Smart Tourism: The Future of Tourism Industry

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Abstract: *The primary aim of Smart Tourism is to provide a high-quality and memorable experience to the stakeholders of tourism from all over the world. Smart tourism is a social phenomenon resulting from the convergence of information technology and the tourism experience, the information and communications technology (ICT) which have completely reshaped not only the way the industry operates but also the way tourism experiences are being shaped, exchanged, ajennelynrartates04[at]prmsu.edu.ph*

Keywords: Smart Tourism, Communication Technologies (ICT), Augmented Reality, Virtual Reality, Real-time Platform, Tourism Analytics, and Robust Economy

1. Introduction

Imagine traveling to a brand-new place without ever leaving your home. With the tap of a finger on a smartphone app, you can instantly find your way around one of the world's premier tourist destinations, you will be able to taste food from various cuisines in your own kitchen, and you will be able to explore culture from various places from the comfort of your own home. Because of digitalization and the increasing usage of smart devices, everyone can experience all of these.

Tourism is a social, cultural, and economic phenomenon that involves individuals traveling to nations or places outside of their normal environment for personal or professional reasons (UNWTO, 2015). With tourisms high dependence on ICTs it is not surprising to see the concept of smart being applied to tourism. Importing smartness into tourism destinations requires progressively interconnecting partners through an innovative stage on which data identifying with tourism exercises could be traded (Gretzel, et. al., 2015).

Tourism has seen widespread use of ICT, for example, in the form of global distribution and central reservation systems, as well as the integration of Webbased technology that has resulted in the birth of eTourism. This shift was accelerated by the increasing use of social media and a shift toward mobile tourism, which recognizes the significant mobility of tourist information and tourism customers. (Buhalis, 2003). The web, mobile, cloud computing, sensors, big data, and open data are some of the technological advancements that work together to provide smart tourism benefits to customers or travelers.

Tourists make time in creating customized travel experiences. Tourist creativeness in creating smart experiences is boost through Technology by using different applications like the camera and other gadgets to capture the travel activities which are created by the tourist and this provides influence on tourist destinations, enterprises and also tourists themselves. The smart experience refers to technology-mediated tourism experiences and their enrichment via personalization, uniqueness and real time monitoring (Buhalis & Amaranggana, 2015); the overall experience today has progressed from etourism which is managing data to maximizing interest that is smart tourism.

The smart tourism experience is rich in meaning. Tourists are active participants in its creation. They not only consume but also create, explain or otherwise enhance data that constitutes the basis of the experience. The smart tourists and the use of their smartphones look for information that is provided by the destination in order to add value to their experiences.

Smart tourism refers to the integration of data obtained from physical infrastructure into technological solutions with the development of mobile applications in the context of travel phases (pre-trip, during trip, and post-trip) (Gretzel, et. al., 2015). The main goal of smart tourism is to provide a shared platform where visitors and destinations may connect in order to deliver responsive solutions to specific demands. This enables tourists to acquire the right information in a timely manner in order make the appropriate and required travel arrangements. Smart tourism is considered as the overall, precise, transparent, prompt, easy, and omnipresent use of tourism information (Li, et. al., 2017). The availability of smart tourism to people does not only lead to satisfaction but also acts as enabler to travel in this time of pandemic.

When on vacation, most tourists who want to get away from it all want to have access to the same amenities they have at home. To put it another way, people still want to be connected to social media and share their experiences via status updates and photos. Tourists want to be able to find and access sights without difficulty throughout their stay, as well as choosing the best restaurants and pay for them electronically.

A smart tourism is an innovative tourist experience that ensures long-term development that enables and enriches tourists' interactions with the destination's experiences, thereby improving the locals' quality of life. The notion of 'smart tourism' places a greater emphasis on the enrichment of tourists' experiences, whereas smart tourism sites put a greater emphasis on the enrichment of tourists' experiences.

