

Chapter 8

The Role of Mobile Applications in Jordanian Hospitality Operations, Businesses and Service Perception



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Abstract Technology, social media, and online platforms are cornerstone to the welfare and the development of countries. This paper presents mobile applications as an indispensable marketing tool for the promotion, marketing and sales of hospitality operations and sustainability of businesses. On the base of Jordanian hospitality, this study addresses how the popularity of mobile applications has enhanced the customer's quality of life their perception of quality service by offering user friendly platforms and step by step guide to identify and meet the needs of customers thereby shifting more and customers to online platforms to satisfy their needs and increase the potential income for a business. The study also addresses the downsides to the use of mobile applications and ethical barriers of the use of mobile applications identified by customers. It presents the strong influence of social media on purchasing decisions making also, on customer's value perception. Different mobile applications are explored from both business and customers' point of views.

Keywords Mobile applications · E-marketing · Social media · Value perception · Service quality · Ethical views · Data protection · Privacy · Agenda 2030 · UN SDG 17

Introduction

In the twenty-first century economy, mobile applications (Mobile application) have become the most dominant driver in almost all industries from corporate to SMEs and entrepreneurship sectors at both developed and developing countries. According to one

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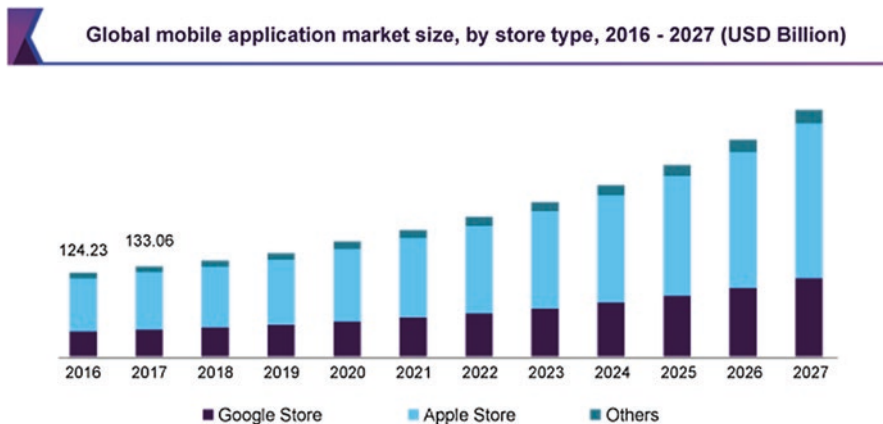


Fig. 8.1 Global mobile application market size. (Source: Grandview research Report, 2020)

Grandview Research Report (2020), in 2019 alone, the worldwide mobile application market was valued at USD154.05 billion in 2018, and it is expected to expand at a compound annual growth rate (CAGR) of 11.5% from 2020 to 2027. Mobile gaming applications, mobile music and amusement applications, mobile wellbeing and wellness applications, mobile long range informal communication applications, mobile retail and online business applications, and other mobile applications are generally instancing of mobile applications. Significant stores, for example, those portrayed in Fig. 8.1 underneath, advance mobile applications in hospitality.

Use of Mobile Technology in the Hospitality Industry

Mobile technology impacts the hospitality domain in many ways unlike 20 years ago since 2000. According to Quaytech's (2020), about 85% of global tourists (travelers) use a mobile device during their travel and for hospitality-related activities. About 74% of travelers have used a hotel application (i.e., mobile applications for bookings of stays and accommodation), and 70% the majority of last-minute bookings are made via a mobile device and mobile applications. In many respects, hotel mobile applications make bookings easier for around 70% of worldwide tourists, and 88% of guests staying in hotels prefer to use mobile applications that can provide some kind of a personalized experience (Ahmadi, 2019). Mobile applications now prevail in many sectors across all industry in view of Covid-19 and the reality for digital transformation in SMEs. In the main sectors of hospitality industry: mobile applications have playing a practical role in hospitality segments comprising food and beverages (F&B), travel, tourism, lodging, recreation, etc. Mobile applications have served as ubiquitous e-marketing tools in the online promotion and digital sales in supporting segments of hospitality such as food and beverages, travel, tourism, lodging, recreation, etc (Choi et al., 2016). Mobile applications even expand to the

management and operations of hospitality-related businesses and its sustainability guided by the UN SDG 17 goals currently observed all over the hospitality world. Global mobile phone user penetration is predicted to reach 63.4% in 2021. In January 2021, there were over 3.986 billion unique active mobile internet users who spent more than 5 h per day on their smartphones for various online activities.

