INDIVIDUAL PERCEIVED SECURITY AND PRIVACY OF MOBILE APPLICATION IN HOSPITALITY INDUSTRY

By

NICK MHTHIR BIN BITIS (H19A0351)

NUR ATIQAH BINTI MOHD YACOB (H19A0492)

NUR ATIRAH IZZATI BINTI SUZUKI (H19A0496)

NUR AZMIRA NATASYA BINTI AZHAR (H19A0501)

A report submitted in partial fulfilment of the requirements for the degree of

Bachelor of Entrepreneurship (Hospitality) With Honours

Faculty of Hospitality, Tourism and Wellness
UNIVERSITI MALAYSIA KELANTAN

2022

DECLARATION

I hereby certify that the work embodied in this report is the result of the original research and has not been submitted for a higher degree to any other University or Institution.

☐	**OPEN ACCESS**	I agree that my report is to be made immediately available as hardcopy or online open access (full text)
☐	**CONFIDENTIAL**	(Contains confidential information under the Official Secret Act 1972)*
☐	**RESTRICTED**	(Contains restricted information as specified by the organization where was done)*

I acknowledge that Universiti Malaysia Kelantan reserves the right as follow.

1. The report is the property of Universiti Malaysia Kelantan
2. The library of Universiti Malaysia Kelantan has the right to make copies for the purpose of research only.
3. The library has the right to make copies of the report for academic exchange.

Certified by

Nur Atiqah

Signature

Signature of Supervisor

Name :Nur Atiqah Binti Mohd Yacob

Name : Dr. Aifa Rozaini Binti Mohd Radzol

Date : 24/06/2022

Date : 24/06/2022

Note : *If the report is CONFIDENTIAL OR RESTRICTED, please attach the letter from the organization stating the period and reasons for confidentiality and restriction.

ACKNOWLEDGMENT

First and foremost, we are grateful to God for providing us with wonderful health and well-being over the course of our job. By conducting this study project, we obtained a lot of support from a lot of people. As a result, we'd want to express our gratitude to individuals who have offered us support and encouragement.

Most significantly, we would like to express our supervisor to Dr. Aifa Rozaini Binti Mohd Radzol, lecturer at the Universiti Malaysia Kelantan's Faculty of Hospitality, Tourism, and Wellness. This paper would not have been possible without her tireless assistance and participation in every step of the process. We would want to express our gratitude for your patience and support while we worked to complete this final project.

We'd want to express our gratitude to our colleagues, who have never failed to support us, as well as to everyone who has been involved in the study and research of this Bachelor's degree, whether directly or indirectly. We are quite fortunate to have a helpful partner who is willing to help us with this research.

Most importantly, none of this would have been possible without the help of our family. Thank you so much to our parents for their unwavering support, encouragement, financial, and emotional assistance. Our appreciation to our beloved parents for all of the sacrifices they have made on our behalf is unfathomable. Because of their love and prayers for us, we've all made it thus far. Thank you very much.

ABSTRACT

Mobile applications are digitally important to customers because of advances in mobile technology, mobile access to high -speed internet, and the interactivity of mobile phone interfaces. The mobile applications experience is critical in the context of hospitality industry, but the mechanism of customer intention development is still unknown. The objective of this study is to examine the relationship between interactivity, functionality and perceived ease to use of mobile applications to perceived security and privacy. There are 335 respondents from Universiti Malaysia Kelantan (UMK) Pengkalan Chepa of FHPK students involved to answers the questionnaires conducted by the researcher. Google form was used to distribute the questionnaire and collected the data. The data collected through questionnaire surveys and SPSS software were used for the decision analysis processes. Descriptive analysis, reliability test and inferential analysis which is Pearson correlation were performed in this study. The findings showed that the interactivity, functionality and perceived ease to use have relationship with p-value less than 0.001. The result indicates that there is a significant relationship of interactivity,functionality and perceived ease to use of mobile applications to perceived security and privacy. A few recommendations related to the study have been proposed by the researchers.

Keywords: **Mobile Applications, Interactivity, Functionality, Perceived Ease to Use, Hospitality Industry, Digitally**

ABSTRAK

Aplikasi mudah alih adalah penting secara digital kepada pelanggan kerana kemajuan dalam teknologi mudah alih, akses mudah alih ke internet berkelajuan tinggi, dan interaktiviti antara muka telefon mudah alih. Pengalaman aplikasi mudah alih adalah kritikal dalam konteks industri hospitaliti, tetapi mekanisme pembangunan niat pelanggan masih tidak diketahui. Objektif kajian ini adalah untuk mengkaji hubungan antara interaktiviti, kefungsian dan persepsi kemudahan untuk menggunakan aplikasi mudah alih dengan persepsi keselamatan dan privasi. Seramai 335 orang responden dari Universiti Malaysia Kelantan (UMK) Pengkalan Chepa pelajar FHPK terlibat untuk menjawab soal selidik yang dijalankan oleh pengkaji. Borang Google digunakan untuk mengedarkan soal selidik dan mengumpul data. Data yang dikumpul melalui tinjauan soal selidik dan perisian SPSS digunakan untuk proses analisis keputusan. Analisis deskriptif, ujian kebolehpercayaan dan analisis inferensi iaitu korelasi Pearson telah dilakukan dalam kajian ini. Dapatan kajian menunjukkan bahawa interaktiviti, kefungsian dan persepsi mudah digunakan mempunyai hubungan dengan nilai p kurang daripada 0.001. Hasilnya menunjukkan bahawa terdapat hubungan yang signifikan antara interaktiviti, kefungsian dan persepsi kemudahan untuk menggunakan aplikasi mudah alih dengan persepsi keselamatan dan privasi. Beberapa cadangan yang berkaitan dengan kajian telah dicadangkan oleh pengkaji.

Kata kunci: **Aplikasi Mudah Alih, Interaktiviti, Kefungsian, Mudah Digunakan, Industri Hospitaliti, Secara Digital**

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The chapter introduction will discuss the purpose to carry out the individual perceived security and privacy of mobile application in hospitality industry. The chapter will start by discussing the background of the research, to introduce the history of the main title. Then, the content will follow by the subheadings. The subheadings are problem statement, research objective, research question as a purpose to state a clear statement of the study. The content continues with the definition of term, scope of the study, and closed with a summary of the chapter.

1.2 BACKGROUND OF THE RESEARCH

With the introduction of smartphones and sophisticated mobile applications, humans have grown more tech-savvy than ever before. Smartphones are used by approximately 2.32 billion people on the earth, with that figure expected to rise to 2.87 billion by 2020. (Statista 2018). People are quickly adopting the most advanced mobile

multitasking solutions. That is why the majority of businesses are working on both mobile applications development and solutions for their clients (Vagrani, 2017).

Mobile applications have become an inseparable part of our daily lives. Mobile applications are digitally important to customers because of advances in mobile technology, mobile access to high -speed internet, and the interactivity of mobile phone interfaces. From communicating to funny, mobile applications provide some key activities that cause customers to spend a lot of time using them (Reychav, 2019). Every day, new mobile applications are released in the apps store to meet customer demand for online shopping, gaming, financial management and other services that may be performed using mobile applications (Balapour, Reychav, Sabherwal, & Azuri, 2019).

As the number of mobile applications released and used grows, so does the number of mobile customers who are concerned about using them (Harris, 2016). Customers are concerned about the security vulnerability of mobile applications, and that malicious code in the apps might follow their activities, steal personal data, and make unwanted calls (Kumar, 2016). Users' intents to install and utilise mobile applications have been proven to be heavily influenced by security concerns (Harris, 2016). Customers are also concerned about their privacy when using mobile applications, and these worries have an impact on their perceptions (Shaw & Sergueeva, 2019).

Mobile applications developers need to better understand security and privacy perceptions, to decrease mobile users' concerns by devising appropriate security and privacy solutions, thereby attracting new users and retaining current ones. As security and privacy are the main concerns of mobile users for continuing to use apps, studying

security and privacy perceptions and the relationship between them can help mobile applications developers provide composite security and privacy features, instead of separate features, resulting in lower cost, time, and effort to provide secure mobile applications. Developers of mobile applications must gain a better understanding of security and privacy perceptions in order to alleviate mobile customers' concerns by developing appropriate security and privacy solutions, attracting new customers and retaining existing ones. Because security and privacy are two of the most important reasons for mobile customers to keep using apps, studying security and privacy perceptions and the relationship between them can help mobile applications developers provide composite security and privacy features rather than separate features, resulting in lower costs, time, and effort to develop secure mobile applications.

The researchers have investigated security and privacy perceptions in different mobile technology contexts. For example, Johnson, Kiser, Washington, and Torres (2018) examined the predictors of mobile payment usage intentions and found that perceived security has a positive impact on user intentions towards mobile payment services. Keith, Babb, Furner, Abdullah, and Lowry (2016) conducted a cost-benefit analysis to examine drivers and inhibitors of mobile applications adoption, finding that privacy risks inhibit users from adopting and disclosing information to mobile applications.

1.3 PROBLEM STATEMENT

The ownership of mobile devices and mobile media use have reached the point of exceeding desktop ownership and wired media usage. The total number of mobile subscriptions worldwide is approximately 6.8 billion (McGavigan, & Clark, 2017).

Rapid increasing mobile subscriptions and the growing popularity of smartphones and tablet devices equipped with billions of applications has been widely applicable with marketing possibilities (Kumari, 2020). Therefore, marketers are constantly waking up innovative strategies to exploit mobile devices and mobile applications designed to run on smartphones, tablets, and other mobile electronic devices. The app plays an important role in facilitating many of the applications that are important in our society today especially security and privacy (Charles & Eames, 2021).

In today's world, the hotel business using mobile applications extensively has grown exponentially. However, other issues arise, when using more sophisticated mobile applications. Mobile applications users in the hospitality industry are hesitant to use mobile applications because, they need online data collection and information sharing. That's mean, they requires a high level of privacy and security (Oulasvirta, 2016). Users of mobile applications are goal -oriented and convenience -oriented, therefore they value the accessibility, selection and availability of relevant information and features while maintaining security (Kaczmarek, 2015). This problem often arises because the applications produced are inadequate in terms of protecting the privacy and security of personal data held by people using mobile applications. Morosan and DeFranco (2016) showed that the mobile applications experience is critical in the context of hospitality industry, but the mechanism of customer intention development is still unknown.

