Chapter 19
Tourist Experience and Technology Application in Bangladesh

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Abstract The application of technology in the tourism and hospitality industry has both direct and indirect influences on tourist experience. Bangladesh accommodates varieties in its tourism and hospitality industry. The application of advanced technologies adds inimitable dimensions where tourists have become more technology-oriented in collecting information about the products and services they tend to use. A good number of research studies is conducted covering tourist experiences from technology application in the tourism and hospitality industry. However, there is still space to contribute to this very particular research area. This review chapter comprehensively focuses on tourist experiences generated from using innovative tourism and hospitality technologies in Bangladesh. This chapter explores that the number of technology relied tourists is on the rise. The tendency to develop tourist-friendly technology-based applications is dominant. This research identifies a sharp challenge in fulfilling the desired level of tourist experience. There is an uneven situation in terms of both availability and the use of innovative tourism and hospitality technologies. Also, there is a sharp gap between the expectation of tourists and the experiences they receive. This study suggests effective strategy formulation and implementation in the Bangladesh tourism and hospitality industry for better tourist experiences from innovative technology application.

Keywords Tourism · Technology · Experience · Development · Bangladesh

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Introduction

Technological advances have changed the way of travel destination of tourists. Technology and travel are the perfect combinations that play a crucial role in travel destinations. These new developments provide an interactive and exciting experience of travelers. According to Google Travel study, approximately 74% of tourists plan their trips on the Internet, while only 13% still use travel agencies to prepare their travel to different destinations (We are marketing, 2019). The continuous advancement of technology innovation brings a new opportunity for the tourism and hospitality industry that lead to the local community and economy of the country. Innovation presents things in a new way. The usage of Information Communication Technology (ICT) application in tourism and hospitality industry in Bangladesh is still in infant stage due to its unskilled workforce, poor economic condition, lack of knowledge on technology in tourism and hospitality industry. Technology application is not fully employed in the tourism and hospitality industry despite having a positive impact on the Gross Domestic Product (GDP) of Bangladesh.

Tourist-friendly technology applications are essential for sharing information, communication and experience. The ICT sector in Bangladesh is developing faster and the government organization has commended for the development of the ICT sector (Khan, 2020). Besides, Bangladesh Computer Council (BCC) is actively working with the Ministry of Science and Information and Communication Technology for promoting all kinds of ICT activities (Dettoni, 2020). It is an opportunity for tourists to the country can share their personal experience with the innovation facilities. Law et al. (2009) reported that tourists expect technological support in their travel activities as it reflects their experience by sharing information with others. The tourism and hospitality industry in Bangladesh should ensure for its use of technology application and adoption of innovation in technologies for instance the social network for involving with customers. The application of technology can easily manage and share the information with minimal cost. Thousands of tourists are playing a crucial role in this paradigm shift and the desire to travel and also preferring to new technology. The application of modern technology has given way to a new context where social media, blogs and apps are playing a significant role for tourists. The hospitality and travel industry has become aware of this trend and adapting its business model and product to attract this coveted target. This study aims to analyze the strategy and operational implementation of technological innovation, and the effect of technology application on the tourism and hospitality industry in Bangladesh.

Trends of New Technology in the Tourism and Hospitality Industry

There are many factors which can mitigate the travel and hospitality issues but the new technological solutions are the main actors that can play a significant role in improving processes of trips and tourists experience. Modern technology plays a crucial role in the tourism and hospitality industry. Ten years ago, tourists had to buy or print a map, whereas today they can access information through their mobile phones (Kubo et al., 2020) that provide location-based tourist information (Park et al., 2020; Kim et al., 2020). Technology is a crucial factor that changes the world of travel, and tourists have more information, more access and higher expectations for their trips. The travel and hospitality industry in Bangladesh is attempting improvement to processes, communication, customer service, customer relationships, and the creation of a new business model using the new technology (Bangladesh Post, 2019). This development goes beyond the tourist experience, which entails transforming the tourism systems that lead to benefits for the tourists, and enriches the process of travel planning.

