. In *Proceedings of the 2009 AAAI spring symposium on human behavior modeling, SSS* (Vol. 9).

Ooi, K. B., Hew, J. J., & Lin, B. (2018). Unfolding the privacy paradox among mobile social commerce users: a multi-mediation approach. *Behaviour & Information Technology*, *37*(6), 575-595.

Orth, U. R., & Green, M. T. (2009). Consumer loyalty to family versus non-family business: The roles of store image, trust, and satisfaction. *Journal of Retailing and Consumer Services*, *16*(4), 248-259.

Ozturk, A. B. (2016). Customer acceptance of cashless payment systems in the hospitality industry. *International Journal of Contemporary Hospitality Management*.

Ozturk, A. B., Nusair, K., Okumus, F., & Singh, D. (2017). Understanding mobile hotel booking loyalty: an integration of privacy calculus theory and trust-risk framework. *Information Systems Frontiers*, 19(4), 753-767.

Pajares, F. (2002). Self-efficacy beliefs in academic contexts: An outline.

Palen, L., & Dourish, P. (2003, April). Unpacking privacy for a networked world. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 129-136). ACM.

Palmatier, R. W., Stern, L. W., & Adel, I. El-Ansary (2015), Marketing Channel Strategy. *Pearson Prentice Hall, Upper Saddle River, NJ*, *45*, 13-121.

Park, J. H., Lee, C., Yoo, C., & Nam, Y. (2016). An analysis of the utilization of Facebook by local Korean governments for tourism development and the network of smart tourism ecosystem. *International Journal of Information Management*, *36*(6), 1320-1327.

Park, S. (2020). Multifaceted trust in tourism service robots. *Annals of Tourism Research*, *81*, 102888.

Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information systems research*, *15*(1), 37-59.

Pavlov, O. V., Melville, N., & Plice, R. K. (2008). Toward a sustainable email marketing infrastructure. Journal of Business Research, 61(11), 1191-1199.

Petronio, S. (2002). *Boundaries of privacy: Dialectics of disclosure*. Suny Press.

Phelps, J., Nowak, G., & Ferrell, E. (2000). Privacy concerns and consumer willingness to provide personal information. *Journal of Public Policy & Marketing*, *19*(1), 27-41.

Pizam, A., Jeong, G. H., Reichel, A., van Boemmel, H., Lusson, J. M., Steynberg, L., ... & Montmany, N. (2004). The relationship between risk-taking, sensation-seeking, and the tourist behavior of young adults: A cross-cultural study. *Journal of Travel Research*, *42*(3), 251-260.

Poddar, A., Mosteller, J., & Ellen, P. S. (2009). Consumers' rules of engagement in online information exchanges. Journal of Consumer Affairs, 43(3), 419-448.

Poon, W. C., & Koay, K. Y. (2021). Hong Kong protests and tourism: Modelling tourist trust on revisit intention. *Journal of Vacation Marketing*, *27*(2), 217-234.

Pop, R. A., Săplăcan, Z., Dabija, D. C., & Alt, M. A. (2021). The impact of social media influencers on travel decisions: The role of trust in consumer decision journey. *Current Issues in Tourism*, 1-21.

Porter, M. E., & Heppelmann, J. E. (2014). How smart, connected products are transforming competition. *Harvard business review*, *92*(11), 64-88.

Pujiastuti, E. E., Nimran, U., Suharyono, S., & Kusumawati, A. (2017). The antecedents of behavioral intention regarding rural tourism destination. *Asia Pacific Journal of Tourism Research*, *22*(11), 1169-1181.

Pujiastuti, E., Utomo, H., & Novamayanti, R. (2020). Millennial tourists and revisit intention. *Management Science Letters*, *10*(12), 2889-2896.

Rana, N. P., & Dwivedi, Y. K. (2015). Citizen's adoption of an e-government system: Validating extended social cognitive theory (SCT). *Government Information Quarterly*, *32*(2), 172-181.

Ratten, V. (2015). International consumer attitudes toward cloud computing: A social cognitive theory and technology acceptance model perspective. *Thunderbird International Business Review*, *57*(3), 217-228.

Ratten, V. (2010). Social cognitive theory and the adoption of e-book devices. *International journal of e-business management*, *4*(2), 3.

Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel & Tourism Marketing*, *20*(1), 13-31.

Roehl, W. S., & Fesenmaier, D. R. (1992). Risk perceptions and pleasure travel: An exploratory analysis. *Journal of Travel Research*, *30*(4), 17-26.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of management review*, *23*(3), 393-404.

Ružić, D., Biloš, A., & Kelić, I. (2012, January). Development of mobile marketing in Croatian tourism using location-based services. In New Trends in Tourism and Hospitality Management, 21th Biennial International Congress.

Saravanan, S., & Ramakrishnan, B. S. (2016). Preserving privacy in the context of location-based services through location hider in mobile-tourism. Information Technology & Tourism, 16(2), 229-248.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Scaglione, M., Favre, P., & Trabichet, J. P. (2016). Using Mobile Data and Strategic Tourism Flows. Pilot study Monitor in Switzerland. *Proceedings of the Big Data in Tourism & Business Intelligence in the Travel & Tourism Domain, Mid Sweden Univ.*, 69-72.

Schilit, B., Adams, N., & Want, R. (1994, December). Context-aware Computing Applications. In *1994 First Workshop on Mobile Computing Systems and Applications* (pp. 85-90). IEEE.

Sedarati, P., & Baktash, A. (2017). Adoption of Smart Glasses in Smart Tourism Destination: A system thinking approach.

Sekaran, U. (2006). *Research Methods For Business: A Skill Building Approach*. John Wiley & Sons.

Shafiee, M. M., & Es-Haghi, S. M. S. (2017). Mall Image, Shopping Well-being, and Mall Loyalty. *International Journal of Retail & Distribution Management*.

Smith, H. J., Milberg, S. J., & Burke, S. J. (1996). Information privacy: Measuring individuals' concerns about organizational practices. *MIS Quarterly*, 167-196.

Soleimani, A. G., & Einolahzadeh, H. (2018). The influence of service quality on revisit intention: The mediating role of WOM and satisfaction (Case study: Guilan travel agencies). *Cogent Social Sciences*, *4*(1), 1560651.

Son, J. Y., & Kim, S. S. (2008). Internet users' information privacy-protective responses: A taxonomy and a nomological model. *MIS Quarterly*, 503-529.

Spiekermann, S. (2007). *Perceived control: Scales for privacy in ubiquitous computing* (pp. 289-304). Auerbach Publications.

Statista Dubai tourism - number of international overnight visitors from 2010 to 2016 (in millions).

In Statista - The Statistics Portal. Retrieved February 28, 2019, from https://www.statista.com/statistics/284636/visitor-arrivals-in-dubai-from-international-destinations/.

Stone, E. F., & Stone, D. L. (1990). Privacy in organizations: Theoretical issues, research findings, and protection mechanisms. *Research in personnel and human resources management*, *8*(3), 349-411.

Su, L., Hsu, M. K., & Marshall, K. P. (2014). Understanding the relationship of service fairness, emotions, trust, and tourist behavioral intentions at a city destination in China. *Journal of Travel & Tourism Marketing*, *31*(8), 1018-1038.

Su, L., Hsu, M. K., & Swanson, S. (2017). The effect of tourist relationship perception on destination loyalty at a world heritage site in China: The mediating role of overall destination satisfaction and trust. *Journal of Hospitality & Tourism Research*, *41*(2), 180-210.

Sun, Y., Wang, N., Shen, X. L., & Zhang, J. X. (2015). Location information disclosure in location-based social network services: Privacy calculus, benefit structure, and gender differences. *Computers in Human Behavior*, *52*, 278-292.

Taylor, D. G., Davis, D. F., & Jillapalli, R. (2009). Privacy concern and online personalization: The moderating effects of information control and compensation. *Electronic commerce research*, *9*(3), 203-223.

Trepte, S., Dienlin, T., & Reinecke, L. (2014). Risky behaviors: How online experiences influence privacy behaviors. *Von Der Gutenberg-Galaxis Zur Google-Galaxis. From the Gutenberg Galaxy to the Google Galaxy*, p-225.

Tsai, J. Y., Kelley, P. G., Cranor, L. F., & Sadeh, N. (2010). Location-sharing technologies: Privacy risks and controls. *ISJLP*, 6, 119.