This article focuses on how information and communications technology influence the stakeholders in their smart tourism experiences. This article presents insights on how tourism experiences are being shaped, exchanged and shared through augmented reality and to

motivate tourism operators to provide new, better services for visitors and to create smart tourism experiences

2. ICT of Smart Tourism

The tourism sector became smarter through the tools and applications of information and communications technology (ICT). ICT has altered the way daily activities and tasks are accomplished (Maestro, et. al., 2019). By automating organizational procedures and operations such as tourism promotion services and marketing, personnel administration, and tourist service management, ICT enabled tourism enterprises to improve their ability to operate and compete. Traditionally, a destination's image was created through print and electronic media, and it cost a lot of money to distribute expensive brochures and guidebooks, as well as purchase television advertising, but now that visitors have mobile devices and internet access, they can upload their photos to social media almost instantly. The image of the destination is no longer distinct in people's minds. The destination image has been more organic and in real time experience of visitors. In this sense the smart tourism has created solutions on other tourism problems in lacking of constructive outlook.

The initiation of ICT concerns all stakeholders in the tourism industry, ICT has changed the manner in which potential travelers inquire about the destinations (Park, et. al., 2016); The accessibility of information and connection with the social network through the Web, the utilization of mobile devices and location based services have expanded the comfort and joy of traveling for tourist. ICT has implied a shift in the competence and expertise expected of employees, advancement in tourism promotion strategies, client research techniques, an adjustment in the products and services offered to incorporate ICT skills and knowledge for employees and administrators and the improvement of centralized information services for the tourism sector.

Smart Tourism is expected to be able to comprehend, to profit from experience, to acquire and retain knowledge and to respond quickly and successfully to a new situation (Maestro, et. al., 2019). Smart Tourism will supply tourism consumers and service providers with more pertinent information, healthier decision support, greater mobility, and, ultimately, more amusing tourism experiences.

2.1 Augmented Reality in Tourism Industry

The application of augmented reality in tourism is flourishing and promising to the industry. Technological advancements, such as augmented reality, have impacted and disrupted all tourism organizations (Sigala, 2018). Augmented Reality has been applauded for being an innovative tool for the promotion and marketing of tourism products and services (Rahimi et. al., 2020). Augmented reality consists of context aware applications that project commercial and historical information and touristic narratives through the view seen in the user's handheld device (Hunter, 2014). During the onsite travel experience augmented reality provides background information on the area of interest (Cheverst, et. al., 2000) including landscape information, multiple viewpoints of the environment and image recognition platforms viewed through an adaptive display. Augmented reality is a significant selling experience, and environments related to augmented reality can influence tourism's diverse manners [Keckes & Tomicic, 2017].

Augmented Reality opens up avenues for better tourist engagement, innovative ways of exploring unfamiliar attractions, positive changes in tourist behavior, improved tourist experience, superior customization, increasing tourist/visitor inflow, better marketing of tourist products (Cranmer et. al., 2020; Rahimi et. al., 2020), ensuring business profitability and improving tourist products and services through innovation (Hassan & Rahimi, 2016). In the recent past, various studies have explored the organizational, cross cultural, business model and stakeholder perspectives of augmented reality in the tourism industry (Cranmer et. al., 2020). Due to its integration of augmented reality with mobile-based platforms, its value and reach achieves new heights. Further, augmented reality can also substitute tourist guides by providing interpretation to tourists who are not well versed with local languages (Chang et. al., 2015). However, despite all its potential, augmented reality has not been used optimally in the tourism sector because of its newness, perceived complexity and technical knowledge prerequisites.

2.2 Virtual Reality in Tourism Industry

VR is often defined as the technology using the computer-generated 3D environment often referred to as "virtual environment." The real-time simulation of one or more of the five senses of the user is often a result of navigation through this virtual environment and interaction with it (Gutierrez et. al., 2008). Physical immersion and psychological presence are provided in VR experience as well.

