

# Smart Tourism Ecosystem

Subjects: Economics

Contributor: Kamrul Hasan Bhuiyan, Israt Jahan, Nurul Mohammad Zayed, Khan Mohammad Anwarul Islam, Sayma Suyaiya, Olena Tkachenko, Vitalii Nitsenko

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Keywords: smart tourism ; smart ecosystem ; smart experiences

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## 1. Introduction

Our society is currently dominated by the evolution of information and communication technologies. The technology basically includes information about the means, the action on it, and amendments to it <sup>[1][2][3]</sup>. The purpose of technological advancement is not only to improve services for increasing the quality of life but also to create a chain so that the delivery of services in an efficient manner can be ensured <sup>[4][5][6][7][8][9]</sup>. ICTs help to develop interactive services which help to interconnect local organizations as well as visitors for access to quick service delivery. Technology depicts a significant role in terms of endorsing tourist destinations, allocating and marketing tourism as well as assisting tourists before and during tourist's stay in the destination <sup>[10][11]</sup>. In the context of technological advancement, a new type of destination has emerged that helps to experience a new way of searching and enjoying the destination which is called a smart destination. It is important to provide smart destinations as well as opportunities for the co-creation of emotions so that tourists can experience unforgettable visits. Today's tourists desire to be astonished by knowing the mysterious things of the destination and want to be informed about what to do, what to visit and how to catch a place by using smart tools <sup>[4]</sup>. In the context of smart tourism or smart destination, it is clear that technology assimilates global involvement into the comprehensive destination. In this approach, tourists vigorously participate with service benefactors and cooperate in co-creating tourists' own involvements as well as a sharing experience, which directly leads to innovation <sup>[12][13][14][15]</sup>. Due to the advancement of technology especially social media advancement; emphasis on value co-creation is also increased. Social media and augmented and virtual reality have changed the dimension of tourism as nowadays people are experiencing their surroundings and putting a mark on the service creation process. Furthermore, nowadays, sustainability in terms of economic, environmental, and sociocultural, in the technology-denominated service has become crucial <sup>[16]</sup>, particularly in the tourism industry <sup>[17]</sup>. There is ample significance of sustainability in the value co-creation process <sup>[18]</sup> but still, very little literature is found on the uses of smart technologies and value co-creation.

## 2. Smartness and Smart Tourism

Smart has turned into the popular expression to portray innovative, economic and social advancements driven by innovations that depend on sensors, enormous information, big data, approaches of the network, and interconnection among the technological advancement that is the Internet of Things, RFID and NFC <sup>[6][19]</sup>. It is a complex amalgamation of all the technological tools-soft smartness and hard smartness-which bridges the digital and physical elements. Harisson et al. <sup>[20]</sup> refer to the smart as exploiting operational, near real-time real-world data, integrating and sharing data and using complex analytics, modeling, optimization, and visualization to make better operational decisions.

Smart Experience focuses on technology-mediated tourism experiences and their enhancement through personalization, context awareness, and real-time monitoring <sup>[3][5]</sup>. For the sustainable tourism experience, a smart tourism ecosystem is created so that personalized, context awareness, as well as real-time monitoring, can be ensured. According to Neuhofer et al. <sup>[21]</sup>, major drivers of the smart tourism experience are information accumulation, ubiquitous connectedness and real time synchronization. Smart tourism experience not only facilitates actual destination place by sharing real time contents but also supports pre as well as post trip phases which helps to share better experiences than before <sup>[18]</sup>.

Technology appears as a propelling and important force for smart tourism. For this purpose, the tourism industry is known as the substance of high-tech renovation that allows easier and quicker ways of performing business, encouraging competition as well as globalization <sup>[16]</sup>. The development of the tourism sector is related to other organizations promoted

by the use of the internet. Day by day an incredible number is noticed in terms of online booking for tourism-related products due to the embracement of technology. Technology facilitates better affiliation between service providers or tourist associations, destinations, and consumers. Factors such as technological development, innovative activities, digital spaces, information processing, smart tools, and ICT infrastructure, such as cloud computing and the Internet of Things, are basically responsible for the creation of smart tourism ecosystem [22].

In smart tourism, technology is seen as an infrastructure, rather than as individual information systems, and encompasses a variety of smart computing technologies that integrate hardware, software, and network technologies to provide real-time awareness of the real world and advanced analytics to help people to make more intelligent decisions about alternatives, as well as actions that will optimize business processes and business performances [23].