The company's marketing success is harmed as a result of these dangers to customer privacy (Wirtz, 2017). However, integration and privacy notions that should be deemed crucial when discussing concerns linked to personal information are rarely used to investigate customer replies. The current study also looked at the simple consequences of technology concerns in order to acquire a better grasp of privacy and

security. Technological concerns are an essential individual aspect in determining whether individuals accept and utilise technology (Meuter, 2015). In particular, to receive personalised services customers who must give personal information and may cause more anxiety using technology (Meuter, 2015).

The subject of the research is to explain the issues that arise in the interaction of mobile applications. In the hospitality business, mobile applications are divided into various application areas. To strengthen customer security from irresponsible parties gaining access to specific personal data, mobile applications are divided into opportunities and potential issues (Kapusta 2019). These issues have been categorised in order to be addressed, and they have been discussed in order to improve people's impressions of the security and privacy of mobile applications in the hospitality business. Furthermore, customer who perceive privacy threats will be unwilling to register and refuse to disclose personal information to the company as a result of this issue (Morosan and DeFranco, 2015).

Prior research has also found that, while security and privacy are independent concepts, they are intertwined and have an impact on one another (Smith, Dinev, & Xu, 2015). Security is concerned with protection, whereas privacy is concerned with governance and use (Bansal, 2017). But more research is needed to understand the relationship between these ideas. However, in the context of mobile applications, the relationship between security and privacy has received little attention, and research has been limited to examine the effects of one privacy-related construct on security perceptions in the information disclosure model (Johnson, 2018). Some people are still at the stage of adopting mobile applications and not familiar with the technology (Tiongson, 2015). Therefore, this study propose to examine individual perceived

security and privacy of mobile application on interactivity, functionality and perceived ease to use in hospitality industry.

1.4 RESEARCH QUESTIONS

The research question of the current study is to provide an overview of customer-related to the selection of individual perceived security and privacy on mobile applications. The questions of this study are:

1. Does interactivity of mobile applications influence perceived security and privacy?

2. Does functionality of mobile applications influence perceived security and privacy?

3. Does perceived ease to use of mobile applications influence perceived security and privacy?

1.5 RESEARCH OBJECTIVES

The research objective of the current study is to provide an overview of customer-related to the selection of individual perceived security and privacy on mobile applications. The objectives of this study are:

1. To examine the relationship between interactivity of mobile applications to perceived security and privacy.

2. To examine the relationship between functionality of mobile applications to perceived security and privacy.

3. To examine the relationship between perceived ease to use of mobile applications to perceived security and privacy.

1.6 DEFINITION OF TERMS

Some important terms appearing repeatedly in this study are briefly defined as follows:

Table 1.1 : Definition of Terms

Author & Year	Variable	Definition
Hartono, Holsapple, Kim, Na & Simpson (2014)	Perceived security and privacy	Refers to the degree to which users believe that a mobile application platform is secure in terms of both financial aspects and personal information.
Barreda (2016), Neelotpaul (2015), Voorveld (2017) and Shin (2016)	Interactivity	Interactivity define the deals with the influence of engagement, interest, and appeal that may be an intrinsic characteristic in technology-mediated groups.
Wong (2018), Collins (2017) and Ewen (2019)	Functionality	Functionality refer the extent to which a technology or system can aid customers in completing their

		intended goals.
Davis, Jen & Hung (2015)	Perceived ease to use	Perceived ease of use (PEOU) is considered as the central element of technology adoption and technology utilization behaviour.

1.7 SIGNIFICANCE OF THE STUDY

The scope of a study will define the purpose of the study, the population size and characteristics, geographical location, the time period within which the study will be conducted. At the end of this research, this study is about the perceived security and privacy of mobile applications in hospitality industry.

1.7.1 Hotel industry

Mobile applications can influence the customer experience in the hotel business. Because of the improved and unmatched comfort throughout their stay, mobile applications play a vital role in attracting new hotel customers as well as retaining existing ones. Due to the advent of mobile applications, the quality of the visitor experience improves dramatically, and the customer database grows tremendously. The hotel may attract more customer attention and appeal to a bigger audience by establishing a mobile application that makes it easier for hotel customer to access services.

1.7.2 Customers

Customers want to be able to choose how they interact with hotel staff and services. For example, many people would prefer to check in on their mobile applications rather than wait in line at the front desk. Mobile applications that offer self-service features and gather customer data can also help to improve hotel staff efficiency. For customer who want to use their devices to organise their hotel experience, there can be fewer direct interaction points with staff, meaning there is more opportunity to allocate labour to other operational areas. Furthermore, many services that currently require staff to manually complete tasks for example book reservations, and valet requests, it can be handled via the mobile applications. As already mentioned, data gathered from customer using the app can also help inform where and when more resources need to be allocated.

1.7.3 Travellers

Many hospitality companies launched mobile applications to reach out to potential customers. For example, Southwest Airlines allows its customers to reserve, change, and cancel flights and check in using its mobile application (Southwest Airlines Co., 2015). In the traveller, mobile applications could do much more than simply provide information about specific locations or recommend places and itineraries based on the user location. Travelers may use their mobile applications to purchase any service, like ordering an airline ticket, a hotel, a cab, or even creating a full travel plan. Furthermore, because carrying a smartphone everywhere is more convenient than carrying a lot of tourist guidebooks, documentation, and plans. Furthermore, the traveller may share their experiences with others regarding the service quality, cost, and experience while using any service, from plane tickets to rail tickets to hotel reservations.

1.8 SUMMARY

This chapter has discussed about the individual perceived security and privacy of mobile applications on past researchers which use to measure the effect of problem statement towards customer satisfaction. There are three research questions and research objectives in this study. Besides that, this study indirectly can bring a lot of benefits to the hotel industry, government and future researchers. Other sessions include background of the research definition of terms, and scope of study also described in this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter contains about literature review of this study. First of all, this section discusses the literature review on security and privacy on mobile application. This section also intend to examine the relationship between interactivity, functionality, and perceived ease of use to perceived security and privacy. Next, conceptual framework is presented in section 2.6 and followed with a chapter summary.

2.2 PERCEIVED SECURITY AND PRIVACY

Perceived security and privacy refers to the degree to which users believe that a mobile application platform is secure in terms of both financial aspects and personal information (Hartono, Holsapple, Kim, Na & Simpson, 2014). Perceived security and privacy refers to the use of mobile applications that appear to have specific security and privacy sensitivities to customers, particularly social networks, online banking and data customers (Fife, 2015). With respect to the diversity of definitions, people's perceptions of security and privacy perceived on mobile applications are subjective variables. Hartono, Holsapple, Kim, Na & Simpson (2014), defined the notion of security and privacy as, the ability of customers to trust that their data will not be disclosed at will by hotel owners where they will take good care of customers' personal information. Perceived security and privacy should not be taken lightly as it is the perception of customers that should be emphasized towards a hotel when they use mobile applications.

To deliver highly hospitality services, hospitality service companies must track customers' preferences, behaviours, and whereabouts (Kansakar, 2019). Hospitality service companies must ensure that customer data is managed and preserved appropriately to safeguard customers data from physical, economic, and societal threats (Shabani, 2019). The system that interacts with customers is the most susceptible in a hotel. This technology should ensure that customer interactions are safe and confidential by applying thorough security measures to avoid data leakage and theft (Munir, & Shabani, 2019). This will have an impact on how customers react to perceived security and privacy when using mobile applications (Zhang, 2019).

Security primitives should be implemented to hotel chains to improve perceived security and privacy with personal customer devices and Internet of Things (IoT) devices in rooms and on premises (Shabani, 2019). Secure hotel networks prevent hackers from gaining access to customer data by attacking personal guest devices linked to the network (Kansakar, 2019). It also stops hackers from reprogramming hotel Internet of Things (IoT) equipment for malevolent or unpleasant purposes, thanks to rigorous security features in every guest encounter as well as active connections on hotel networks that need a lot of computing power (Kansakar & Munir, 2019).

Mobile applications have been utilised by many international hotel companies, such as Marriott International, Mandarin Oriental, and Intercontinental Hotel Group, to give travel information, property details, room reservations, and promotional offers (Huang & Kim, 2017). Customers' perceptions of security and privacy have shifted as a result of the use of mobile applications, according to Wang, Xiang, and Ki (2016). Furthermore, using these hotel mobile applications boosts not just customer loyalty but also traveller interaction (Chen, 2019; Adukaite & Cantoni, 2013). Marketing, distribution, advertising, auxiliary services, product personalisation, destination guiding, and customer relationship management are all aided by travel-related applications (Chen, Murphy, & Knecht, 2016). In addition, the potential of mobile applications in the hospitality industry is strategically significant for increasing customer trust in security and perceived privacy in the face of data dissemination (Rivera, Gregory, & Cobos, 2015). Customers' perceptions of security and privacy, on the other hand, are stressed because customer data must be well-protected and cannot be released at will by hotel owners (Huang, & Chen, 2019).

Mobile applications play an important role in fostering customers engagement and perceptions of security and privacy to customers, which in turn contributes to brand

loyalty. Target customers have a proclivity to utilise mobile applications frequently, which leads to brand loyalty. Rather than battling to keep mobile applications customers who are rarely found on our site, look for customers who already use mobile applications on a regular basis. Thanking our most loyal customers with prizes is not only a terrific way to increase brand loyalty, but it also encourages new customers to use mobile applications more frequently.

Lee (2018) further indicated that it is important to understand customer service experience and how the mobile platform is designed to meet their needs and enhance engagement behaviour. In this context, given the wide adoption of the extended Technology Acceptance Model (TAM) understanding user experience in human and technology interaction, the experience economy model is considered to be a valuable framework for understanding users' experiences (Jung, Lee, & Chung, 2016). Therefore, building a conceptual in framework to investigate the factors that influence mobile applications to be perceived security and privacy are the motivation for this research.

2.3 INTERACTIVITY

Interactivity define the deals with the influence of engagement, interest, and appeal that may be an intrinsic characteristic in technology-mediated groups (Barreda, 2016). In this definition, interactivity is seen as an important high-tech capability to establish long-term relationships with its users (Neelotpaul, 2015), and the primary determinants to build an online brand (Voorveld, 2017). It allows reciprocal communication with other systems and users. Interactivity also deals with mobile applications designed as human attempts to structure the environment and create interaction between people.

Interactivity also refer emphasis on applications interaction by bringing out user interactions (Shin, 2016: Sundar, 2010).

Interactivity can also be seen of as a two-way communication flow that allows customers to respond, synchronisation, and control. Two-way communication is conceptualized as a two-way information flow that allows the customers to respond (Kim, 2016). Interactivity has also been embraced, and scholars in the subject of interaction are very interested in seeing how well customers can participate in real-time changes in shape and content environments (Mollen & Wilson, 2017). Another important aspect of the interactivity construct is controllability, or customer control. Customer input and choice capacity (Yoo, 2015) is conceptualized as the ability for customers to determine the timing, topic, and sequencing of communications (Dholakia, Zhao, Dholakia, & Fortin, 2017).

