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Perceived Health Risk Influence on Malaysians Intention to Visit Hotels Amidst Covid-19 Pandemic

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Abstract

This study aims to examine the relationship between attitude (ATT), subjective norms (SN), perceived behavioural control (PBC), perceived health risk (PHR), and intention to visit hotels in Penang during the COVID -19 pandemic, particularly during the RMCO period. This study focuses on the Malaysian state of Pulau Pinang and collects data through an online survey with 125 respondents from some travel-related Facebook pages and private groups. According to the results of this study, there is a significant direct relationship between the exogenous variables of attitude (ATT), perceived behavioural control (PBC), perceived health risk (PHR), and intention to visit hotels in Penang during the RMCO period. Few studies have attempted to explain the relationship between perceived health risks and hotel visitation intentions, especially in Malaysia. Therefore, this study will contribute to the literature on the direct influence of perceived health risk on intention to visit hotels.

Keywords: Perceived Health Risk, Theory of Planned Behaviour, Recovery Movement Control Order, Intention to Visit Hotel, COVID-19.

Introduction

An unprecedented disaster spread all over the world in December 2019, when the city of Wuhan experienced a pandemic of severe acute respiratory syndrome COVID-19 caused by coronavirus (Yağcı et al., 2021). Tourism industry was one of the most negatively affected sectors because of this pandemic. The World Tourism and Travel Council (WTTC) predicted that COVID-19 would result in a massive loss for the global tourism industry (Yağcı et al., 2021). According to Abrantes et al (2021), this occurrence of pandemic profoundly affected the tourism industry because tourists tend to avoid travelling. Given the growing insecurity driven by health epidemic, the attractiveness of a tourism destination is mostly influenced by the safety it provides (Poku & Boakye, 2019). On the other hand, tourists are becoming increasingly aware of health risks and safety conditions. Consequently, they adjust their travel behaviour and destination choice accordingly (Mertzanis & Papastathopoulos, 2021).

Therefore, health safety and security are now the central concerns of tourism and leisure settings (Abrantes et al., 2021). The travel reluctance during and after the COVID-19 pandemic is resultant from high health risk (Shin & Kang, 2020). While travel and tourism have always involved risks, health risk is the main concern most tourists have when visiting destinations or hospitality properties. Importantly, health risk perception is a key factor that influences tourists' decision-making processes, and they are less likely to visit a destination when they perceive high levels of health risk at the destination (Shin & Kang, 2020).

In consumer research, the theory of perceived risk refers to that consumers perceive risk in their decision-making behaviours because of the uncertainty that can potentially cause negative consequences (Shin & Kang, 2020). Since the 1990s, a growing number of hospitality and tourism research has examined how tourists perceive risk, what factors influence tourists' risk perception, and how tourists' risk perception influences travel and decision-making behaviours (Adam, 2015; Lepp et al., 2011; Lepp & Gibson, 2003). Among several types of perceived risk, health risk indicates tourists' or hospitality customers' perceived risk to their physical health as a result of uncontrolled events associated with terrorism, political situation, natural disasters, and pandemic (Shin & Kang, 2020).

Historically, the focus of research on health risk has been to understand how tourists perceive health risk when they engaged in risk-taking activities in adventure tourism contexts. A growing body of research began to emphasize issues associated with health or safety risks especially after a series of events, such as the 9/11 terrorist attacks in 2001, the SARS outbreak in 2003, the Bali bombings in 2002, and the Asian tsunami in 2004. Recently, the COVID-19 pandemic has made tourists perceive a high degree of health risk when they visit destinations or hospitality facilities. Furthermore, among all the health risks faced by tourists, infectious diseases are those potential travellers are more concerned with (Reisinger & Mavondo, 2006). However, epidemics and pandemics are the most frightening health-related concerns in tourism because pathogens are highly infectious, mutate quickly and spread rapidly beyond frontiers (Uğur & Akbıyık, 2020). Moreover, health problems and infectious diseases are frequently the most commonly perceived health risk for potential tourists when they choose a destination (Abrantes et al., 2021).