Tourist Experience of Hospitality Technologies and Innovative Tourism

Tourists' experiences are multidimensional as different types of services are associated with the tourist journey during, before and after the trip (Stickdorn & Zehrer, 2009). To conceptualize the technology-based tourists' experience, it is important to understand the role of ICT that play in all stages of the tourist experience. The travel and tourism industry in Bangladesh is using technology-based devices for communicating among the operators, suppliers, customers, service providers, supply chain managers, guests, partners and distribution channels. Mowla (2019) reported that to enhance the technology application in Bangladesh, some crucial factors are essential to be considered such as technological literacy, technical and human infrastructure, the Internet service, ICT regulations, training for employees, and communication with other sectors. The mobile technology in Bangladesh has created a link between tourists and hosts (Fatima et al., 2019). Tourists' experience has augmented through the technology application. Majority of the tourist are relied on search engine or online for searching information about the tourist activities including tour packages, air tickets, hotels, restaurant, shopping places and entertainment (Ho et al., 2012). There are couples of apps that are accessible using the Google play store. Tourists can simply download and install them in their mobile and searching their queries. Tourists mostly rely on Google Map, Google Earth, Google, YouTube, websites, and hotel booking sites (Pejic et al., 2009; Sheppard & Cizek, 2009; Mathayomchan & Sripanidkulchai, 2019). The software can enable to have all information including self-organizing, collaborative the IoT resource networks (Lewandowski et al.,

2020); thus most of the tourist of Bangladesh uses social media, online travel agencies, Web 2.0 technology, virtual communication, and management information systems.

Tourism and Hospitality Service Innovations

Innovative technologies and business model have reformed the tourism and hospitality industry. For example, mobile booking, mobile banking, mobile self-check-in, smartphone boarding passes, electronic luggage tags, hotel service optimization systems, and voice over the Internet protocol phones that are interconnected with the hotel's ecosystem (Bilgihan & Nejad, 2015). Guests in the hotel can use a smartphone for ordering room service. In some hospitality services, guests can interact with their own mobile devices to decide for dinner or other services. For example, Link@Sheraton is a touchscreen device that creates a new experience by communicating with guests (Bilgihan & Nejad, 2015). This innovation can explore local tourist attraction and enrich their hotel experience. Some innovations such as customer intelligence tools and customer relationship management are used by the hotel managers can improve their guests' experiences using order history and consumption patterns (Weiermair, 2006). People can directly communicate with corresponding departments through wearable devices. Innovations in the tourism and hospitality industry follow a trajectory of service innovation modes (Gremyr et al., 2014; Gomezelj, 2016). This innovation can lead to operational efficiency and create value for customers (Bilgihan & Nejad, 2015; Weiermair, 2006). Thus, service firms have developed the quality of their service and offer a more customized experience.

Technology Usage in the Tourism and Hospitality Industry

The development of innovation is getting adopted by the tourism and hospitality industry. This industry depends on the accessibility of updated information. Accordingly, the development of e-tourism is presently apparent and it is expected that e-tourism has wonderful prospects in the future. We are social (2019) reported that there are 5.11 billion mobile users around the world today, 4.39 billion the The Internet users, 3.48 billion social media users and 3.26 billion people use social media on mobile devices in 2019. The utilisation of Information Technology (IT) allows us to meet the demand of tourists. The weakness of IT network may lead to losing its competitiveness. The technologies usage in tourism and hospitality industry is visible, they are e-tourism, tourism and travel website, the domain name in web, web design, online service management, mobile PCs, online shopping, wireless correspondence and customer-driven innovations. According to Xiang (2018) and Khatri (2019), there are numerous new technologies (e.g. search engines, Wi-Fi,

website, mobile, social media, digital apps, Global Positioning System or GPS, blogs, machine learning, database marketing) that providing easy accessibility of having information in the tourism and hospitality industry. The travel and tourism operators and airline agencies are interconnected with the new innovative technologies. Hospitality and travel industry are using GPS tracking to find their potential customers and offered them discounts, tourism packages, and hotel accommodation facilities (Beeco et al., 2013; Wolf et al., 2013). The property management systems are used by the hotel managers to record the daily activities and the record the information of guest in the hotel. The application of Web 2.0 is used for the relationship between service providers and the customers (Sharma & Baoku, 2013; Sigala, 2009). Buhalis et al. (2019) point out that blockchain, virtual assistant, 5G and IoT are providing possible solutions to tourism and hospitality industry with access to tourism experience and travel behavior.