Specific Use in Mobile Application

In the wake of COVID-19 pandemic, mobile applications are now utterly essential underpinning all levels of hospitality. According to a global research organization, in 2016, about 1.9 billion mobile phone users were recorded, and in 2017 it reached 2.12 billion, an increase of 12.6%. According to another study, nearly 50% of corporate travelers consider free Wi-Fi an important factor when choosing a hotel. It is clear from the statistics how powerful the technology of the hospitality industry is (Hopinfirst, 2018).

Mobile Application

Worldwide mobile telephone client entrance is anticipated to arrive at 63.4% in 2021. In January 2021, there were over 3.986 billion one of a kind dynamic mobile web clients who went through over 5 hours out of each day on their cell phones for different online exercises.

What Does Mobile-Centric Service Mean?

With increase in global mobile users, how can the hospitality sector work to ensure exceptional mobile service delivery for guests and travelers alike? Hospitality industry is maximizing mobile application in e-marketing to enhance overall customer experience. But how does the industry go about doing this? What are the issues that remain as stumbling blocks?

Enhance Mobile Application Websites

To improve intuitive mobile application linked to hospitality websites. It makes business sense for hotels to improve mobile application users. Potential guests are more likely to search for hotels online when they are traveling. By improving mobile

application on websites which are optimized for mobile application, hospitality experience can be enhanced to make it more convenient for mobile application users (Hapsari et al., 2020).

QR Codes Design

Technologies like QR codes can be used in the hospitality premises to guide and improve customers' hospitality experience. QR codes is a useful way to promote e-marketing as well allowing user access to mobile contents to obtain relevant hospitality information and data. For example, QR codes used in restaurants allows guests access to menu items, place orders, specified ingredients and the preparation of certain food such as kosher food or halal food.

Improved Safe Smartphone Payment

Within the hospitality industry, Smartphone Payment (e-payment) is becoming a norm. For instance, making payments using NFC and QR codes. This is safe and useful in hospitality because travelers need not carry cash.

Mobile Application and Lasting Hospitality Experience

Because smartphones are prevalent, it is easy now for hospitality stakeholders to use replacing room keys in hotels. Permitting guests to use their smartphones to access and lock doors is a good way to enhance hospitality experience and security. Mobile application has improved the many aspects of hospitality (i.e., room services and stay). For example, shutting of curtains in room, turning on and off lights, adjusting air-con of thermostat, selecting TV channel, access to hospitality data, placing room service orders, etc. In doing this mobile application could be utilized for e-marketing purposes as well (Trip Advisor, 2015).

Mobile Application in E-Marketing

Mobile applications as drivers in e-advertisement and e-promotion in almost all aspects of hospitality dimension. Mobile applications and its related technology have been vastly utilized in the hospitality industry and it involves the use of communications devices, computing devices and networking technology that connects them with uses in the hospitality sector. These Mobile applications drive mobile

devices to communicate and share voice, data, and applications seamlessly. As of 2021, mobile applications used in the hospitality industry and supporting segments are identified as follows: TikTok, Facebook, Instagram, WhatsApp, Telegram, Moj, Zoom, Snapchat, etc. These Mobile technology-related application have transformed the face of Hospitality Industry and businesses by providing several critical areas of use for global hospitality covering aspects such as Mobile friendly applications & websites, Quick service, predicting trends, Live information sharing. The influencing power of Mobile Apps to the Hospitality Industry is immense. For example, in the US alone, reports have estimated that more than 260 million smartphone users in the US by 2020. More than 45% of passengers use mobile applications to book hotel rooms, and two out of every three last-minute bookings are done using mobile applications on smart devices. According to a 2021 research, customers spent £105 billion on mobile applications in 2020, a 20% rise over the previous year. Top markets such as China, the United States, Japan, South Korea, and the United Kingdom are driving growth. Mobile application in e-marketing applies to 'point-of-sale' systems that operate as mobile application in smart devices such as mobile POS apps in these three environment such as [TouchBistro](#), [Revel Systems](#), [AccuPOS](#) (Buffer, 2018).