Turkle, S. (2017). *Alone together: Why we expect more from technology and less from each other*. Hachette UK.

Tussyadiah, I. P., & Wang, D. (2016). Tourists' attitudes toward proactive smartphone systems. *Journal of Travel Research*, 55(4), 493-508.

Tussyadiah, I. P. (2012). A concept of location-based social network marketing. *Journal of Travel & Tourism Marketing*, 29(3), 205-220.

Tussyadiah, I. P., Wang, D., Jung, T. H., & tom Dieck, M. C. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. *Tourism Management*, *66*, 140-154.

Um, T., & Chung, N. (2021). Does smart tourism technology matter? Lessons from three smart tourism cities in South Korea. *Asia Pacific Journ. of Tourism Res.*, *26*(4), 396-414.

Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. L. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, *53*, 244-261.

Van der Heijden, H., Ogertschnig, M., & van der Gaast, L. (2005, May). Effects of context relevance and perceived risk on user acceptance of mobile information services. *In ECIS* (pp. 286-296).

van de Wijngaert, L., & Bouwman, H. (2009). Would you share? Predicting the potential use of a new technology. *Telematics and Informatics*, *26*(1), 85-102.

Wam. Dubai reaches new record in international overnight visitors. Emirates 24/7, 24 February 2019. Available online https://www.emirates247.com/news/emirates/dubai-reaches-new-record-in-international-overnight-visitors-2019-02-24-1.680157 (accessed on 5 March 2019).

Wang, D., Park, S., & Fesenmaier, D. R. (2012). The role of smartphones in mediating the touristic experience. *Journal of Travel Research*, 51(4), 371-387.

Wang, D., Xiang, Z., & Fesenmaier, D. R. (2014). Adapting to the mobile world: A model of smartphone use. *Annals of Tourism Research*, 48, 11-26.

Wang, Y. H., Wang, Y. H., Chiu, J. H., Liou, J. Y. & Yang, Y. S. (2015). Recreation benefit, recreation experience, satisfaction, and revisit intention – Evidence from Mo Zai Dun Story Island. *Journal of Business and Economic Policy*, 2(2), 53-61.

Wang, X., Li, X. R., Zhen, F., & Zhang, J. (2016). How smart is your tourist attraction? Measuring tourist preferences of smart tourism attractions via a FCEM-AHP and IPA approach. *Tourism Management*, 54, 309-320.

Wang, E. S. T., & Lin, R. L. (2017). Perceived quality factors of location-based apps on trust, perceived privacy risk, and continuous usage intention. *Behaviour & Information Technology*, 36(1), 2-10.

Wang, J., Xie, C., Huang, Q., & Morrison, A. M. (2020). Smart tourism destination experiences: the mediating impact of arousal levels. *Tourism Management Perspectives*, 35, 100707.

Wei, K. K., Teo, H. H., Chan, H. C., & Tan, B. C. (2011). Conceptualizing and testing a social cognitive model of the digital divide. *Information Systems Research*, *22*(1), 170-187.

Weinstein, N. D. (1989). Effects of personal experience on self-protective behavior. *Psychological Bulletin*, *105*(1), 31.

Westin, A. F. (1967). Privacy and Freedom Atheneum. *New York*, *7*, 431-453.

Williams, A. M., & Baláž, V. (2013). Tourism, risk tolerance, and competencies: Travel Organization and Tourism Hazards. *Tourism Management*, *35*, 209-221.

White, N. R., & White, P. B. (2007). Home and Away: Tourists in a connected world. *Annals of Tourism Research*, *34*(1), 88-104.

Wood, S. A., Guerry, A. D., Silver, J. M., & Lacayo, M. (2013). Using social media to quantify nature-based tourism and recreation. *Scientific Reports*, *3*(1), 1-7.

Wu, J. J., & Chang, Y. S. (2006). Effect of transaction trust on e-commerce relationships between Travel Agencies. *Tourism Management*, *27*(6), 1253-1261.

Wu, K. W., Huang, S. Y., Yen, D. C., & Popova, I. (2012). The effect of the online privacy policy on consumer privacy concern and trust. *Computers in Human Behavior*, *28*(3), 889-897.