Use of Search Engine Optimisation in the Tourism and Hospitality Industry

A search engine is a tool used to find and retrieve data from the World Wide Web (Al-Masri & Mahmoud, 2008; Noy et al., 2019). Search engine optimization is a tool utilized by website designers for making web indexes. It is a fundamental part of digital marketing (Atshaya & Rungta, 2016) because people often search for commercial or other purposes to find information about the products and services. Some search engines use algorithms, mine data and human contribution to recognize websites. Thus, a lot of data online do not always present users with essential information. The search engine identifies the types of data that is more useful for users. For instance, the tourism and hospitality industry may optimize their website with significant keywords, link with different destinations and other significant categories to be recognized by a search engine (Vyas, 2019; Stylos & Zwiegelaar, 2019) such as yahoo or Google search. When somebody is using Google and searching for hotels in its desired location, a web search will match more accordingly with hotels in their favored destinations. Search engine optimization can prompt more prominent deals and leads, long haul development in tourists to the website and less marketing exertion required. Stylos and Zwiegelaar (2019) stated that big data-driven marketing practices such as search engine marketing, marketing mix optimization and CRM play a crucial role in creating new forms of data. The value of big data in the tourism and hospitality industry has been widely recognized, as the use of big data enrich industry's decision support systems to reach process optimization.

Tourism and Hospitality Distribution Channel

The advancement of the Internet innovations with their universal accessibility has changed consumers' behavior and attitudes to the traditional model of tourism and hospitality services (Buhalis & Law, 2008). The travel and tourism products and services have been changed due to the Internet in particular and other information and communication technology (ICT) (Buhalis & O'Connor, 2005; Xiang et al., 2015). ICT has been dynamically adopted in the business with traditional models consolidating the Central Reservation Systems (CSR) in the mid-1970s, followed by advancement of the Global Distribution System during the 1980s and motivating us to the World Wide Web (Khan & Hossain, 2018). Indeed, even in the pre-Internet model reservations were conveyed electronically to deals workplaces and accomplice organizations permitting travel agents to affirm reservations and lead transaction flexibly. The hospitality and travel agents can develop products and gain competitive advantages as they can provide tourists with real-time data for more choice and opportunities. Buhalis and Laws (2008) identified the transformation in the distribution channels with the initiation of the Internet. Aldebert et al. (2011) mentioned that the modern technologies in the tourism and hospitality industry are contributing a vital role in intermediaries and third parties selling of tourist products and services (e.g. car hire).

Social Media and The Internet Marketing in Tourism and Hospitality Services

Social media plays a crucial role in the tourism and hospitality industry, and the connection between stakeholders in the business. Social media is an online platform and innovation utilized by individuals to share their experiences and opinions (Alalwan et al., 2017; Ahmed et al., 2019). Social media can likewise incorporate photographs, recordings, music and opinion communicated by contributors. This implies that consumers may promote certain destinations or hotels when they have had an experience. Social media is an incredible democratic power communicating social feelings and can enable correspondence and collaboration pointedly. Integrating websites, information and communication technology (ICT) systems with the social network can prompt tourism and hospitality development and future business potential (Mihajlović, 2012). The Internet is an example of a networked technology which communicates with other forms of ICT. Destination Management Organizations (DMOs) is responsible for developing the tourism and hospitality services for a particular area (Presenza et al., 2005). DMOs may also work with their Destination Management Systems (DMS) for distributing, collecting, and promoting services in a specific territory. Small and medium tourism operators may use their systems to coordinate with local DMS for general marketing, reservations and providing information. The consolidation of modern technologies such as Central

Reservation Systems (CSR) and Global distribution systems (GDSs) are serving the distribution model with tourism and hospitality operators (Brdar & Gajić, 2019). However, they likewise recognized the new e-Mediaries helping online business; this being the mobile device, mCommerce, interactive digital TV and the Internet.