Mobile Application and Servqual Model

According to an earlier research by Parasuraman, Zeithaml, and Berry, the SERVQUAL model ('SERVQUAL') is a method for evaluating service quality from the perspective of the customer (1988). According to the findings of a research done by Parasuraman et al. (1985), the SERVQUAL model, which provides a set of metrics that look at consumers' expectations and perceptions in reaction to service quality, may still be useful in the hotel sector (Brochado et al., 2019). SERVQUAL contains a 34-item questionnaire and a set of 10 dimensions in its early stages of development (Ramanathan et al., 2018). The questionnaire was updated by Parasuraman et al. (1988) into five dimensions: dependability, assurance, tangibles, empathy, and responsiveness. It was created based on a list of 22 questions. Due to quality of service and customer satisfaction issues, SERVQUAL's five modified key dimensions (reliability, warranty, type, empathy, responsiveness) were used to assess customer perceptions and expectations (Mostafa, 2006; Rady, 2018).

Ji (2018)'s method to service quality evaluation validates the SERVQUAL model. He considered tangible factors such as the future of hospitality-related infrastructure and workers. Reliability refers to a company's capacity to provide high-quality hospitality-related services. In terms of ability, the response is to provide customers with timely and accurate entertainment-related services. Guarantees are associated with employee knowledge and the ability to persuade customers (Alotaibi, 2015). This is important in mobile apps. Empathy is viewed through the lens of customer philosophy, which includes individualized offers and diverse hospitality services (Shah et al., 2020; Tsafarakis et al., 2018). SERVQUAL has been

regarded an unsuitable model for global applicability, particularly its five dimensions across various cultures and races (Samson, 2016). Another study is the SERVQUAL scale, which was found by Parasuraman et al. (1985) to be utilized in characterizing administration quality in agreement to customer assumptions. This is because of the intricacies of administration quality. SERVQUAL, as per Carman (1990), is anything but a comprehensive, general measure for a wide range of administrations. Is this comprehensive of hospitality? It's conceivable. Because of this study, scientists refreshed the scales and offered numerous choices for use in additional measurements to research the particular person of the assistance business as it identifies with hospitality (Farooq et al., 2018).

Mobile Applications and Service Quality

In a globalized hospitality world, hospitality services are key point in hospitality business at all platforms in the hospitality segments. Hospitality services are critical to economic prosperity in both developed and developing countries (Alzaydi et al., 2018). Users of mobile application, travelers and customers in the hospitality industry have become more discriminating in several aspect of e-marketing hospitality. Hospitality-related service entities have taken notice of this demands to uphold and enhance hospitality service quality (Zakaria et al., 2018a, b). Turner (2020) in immaterial utilization, administrations were considered to be discernable from material merchandise as indicated by five fundamental qualities comprising of inseparable inventory, perishability, and absence of proprietorship. This depends on elusiveness, heterogeneity, solid customer interest, contemporaneous creation, utilization, and perishability, among different qualities (Xuehua, 2018).

It is made apparent here that service delivery in the manufacturing sector is not the same as service delivery in the hospitality-related service industry. The production of the service sector is intangible, whereas the output of the manufacturing sector is tangible. Services are not able to be kept as manufactured products since they manage a large amount of transactions and are often consumed while being created. Services need more labor, but production requires more capital. When it comes to the delivery of services, providers and customers interact. As a result, customer perceptions of service quality may grow or decline as a result of interactions between customers and service providers (Alzaydi et al., 2018). According to Parasuraman et al. (1985), service quality is defined as an inconsistency between consumers' expectations for service and their views of such service presentation. Service quality is recognized as a critical problem in many worldwide businesses for increasing revenues, customer happiness, and retention.

Zhang et al. (2018) exhibit how administration quality may further develop customer loyalty and bliss in the work environment. As indicated by Carranza et al. (2018), saw administration quality alludes to a customer's evaluation of the general greatness or prevalence of an assistance gave. They arrived at the resolution that help quality alludes to the distinction between shoppers' assumptions and the

assistance they got and experienced. The simple entry to administrations will advantageously affect administration quality and customer satisfaction. This backs a few earlier investigations on apparent help quality as an indicator of customer joy (Parasuraman et al., 1988).

Mobile Applications and Customer Satisfaction

Consumer loyalty is as an appraisal a client assesses on a trait of an item or a help and on the off chance that it gives any certain outcome from its utilization (Thielemann et al., 2018). A client is a definitive client of an item or an assistance, and hence, there are three general components that address consumer loyalty develop: first, consumer loyalty is a synopsis of compelling reaction with different kinds of forces. In an item determination measure, it includes reaction identified with a center, buy, and utilization. Reaction happens at a given time span, changed by a situation, notwithstanding restricted it is in term (Chan and Wong, 2015). This is clear in the cordiality area as the fundamental elements identified with buyers' friendliness decision concerning say carrier administrators is the apparent worth component this has an immediate relationship with purchaser fulfillment.