### **3. Smart Tourism and Smart Tourism Ecosystem**

The Smart Tourism experience is very efficient and rich in meaning where tourists are active participants in its creation and participation. Besides their consumption, they create, annotate and enhance the information that constitute the basis of their experience through the posting of their photos, story with destination hashtag. Neuhofer et al. [24] found that information aggregation ubiquitous connectedness and real time synchronization played as a major driver of smart tourism experiences.

Smart ecosystem has been described as the relationships among the micro and macro level stakeholders for producing tourism experiences through human organizations, technology, shared information and services and resources exchange on the basis of pre delivery, delivery and post-delivery experiences. Murphy et al. [25] pointed out that the smart tourism systems are intended to be dynamic networks. Formation of smart ecosystem requires smart technology groundwork. With the help of personal technological touch tourists can easily as well as actively contribute data by their activities, engagement, queries and contents and these indicates most significant elements along with government, media and residents in terms of building smart ecosystem. According to Gretzel et al. [6], smart tourism ecosystem is a platform of creating managing and delivering touristic services via technological advancement which leads to information sharing and value creation. The prime elements of ecosystem are service provider and receiver, support services, technologies, platform, NGOs, companies from other industry. The resource also classified among actors, based on tangibility/intangibility (tools, software, infrastructure), human resources (skill, knowledge and commitment) and the relational resources (network among the resources) [6].

### **4. Smart Tourism and Sustainable Value Co-Creation**

Today, travelers are capable of using smartphones during travel for communication, social happenings, information attainment, information search, and amusement [2][11]. Smartphones play an important role in terms of shaping tourists' experiences during vacations. Tourists participate actively in terms of experience creation-uploading photos to Instagram and Facebook with destination-related hashtags helps others to know about unknown destinations [26]. This is the process by which potential tourists can be found and with the help of promotional activities in order to encourage mobile applications, potential tourists turn into actual tourists.

Value co-creation idea basically comes from the notion that consumers can play a dominant factor in terms of the modernization process of new services and products in order to make sure that value must be added from the consumer's point of view. According to Nitsenko et al. [27] and Zine et al. [28] co-creation model is basically comprised of a provider sphere, customer sphere, and joint sphere. Value co-creation can only be possible when direct interaction would happen between the provider and the customer [28]. Co-creation is the mechanism by which customers' skills are accumulated into the company's value creation. Customer knowledge is considered a supplementary idea resource to the company's internal value-creating procedure and thus it supports the company's value creation [26].

Consumer-company interaction has become the locus of value creation [24]. The scope of these value-creating interactions has extended beyond the consumer and the company, even though the value is co-created through the combined efforts of firms, employees, customers, stockholders, government agencies, and other entities related to a given exchange, it is always determined by the beneficiary (e.g., customers). Businesses in fact should "create an experiential environment in which customers can have an active dialogue and co-construct personalized experiences" [24]. Concerning technology, ICT plays an active role, while creating value co-creation from three perspectives: pre-delivery (from getting information to online booking), serving delivery (different applications and applications for taking instant information and services); post-delivery (social networks or sites to express the review with a hashtag of the destination) [22]. Day by day, consumers depend on smart tools for tourism purposes which is increased due to the attitude and intention of consumers

concerning the use of technology <sup>[11]</sup>. Customers are very inclined with the intention to use technologies that are smart and adaptive <sup>[9]</sup>. The motivation for using smart tourism tools is not only limited to practical values, such as ease of use, but also hedonic values, such as enjoyment and pleasure. Kim and Law <sup>[29]</sup> stated that enjoyment is considered the psychological motivation for tourists to buy services through technology.

Traditionally, firms or service provider was responsible for the value-creation process but with the passage of time new dimension has arrived due to technological advancement, where both service provider and customers equally play the role in the creation of value <sup>[10]</sup>. The customer's value creation process is linked with the involvement with the enclosure of the client's skills as well as knowledge <sup>[7]</sup>.

Sustainable co-creation refers to a wide range of alternative approaches that are more advantageous economically, socially, and environmentally involving customers <sup>[17]</sup>. The methods of resource integration that have been identified have benefits for (1) environmental; (2) social well-being (by fortifying ties with system actors); and (3) an economic advantage (innovation because they improve their service <sup>[22]</sup>. Technology "greatly alters organizations' views and behaviors towards environmental sustainability" <sup>[30]</sup>. By emphasizing the significance of investigating both the technological and social spheres as drivers for customer orientation to the social environment (institutions) in which ecosystems lie. The appeal for the adoption of a systemic perspective on value co-creation, however, has not yet been fulfilled <sup>[30]</sup>.

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