The results from the experiments of (Sundar, 2010) show that the influences of a variety of interactivity techniques like slide, click, mouse-over, and so on differed during customer experiences interacting with mobile applications. For instance, while slide had a positive effect on customer experience, drag had a negative effect with a different content domain. When it comes to flipping and clicking, (Oh, 2016) showed that the flipping condition have more positive effects on the customer evaluation of mobile applications by causing greater interactivity. Then, system interactivity perspective is more concerned with the ability of the customer to select content and guide the interaction (Lowry, 2016). Customer control is manifested when individuals are granted the opportunity to select the content and influence the communication. For instance, mobile applications customers may feel themselves as possessing customer control because they have the capacity to select without restrictions through an internal search engine.

Interactivity is one of the most essential design components in any commercial mobile applications (Barreda, 2016). According to Coyle (2012), in their discussion of microblog interactions on customer perceptions of brand elements, recognize interactivity as a strategic advance and highlight the demand for empirical research that might progress the comprehension of system-mediated interactivity, especially in the formation of applications. Element of the interactivity is conceptualized as customer input and optional capabilities (Yoo, 2019), where customer can choose the time, content and sequence communication (Dholakia, Zhao, Dholakia, & Fortin, 2017). It represents the ability of mobile applications to allow customer to connect with others through chat rooms, blogs and social networking tools (Macias, 2018). As a feature, interactivity focuses on the website technology and joint communication (McMillan, 2016 and Hwang, 2018). Therefore, many have tried to enable customers to achieve social values with guaranteed privacy and security especially mobile applications.

The significance of its ability to have long-term consequences on customer perception and behaviour, effective interactivity is critical to a successful brand (Yoo, Lee, & Park, 2015). Interactivity in mobile applications entails openly involving customers, resulting in a unique and personalised engagement with them (Guillory & Sundar, 2014). For mobile applications, interactivity means easier communication, customisation of displayed content and information, and enjoyment (Yang, Li, & Yang, 2013). Such interactivity enables businesses to engage in real-time conversations with current and potential customers, considerably improving the superiority of communication between the brand and its customers (Hwang & Kandampully, 2018). This ensures a long-term and deeper interaction between the brand and the customer (Jih, Lee, & Tsai, 2016). Interactive branded mobile apps are more effective (Salciuviene, Keeling, & Tiasuwan, 2016).

The results from previous studies informed about the performance implications of various types in interactivity and can offer a lot of guidance on using the mobile applications (Thomas, 2021). It also shows how to design and allocate resources to provide interactivity on web interfaces and mobile applications as well as customer security. This research summarizes and examines relevant ability about interactivity through the mobile applications. Therefore, this research investigate the relationship between interactivity with perceived security and privacy. Many believe that it seems instinctive that mobile applications hotel that incorporate features of applications interactivity are advantageous to build stronger in online. Researchers find that perceived interactivity plays an important role in shaping online consumers behaviour, including their perceived security and privacy (Jee & Lee, 2020). Therefore, H1 is formulated as below:-

H1: There is a positive relationship between interactivity of perceived security and privacy.

2.4 FUNCTIONALITY

Functionality refer the extent to which a technology or system can aid customers in completing their intended goals (Wong, 2018). The ability of a computer programme or application to do a certain task or the number of operations it can carry out (Collins, 2017). The goal of functional mobile app design is to promote client satisfaction. For example, style and functionality, should ideally work together to make it easy for customers to explore mobile applications and access the most important functionalities without being distracted by too many options (Ewen, 2019).

A mobile-first strategy has been adopted by several hotels (Kumari, 2020). They recognised that mobile applications are an excellent way to encourage potential

customers to book rooms and check availability, learn about hotel services, read reviews, browse hotel images, and more (Chiang, 2017). Similarly, mobile applications are a great way to give customer a quick booking experience while also keeping them updated about special discounts, events, and other information through regular mobile applications notifications (Jang, 2017). Hotels may also employ mobile applications to market their resorts and services to a far bigger audience in fun and engaging ways. Customers may enjoy a seamless browsing experience on their smart devices as a consequence of the adoption of mobile applications, without having to wait for a desktop computer (Linton, 2015).

The mobile applications have been used by many customers in the United States and throughout the world for planning and transactions (Starkov, 2015). Customers may make reservations for hotels, flights, and rental vehicles using mobile applications at any time and from any location, due to the internet's mobility and accessibility (Wang, 2017). Many hospitality businesses have established mobile applications to reach out to potential customers as technology has advanced. For example, Choice Hotels International, has introduced iPhone applications for hotel customers. Customers may book rooms and participate in the customer loyalty programme (Collins, 2015). The Bellagio Hotel & Resort in Las Vegas has released its mobile applications, which include ticket bookings, concierge services, and room service ordering (Mirage, 2017).

In the hotel business, the functionality of mobile applications is to create and sustain long-term relations with customers (Malhotra, 2018). Apart from the traditional means of communicating with customers (phone calls or texts), hotels may use mobile applications to learn about their customers' stays and dining experiences via social media platforms like Facebook and Twitter (Mar, 2015). They may also quickly

respond to any consumer comments, recommendations, or queries via the hotel's Facebook page or Twitter account. The ability of mobile applications to respond quickly helps to develop a relationship with customers and boost consumer trust in the hotel (Winata & Mia, 2015). In addition, using mobile applications also hotel can use social media accounts to give extra discounts and freebies to their customer during slow periods (Thompson, 2015). As a result, companies can easily persuade customers to use off-season times for cheaper lodging, and the resulting will increase the sales.

A loyalty programme is one of the most useful features that can be added to a mobile applications (Hudson & Gilbert, 2016). Brand advocacy, upselling, and repeat business are all helped by mobile applications. For example, hotels may deliver contextually relevant information to their customers based on their profiles, behaviour, purchase history, and even geography by utilizing push notifications (Jacob & Groizard, 2017). Special offers, promotions, discounts, and other features of hotel mobile applications encourage customers to buy more and use speciality services (Lu & Law, 2017). Loyalty programmes can be used before and after a customer's stay, as well as during it (Volo, 2017). Hoteliers can enhance the client experience, streamline operations, and promote repeat business by using mobile applications. As a result, the use of mobile applications in the hotel business may result in an increase in reservations.

In many hotels, mobile application solutions such as payments, loyalty or rewards, internal navigation, and product comparisons are accessible. Customers' hotel booking decisions are influenced by the quality of a hotel's mobile applications and digital technologies. Hotels that implement hospitality mobile applications and functionality into their hotel stays have greater customer satisfaction and are more likely to attract direct reservations. However, this research investigated the relationship between functionality mobile applications with perceived security and privacy. The

functionality of mobile applications is overshadowed because of users' privacy concerns when using mobile applications (Keith et al., 2016). Users' privacy concerns are salient in the data collection and control processes that businesses exercise when managing shared data (Malhotra et al., 2018) Therefore, H2 is formulated as below:-

H2: There is a positive relationship between functionality with perceived security and privacy.

2.5 PERCEIVED EASE OF USE

Perceived ease of use (PEOU) is considered as the central element of technology adoption and technology utilization behaviour. Perceived ease of use (PEOU) could be described as, a point where a person accepts that application of detailed system will be liberated of exertion, simple to comprehend or utilize (Davis, Jen & Hung 2015). The technology acceptance model (TAM) was used to understand consumers' sustainability label usage behaviour for apparel products (Davis et al. 1989). The TAM depicts the relationships between perceived ease of use (PEOU), perceived usefulness (PU), and attitudes with behavioural intention (BI). In the sphere of electronic banking, the relevance of perceived utility has long been acknowledged (Guriting and Ndubisi, 2006).

In hospitality and tourism information systems research, Perceived ease of use (PEOU) is a critical aspect in technology acceptance and utilisation (Bilgihan, Barreda, Okumus, & Nusair, 2016). PEOU is a widely used concept that refers to a customer's evaluation of the effort required to complete a technological task (Venkatesh, 2017). The desire to utilise mobile applications is positively influenced by perceived ease of use (PEOU) (Okumus & Bilgihan, 2015). PEOU denotes the degree to which customers believe the technology is simple to use, whereas PU denotes the degree to which

customers believe the technology is useful (Davis et al. 1989). TAM theorises that both PEOU and PU influence the formation of favourable associated with the use of technology, which, when paired with PU, leads to people's enhanced BI to use it. PEOU is also expected to have a positive influence on people's perceptions of the technology's utility (Davis, 1989).

The PEOU is associated with how easily a technological system and its display may be accessible. Customers' perceived ease-of-use is one of the most crucial elements in their acceptance of a technology, according to Davis (1986)'s Technology Adoption Model (TAM). Davis (1986) defined perceived ease-of-use as the degree to which customers believe that adopting a certain technology will save them time and effort. In other words, customers are more likely to use a system if they perceive it is straightforward to use. Customer's use of technology is mediated by their acceptance of it, which is impacted by two cognitive factors which are perceived utility (PU) and perceived ease-of-use (PEOU), according to the TAM's key principles (Jones & Kauppi, 2018).

A system is deemed high quality if it is designed to deliver customer pleasure through ease of use this involves not just learning and utilising the system, but also executing a job or task, where customers will find it easier to work with the system than doing it manually (Aryani et al., 2018). In this case, convenience doesn't just refer to how simple it is to utilise e-Filing, it also refers to how much easier it is to fill out the Single Program Transport stream using this system rather than manually. The PEOU has an effect on the performance risk of the e-Filing system. Using a less sophisticated e-Filing system will alleviate performance difficulties. Only when taxpayers believe the system is simple to use can performance risks be reduced (Kamarulzaman & Azmi, 2010). According to certain research (Lie & Sadjiarto, 2013), perceived easiness had an

impact on the propensity to utilise the system. Based on the findings of both research, it can be stated that the simpler e-Filing is to use, the greater the level of intention to use it; conversely, if e-Filing is difficult to use, the lower the level of intention to use it.