Hospitality in the airline service is another notable model. Airline hospitality quality profoundly affects consumer loyalties and its orderly buy (Alsalmi et al., 2020). Airline service quality and traveler fulfillment are so exceptionally interrelated as contemplated that hospitality service quality is a fundamental key in hospitality rivalry corresponding to traveler fulfillment. The demonstration of offering phenomenal assistance quality and maintaining traveler fulfillment are central questions in the airlines service industry (Kazmi & Shah, 2020). Ryu et al. (2012) concentrate on the inward connections between four elements of value (food, service, actual climate), value, fulfillment, and conduct goal in fast relaxed eateries, shown that nature of food and service quality were indispensable elements in the appraisal of consumer loyalty.

Further, the target of achieving customer satisfaction (CS) is a critical factor in assistance advancement achievement. Development improves the expected shots at offering superb support to acquire customers' satisfaction. Administration quality will improve customer satisfaction, in this way authorizing customer dedication prompting expanded corporate benefits and manageability. It has been tracked down that the nature of pre-flight, in-flight, and post-flight administrations were surveyed by numerous investigations to profoundly affect customer satisfaction-considered to be an intervening variable-emphatically affects long haul customer unwaveringness (Jiang & Zhang, 2016).

Mobile Application and Customer Loyalty

In the hotel industry, customer loyalty has many different connotations. Customer loyalty is defined as a strong bond between a person and a firm, as well as a consumer's profound devotion to a service or product that leads to future purchases (Zhang et al., 2018). Customer loyalty empowers explorers, clients, and customers to perceive an association's image, item, or administration and may decide to be rehash buyers out of attitudinal loyalty or propensity. Loyalty and repurchase conduct are affected by shopper joy, which later has an impact in deciding if to stay faithful to the current brand or merchandise, including hospitality. Therefore, it is basic to genuinely fathom customers' feelings, necessities, and wants (Zakaria et al., 2018a, b). Traveler or customer satisfaction is a significant resource for the avionics business and its administrators. Airline travelers in the twenty-first century are exacting, with exclusive requirements and requests. The same may be seen in passenger satisfaction service, which improves if a firm can provide advantages that surpass passengers' expectations, which is known as value-added (Kumara & Jain, 2017).

Customer satisfaction will be increased by providing excellent service quality and consistency in mobile applications. It has the following advantages: (1) The connection between the organization and the customer is additionally mixed. What's more, (2) give a decent establishment to repurchase exercises. (3) Encourage customer loyalty. (4) Make a suggestion for verbal (informal) that benefits the organization. (5) We support the arrangement of a decent corporate standing in the hearts of our customers. Furthermore, (6) increment the benefit of the organization. Customer satisfaction isn't restricted to fundamental food sources. They incline toward the top-notch food served in high end food. Creative airline administrators have considered the present circumstance and have attempted to work on the nature of their servings to hold and draw in existing and new purchasers (Li et al., 2016). In the hospitality industry, mobile application geared for that will surely benefit the travelers, users, customers. The Advantage offer by Mobile application in the hospitality industry is tremendous. Mobile app used by hotel staff provides them the flexibility in predicting customer behavior. Valuable insights could be gained into knowing guest activity and their hospitality preferences. Management team could use this data to provide and advise on innovative and personalized services and goods in line with current megatrends (Wang & Zhang, 2018).

Megatrends in Mobile Application

Other Prevalent Uses of Mobile Application

Mobile apps in line with AI assisted smart technology have shape the framework of hospitality industry since the set up of Las Vegas, Atlandis, Sentosa Island, Genting, as famous tourism landmarks in the world. Several areas have been identified for further expansion in hospitality industry as: Smart Energy Management, Smart Guest Experiences, Remote Check-In/Check-Out, Mobile Room Keys, Smart Room Service, Check-in/Mobile Key, Housekeeping, and so on.