The marketing and promotion segments of the tourism sector have most often been used with the assistance of visual imagery. The intangible property of tourism, as a service, constantly reminds the marketers that there is a need to continuously innovate the forms of visual imagery with the objective to promote a positive destination image (Griffin et. al., 2017). As a useful tool used by marketers in establishing the communication of emotions and experiences influencing the consumers and tourists, VR is often used because of its ability to induce the emphasized sensory and emotional experience.

The opportunities of VR in regard to destination marketing organizations are found in the way in which marketing messages are targeted to specific markets, whilst capturing the attention of potential visitors and giving assistance in relevant factors identification that essentially create motivations for those that engage in any form of VR and awareness development in reference to future travel decision-making processes (Huang et. al., 2013). Research indicates that virtual tourists can have their travelling needs easily fulfilled under the following conditions: taking into consideration the hedonistic and emotional experiences, virtual tourism destinations can give visitors the chance to

enhance their perceptions and virtual world is displayed as a source of useful information.

One of the greatest strengths of VR is allowing the user to experience the feeling of "being there". Whilst regular images and videos can work well for showing what a destination has to offer, as the technology of virtual reality evolves, it will have the potential to not only revolutionize the tourism industry, but also to redefine it.

2.3 Real-time Platform in Tourism Industry

When it comes to "smartness" in the tourism industry, beyond individual technological advancements, the interconnection and synchronization of technologies, as well as real-time data, are game changers. (Gretzel, et. al., 2015). In other words, Smart Tourism can be considered to be a technological ecosystem rather than independent systems where real-time connectedness, synchronization and awareness of users' context hold a major role (Buhalis & Amaranggana, 2015).

With that in mind, it's no wonder that the word "realtime" appears frequently in Smart Tourism-related literature. To give an example, one of the largest tracking studies in the tourism sector was already presented, in which travelers' movements were monitored in real-time using a mobile phone and GPS technology (Hardy, et. al., 2017). An app, in particular, communicates both real-time location and survey data provided by tourists in each site, with the goal of capturing their experiences, preferences, and so on. Another system based on real-time location was presented that guides individuals to POIs based on their current location as well as their previous evaluations (Amoretti, et. al., 2016). In addition, another study described the creation of a mobile application that incorporates real-time data and routing algorithms to enhance the tourism experience in Avila, Spain. (Amorim, et. al., 2018).

3. Pillars of Tourism Industry

3.1 Food Tourism

Food tourism is defined as the act of travelling for a taste of place in order to get a sense of place. It is sometimes referred to as culinary tourism or gastronomy tourism, and wine and other beverages are included within the definition (CBI Ministry of Foreign Affairs, 2021). Food tourism is also usually defined as an experiential trip to a gastronomic region for recreational or entertainment purposes, which includes visits to primary and secondary food producers, gastronomic festivals, food fairs, events, farmers' markets, cooking shows and demonstrations, and tastings of high-quality food products, according to one of the most widely used definitions in the literature. Furthermore, this experiential journey is linked to a certain way of life that includes experimenting, learning from different cultures, gaining knowledge and understanding of the qualities or attributes associated with tourism products, as well as culinary specialties produced in that region through consumption. As a result, food tourism is regarded such if everything mentioned above is the main reason or

motivation for tourists to travel to a particular destination, or at least one significant factor (Hall, & Sharples, 2003).

As global tourism is on the rise and competition between destinations grows, unique local and regional intangible cultural heritage has gradually become the discerning factor for the allure and enjoyment of tourists. Food tourism has emerged as particularly important in this regard, not only because food and drink are central to any tourist experience, but also because the concept of Gastronomy tourism has evolved to encompass its cultural facets and link to local culture (WTO, 2017).