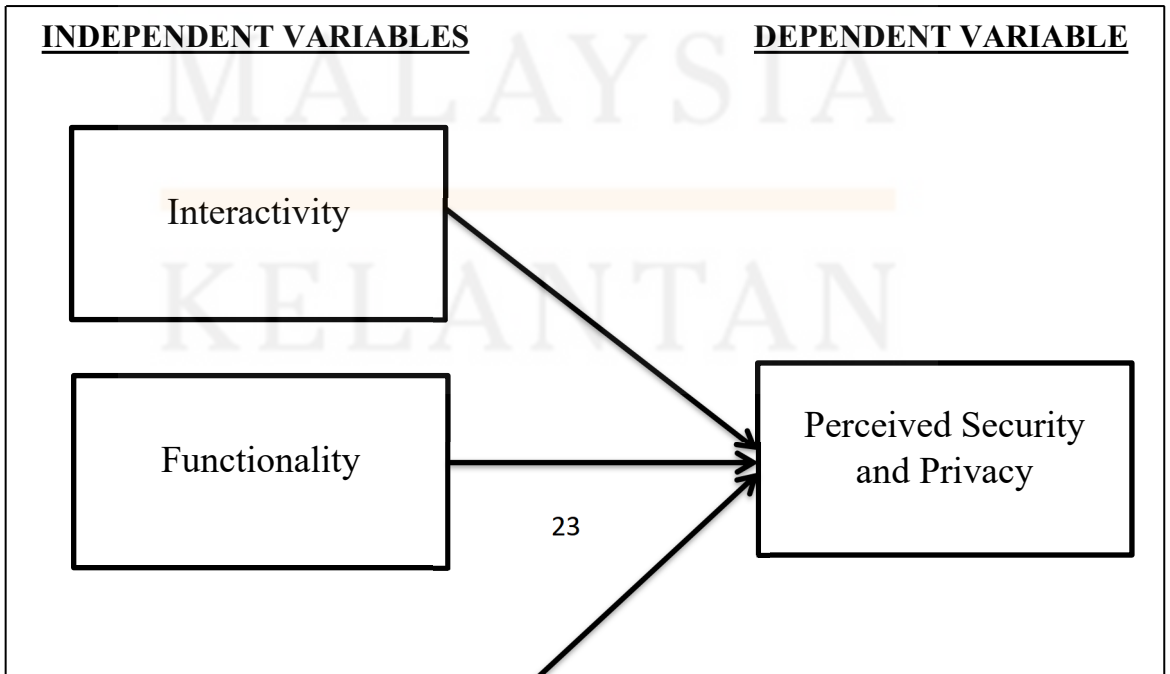
The perceived ease of use of a technical system and its presentation is linked to the ease with which it may be accessed. Customers' perceived ease-of-use is one of the most crucial elements in their acceptance of a technology, according to Davis (1986)'s Technology Adoption Model (TAM). In other words, customers are more likely to use a system if they perceive it is straightforward to use. TAM was used to try to find basic factors that had been indicated by prior research.

PEOU is defined as the degree to which hotel customers feel that online booking is not difficult and free from much effort to use. If they feel online booking is easy to use, they will normally perceive it as being useful to them. The implementation of a standard model such as TAM by Davis (1989) and its modification by Samuel (2016) allowed for the capture of people perceived ease of use in terms of frequency of usage of mobile technology for research cooperation to ensure that the use of mobile application and customers to ensure a better use in the hospitality industries. Therefore, H3 is formulated as below:-

H3: There is a positive relationship between perceived ease of use of perceived security and privacy.

2.6 RESEARCH FRAMEWORK

The framework has to identify the factor of perceived security and privacy as the independent variables (IV) such as interactivity, functionality and perceived ease to use and perceived security and privacy as the dependent variable (DV). The framework is used to study the direct effects of the relationship between the interactivity, functionality and perceived ease of use.



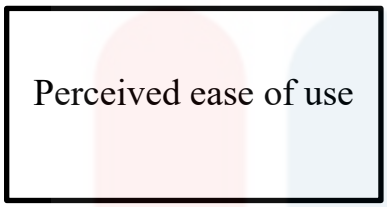


Figure 2.1 : Conceptual Framework for Perceived Security and Privacy

2.7 SUMMARY

This chapter discussed the relevant previous studies on the variables of the current study. The research framework has been presented. Next chapter will discuss the methodology that will be applied in this study. At the end, develop a hypothesis for each independent variable and build out the research framework.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

Research methodology in this chapter is to cover and used to complement the study. The research methodology include to carry out this study such as research design, population, sample size, sampling method, data collection procedure, research instrument, data analysis, and concludes with a summary of this chapter 3.

3.2 RESEARCH DESIGN

According to Akhtar (2016), research design is structural research because it is the glue that connects all the pieces of a research project together, or in other words, it is a proposed research work plan. The framework, technique, and plan for ensuring that questions are found and variance is controlled known as research design (Ram, 2010). Research design refers to the overall strategy utilized to carry out research that defines a succinct and logical plan to tackle established research question through the collection, interpretation, analysis, and discussion of data. According to Saunders, Lewis and Thornhill (2012), the research design is a planning to select data collection procedures, subjects to answer research questions and research sites.

This study focused on the descriptive research. According to Nassaji (2015), the descriptive research is a phenomenon, a current condition, and the features of a community of organisations and people. There are two research approach of research design which is quantitative and qualitative. This study used the quantitative research to collect data perceived security and privacy on interactivity, functionality and perceived ease to use of mobile applications. According to Bryman and Bell (2015), quantitative research is defined as the collection of numerical data, as well as a deductive perspective of the relationship between theory and study, a preference for natural scientific approaches and an objective view of social reality. Quantitative research is the process of collecting and analyse numerical data. It can be used to find the patterns and averages, make predictions, test causal relationships and generalize results to wider populations. This is because quantitative research strategy in the sense that there will be numeric data, continuous and distinct.

3.3 POPULATION

The meaning of population is that the researcher conducts a research by gender, population size, growth, age, migration and general characteristics that have been defined by the researcher in the sampling criteria (Sherbinin, 2017). The population also consists of different groups of individuals in a country in order to study population size, population density, age, gender, township, migration and so on to make a study from a statistical sample to draw overall conclusions for the population (Bhandari, 2021). Therefore, population is very important and needs to be used by researchers to get the answers studied for the topics conducted in hospitality industry.

The researchers will conduct and distribute the questionnaire through online to student from the course hospitality which is year 1 until year 4 in Universiti Malaysia Kelantan. The total students from year 1 until year 4 are 2518 students. This questionnaire needs to be answered by customers from any state who have ever stayed in a hotel because such customers are proficient in using platforms such as WhatsApp, Telegram and others that use the internet in every business dealings (Lau, 2016).

3.4 SAMPLE SIZE

Sample size is an observation made by a researcher in any statistical setting such as a public opinion poll and is a critical determinant for a project (Schwartz, 2019). Samples obtained in too small results are unreliable while too large samples require the researcher to accumulate a lot of time and resources. Thus, the sample size made by the researcher can measure the number of customers measured in the survey. The sample size is also known as the “n” variable in statistics. In addition, the sample size formula

can determine the sample size by taking into account several factors required by the researcher to know the proportion of the population is adequate and correct along with the margin of error and level of confidence. Thus, the importance of sufficient sample size to draw meaningful conclusions about a population refers to the term sample to a population segment (Vaidya, 2021). Researchers use Krejcie and Morgan tables to obtain sample sizes from customers. The total of respondents that will ask to answer this questionnaire is 335 respondents.

Table 3.1 : Krejcie and Morgan tables of Sample Size

TABLE 1
Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

3.5 SAMPLING METHOD

Sampling is a method that allows researchers to deduce population information on the basis of population results. In order to deal with research questions, a researcher should

probably not be capable of collecting data from all cases. Consequently, a sample is necessary. The entire number of cases from which the sample of the researcher is extracted is called population (Mukesh, Salim & Ramayah, 2013). Sampling is a technique that allows researchers to infer information about a community from the findings of a subset of the population without than having to look at the entire person (Barratt, 2009). If a sample is to be employed, it is essential that the persons picked are representative of the whole population, regardless of the technique employed. This may entail focusing on hard-to-reach demographics. If a town's electoral roll was used to identify participants, for example, certain persons, such as the homeless, would not be registered and hence would be automatically removed from the research (Shantikumar, 2018).

There are various types of sampling procedures, which may be split into two categories that's is probability sampling and non-probability sampling. The term "probability sampling" refers to the fact that every member of the population has an equal chance of being chosen. Probability sampling techniques are the best option for producing findings that are representative of the entire population (McCombes, 2019). In probability sampling techniques there are a few examples that can be highlighted which is simple random sampling. Every member of the population has an equal probability of getting chosen in a basic random sampling. The population as a whole should be included in the sample frame. Second, systematic sampling that it's comparable to basic random sampling, although it's typically a little less difficult to carry out. Every person in the population is assigned a number, but rather than assigning numbers at random, individuals are picked at regular intervals. Non-probability sampling is a sampling strategy in which it is impossible to compute the possibility of any individual being chosen for a sample. It's the polar opposite of

probability sampling, in which the probability cannot be calculated. Furthermore, probability sampling requires random selection, but non-probability sampling does not, relying instead on the researcher's subjective judgement (Wisniowski, 2020). The types of non-probability are convenience sampling as the title suggests, this essentially takes a sample from a convenient location. Next, snowball sampling is where study participants enlist the help of additional people to join the study.

In this research, the researchers selected non-probability sampling technique which is snowball sampling technique. Non-probability is a sampling technique in which the researcher chooses samples from the subjective assessment of the researcher instead of from a random point of view. A snowball sampling is a technique in which samples are taken from a sampling frame. People who have any acquaintances, for example, are more likely to be recruited into the sample than those who do not. Furthermore, the snowball sampling approach used in this study was chosen because it has the potential to save both time and money for the researchers when it comes to data collection.

The purpose of this sampling method is to make a summary of people's perceptions on perceived security and privacy of mobile applications. The sample size will be determined according to the demographics of the respondents, namely gender, age, race, year of study and faculty. Respondent data will be collected through a questionnaire and it is designed using Google Forms and shared through social media namely WhatsApp and Telegram groups to everyone. This method saves costs and has the least time consuming shipping method. By using Google Forms and social media, researchers can easily get respondents without having to meet in person.

3.6 DATA COLLECTION PROCEDURE

Data collection is the efficient approach to assembled and measure the information from an assortment of sources in order to get a comprehensive and accurate data. Data collection enables a person or an association to answer related questions, evaluating results and create conjecture regarding upcoming probabilities and trends. Data collection is a method of collecting and analyse data from a number of sources in order to provide a comprehensive and accurate picture of a subject. Data collecting helps a person or organization to answer pertinent questions, assess results, and forecast future probability and trends. Surveys, interviews, and focus groups are the most common methods for gathering data. Depending on the project, businesses may now collect data from mobile devices, website traffic, server activity, and other relevant sources with the use of Web and analytics tools (McLaughlin, 2020).