Previous research conducted in Germany, Austria and Switzerland indicates that the intention to travel during a COVID-19 pandemic is largely related to the perception of travel risks in general, especially in destinations where the epidemic is powerful, as well as the increased health risk of COVID-19 infection (Neuburger & Egger, 2020). Bae and Chang (2020) examined the impact of the perceived risk on the behavioral intentions toward "untact" tourism during the COVID-19 pandemic, and the results indicate that the perceived risk significantly

influences behavioral intentions even with a positive attitude toward untact tourism. Additionally, a study conducted on Crete (the Greek island) indicated that the COVID-19 pandemic negatively affects travel intentions for instance, the results confirmed that the pandemic generated worry and insecurity in several aspects of tourists' daily lives (Kourgiantakis et al., 2021).

On the note of perceived health risk effects on travel intentions, Theory of Planned Behaviour (TPB) was used in this study to examine the moderating role of perceived health risk towards the predictors in TPB on the intention to visit hotels in Penang specifically during Recovery Movement Control Order (RMCO) period. TPB, which is an extended version of Theory of Reasoned Action (TRA), is mainly used to predict human behaviour and have been employed in more than 2000 empirical studies in behavioural science (Ulker-Demirel & Ciftci, 2020). TPB is comprised of three components: attitude (ATT), subjective norms (SN), and perceived behavioural control (PBC), and it is responsible for explaining the decision-making process (Ajzen, 1991; Wang et al., 2020). The judgement of behaviour is based on one's attitude, which may be either positive or negative. When it comes to perceived social pressure to engage in a certain behaviour, SN is used, whereas PBC is used to describe perceived difficulties in engaging in that behaviour (Wang et al., 2020). As noted before, perceived health risk is integrated into the TPB because it has been effectively modified for usage in a variety of contexts and is widely utilised in health-related behaviour (Huang et al., 2020). Thus, this study is conducted due to the importance on understanding the role of perceived health risk on the intention to visit hotels during the pandemic of COVID-19.

Significance of the Study

This study will contribute to the body of literature on perceived health risk of COVID-19 towards the intention to visit hotels in Penang. As suggested by Davahli et al (2020), one of the potential future research to study the hospitality industry during this period of pandemic is on the risks of continuation of activities during the pandemic as the study on the perceived health risk (PHR) of COVID-19 on consumer behavioural intention is still limited (Li et al., 2019). Thus, from this research, it will benefit the researchers and benefited the broad knowledge of guest perceived health risk of COVID-19 on intention to visit hotels.

From the hotel industry perspectives, this study could provide significant understanding in obtaining better view of guest on health risk of COVID-19 on intention to visit hotels in Penang. The results and information from this study can be useful by all who has a concern on health risk associated with COVID-19 and as for the quality of services, this research would be useful for hotel industry to provide good service and experience for the guest. Since COVID-19 is highly contagious disease, service provider could benefit from this study to foresee and plan any proactive action to prevent the spread of virus and reduce the perceived health risk of COVID-19 from the guests.

Research Framework



Research Framework adapted from Ajzen (1991) with Perceived Health Risk of COVID-19 as Moderator

In the context of this study, some modification was made from the original TPB by adding perceived health risk (PHR) in this conceptual framework. Then, perceived health risk associated with COVID-19 tested as moderator between, attitudes, subjective norms, and perceived behavioural control on intention to visit hotels in Penang. Matiza (2020) defined PHR in the tourism context as a health risk associated with the potential risks to the tourist's health and well-being when engaging in tourism and travel activities. Because COVID-19 is a highly contagious illness, visitors' perception of health risk plays a significant role in their decision-making process and makes visiting a location less likely when they perceive high levels of health risk at the destination (Law, 2006; Williams & Baláž, 2013).