Food tourism has risen significantly in recent years, becoming one of the most innovative and diverse segments of the tourism industry. Gastronomy is important to both locations and tourism firms in order to diversify tourism and stimulate local, regional, and national economic development. Furthermore, Food Tourism combines ethical and sustainable principles centered on the territory, scenery, sea, local culture, local products, and authenticity in its discourse, which is similar to current cultural consumption trends (CBI Ministry of Foreign Affairs, 2021).

In today's experience economy, food and tourism play a prominent part. Food is an integral feature of all cultures, a significant component of worldwide intangible heritage, and a growing tourism attraction. Food experiences help to brand and market locations, as well as supporting the local culture that is so fascinating to tourists, and the relationships between food and tourism provide a platform for local economic development (Richards, 2012). Because food has always been a major draw for visitors, several destinations have attempted to provide unique culinary experiences to visitors. As a central driver of tourists' memorable experiences, food consumption has been extensively addressed in the hospitality and tourism literature (Tsai & Wang, 2017).

The COVID-19 pandemic has compelled the food tourism industry to come up with new strategies to provide unique food-tourism experiences. Hospitality experts must now, more than ever, ensure that tourists can enjoy gastronomic excursions in a secure atmosphere. Furthermore, individuals who are familiar with technology and social media can allow food tourists to virtually visit wineries, distilleries, and culinary places. Hospitality and tourism management professionals have a unique chance to be a significant part of an evolving sector as food tourism continues to change.

In the hospitality literature, food consumption is a key concept. Despite its importance in ensuring visitors to have a positive travel experience and influencing tourists' perceptions of a region, the impact of travelers' local food consumption value on tourist behavior is still unexplored (Rousta & Jamshidi, 2020). According to some studies, travelers' interests in and preferences for local cuisine value of a region can play a significant role in influencing destination choices (Mak, et. al., 2016). In the highly competitive international tourism marketplace, although food tourism is already well established, it remains underdeveloped as a field of academic investigation (Robinson & Getz, 2016). Therefore, hospitality sectors

require an in-depth knowledge relating to the factors that enhance tourists' food consumption and make their dining experiences satisfactory (Mak et. al., 2012).

3.2 Tourist Attraction

Tourism is defined as a process or an act of spending time away from home in the interest of entertainment, unwinding, and pleasure while making use of the commercial arrangement of services. A destination is a place to which someone is journeying or where something is being taken. Together, a tourism destination is a place or area where travelers or visitors spend time and manifest tourism products such as attractions, support facilities, and other tourism resources complete with established management, physical and administrative sections, and a well-known image. Over the centuries, tourism created a huge impact on the world and become the most important economic sector of most countries. (Mutuku, 2013)

Now a days with the technological advances have influenced how we live in society. Technology comprises knowledge about the means, the actions on it, and modifications in it. These changes are felt in a specific way in increasing number of people seeking not only a job, but also a quality life. For this reason, technology plays an increasingly important role in promoting tourist attractions and supporting tourists before and during their stay in the destination. The important thing is to provide the tourist with an unforgettable experience, but for this to happen it is essential to innovate the process on how they experience the different tourist attractions, to make it attractive and capable of generating emotions. The tourist does not choose a destination only because of the monuments, the beautiful landscapes, the culture or the gastronomy that it has. All this is important, but today's tourist wants to be surprised by the unknown of the tourist attractions and wants information about what to do, what to visit and how to get to a place by using technologies. In this sense, technology integrates the global experience into the destination (Wethner et. al., 2015). The tourist attractions should become a destination of emotions and experiences and a smart destination. Based on this approach, tourists actively engage with service providers and collaborate in co-creating their own experiences, which on numerous occasions directly contributes to provide innovation (Buhalis & Amaranggana, 2015). The literature on tourism experiences shows that the competitiveness of a destination increases when there is an interaction between the tourist and what it offers through technology.

In smart tourism, travelers not only consume data from their tourism experience, but also enable the image creation of the data. Through ICT, stakeholders facilitate in the formation of entertaining information about the experience awaiting the future travelers.