There are two sorts of data gathering methods, which are classified as primary data collection and secondary data collection, respectively. In definition, primary data collection is the gathering of raw data at the source. It is the process of gathering original data gathered by a researcher for the aim of a certain study project. It may be divided into two categories that is qualitative research and quantitative data gathering techniques (Feng, 2006). To comprehend concepts, views, or experiences, qualitative research entails gathering and evaluating non-numerical data such as text, video, or audio. It can be used to get in-depth understanding of a subject or to develop fresh research ideas. Quantitative research includes collecting and analyse numerical data for statistical analysis, whereas qualitative research it doesn't. The process of gathering and interpreting numerical data is known as quantitative research. It may be used to look for patterns and averages, make predictions, evaluate causal linkages, and extrapolate results to larger groups. (Bhandari, 2020)

The Google Forms questionnaire is appropriate in this study because everyone uses a smartphone nowadays. While it is difficult to contact respondents in person, it is still possible to ask them to answer a survey in a Google form. Google Forms are easier to reach customer respondents comprised of the hospitality industry because of the rapid growth of social media, researchers can share Google Forms and get respondents from them. Researchers use Google Forms because the Covid-19 case in addition to reducing the cost of using paper, it can also make it easier for people to answer questions given for example respondents can answer this question via phone, tab or laptop and it also makes it easier for people to answer questions in their home without having to leave the house.

The questionnaire will be distributed between April and May 2022. The questionnaire contains items to answer the study's objectives and has privacy and confidentiality agreements for the answers that have been given.

3.7 RESEARCH INSTRUMENT

Research instruments are tools used to obtain, measure, and analyse data from subjects around a research topic (Collins, 2021). Information came from subjects who participated in the study and were interested in that subject. Questionnaires, surveys, interviews, checklists, and sample tests are examples of research instruments. The tool used in this research instrument refers to a questionnaire or data collection instrument that will be built, validated and administered. This tool can also be an interview guide and/or checklist. If the instrument is provided by a researcher, it should be tested for validity and reliability. However, if the instrument is standardized, the student should indicate his or her description of the item, its scoring and qualifications. The researcher

must describe its parts, and how the instrument will be validated. The instruments to be used shall be attached except for standards (Harmon, 2018).

Sections A, B, and C form the three sections of the questionnaire for this study. Part A contains information about respondents' demographic profile, part B contains information about respondents' feedback on interactivity, functionality and perceived ease of use factors on mobile applications, and part C contains information on respondents 'responses to perceived security and privacy on mobile applications. To avoid any difficulties, the questionnaire will be written in English only.

The closed-ended questionnaire's standardized questions are used for analysis. To begin, the advantage of using this method is that it is simple to respond to. Second, respondents only need a short amount of time to complete the questionnaire, as opposed to an open-ended questionnaire (Henn, Weinstein & Foard, 2006). The rating scale, also known as the interval scale, is a closed-ended questionnaire used in this study. The interval scale, according to (Sekaran & Bougie, 2009), assists researchers in performing numerical operations in data collection, such as calculating the severity of individual preference variations. Reliability means the extent to which a "test is dependable, self-consistent and stable" (Merriam, 1995). In other words, the test agrees with itself. It is concerned with the consistency of responses from moment to moment. Even if a person a takes the same test twice, the test yields the same results. However, a reliable test may not always be valid.

People's feelings, preferences, and attitudes are measured using the Likert scale. According to (Ogden & Lo, 2012), Likert scales are used to test attitudes or opinions and have predetermined response formats. When using the Likert scale, many academics debated whether to use the 5-point Likert scale or the 7-point Likert scale

(Mcleod, 2019). The Likert Scale is a seven-point scale that allows people to choose for themselves. In this study, researchers used a 7-point Likert scale to collect the required data. Likert 7 points are shown below:-

Table 3.2 : The seven-point Likert-scale

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strong Agree

Table 3.3 : Overview of Research Instrument

NO	VARIABLE	AUTHOR	NUMBER OF ITEM	ITEM
1	Perceived security and privacy	Alex Koohang, Joanna Paliszkiewicz, Jeretta Horn Nord	8	1. I am aware that, the hotel has a clear security policy about "bring your own device" at the hotel.

		& Karen Paullet (2019)		2. I have sufficient knowledge about the hotel's security policy regarding corporate communication conducted on mobile applications. 3. I know that the hotel has implemented appropriate steps to secure mobile applications I use in the hotel. 4. I am aware that the hotel has a clear policy regarding disaster recovery plan in case I experience security breach on mobile devices I use in the hotel. 5. I am aware of the hotel's deployed Mobile Device Management that secures,

				monitors, manages, and supports the protection of data on mobile applications. 6. I'm aware that the hotel places limitations on corporate data that workers can access on their personal mobile applications. 7. I'm aware that the hotel has a good handle on enforcing security and privacy measures to access sensitive or confidential data. 8. I'm aware that security software on all mobile applications used in the hotel is updated on a regular basis.
2	Interactivity	Yang and Lee Tan et al Zhao and Lu	7	1. I believe mobile applications can be interactivity to customers in

		(2018)		terms of perspective. 2. I believe interactivity is two-way communication and becomes an important feature of mobile applications. 3. I am confident that interactive contact can be done either with other customers or with other online organizations. 4. I am sure that interactivity is also focused on the other consistently which is receiving and replying to its messages on the mobile applications. 5. I believe interactivity is an important feature for customers in order to help

				improve their efficiency. 6. I aware the mobile application is smooth and easy to understand for the customers when interact with others. 7. I am confident that interactivity can be achieved when they use the mobile application.
3	Functionality	Ahmet Bulent Ozturk1 Khaldoon Nusair Fevzi Okumus Dipendra Singh (2017)	5	1. Mobile applications provide information that is simple to understand and use for customers. 2. The functionality mobile applications help a lot of customer to booking their hotel. 3. Mobile applications can

				help customers check in faster and save their time. 4. Mobile applications fulfil my expectations and meet my requirements. 5. I am satisfied with mobile applications when I use throughout the trip.
4	Perceived ease of use	Ahmet Bulent Ozturka, Anil Bilgihan, Khaldoon Nusair & Fevzi Okumus (2016)	6	1. For me, learning to operate a mobile applications is ease to use. 2. It would be easy for me to become skilled when using the mobile applications. 3. I found that mobile applications to do what I want it to do is easy. 4. By using mobile

				applications, my interaction would be clear and understandable. 5. I would found that the mobile applications to be flexible to interact with. 6. I would find that mobile applications easy to use.

3.8 PLAN OF DATA ANALYSIS

The tool use in analysing the data is a statistical tool or better known as Statistical Package Social Science (SPSS) programmed version 25 computer software. The SPSS software helps the researcher in determining the best statistical technique to be use. SPSS data will interpret into statistics such as valid percentage and cumulative percentage. The researcher has chosen a simple descriptive analysis to evaluate data. A frequency distribution is a mathematical distribution and one variable is considered at a time. The objective is to obtain a count of number responses associate with different values of one variable and to express these counts in percentage. The researcher use this method because it is easy to understand and analyse. Besides, this method gives a quick and accurate result.

3.8.1 RELIABILITY ANALYSIS

According to Addinsoft (2021), reliability analysis is applied in a variety of fields, most notably social science. The phrase originates in psychometry. Thus, we define a test as a series of questions. Questions are referred to as components. These components are grouped into homogenous constructs, which are also referred to as factors, measuring scales, latent variables, or concepts. Graphical ability may be a factor on which we wish to place a numerical value on a scale of measurement. The purpose of the reliability study is to determine the scale's dependability, or, in other words, to determine whether the construct questions are coherent and measure the same thing. In the instance of the graphical ability, a question about mental calculus would reduce the scale's coherence.

Lee Cronbach invented the term "alpha" in 1951 to describe a test's or scale's internal consistency; it is stated as a number between 0 and 1. Internal consistency refers to the extent to which all items in a test measure the same notion or construct, and is thus related to the interrelatedness of the test items. To verify its validity, a test should be subjected to internal consistency testing prior to being used in a study or examination. Cronbach's alpha is a measure of reliability that compares the amount of variation shared, or covariance, among the items that comprise an instrument to the total variance. The assumption is that if the instrument is credible, there should be a high degree of correlation between the items in relation to the variance. Cronbach's alpha is comparable to averaging all conceivable split-half reliability coefficients (Collins, 2007).

A pilot study will conduct on 30 respondents from year 1 until year 4 students. Factors that contributed to people's perceptions of perceived security and privacy on mobile applications among year 1 until year 4 students to check the reliability of the instrument. The researcher has given the questionnaire form to the respondents as a distribution of Google form. The design of instructions to avoid social desire bias will

be read to respondents guaranteeing confidentiality. The questionnaire will be posted in a group course in WhatsApp as well as a convenient Telegram for the respondents to answer this survey. The event of this survey method must be done face to face as a good way, but this time can't do any physical activity because of the covid-19 pandemic. It is acknowledged that further assessment of people's perceptions of perceived security and privacy on mobile applications may have completely obscured the purpose of the study. However, after discussion with the lecturer, it will assess such strategies will threaten customer cooperation.

Table 3.4 : Rule of Thumb for result

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

3.8.2 DESCRIPTIVE ANALYSIS

Descriptive analysis is a type of data analysis that is often used. Descriptive analysis is about trying to explain or summarize data. It simplifies the use of data, which can make it easier for analysts to act and can help filter out less meaningful data. Descriptive analysis is frequency, central tendency, scattering or variation, and position. How

accurately you perform descriptive analysis depends on what you are looking for, but that step usually involves collecting, cleaning and ultimately analysing the data. In this research, researchers use questionnaires to find out the relationship between perceived security and privacy with interactivity, functionality and perceived ease to use.

3.8.3 PEARSON CORRELATION

According to Nickholas (2021), pearson correlation is used to determine the absence of a relationship between 2 variables, namely independent variables and dependent variables that are interval-scale or ratio (parametric) which in SPSS is called scale. Assuming in the Pearson correlation, the data should be distributed normally. Correlation can produce positive (+) and negative (-) numbers. If the correlation number is positive it means the relationship is one-way. One way means that if the independent variable is large, the dependent variable is larger. If it produces a negative number it means the relationship is not one-way. Non-directional means that if the value of the independent variable is large, the dependent variable becomes smaller. Pearson correlation could be two categories in positive.