SWOT Analysis: Downsides on Use of Mobile Applications

There are three main Downsides on use of mobile applications in current hospitality industry. What is a Mobile application and how it impacts customer experience within hospitality sector? Due to COVID-19 pandemic, the hospitality i.e., hotel industry has seen massive digital transformation using Mobile application, automation and digital solutions to resolve and promote numerous aspects of hospitality perspectives for both local and international travelers, tourists, customers and clients. These parties are expecting a more personalized experiences than traditional hospitality approaches. However, the specter of abuse and misuse of privacy and data provided in Mobile application for hospitality purposes remain a big headache for the stakeholder in the hospitality industry not only for foreign tourists i.e., European user and travelers but also user in Jordan.

Ethical Issues

Major Issues

Complexity in providing privacy data and access in mobile application is another area of concern for hospitality industry around the globe, and not only in Jordan. Mobile application may offer increasingly innovative ways to communicate with users, but most Mobile application are rather complicated in terms of personal data provision. For instance, QR codes work so well for menus in hospitality. The use, storage and sharing of personal data is becoming a major problem for the hospitality segments from top to bottom. Simplicity in providing personal data is perhaps instrumental in reducing the barriers to adoption are for hospitality sectors for users and guests alike, thus, leading to higher guest engagement (Jeong & Leo, 2012).

Compliance with Data and Privacy in ASEAN Hospitality

In Malaysia, the law regulating data used in hospitality is the Personal Data Protection Act 2010 (PDPA). Hospitality sectors are required to comply with the provisions of PDPA and that applied to Mobile application used for such purposes. In Malaysia, the Personal Data Protection Commissioner has published an amendment to the “Personal Data Protection Standard 2015” (which went into effect on December 23) that is very timely in correcting various data standards implementation for both sectors within business (San, 2020).

The EU and the UK

Compliance with such data protection used in the hospitality is critical because there is a growing legal trend on the need for such law to protect the rights and interests of all stakeholders in the hospitality industry. In the UK, the UK requires all hospitality players to comply with the UK Data Protection Act 1998, and in Singapore, compliance by the hospitality sectors with the national Personal Data Protection Act 2012 is enforced strictly to avoid and prevent misuse and abuse of data collected by Mobile application from users. To make matters compounded, it appears that there are two sets of compliance requirements for the commercial sector on the one hand and the public sector on the other. The compliance is a serious matter and in the EU hospitality, a new law has been enforced on almost all industries doing business in the EU region (Winter & Davidson, 2019).

Data and Privacy in Jordan

A data protection law is under consideration in Jordan but the timetable for its adoption is unclear. This may impact Mobile application in the hospitality industry in Jordan due to privacy concern on hospitality data. A draft data protection law has been submitted for consideration by the Jordanian parliament. But there is still no news in its outcome. In terms of hospitality relation with Europe, it is not clear if the draft data law was crafted to include the new EU data Law (i.e., GDPR provisions). Further, there is no timeframe given for it to become law in Jordan. This limitation is further compounded by the fact that in Jordan, there is no modern data protection law, and there is no Data Protection Authority or commission. The current Jordanian law is not catering to data used by Mobile application for hospitality purposes and activities.

Jordan: The Protection of Personal Data

The Constitution of the Hashemite Kingdom of Jordan contains privacy-specific provisions relating to services and data concerns. Article 18 of the Constitution says: “All postal and telegraph communications, telephony and other means of communication shall be deemed confidential and not subject to censorship, viewing, suspension or confiscation. The provisions of the law” Jordan has signed a number of international treaties and declarations concerning data protection, privacy, and the right to privacy as fundamental human rights (Salameh & Darawsheh, 2018: 80).

Jordan’s Compliance with Data in Hospitality

Jordan has ratified the International Covenant on Civil and Political Rights (ICCPR) as well as the Convention on the Rights of the Child, both of which protect the right to privacy. Jordan has ratified the Cairo Declaration on Islamic Human Rights, which safeguards the right to privacy. It is unknown, however, if the proposal conforms with the new EU General Data Protection Regulation [Regulation (EU 2016/679) ‘GDPR’] in terms of the new criteria and principles of transparency, accuracy, storage limitation, and data minimization. “The most recent version of the Draft Bill was published on the Legislation and Opinion Bureau’s website on January 23, 2020. However, no final version of the Draft Bill has been authorized as of yet, despite the fact that a final version is scheduled to be produced in 2020.” (OHCHR, 2021).

Privacy, and Data Protection Dilemma in Mobile Applications

Mobile Application in the U.S.A.