Xiang, Z., Tussyadiah, I., & Buhalis, D. (2015a). Smart destinations. *Journal of Destination Marketing & Management*, 4(3), 143-201.

Xiang, Z., Wang, D., O'Leary, J. T., & Fesenmaier, D. R. (2015b). Adapting to the internet: trends in travelers' use of the web for trip planning. *Journal of travel research*, *54*(4), 511-527.

Xiang, Z., & Fesenmaier, D. R. (2017). Big data analytics, tourism design, and smart tourism. In *Analytics in smart tourism design* (pp. 299-307). Springer, Cham.

Xu, H. (2007). The effects of self-construal and perceived control on privacy concerns.

Xu, H., Teo, H. H., Tan, B. C., & Agarwal, R. (2009). The role of push-pull technology in privacy calculus: the case of location-based services. *Journal of management information systems*, *26*(3), 135-174.

Xu, H., Luo, X. R., Carroll, J. M., & Rosson, M. B. (2011). The personalization privacy paradox: An exploratory study of decision-making process for location-aware marketing. *Decision support systems*, 51(1), 42-52.

Yang, S., Lu, Y., Gupta, S., & Cao, Y. (2012). Does context matter? The impact of use context on mobile internet adoption. *International Journal of Human-Computer Interaction*, *28*(8), 530-541.

Yoo, C. W., Kim, Y. J., & Sanders, G. L. (2015). The impact of interactivity of electronic word of mouth systems and E-Quality on decision support in the context of the e-marketplace. *Information & Management*, *52*(4), 496-505.

Yun, H., Han, D., & Lee, C. C. (2013). Understanding the use of location-based service applications: do privacy concerns matter?. *Journal of Electronic Commerce Research*, *14*(3), 215.

Zhang, R., Chen, J. Q., & Lee, C. J. (2013). Mobile commerce and consumer privacy concerns. *Journal of Computer Information Systems*, *53*(4), 31-38.

Zhao, L., Lu, Y., & Gupta, S. (2012). Disclosure intention of location-related information in location-based social network services. *International Journal of Electronic Commerce*, *16*(4), 53-90.

Zhou, T. (2011). The impact of privacy concern on user adoption of location-based services. Industrial Management & Data Systems, 111(2), 212-226.

Zhou, T., & Li, H. (2014). Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern. *Computers in Human Behavior*, *37*, 283-289.

APPENDIX

QUESTIONNAIRE

SECTION A:

1. have you visited Dubai in the past 1 year?

Yes   ( )

No   ( )

Please indicate your disagreement or agreement with each statement by marking under the number using the below scale:

(1) strongly disagree

(2) disagree

(3) somewhat disagree

(4) Neither agree or disagree

(5) Somewhat agree

(6) agree

(7) strongly agree

Privacy Concern

	1	2	3	4	5	6	7
PC1: I am concerned about misuse of my information which is disclosed to service providers							
PC2: I am concerned that the information about me which are private can be found by another person on the internet							
PC3: I am concerned about what other people might do to my information which is private if I provide them to service providers.							
PC4: I am concerned That my personal information would be used in a way I did not permit by the service providers							

Please indicate your disagreement or agreement with each statement by marking under the number using the below scale: **1 Not at all - 7 Very often**

Previous privacy violation experience

	1	2	3	4	5	6	7

	1	2	3	4	5	6	7
How often have you personally been a victim of what you felt was an invasion of privacy?							
How much have you heard or read during the last year about the use and potential misuse of personal information about tourists?							

Perceived ability to control information							
	1	2	3	4	5	6	7
PCTRL1: I was aware of the personal information the service provider would collect about me							
PCTRL2: The service provider explained the reason my personal/ private information was being collected at any time.							
PCTRL3: The service provider describes how personal information about me would be collected and used							

PCTRL4: The service provider gives me an option to accept to decline before using my personal information							

Please indicate your disagreement or agreement with each statement by marking under the number using the below scale

(1)   Strongly disagree

(2)   Disagree

(3)   Somewhat disagree

(4)   Agree

(5)   Strongly agree

Destination Trust							
	1	2	3	4	5		

DESTTRU 1: Dubai as a smart tourism destination meets my expectation						
DESTTRU 2: I feel confident in Dubai as a smart tourism destination						
DESTTRU 3: I will not be disappointed with Dubai tourism services						
DESTTRU 4: Dubai tourism destination guarantees satisfaction						
DESTTRU 5: Dubai smart tourism destination would be honest and sincere in addressing my concerns						
DESTTRU 6: I could depend on Dubai tourism destination to meet all touristic needs						