Table 3.5 : The Interpret of Size (strength) of a Correlation Coefficient

Size of correlation	Interpretation
0.90 to 1.00 / (-0.90 to -1.00)	Very high positive / Negative correlation
0.70 to 0.90 / (-0.70 to -0.50)	High positive / Negative correlation
0.50 to 0.70 / (-0.50 to -0.70)	Moderate positive / Negative correlation

0.30 to 0.50 / (-0.30 to -0.50)	Low positive / Negative correlation
0.00 to 0.30 / (0.00 to – 0.30)	Negligible correlation

3.9 SUMMARY

In conclusion, this chapter begins with an introduction before explaining the design of the analytical study conduct by the researcher in this report on the relationship of perceived security and privacy on mobile applications with interactivity, functionality and perceived ease to use. In terms of study design, researchers use a descriptive correlation design, which is a type of quantitative research, to collect data from a population. Furthermore, the researchers use snowball sampling as a research instrument. The researcher use Statistical Package Social Science (SPSS) programmed operating software to analyse the data for data analysis.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter discusses the result of the analysis data collected from 335 respondents on the survey administered. In this chapter, the researcher will discuss the findings of the

research. The findings of descriptive analysis, reliability test, inferential analysis were also shown in this chapter and concludes with a summary of this chapter.

4.2 RESULTS OF DESCRIPTIVE ANALYSIS (DEMOGRAPHIC PROFILE)

A descriptive analysis was conducted on the data of section A for the purpose of summarising the background information on demographic profile of the respondents that involved in this study.

4.2.1 GENDER

Table 4.1 presents the gender distribution of a total of 335 respondents collected from the survey.

Table 4.1: The Gender of Respondents

Gender	Frequency (n)	Percentage (%)
Male	151	45.1
Female	184	54.9
Total	335	100.0

From Table 4.1, there were 151 (45.1%) respondents who represented male and 184 (54.9%) respondents who represented female.

4.2.2 AGE

Table 4.2 presents the age distribution of a total of 335 respondents collected from the survey.

Table 4.2: The Age of Respondents

Age	Frequency (n)	Percentage (%)
18 – 20 years old	64	19.1
21 – 23 years old	238	70.0
24 – 26 years old	33	9.9

Age is divided into 3 categories. There were 64 (19.1%) respondents are age 18 - 20 years old. While the majority respondents are in the age range of 21 - 23 years old, which are 238 (70.0%) respondents. Lastly, only 33 (9.9%) respondents were reported in the age of 24 – 26 years old.

4.2.3 RACE

Table 4.3 shows the race distribution of a total of 335 respondents collected from survey.

Table 4.3: The Race of Respondents

Race	Frequency (n)	Percentage (%)
Malay	144	43.0
Chinese	100	29.9
Indian	86	25.7
Other	5	1.4
Total	335	100.0

Race is divided into 4 categories. The majority respondents are Malay with 144 (43.0%) followed by Chinese with 100 (29.9%) respondents. There were also Indian with 86 (25.7%) respondents and other races namely Kadazan, Iban and Sikh represented 5 (1.4%) of total respondents.

4.2.4 ARE YOU A USER OF MOBILE APPLICATIONS?

Table 4.4 Presents the 'are you a user of mobile applications' of 335 respondents collected from survey.

Table 4.4: Are you a user of mobile applications?

Are you a user of mobile applications?	Frequency (n)	Percentage (%)
Yes	335	100.0
No	0	0

The above results showed that all respondents answered yes, which is 335 (100.0%) respondents.

4.2.5 WHAT MOBILE APPLICATIONS DO YOU USUALLY USE TO FIND A HOTEL ONLINE?

Table 4.5 Presents the 'what mobile applications do you usually use to find a hotel online' of 335 respondents collected from the data collection.

Table 4.5: What Mobile Applications Do You Usually Use To Find a Hotel Online?

What Mobile Applications Do You Usually Use To Find A Hotel Online	Frequency (n)	Percentage (%)
Trivago	112	33.4
Agoda	102	30.4
Bookings	94	28.1
Others	27	8.1
Total	335	100.0

In this part, there are 4 categories. The majority respondents answer for this question is use Trivago with 112 (33.4%) followed by Agoda which is 102 (30.4%) respondents. From mobile applications of Bookings with 94 (28.1%) respondents and other in this part namely OYO represented 27 (8.1%) of total respondents.

4.2.6 HOW DO YOU CHECK-IN THE HOTEL?

Table 4.6 presents the 'how you check-in the hotel' of 335 respondents collected from the survey.

Table 4.6: How do you check-in the hotel?

How do you check in the hotel?	Frequency (n)	Percentage (%)
Mobile apps	142	42.4
Self-check-in	133	39.7
Counter	60	17.9
Total	335	100.0

In this part, there are 3 categories. The majority respondents in this part uses Mobile apps with 142 (42.4%) followed by Self check-in with 133 (39.7%) respondents, and Counter with 60 (17.9%) respondents.

4.2.7 HOW DO YOU MANAGE YOUR ONLINE BOOKING?

Table 4.7 presents the 'how do you manage your online booking' of 335 respondents collected from the survey.

Table 4.7: How do you manage your online booking?

How do you manage your online booking?	Frequency (n)	Percentage (%)
Mobile apps	148	44.2
Self-check-in	90	26.9

Counter	97	29.0
Total	335	100.0

In this part, there are 3 categories. The majority respondents answer this question from Mobile application with 148 (44.2%) followed by Self check-in with 90 (26.9%) respondents and Counter with 97 (29.0%) respondents.

4.3 DESCRIPTIVE ANALYSIS (IV and DV)

Descriptive analyses consist of means and standard deviations based on a Seven Likert - scale (1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = neutral; 5 = somewhat agree; 6 = agree and 7 = strongly disagree) were calculated for all measured items of interactivity, functionality, perceived ease of use and perceived security and privacy. In the same meanings, the descriptive analysis are categorized into four section with align to those four dimensions and illustrated in Table 4.8 to Table 4.11.

4.3.1 INTERACTIVITY

Table 4.8: Descriptive Analysis for Interactivity

No.	Item	Mean	Std. Deviation
1	I believe mobile applications can be interactivity to customers in terms of perspective.	5.34	0.969
2	I believe interactivity is two-way communication and becomes an important feature of mobile applications.	5.41	0.924
3	I am confident that interactive contact can be done either with other customers or with other online organizations.	5.46	0.959
4	I am sure that interactivity is also focused on the other consistently which is receiving and replying to its messages on the mobile applications.	5.36	1.034
5	I believe interactivity is an important feature for customers in order to help improve their efficiency.	5.44	0.974
6	I aware the mobile application is smooth and easy to understand for the customers when interact with	5.41	0.940

	others.		
7	I am confident that interactivity can be achieved when they use the mobile application.	5.39	0.925

Table 4.8 shows the mean ranged for the interactivity is from 5.34 – 5.46 and standard deviation is from 0.924 - 1.034. There were eight (7) questions measured with the highest mean of 5.46 agree for the question number 3 on the statement 'I am confident that interactive contact can be done either with other customers or with other online organizations'. Meanwhile, the lowest mean with 5.34 was for the question number 1 agree on the statement that 'I believe mobile applications can be interactivity to customers in terms of perspective'. The mean values for other five (5) question for number 2, 4, 5, 6 and 7 were 5.41, 5.36, 5.44, 5.41, and 5.39 respectively.

4.3.2 FUNCTIONALITY

Table 4.9: Descriptive Analysis for Functionality

No.	Item	Mean	Std. Deviation
1	Mobile applications provide information that is simple to understand and use for customers.	5.47	0.921
2	The functionality mobile applications help a lot of customer to booking their hotel.	5.46	0.917
3	Mobile applications can help customers	5.39	0.915

	check in faster and save their time.		
4	Mobile applications fulfil my expectations and meet my requirements.	5.37	0.957
5	I am satisfied with mobile applications when I use throughout the trip.	5.42	0.947

Table 4.9 shows the mean ranged for the functionality is from 5.37 – 5.47 and standard deviation is from 0.915 – 0.957. There were five (5) questions measured with the highest mean of 5.47 agree for the question number 1 on the statement 'Mobile applications provide information that is simple to understand and use for customers'. Meanwhile, the lowest mean with 5.37 was for the question number 4 agree on the statement that 'Mobile applications fulfil my expectations and meet my requirements'. The mean values for other three (3) questions for number 2, 3 and 5 were 5.46, 5.39 and 5.42 respectively.

4.3.3 PERCEIVED EASE OF USE

Table 4.10: Descriptive Analysis for Perceived Ease of Use

No.	Item	Mean	Std. Deviation
1	For me, learning to operate a mobile applications is ease to use.	5.50	0.935
2	It would be easy for me to become skilled when using the mobile applications.	5.49	0.909
3	I found that mobile applications to do	5.51	0.875

	what I want it to do is easy.		
4	By using mobile applications, my interaction would be clear and understandable.	5.41	0.946
5	I would found that the mobile applications to be flexible to interact with.	5.55	0.894
6	I would find that mobile applications easy to use.	5.47	0.908

Table 4.10 shows the mean ranged for the perceived ease of use is from 5.41 – 5.55 and standard deviation is from 0.875 – 0.946. There were six (6) questions measured with the highest mean of 5.55 agree for the question number 5 on the statement 'I would found that the mobile applications to be flexible to interact with'. Meanwhile, the lowest mean with 5.41 was for the question number 4 agree on the statement that 'By using mobile applications, my interaction would be clear and understandable'. The mean values for other four (4) questions for number 1, 2, 3 and 6 were 5.50, 5.49, 5.51, and 5.47 respectively.

4.3.4 PERCEIVED SECURITY AND PRIVACY

Table 4.11: Descriptive Analysis for Perceived Security and Privacy

No.	Item	Mean	Std. Deviation
1	I am aware that, the hotel has a clear	5.43	0.945

	security policy about “bring your own device” at the hotel.		
2	I have sufficient knowledge about the hotel’s security policy regarding corporate communication conducted on mobile applications.	5.54	0.857
3	I know that the hotel has implemented appropriate steps to secure mobile applications I use in the hotel.	5.64	0.829
4	I am aware that the hotel has a clear policy regarding disaster recovery plan in case I experience security breach on mobile devices I use in the hotel.	5.54	0.904
5	I am aware of the hotel's deployed Mobile Device Management that secures, monitors, manages, and supports the protection of data on mobile applications.	5.60	0.899
6	I'm aware that the hotel places limitations on corporate data that workers can access on their personal mobile applications.	5.50	0.975
7	I’m aware that the hotel has a good handle on enforcing security and privacy measures to access sensitive or	5.66	0.904

	confidential data.		
8	I'm aware that security software on all mobile applications used in the hotel is updated on a regular basis.	5.62	0.917

Table 4.11 shows the mean ranged for the perceived security and privacy is from 5.43 – 5.66 and standard deviation is from 0.829 – 0.975. There were eight (8) questions measured with the highest mean of 5.66 agree for the question number 7 on the statement 'I'm aware that the hotel has a good handle on enforcing security and privacy measures to access sensitive or confidential data'. Meanwhile, the lowest mean with 5.43 was for the question number 1 agree on the statement that 'I am aware that, the hotel has a clear security policy about "bring your own device" at the hotel'. The mean values for other six (6) questions for number 2, 3, 4, 5, 6 and 8 were 5.54, 5.64, 5.54, 5.60, 5.50 and 5.62 respectively.