3.3 Cultural Tourism

Culture and tourism have always had a symbiotic relationship. Travel is fueled by cultural sites, attractions, and events, and travel generates culture in and of itself. However, it was only in the last few decades that the link between culture and tourism was more explicitly established as a distinct type of consumption: cultural tourism.

By the 1980s the flow of international tourists to major sites and attractions began to attract enough attention for the label 'cultural tourism' to be attached to an emerging niche market. Interest in cultural tourism continued to grow throughout the 1980s and 1990s, driven by the 'heritage boom', the growth of international and domestic travel and the identification of cultural tourism as a 'good' form of tourism that would stimulate the economy and help conserve culture (Richards, 2001). The beginning of the 1990s indicates a period of transformation of cultural tourism which, unlike the original orientation towards elite clientele, found a new opportunity for development in the orientation towards the mass market. Cultural tourism became a well-established phenomenon in many tourism destinations, and was increasingly the target of academic research.

Growth in cultural tourism was also marked by fragmentation into a number of emerging niches, such as heritage tourism, arts tourism, gastronomic tourism. Film tourism and creative tourism. Just as an expanding notion of culture had helped to stimulate the growth of cultural tourism in the 1990s, so the fragmentation of the cultural tourism concept itself helped to produce a surge in the proportion of publications dedicated to the field. Growth also brought its own challenges, and by 2013 Boniface was already signaling problems with the overcrowding of World Heritage Sites, a phenomenon that is now being linked with the idea of 'over tourism'. The problems being encountered with the conservation of tangible heritage and the growing desire of tourists for new experiences also helped to focus attention on the role of intangible heritage in tourism (Cros & McKercher, 2014).

UNWTO in 2017 defines Cultural tourism as a type of tourism activity in which the visitor's essential motivation is to learn, discover, experience and consume the tangible and intangible cultural attractions/products in a tourism destination. These attractions/products relate to a set of distinctive material, intellectual, spiritual and emotional features of a society that encompasses arts and architecture, historical and cultural heritage, culinary heritage, literature, music, creative industries and the living cultures with their lifestyles, value systems, beliefs and traditions.

This new definition confirms the much broader nature of contemporary cultural tourism, which relates not just to sites and monuments, but to ways of life, creativity and 'everyday culture'. As the UNWTO report in 2018 emphasizes the field of cultural tourism has moved away from the previous emphasis on classic western tangible heritage towards a much broader and inclusive field of diverse cultural practices in all corners of the world. In this sense the new definition mirrors the development of the production and consumption of cultural tourism.

4. Smart Tourism Framework

Smart tourism is an extremely promising situation that results in more suitable, safe, exciting and sustainable living places for both residents and tourists, more personalized and

therefore more relevant tourism experiences, and this will provide a greater opportunity for new services, business and markets to emerge as a result of more flexible structures and different viewpoints on value creation.

Figure 1 illustrates the framework of smart tourism for this article. The smart tourism experience is based on a concrete smart tourism ICT that works through data sharing among stakeholders and analyze using tourism analytics.
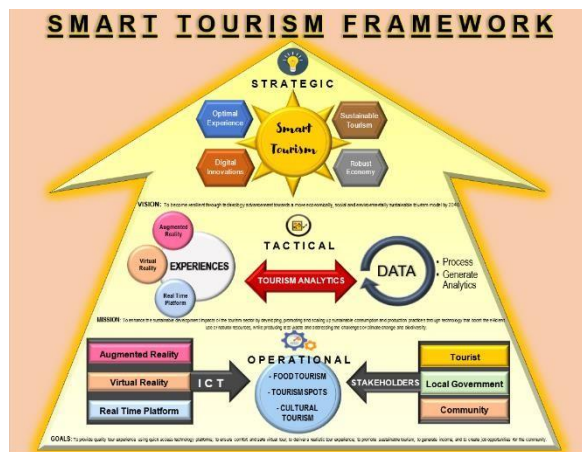
As shown in the above figure, it shows relationship that gives information from the tourism experiences as result of data gathered from the stakeholders, they play a vital role in providing and receiving the information. During the traveling phases, the ICT enhances the smart tourism experiences of the stakeholders with the three pillars of tourism.