Literature Review

Theory of Planned Behaviour

Theory of Planned Behaviour (TPB), is one of the most studied mechanisms to foresee attitudes and behaviours (Soliman, 2019). TPB, which is an extended version of Theory of Reasoned Action (TRA), is mainly used to predict human behaviour. The TRA stated that individuals' acts are under their complete volitional control which is the criticized part of the theory to explain human behaviours (Ulker-Demirel & Ciftci, 2020). Thus, Aizen (1991) expanded the TRA and suggested the TPB to increase the prevalence of intention and behaviour by incorporating a new construction, namely, perceived behavioural control (Ulker-Demirel & Ciftci, 2020). The TRA stipulates that personal behaviour, which is influenced by attitude and subjective norms, is determined by individual intentions for certain activities (Lien et al., 2021). TPB is a commonly applied and suggested theory for human behaviour prediction that claims individuals tend to act through change of attitude (Chu & Chu, 2013). In TRA and TPB, prominent opinions play an important role in providing the cognitive and affective basis of behavioural factors which are attitude, subjective norm, and perceived behavioural control (Ulker-Demirel & Ciftci, 2020). In a broad sense, behavioural intentions arise from a behavioural approach, from an acceptance or rejection of significant references and from perceived impediments to conduct (Lee et al., 2009). In line with those theories, a

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mixture of subjective norms, and attitudes towards conduct and perceived conduct control is from the intention to fulfil a particular behaviour (Ostrovskiy et al., 2021).

Theory of planned behaviour (TPB), which is one of the most prominent and widely used social-psychological models for explaining human behaviour (Armitage & Conner, 2001; Han & Stoel, 2017; Yuriev et al., 2020), have been employed in more than 2000 empirical studies in behavioural science (Ulker-Demirel & Ciftci, 2020). Since its publication in 1991, scholars have cited the TPB more than 25,000 times according to Web of Science results, and almost 76,000 times as of March 2020, according to Google Scholar search results. In the light of this theory, intention explicates people willing to perform a particular activity or action (Ajzen, 1991; Kan & Fabrigar, 2017). TPB relies heavily on the TPB's intention to perform a given behaviour. On the one hand intentions are thought to be a reflection on how hard people are willing to try, how much effort they plan to put forth in order to perform a behaviour (Ajzen, 1991).

There are three determinants of intention in Theory of Planned Behaviour which is attitude, subjective norms and perceived behavioural control (Ajzen, 1991). Attitude demonstrates the feelings of the person associated with the conduct of the action. It stems from the dominant views and the calculation of the consequences (Ajzen & Cote, 2008; Ajzen & Fishbein, 1977). Individuals, therefore, develop constructive or adverse attitudes towards this activity (Bianchi et al., 2017). In other study, attitude is an communication in memory between the given object and the summary evaluation of that specific object (Maichum et al., 2016). The study conducted by (Mostafa, 2007) has found that the constructive connection between attitude and behavioural intention has been built up in several societies and cultures. His research also found that attitude has a sensible role in the choice to accept a specific behaviour.

Furthermore, in the tourism sense, attitude consists of reasoning, emotional, and behavioural components. The assessment of an attitude created is the first element, while the emotional element is a psychological response conveying preference, and the behavioural aspect is a stated sign of visit intention to particular destination (Soliman, 2019). The behavioural purpose element is subjective norms which are viewed to be a social factor of nature (Ajzen & Driver, 1992). The third element in the predictions of actions is the understanding of the person's own capacity to act (Ajzen, 1991).

Moreover, previous findings in the area of tourism discovered attitude be able to be a key component that foresees, explains, and affects tourists' behavioural intentions (Bianchi et al., 2017; Soliman, 2019). In a general principle, more positive the attitude and subjective norm as well as the perceived behavioural control, the greater the intention of the person to conduct the behaviour under consideration should be. The relative value of each of these variables will differ from behaviour and situation. In some applications, it maybe only attitudes have a substantial influence on intentions, meanwhile in other applications attitudes and perceived behavioural control have a substantial influence on intentions, while in still others all three are effective to make an independent contributions (Ajzen, 1991). Therefore, the first hypothesis is developed

H1: Attitude towards behaviour has a significant influence on intention to visit hotels in Penang.