4.4 RESULTS OF RELIABILITY TEST

To conduct a research, the validity and reliability are very important because they are the two fundamental elements in the evaluation of a measurement instrument. Most of the researchers use Cronbach's alpha as a reliability measurement (Tavakol & Dennick, 2011). This is because Cronbach's alpha is easier to use in comparison to others estimate and it only requires one test administration. In 1951, Lee Cronbach developed the Cronbach's alpha. It provides a measure of the internal consistency of a test or scale. The result is expressed in numeric value between zero and one. The qualified research

is when a research fulfil the acceptable value which is more than or equal to 0.7 but the value must less than 1.0.

4.4.1 RELIABILITY ANALYSIS

Table 4.12: Results of Reliability Cronbach's Alpha for the Variables.

Variables	Number of Items	Cronbach's Alpha
Interactivity	7	0.885
Functionality	5	0.836
Perceived Ease of Use	6	0.861
Perceived Security and Privacy	8	0.884

Number of Respondents (n) = 335

Table 4.12 shows the Cronbach's Alpha values of the variables questionnaire were above the acceptance level (i.e. 0.70) with the value range between 0.836 - 0.885. The first independent variable that is Interactivity found to be good reliable (7 items; α = 0.885). The second independent variable that is Functionality showed a good reliability (5 items; α = 0.836). The third independent variable that is Perceived Ease to Use showed a good reliability (6 items; α = 0.861) and dependent variable that is Perceived Security and Privacy found to be good reliability (8 items; α = 0.884). As a result, the data was considered suitable for further analysis.

4.5 RESULTS OF PEARSON'S CORRELATION

PEARSON'S CORRELATION

Pearson correlation (r) is used to measure the significant relationship between the independent variables of interactivity, functionality and perceived ease of use and dependent variable of perceived security and privacy. Therefore, the researcher studied the value of (r) on the variable to get the study hypothesis accepted or rejected.

Table 4.13: Results of Pearson's Correlation

	Perceived Security and Privacy	**Interactivity**	**Functionality**	**Perceived Ease of Use**
Perceived Security and Privacy	1			
Interactivity	.748**	1		
Functionality	.779**	.844**	1	
Perceived Ease of Use	.790**	.838**	.821**	1

**Correlation is significant at the 0.01 level (2-tailed)

Table 4.13 shows that interactivity and perceived security and privacy were significantly correlated at r = 0.748, p <0.01. Based on Schober, Boer & Schwarte (2018), high association of correlation occurred between interactivity and perceived security and privacy.

A significant correlation between functionality and perceived security and privacy with r = 0.779, p <0.01. The correlation show a high strength between functionality and perceived security and privacy.

Besides, a significant correlation between perceived ease of use and perceived security and privacy with r = 0.790, p <0.01. The correlation coefficients show a high

strength of correlation between perceived ease of use and perceived security and privacy.

In conclusion, interactivity, functionality and perceived ease of use have high and strong correlations perceived security and privacy.

4.6 DISCUSSION BASED ON RESEARCH OBJECTIVES

Table 4.14: Summary Result for Pearson's Correlation Coefficient

	Hypotheses	**Results**	**Analysis (Nickholas, 2021)**	**Findings of Data Analysis**
H_1	There is a positive relationship between interactivity and perceived security and privacy.	r = .748**	r = High positive relationship	H_1: Supported

H_2	There is a positive relationship between functionality and perceived security and privacy.	r = .779**	r = High positive relationship	H_2: Supported
H_3	There is a positive relationship between perceived ease of use and perceived security and privacy.	r = .790**	r = High positive relationship	H_3: Supported

Based on Table 4.14, Pearson's correlation analysis was used to test the relationship between hypotheses on a significant relationship such as interactivity, functionality, perceived ease of use and perceived security and privacy. All hypotheses were supported at a 0.01 significance level, according to the results.

4.7 SUMMARY

The findings provided a detailed interpretation of data analysis from various statistical tests. The researcher has used frequency analysis to analyse demographic of respondents. In addition, the researcher has used descriptive analysis of independent variable which are interactivity, functionality and perceived ease of use and the dependent variable is perceived security and privacy. Next, the researcher has used reliability test which is results of Reliability Cronbach's Alpha for the Variables. Furthermore, the researcher has used Pearson's Correlation to analyse the relationship

between interactivity, functionality and perceived ease of use with perceived security and privacy. The findings revealed that all three hypotheses developed are supported.

CHAPTER 5

CONCLUSION

5.1 INTRODUCTION

This chapter reveals the findings of this study based on the results discussed in the previous chapter. This chapter discuss about the objectives and hypotheses of the study according to the findings in previous chapter. As this is the last chapter of the report, the implications, limitations and recommendations for future studies are included as well in the chapter. Finally, the overall conclusion summarized the chapter for the study.

5.2 RECAPITULATION OF THE FINDINGS

This part will recap the findings made by the researchers throughout the study. The main objective of this study is to identify the relationship between interactivity, functionality and perceived ease of use with perceived security and privacy.

The sample size was determined by using the equation developed by Krejcie and Morgan (1970). The total number of respondents who had answered the questionnaire through Google form was 335 respondents. Data from the respondents then analyzed using SPSS version 26. This data analysis consists of reliability analysis, frequency analysis, descriptive analysis and Pearson Correlation analysis.

Table 5.1: The Summary of the Research Objectives, Research Questions, and the Hypothesis Result in this Study.

No.	Research Objective (RO)	Research Question (RQ)	Hypothesis

1.	To examine the relationship between interactivity of mobile applications to perceived security and privacy.	Does interactivity of mobile applications influence perceived security and privacy?	There is a positive relationship between interactivity with perceived security and privacy.
2.	To examine the relationship between functionality of mobile applications to perceived security and privacy.	Does functionality of mobile applications influence perceived security and privacy?	There is a positive relationship between functionality with perceived security and privacy.
3.	To examine the relationship between perceived ease to use of mobile applications to perceived security and privacy.	Does perceived ease to use of mobile applications influence perceived security and privacy?	There is a positive relationship between perceived ease to use with perceived security and privacy.

Based on the findings in chapter 4, the researchers agreed that between interactivity, functionality and perceived ease of use with perceived security and privacy. Table 5.1 exhibits the summary of the research objectives, research questions, and hypothesis in this study.

The first independent variable (IV), which is interactivity, "I am confident that interactive contact can be done either with other customers or with other online organizations", has the highest mean score with a mean score of 5.46. In the meantime,

the results of H1 in Chapter 4, which is a high positive with a correlation of 0.748 while p-value is 0.01, which is less than the highly significant level of 0.01, was accepted where it reviewed to answer RQ1.

Functionality is the second independent variable (IV) in this study. The highest mean of 5.47 is "Mobile applications provide information that is simple to understand and use for customers". As the result of H2 in Chapter 4 was accepted with a high positive correlation coefficient of 0.779 with a p-value of 0.01, which has a correlation that is significant at the level of 0.01, it answered the RQ2.

Perceived ease of use is the last independent variable (IV) in this study. The highest mean of 5.55 is "I would found that the mobile applications to be flexible to interact with". As the result of H3 in Chapter 4 was accepted with a high positive correlation of 0.790 with a p-value of 0.01, which has a correlation that is significant at the level of 0.01 it answered the RQ3.

5.3 LIMITATIONS

The researcher discussed the Individual Perceived Security and Privacy of Mobile Applications in Hospitality Industry. This research was based on quantitative research method and data were collected by using an online questionnaire, which is more useable and intermediaries between researchers and respondents from University Malaysia Kelantan (UMK). The survey was held through a social media such as Whatsapp to share Google form link.

Researchers have faced some challenges such as time constraint in conducting fieldwork, respondent's behaviours and accessibilities. The questionnaire that is adopted from previous studies is limited to only single language whereby respondents must translate and apply at least bilingual statement in order to allow answer based on their language preferences. Besides, respondents are also limited to only those who can understand English.

Other than that, the study primary data was collected using online questionnaire, by using this method researchers unable to identify the truthfulness of the respondent while answering the questionnaire. This eventually resulted in invalid findings that must be excluded from the study.

Lastly, the study was limit to students University Malaysia Kelantan (UMK). Hence, the result of study is unable to reflect the whole student university especially student from other university in Malaysia which may not have the same opinion on Individual Perceived Security and Privacy of Mobile Applications in Hospitality Industry.

5.4 RECOMMENDATIONS

This study only discusses some factors on the relationship individual perceived security and privacy of mobile application in hospitality. Therefore, researchers studied factors such as interactivity, functionality and perceived ease to use. The results of the analysis of the study can show the number of students in the university who experience on using mobile applications while booking their hotel. For suggestions, future studies could use other variables that can reduce the problem while using mobile application for hotel

booking. As an example, the mobile room key. There are a few benefits to having a mobile room key. The first and most obvious benefit is its convenience. The second component is security. Traditional hotel room key cards can be lost and wirelessly hacked, causing security issues for guests. In the case of mobile room keys, even if you lose your phone, it is theoretically more difficult for an experienced thief to hack into your phone than a standard room key. (Terri Miller, 2018).

Future researchers could use this topic to create future studies to show the relationship between interactivity, functionality and perceived ease of use with perceived security and privacy. Researchers expect that the method of gathering quantitative data from the intended respondents will be maintained in future investigations. This is due to the fact that researchers selected a population of 335 university students from UMK. To avoid the spread of the Covid-19 outbreak, the data was collected utilising an online questionnaire method. In addition, researchers can also use various languages such as Mandarin and Tamil in future questionnaires. This is because most researchers only use English and Malay to conduct the questionnaire. This can make it easier for the Chinese and Indians to better understand the questions given and not cause stress when answering the questionnaire by the respondents. Indirectly, researchers can further increase the level of foreign languages to make it easier to communicate between races.