In the U.S.A., unprecedented use, and development of hotel-branded mobile applications in hospitality has increase guest–hotel interactions in the U.S. hospitality industry. There is a need for higher personalization of services whereby in order to cater to true personalization, travelers, tourists, customers, and users are required to provide personal information via Mobile application in the study by Morosan and Defranco (2016, 2019a, b). According to Morosan and Defranco (2016, 2019a, b), most of these are sensitive information and it is a severe and big problem from privacy and data protection perspectives. However, there has been little research on how users form intents to use mobile applications in light of the current personalization and privacy problems, as emphasized by them. Their study, which was situated in the United States, discovered that there is a perceived personalization and privacy concerns as different constructs at both general and Mobile application-specific

privacy issues, based on personalization-privacy theory. The findings, which were based on theoretical concepts in consumer psychology and information systems, caught many distinct types of consumers–app interactions in highly experienced contexts like hotels (e.g., innovativeness and involvement). The model was checked utilizing corroborative factor investigation and primary conditions demonstrating on a cross country test of lodging guests in the United States. The factors clarified 79% of the variety in goals to use lodging applications to tailor inn administrations, as indicated by the analysts. Inclusion was the most impressive indicator of expectations, trailed by application related protection concerns and saw customization. They feature the various parts of customization and protection with regards to inn applications, which have not been researched with regards to m-trade in the hospitality business. When personalization choices and privacy issues exist, the role of engagement is another significant aspect affecting visitors' intents to utilize Mobile applications. Thus, the practical implications are as follows: hotel owners recognize the importance of mobile applications in decision-making processes involving a mapping of the factors listed above, bringing about a more straightforward utilization of inn applications for buying customized lodging administrations, and solid key and monetary importance for the hospitality business (i.e., direct appropriation, brand union, and broad contact with visitors).

Data and Privacy: The New Privacy Requirement in Hospitality

The limitation, barriers, and downside of all the data collected from Mobile application within the hotel industry is the vulnerability of such Mobile application to hacking, fraud and other forms of cybercrime. Data privacy is now a major red flag and red button worldwide not only in Jordan. European Union's 2016 General Data Protection Regulation (GDPR) legislation now requires all hospitality players and stakeholder to comply fully or face charges for breaches and violation. This will have impact in Jordan and Jordanian hospitality players. Hospitality players, hotels and companies do collect a lot of data particularly health information, and this is a real risk on hospitality generally and especially in health hospitality (Bulley, 2016).

IOT and Mobile Application in Hospitality

The Internet of Things (IoT) has impact Mobile application used in hospitality in many ways as discussed above in various domain of innovations and uses such as smart hotel rooms, personalized services etc. to enhance customer engagement and satisfaction vide interactive environment and data collection methods and user interfaces. With massive amount of data collection from users' travelers, tourists, clients, etc., there is a real and present threat of crisis if such data are misuse or disclose to unauthorized parties. This raised serious new concerns on the hospitality

industry pertaining to privacy and ethical considerations. Smart hospitality requires smart and friendly Portable application and innovations as a stage for hospitality exercises and moment data trade (Buonincontri & Micera, 2016; Del Chiappa & Baggio, 2015). This is key for versatile application utilized in hospitality.

Privacy Concern in Hospitality

Every sector, including hospitality, is concerned about privacy. Users in the hotel industry are worried about the usage, disclosure, and accessibility of their personal information (Ooi et al., 2018). The fear is real on the basis that there is no trust in the hospitality players on the use, and storage of personal data (Buhalis et al., 2019). Security issues have been found to negatively affect full of feeling trust (Ngelambong et al., 2018). Security issues every now and again adversely affect individuals' trust in sharing their own information (Bansal et al., 2016). Seen security hazard is additionally genuine. When presented to finishing their exercises with new innovation (e.g., a versatile application in hospitality), clients have been displayed to have a significant degree of hazard discernments (Ozturk et al., 2017). Additionally, saw hazard is significant in foreseeing vacationer conduct, and security hazard would contrarily affect trust and protection concerns (Sadiq et al., 2021).

Control over Personal Information

When a user, travelers, tourists, clients, consumers believe that they are given some kind of control over how their personal information is to be used, stored, shared, transfer, etc., it will promote trust within the hospitality segments and key players (Mosteller & Poddar, 2017). This includes secondary control of personal data on hospitality, which is positively connected to confidence in social media platforms but adversely related to consumer privacy concerns (Mosteller & Poddar, 2017). Furthermore, perceived data control is proven to have a favorable relationship with data sharing online (Hajli & Lin, 2016).