The goal of Smart Tourism is to provide quality tour experience using quick access technology platforms; to ensure comfort and safe virtual tour; to deliver a realistic tour experience; to promote sustainable tourism; to generate income; and to create job opportunities for the community. All of these will be achieved with the help of ICT in smart tourism.

Augmented reality, virtual reality and real-time platform are the ICT of smart tourism. These are techniques that combines a live view in real-time with virtual computer-generated images, creating a real-time augmented experience of reality based on the three distinctive principles of integration of real, virtual, and real-time interaction and 3-D registration of both real and virtual objects, ICT of smart tourism can assist in enhancing the real view or creating an augmented view or generating a completely artificial view of different tourist attractions and experience. Providing ICT based smart services is enhancing the interaction with the stakeholders and increase their active participation and improves the co-creation of tourism experience.

The three pillars of tourism namely: Food tourism, tourist spot, and cultural tourism are needed to support and develop the sustainability of tourism. Since tourism is not just a conventional concept in providing tourism activities, but also associated with sustainable development that can ensure availability of natural resources, socio-cultural life, and the economy until next generation.

The initiation of ICT concerns all stakeholders in the tourism industry to become resilient through technology advancement towards a more economically, socially, and environmentally sustainable tourism: ICT has changed the manner in which potential travelers inquire about the destinations. The accessibility of information and connection with the social network through the Web, the utilization of mobile devices and location-based services have expanded the comfort and joy of traveling for tourist. The data of experiences of the stakeholders from the three pillars of tourism will be automatically collected or captured through the help of ICT. And all the data will be process and analyze using the tourism analytics.

Smart tourism makes the destination more accessible to visitors through Global Positioning System (GPS) navigation and abundant onsite information. It sends attractiveness and attention through creation and sharing of destination related representations online through social media sites. Smart tourism makes information more interactive and more reflective of the user interest.

Smart Tourism is expected to be able to comprehend, to profit from experience, to acquire and retain knowledge and to respond quickly and successfully to a new situation. Smart Tourism will supply tourism consumers and service providers with more pertinent information, healthier decision support, greater mobility, and, ultimately, more amusing tourism experiences.

5. Conclusion

Smart tourism has emerged as a new paradigm in the tourism industry, and its growth is underway. Smart Tourism development necessitates the involvement of all stakeholders in order to form the tourism industry and achieve long-term competitiveness in the sector. To create a smart tourism, all tourism stakeholders should participate in knowledge exchange, collaboration, and value generation. The smart tourism idea allows tourists to experience different cultures from the comfort of their home, explore and discover magnificent views of the environment without travelling, and tastes different delicacies in their own kitchen. It also allows visitors' expectations to be met by providing individualized products, while also posing new challenges to tourism enterprises and destination management organizations in terms of data collection and product development. The use of information technologies in conjunction with informed stakeholders can help a tourism destination realize its full potential and gain a competitive advantage.

The evolution of digital technologies, the pervasiveness of the internet, the widespread adoption of social networks, the advancement of artificial intelligence, machine learning, Cloud technologies, and AR/VR technologies, as well as the implementation of new technologies will all have a substantial impact on the tourism industry's transformation. The usage of these technologies improves the effectiveness of communication among tourism market participants. Mobile applications, the utilization of augmented reality technologies, audio guides, a single gateway for travelers, and other smart tourism developments are only a few

possibilities. Future analysis projects could look into how technology affects public perception and relationships, as well as how tourism-related businesses are evolving. Scientific research, following scientific trends, and developing predictive models are all essential areas. Both researchers and business people benefit from such research. This is especially true in terms of predicting how tourism will flourish after the pandemic is over.

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Author Profile

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