5.5 CONCLUSION

The main purpose of this research is to examine the relationship between interactivity, functionality and perceived ease of use with perceived security and privacy. According to the result, interactivity, functionality and perceived ease of use are independent variable, and it is caused influences on the dependent variable which is perceived

security and privacy. In the Chapter 3 also have mentioned the total numbers of the 335 respondents were administered among the university students in UMK. The population of respondent were among to focus on students from Faculty of Hospitality, Tourism and Wellness. Next, in Chapter 4 were the findings of result from the questionnaires survey that analyze using descriptive and inferential analysis. The data obtained from the questionnaire has been evaluated by software program using Statistical Package for the Social Science (SPSS). Lastly in Chapter 5, about summarization of the results based on data analysis. Thus, all the hypothesis such as H1, H2, and H3 stated are accepted. In addition, limitation and recommendation when carried out this research also includes that can be used for the further studies.

REFERENCE

Adukaite, A., Reimann, A. M., Marchiori, E., & Cantoni, L. (2015). Hotel mobile apps. The case of 4 and 5 star hotels in European German-speaking countries. *Information and communication technologies in tourism* 2014 (pp. 45–57).

Akhtar, I. (2016). Research Design. *Research in Social Science: Interdisciplinary PerspectivesEdition: 1st Chapter: Research Design.*

(Ariel & Avidar, McMillan, and Hwang, , 2015) Information, Interactivity, and Social Media. *Atlantic Journal of Communication.* 10.1080/15456870.2015.972404

Balapour, Reychav, Sabherwal & Azuri. (2019). Become an inextricable element of daily. *Function on mobile applications*, 5(12), 19.

Bhandari, P. (2021, June 3). *Population vs sample: What's the difference? Scribbr.* Retrieved December 14, 2021, from https://www.scribbr.com/methodology/population-vs-sample/

Bilgihan, A., Nusair, K., Okumus, F., & Cobanoglu, C. (2016). Applying flow theory to booking experiences: An integrated model in an online service context. *Information & Management*, 52(6), 668–678. doi:10.1016/j.im.2015.05.005

(Barreda, , 2016) Online branding: Development of hotel branding through interactivity theory. http://dx.doi.org/10.1016/j.tourman.2016.06.007

Chen, M. M., Murphy, H. C., & Knecht, S. (2016). An importance performance analysis of smartphone applications for hotel chains. *Journal of Hospitality and Tourism Management*, 29, 69–79. doi:10.1016/j.jhtm.2016.05.001

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. doi:10.2307/249008

(Dholakia, Zhao, Dholakia, & Fortin,, 2017) A Conceptual Model of Interactive Hotel Website: The Role of Perceived Website Interactivity and Customer Perceived Value Toward Website Revisit Intention. 10.1016/S2212-5671(16)30109-5

Fife, E. (2015). The Privacy Calculus: Mobile Apps and User Perceptions of Privacy and Security. *International Journal of Engineering Business Management*, 4, 11–. doi:10.5772/51645

Harris. (2016). Growth up in mobile applications. *Journal of Hospitality and Tourism Management*, 17(7), 22.

Harris. (2016). Growth up in mobile applications. *Journal of Hospitality and Tourism Management*, 10(7), 25.

Hartono, E., Holsapple, C.W., Kim, K.Y., Na, K.S., Simpson, J.T. (2014). Measuring perceived security in B2C electronic commerce website usage: *A respecification and validation. Decis. Support Syst*. 62, 11–21.

Huang & Kim. (2017). Examining an extended technology acceptance model with experience construct on hotel consumer's adoption of mobile applications. *Journal of Hospitality Marketing & Management*, DOI: 10.1080/19368623.2019.1580172

Huang, M. H., Cheng, Z. H. & Chen, I. C. (2017). *The importance of CSR in forming customer–company identification and long-term loyalty. J. Serv. Mark*. 31, 63–72.

Johnson, Kiser, Washington & Tores. (2018). The Role of Consumer's Perceived Security, Perceived Control and Interface Design Features. *Sustainability,* 11(23), 6843.

Kansakar, P., Munir, A., & Shabani, N. (2019). Technology in the Hospitality Industry. *Prospects and challenges*. 2162-2248.

(Kaczmarek, 2015) E-trust: the influence of perceived interactivity on e-retailing users. *Marketing Intelligence & Planning.* http://dx.doi.org/10.1108/02634500310465461

Keith, Babb, Furner, Abdullah & Lowry. (2016). Drivers and inhibitors of mobile applications adoption. *Sustainability*, 11(23), 153.

Kumar. (2016). Growth up in mobile applications. Vulnerability of mobile applications, 10(7), 23-24.

Lau, W. W. F. (2016, November 30). Effects of social media usage and social media multitasking on the academic performance of University Students. *Computers in Human Behavior.* Retrieved December 15, 2021, from https://www.sciencedirect.com/science/article/abs/pii/S0747563216307841

Lee, H., Chung, N., & Jung, T. (2015). Examining the cultural differences in acceptance of mobile augmented reality: *Information and communication technologies in tourism* (pp. 477–491).

Morosan, C., & DeFranco, A. (2015). Disclosing personal information via hotel apps: A privacy calculus perspective. *International Journal of Hospitality Management,* 47, 120–130. doi:10.1016/jijhm.2015.03.008

Munir, A., and Kansakar, P. (2017). "IFCIoT: Integrated fog cloud IoT: A novel architectural paradigm for the future Internet of Things," *IEEE Consum. Electron. Mag.,* vol. 6, no. 3, pp. 74–82.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129-132.

Nysveen, H., Pedersen, P. E., & Thorbjornsen, H. (2015). Intentions to use mobile services: Antecedents and cross-service comparisons. *Journal of the Academy of Marketing Science*, 33(3), 330. doi:10.1177/0092070305276149

Ozturk, A. B., Bilgihan, A., Nusair, K., & Okumus, F. (2016). What keeps the mobile hotel booking users loyal? Investigating the roles of self-efficacy, compatibility, perceived ease of use, and perceived convenience. *International Journal of Information Management,* 36(6), 1350–1359. Doi:10.1016/j.ijinfomgt.2016.04.005

Ozturk, A. B., Nusair, K., Okumus, F., & Hua, N. (2016). The role of utilitarian and hedonic values on users' continued usage intention in a mobile hotel booking environment. *International Journal of Hospitality Management*, 57, 106–115. doi:10.1016/j.ijhm.2016.06.007

Reychav. (2019). Become an inextricable element of daily life. Number of essential functions, 16(2), 25.

Rivera, M., Gregory, A., & Cobos, L. (2015). Mobile application for the timeshare industry: The influence of technology experience, usefulness, and attitude on behavioral intentions. *Journal of Hospitality and Tourism Technology,* 6(3), 242–257. doi:10.1108/JHTT-01-2015-0002

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). "Research Methods for Business Students" Chapter 4: *Understanding research philosophy and approaches to theory development. Research Methods for Business Students Edition: 8 Chapter: 4 Publisher: Pearson Education*.

Schwartz, E. (2019, March 2). How to calculate a sample size population. *Sciencing.* Retrieved December 7, 2021, from https://sciencing.com/calculate-sample-size-population-6638235.html.

Shaw & Sergueeva. (2019). Growth up in mobile applications. Privacy concerns on mobile applications, 10(7), 26.

Sherbinin, A. D., Carr, D., Cassels, S., & Jiang, L. (2017). Population and environment. *Annual Review of Environment and Resources,* 32(1), 345–373.

(Shin,, 2016) Interaction, engagement, and perceived interactivity in single-handed interaction. http://dx.doi.org/10.1108/IntR-12-2014-0312

Statista. (2018). User's acceptance of innovative mobile application. Information Technology & Tourism, 20(4), 17.

Tao, D. (2009). Intention to use and actual use of electronic information resources: Further exploring technology acceptance model (TAM). *In AMIA Annual Symposium Proceedings*, 2009, p. 629.

Vaidya, A. M. T. R. D., Thakur, A. M., A., Thakur, M., Vaidya, R. D., R., & Vaidya, D. (2021, July 17). Sample size formula. *WallStreetMojo.* Retrieved December 7, 2021, from https://www.wallstreetmojo.com/sample-size-formula/.

Xiang & Ki. (2016). Examining an extended technology acceptance model with experience construct on hotel consumer's adoption of mobile applications. *Journal of Hospitality Marketing & Management*, DOI: 10.1080/19368623.2019.1580172

Zhao, Z., & Balague, C. (2015). Designing branded mobile apps: Fundamentals and recommendations. *Business Horizon*, 58(3), 305–315.

S.L.R.L. (2019a). Functionality evaluation of mobile hotel websites in the m-commerce era. *Functionality Evaluation of Mobile Hotel Websites in the M-Commerce Era*, *36*(6), 665–678.

F.A. (2016a). Hotel website quality, perceived flow, customer satisfaction and purchase intention. *Hotel Website Quality, Perceived Flow, Customer Satisfaction and Purchase Intention*, 1–16.

L.W.R.L. (2015). Impact of hotel website quality on online booking intentions: eTrust as a mediator. *Impact of Hotel Website Quality on Online Booking Intentions: ETrust as a Mediator*, *47*, 108–115.

D.W.Z.X.R.L.T.P.K. (2015a). Assessing Hotel-Related Smartphone Apps Using Online Reviews. *Assessing Hotel-Related Smartphone Apps Using Online Reviews*, *25*(3), 291–331.

A.M.R.E.M.L.C. (2015a). Hotel Mobile Apps. The Case of 4 and 5Star Hotels in European German-Speaking Countries. *Hotel Mobile Apps. The Case of 4 and 5Star Hotels in European German-Speaking Countries*, 45–47.

D.L. (2019a). A Modified Model for Hotel Website Functionality Evaluation. *A Modified Model for Hotel Website Functionality Evaluation*, *33*(9), 1268–1285.

T.Z.S.S.J.A.A. (2019b). Why hotel guests go mobile? Examining motives of business and leisure travelers. *Why Hotel Guests Go Mobile? Examining Motives of Business and Leisure Travelers*, *28*(5), 621–644.

M.E.A.P. (2015c). User-centered design approach for mobile hospitality application. *User-Centered Design Approach for Mobile Hospitality Application*, 318–322.

B.N.D.B.A.L. (2015a). Smart technologies for personalized experiences: a case study in the hospitality domain. Smart Technologies for Personalized Experiences: A Case Study in the Hospitality Domain, 25(5), 243-254.

M.S. (2015e). Social media marketing in tourism and hospitality. *Social Media Marketing in Tourism and Hospitality*, *15*, 181–183.