Smart Tourism and Hospitality Technologies

Information and communication technology (ICT) is the crucial factor for the smart tourism and hospitality industry. Smart tourism and hospitality technologies incorporate not only smart devices (Li et al., 2017); it also includes social platforms, the Internet of Things (IoT), cloud computing, Artificial Intelligence (AI), big data, Radio-frequency Identification (FRID), Augmented Reality (AR), Mixed Reality (MR), Virtual Reality (VR), and Near Field Communication (NFC), which are related to tourism and hospitality activities (Pai et al., 2020). The smart tourism and hospitality technology can be divided into two themes such as new technologies and traditional online information channels. Online information can be produced by tourists, and social media is the popular platform for seeking information about tourism and hospitality services. There are four types of sources of tourism and hospitality information such as social media websites, public websites, blogs, and company websites (No & Kim, 2015). Furthermore, No and Kim (2015) stated that accessibility, interaction, security and personalization are the crucial feature of online information, which represent quality, accuracy and credibility of information received from the smart tourism and hospitality technologies at tourism destinations.

Benefits of Smart Devices in the Tourism and Hospitality Industry

With the advancement of information technology, tourism and hospitality industry have incorporated new technologies or experience their benefits. With regards to the travel and hospitality industry, the application of smart devices is becoming extensive, which amplifies the value of travel and hospitality assets and produces enormous financial and social benefits (Neuhofer et al., 2015). Smart devices incorporate wearable and portable devices; smartphones, smartwatches, and smart glasses. The department in the tourism and hospitality industry can tap into smart devices such as self-administration registration boots in hotels, tour guide systems, self-service ticket machines and flight check-in service machines in airports (Pencarelli, 2020). The entire department in the tourism and hospitality industry taps into smart devices such as self-administration registration booths, self-service ticket machines, tour guide systems, and flight check-in service machines in airports. The wearable and

portable devices have become popular to tourists due to the innovation and development of information and communication technology. Smartphones are playing key roles in leisure tourism experience (Kirova & Thanh, 2019). Smartphones combined with the IoT, mobile networks, and near field communication (NFC) technologies have created various tourism-related applications. Hew et al. (2018) opine that smart technologies enable individuals to book hotels, airline tickets, and other products and services on the platform of mobile sites, and easily obtain information about the accommodation and destination transportation.

Technology Solutions for the Tourism and Hospitality Industry

Mobile Technology

The mobile phone has become an individual's tour guide, the best location of hotels and restaurant and map. According to Trip Advisor, around 45% of users use their smartphone for searching for information about their trips (Tripadvisor, 2015). Thus, it is essential to adapt corporate services and communications to these devices. KLM (Royal Air Transportation Company) has created information service for a passenger using Facebook messenger (Tobisová et al., 2017). This system sends the users information about their ticket, boarding pass or update status of flight through Facebook messenger whenever somebody has made a reservation. Along these lines, the user has all the relevant information about their trip in their hand utilizing an app or technology application.

Augmented Reality

AR or VR has also entered into the tourism and hospitality world. Many business companies or industries have used it to show users a cabin on a cruise ship. AR is one of the biggest technology trends of 2017 (Yilmaz, 2018), which is an interactive experience of a real-world environment where the objects are enhanced by computer-generated perceptual information. AR and VR have become gradually popular within the tourism and hospitality industry (Wei, 2019). Nayyar et al. (2018) point out that AR enables hotels and businesses operating to develop the physical environment they are attempting to attract tourists to visit destinations.