DESTTRU 7: Dubai tourism destination would make an effort to satisfy me							
DESTTRU 8: Dubai tourism destination would compensate me in some way in case of data misuse							

Please indicate your disagreement or agreement with each statement by marking under the number using the below scale:

(1) strongly disagree

(2) disagree

(3) somewhat disagree

(4) Neither agree or disagree

(5) Somewhat agree

(6) agree

(7) strongly agree

Behavioral Intention

	1	2	3	4	5	6	7
BI1: I would revisit this tourism destination							
BI2: I would recommend this tourism destination to my friends							
BI3: I have positive things to say about this tourism destination							

Perceived Privacy risk

	1	2	3	4	5	6	7
RISK1: It is risky to provide personal information to a service provider.							
RISK2: There will be much uncertainty associated with providing personal information to a service provider.							
RISK3: There will be much potential loss associated with providing personal information to a service provider.							

Location-based Service Provider Trust

	1	2	3	4	5	6	7
LBSTRU1: The smart tourism destination service provider is trustworthy.							
LBSTRU2: The smart tourism destination service provider keeps its promise.							
LBSTRU3: The smart tourism destination service provider keeps tourist interests in mind.							
Use Context							
	1	2	3	4	5	6	7
I use location-based services in a destination if………..							
UCT1. If my location information has no value							
UCT 2. Using location-based services would not cost me money							
UCT 3. I am in a hurry to get to my destination							
UCT 4. I do not know where I am going							
UCT 5. If using location-based services is the best way to get to my destination							

SECTION B.

Please indicate your answer by placing a (√) in the appropriate alternative.

1. How old are you?   **2.** What is your gender?

18-23   (   )   Male   (   )

24-29   (   )   Female   (   )

30-34   (   )

35-40   (   )

41-46   (   )

47 Above   (   )

3. What is the highest level of education you have completed?

High school   (   )

College (two-year program)   (   )

University (four-year program)   (   )

Graduate degree (Master or Ph.D.) (   )

4. Do you have a smartphone?

Yes   ( )

No   ( )

5. If yes, do you allow apps or websites to use your smartphone's location?

Yes   ( )

No   ( )

6. How frequently do you use a smartphone in your usual place of living per day?

0-2hours   ( )

2-4hours   ( )

4-6hours   ( )

6-8hours   ( )

more than 8 hours   ( )

7. How frequently do you use smart phone during a trip per day?

0-2hours   ( )

2-4hours   ( )

4-6hours   ( )

6-8hours   ( )

more than 8 hours   (   )

8. Length of stay in days?

Less than a day   (   )

Other   (   )

9. Country of origin?

_____

10. What is the range of your personal yearly income?

- $10,000 or less   (   )

- $10,001 - $20,000   (   )

- $20,001 - $30,000 (   )

- $30,001 - $40,000 (   )

- $40,001 - $50,000

- $50,001 - $60,000 (   )

- $60,001 - $70,000 (   )

- $70,001 or more (   )

- Don't know/ prefer not to say ( )

11. How often have you being to Dubai?

    First time (once)   ( )

    Second time (twice) ( )

    More than twice ( )

12. What is the purpose of your last visit t?

Holiday, Leisure or recreation   ( )

Business   ( )

Visiting friends and relatives   ( )

Education and training   ( )

Health and medical care   ( )

Shopping   ( )

transit   ( )

Other   ( )

13. The primary source of information about Dubai?

Social Media   ( )

Newspaper/ TV   ( )

Travel agents/ tour operators   ( )

Travel offices abroad   ( )

Friends and relations   ( )

Books/guide   ( )

Other   ( )

Please indicate your disagreement or agreement with the above question by marking under the number using the below scale: 1 Very unsafe 2 Unsafe 3 Unsure 4 Safe 5 Very Safe					
Safety of Dubai is restricted for….					
	1	2	3	4	5
Touring the city in the daytime					
Walking streets after dark					
Using public transport					

Driving around city					
Staying in public accommodation					