Cyber-Attacks and Mobile Application in Hospitality

Mobile applications are utilized by consumers all over the world, and the hotel sector is no exception. These applications are vulnerable to security attacks, putting user data at risk. Illegal, irresponsible exploits and attempted assaults on Mobile applications used in hospitality are becoming so common that the FBI has urged customers to be cautious when downloading Mobile applications for commercial reasons across all platforms. According to safe security and privacy benchmark

Mobile App Security & Privacy Issues Plague Top Brands in 2020



Fig. 8.2 Mobile app security and privacy issues plague top brands in 2020. (Source: Schurr, 2020)

evaluations, 85% of public app store apps have cybersecurity problems, and 70% leak private data (Schurr, 2020). The following are five notable mobile app security and privacy concerns in 2020 as a consequence of a vulnerability, hack, or data leak (Fig. 8.2).

Mobil Application in the Context of Hospitality in Jordan

Mobile application penetration in Jordan is increasingly on the upward curve in the region hitting 64% in 2006. It was found that 86% of the Jordanian families are using mobile phones with some kind of Mobile application for hospitality-related activities, even though 16% of Jordanian families have Internet at homes which is admittedly quite low in terms of Internet penetration but does not in any way impede

the use of Mobile application for hospitality-related activities as demonstrated in the following literature discussion (Yousef, 2016).

According to Khwaldeh et al. (2020a, b), mobile application in Jordan invariably follows the same hospitality pattern that relies on the pertaining e-Marketing in Jordan. Khwaldeh et al. (2020a, b) also found that Mobile Hotel Reservation System ('MHRS') is very useful in the hospitality industry pertaining to Five Star rated hotels in the city of Aqaba, Jordan. These specialists found that there is a positive relationship impact of relative benefit, data force, sexual orientation, age, and individual pay on apparent value, and the last on consistent expectation to utilize MHRS in their exact investigation including 390 usable reactions containing 36 things. The discoveries have shown that the part of Mobile application is progressively imperative in the significant parts of hospitality industry in Jordan. Large inns have come to perceive the apparent value of embracing MHRS, and thus on consistent goal to utilize MHRS in hospitality-related help organizations.

Al-Naimat et al. (2020), investigated many major use factors of mobile commerce in Jordan's tourist and hospitality business in another Jordanian hospitality-related study project. On the basis of data obtained from 168 Jordanian hospitality-related SMEs, the primary drivers of m-commerce usage connected to hospitality activities were discovered to be perceived simplicity of use, perceived utility, system quality, and service quality. This result gives a deeper knowledge of m-commerce use in Jordan's hospitality-related business, indicating that there is a rising dependence on mobile applications in m-commerce, which has an influence on the broader hospitality industry in Jordan.

Another important Jordanian hospitality-related research using both exploratory study (qualitative) and confirmatory study (quantitative) Al-Adwan and Sammour (2021) have revealed that there are seven choice variables that have a direct influence on Jordanian consumers' propensity to acquire mobile apps. These criteria include the App's pricing, performance, enjoyment, trial-ability, electronic word-of-mouth (eWOM) regarding the App, technical dependability, and usefulness. These findings by Al-Adwan and Sammour (2021) are very practical in that these indicate how the decision trends of traveler, customers and consumers who would use mobile application in relation to hospitality-related activities in Jordan.

Challenges in the Use of Mobile Application

The challenges in the use of mobile application as e-marketing tools in hospitality are numerous. Hospitality operations and management continues to face many challenges despite the ease of mobile application as e-marketing tools. Communicating with travelers, customers, consumers, remains crucial in the mobile application equation in regard to hospitality-related products and services. This is compounded by existing legal issues relating to privacy, scams, junk e-marketing materials, etc. which is a pull factor for the hospitality industry (Zyad et al., 2018).

Concluding Remarks

The twenty-first century and disrupted by COVID-19 will see newer innovation in mobile application in top hospitality sites around the world. Smart hotels, sustainable hotels, robot staff, and hospitality unique brand experiences are all megatrends of the future in the hospitality digital social media world. In Jordan, literature supports from both exploratory i.e., qualitative, and confirmatory (i.e., quantitative dimensions have shown that mobile application will be increasingly dominant tool and an overriding factor in the decision-making process impacting the twenty-first century hospitality-related activities by traveler, tourists, customers, and clients in Jordan).

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