The Internet of Things

The Internet of Things (IoT) has promised to bring significant updates to the tourism and hospitality service sector (Li et al., 2017). IoT comprises integrating sensors connected to the Internet inside products (Kiritsis, 2011) such as suitcases, buildings and cars. It is going to be the key transformative factor in the personalization of the customer experience over the next few years. Some hotels offer an app to their customer that provide them interact with the room's regulator or control the TV in the room. We are marketing (2019) points out that a few suitcases have devices to allow users to use their smartphones to follow where their suitcase is whenever to avoid lost stuff or baggage at the airport or other public spots.

Virtual Assistants

The virtual assistant is the open technology that firms or tourism and hospitality industry can employ and adapt to their needs. Some hotels have started to enlist this "help" thanks to the arrival of virtual assistants that are particularly designed for this environment (We are marketing, 2019). The virtual assistant may comprise scheduling appointments, making travel arrangements, managing email account and making phone calls. Virtual assistants make access to travel logistics, bookings a breeze and hotel reservations (Yanishevskaya et al., 2019). The online virtual assistants are changing the way customer services in the tourism and hospitality industry. IBM has launched a new Watson Assistant, a digital assistant version of its Watson artificial intelligence (AI) and natural language conversation systems for connecting enterprises (The Internet of Business, 2020). Al can create an interactive and personalized experience for customers.

Big Data

Big data is considered as beneficial to business in general and tourism and hospitality industry in particular (Line et al., 2020; Mariani et al., 2018). According to Yallop and Seraphin (2020), in the travel and hospitality sector, the effective use of big data is related with revenue management (e.g. with external data such as flight information, school holiday and information about local events, with internal data such as inhabitance rates and current bookings); consumer experience and reputation management (e.g. online reviews, social media conversations, customer survey and service usage data), strategic marketing purposes (e.g. identifying consumer trends to best cater marketing benefits).

Blockchain

Blockchain is innovation and a specific type of database ready to change the world. It is mostly connected with money and it also provides the idea that can affect travel (Filimonau & Naumova, 2020). Bodkhe et al. (2019) stated that blockchain enables smart tourism and hospitality management. According to Nuryyev et al. (2020), while there has not been much experimentation with it, it is conceivable that it will help recognize travelers at the airport, ensure transparency in travelers' feelings, attitudes, and simple and secure payments.

Conclusion

The main crucial thing is to ensure the affirmation of high innovative capacities in all over the nation. Stakeholders of the travel and hospitality industry of Bangladesh should emphasis on the improvement of innovative infrastructure like strong the Internet connection, more benefits and mechanisms for tourists by which they are connected for having share experience, online use and information encouraged by various technological instruments like the IoT, Web 2.0 technology, AR, VR, and ICT. High technological capacities can defend the expulsion of complexities of tourism and hospitality apps so that travelers do not find it tough to use and access to using apps. The adaptability of technology services should be checked like the design of the website can satisfy the desires of the tourists. The modern technology can encourage traveler experience, discoveries, deliver useful online service, secure visitors' information, and bring travel zones under Wi-Fi are required to be ensured by the stakeholders and government. Ensuring all these opportunities in tourist places in Bangladesh will increase the experience of tourists during travel, pre-travel and post-travel technologies. Tourists' experience and technology management are interconnected and they are dependent on technological solutions and tourists' experience. An appropriate policy for innovations in travel technology and ICT training is required to carry out more research on innovations in the tourism and hospitality industry to the way of doable technology services. By this method, it will be possible to meet the technologically advanced experience of Bangladeshi tourists. If the innovation assistance is enabled for tourists, traditional service arrangement strategies will be adjusted to the tourism and hospitality industry, and tourists will get more platforms to share their experiences. From that, all tourism partners need to take steps for discovering potential solutions. Neuburger et al. (2018) recommend the travel industry to acknowledge "phygital" advancement (AR and VR) for increasing a satisfied tourist experience. Bangladesh can perform well by an alteration towards high technology interactive, predominant innovation in tourism and hospitality industry to ensure innovation enabled experience.

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