Subjective norms is the second determinants of behavioural intention and it can be interpreted as a feature of a person's understanding of how others perceive their actions and their ability to go along with other's standards (Kan & Fabrigar, 2017). In other studies done

by Rivis & Sheeran (2003), subjective norms are defined by beliefs about the degree to which substantial others want them to perform a behaviour again increased by one's motivation to fulfill with those people's views. The statement later have been supported by Yean et al., (2015) where subjective norms can presume a convincing role and put influence on a person to execute particular behaviour, for example, to visit a hotel. Therefore, the following hypothesis is developed

H2: Subjective norms have a significant influence on intention to visit hotels in Penang. Following that, perceived behavioural control (PBC) is a term that refers to the impediment to behaviour execution (Ajzen, 1991). PBC measures an individual's perception of his or her capacity to control variables that may aid or hinder the behaviours necessary to deal with a certain situation. As a result, Barlett (2019) hypothesised that PBC is a consequence of individuals' perceived requirements for resources and prospects to execute a certain behaviour on a priority basis. In a particular way, behavioural intention of an individuals is significantly influenced by PBC (Barlett, 2019; Cheng et al., 2006).

H3. Perceived behavioural control has a significant influence on intention to visit hotel in Penang.

Perceived Health Risk (PHR)

Sonmez & Graefe (1998) pinpointed the risk types into ten categories including equipment and functional risk, psychological risk, financial risk, time risk, physical risk, health risk, political instability, terrorism risk and satisfaction risk. Pertaining to this study, Menon et al (2011) suggest that, health risk is a subjective assessment of the chance of an unfavourable health event occurring for an individual or group of individuals during a certain time period. Meanwhile, Matiza (2020) support this notion by indicating that in travel and tourism context, perceived health risk is one of the most crucial aspect in the tourists decision-making process. Regardless of the extensive history of risk perception studies, there has been significant discussion on best practice for calculation, operationalization, and definition (Portnoy et al., 2014). An increasing research body indicates what has historically have being conceptualized as perceptions of risk can be a deliberative risk component that can be assessed by conventional perception of risk indicators such as perceived susceptibility and affective components. This affective aspect of risk is often referred to its elements, for instance concern, fear, health effect anxiety, or 'risk feelings' (Portnoy et al., 2014).

Therefore, from the health risk perception of COVID-19, the researcher believes that there will be a travel reluctance occur because of the high health risk of the pandemic Due to tourism and travel have constantly involved risk, risk of health is the prime concern of tourists when went to destinations or hospitality properties (Kozak et al., 2007). Additionally, visitors' perceptions of health risk play a big role in their decision-making process, making it less likely for them to visit a location if they perceive a high degree of health risk there (Law, 2006; Williams & Baláž, 2013). Therefore, next hypothesis developed as follows

H4: Perceived health risk of COVID-19 has a significant influence on intention to visit hotels in Penang.

Moderating Role of Perceived Health Risk

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Sonmez and Graefe (1998) identified a set of ten kinds of risks associated with international travel, which were functional and equipment risk, psychological risk, financial risk, time risk, physical risk, health risk, political instability, terrorism risk and satisfaction risk.

Because of the global pandemic, travel poses health risks, because of the potential adverse consequences associated with the choice made (Sánchez-Cañizares et al., 2020). In tourism area, there are a variety of distinct forms of risks worth considering (Fuchs et al., 2006): physical and health risk, equipment risk, psychological risk, financial risk, social and time risk. Travelers' these years have been worried about the risk of getting infected by the contagious virus and thus affect their behaviour to travel and their destination choice (Chinazzi et al., 2020; Sánchez-Cañizares et al., 2020).

The moderating role of perceived risk have been studied by several scholar and it shows that perceived risk could moderate relationship between predictors on intentions. This is demonstrated by a study conducted by Tavitiyaman & Qu (2013), which discovered that perceived risk strongly moderates the relationship between destination image and revisit intentions. On top of that, Zhang et al (2020) on smartphone recycling intention demonstrate the results whereby risk perception moderate the relationship between conscientiousness and attitude, subjective norms and perceived behavioural control towards intention. Additionally, Shafieizadeh et al (2021) showed that perceived risk moderates the link between perceived authenticity and dining pleasure, as well as the relationship between perceived risk as moderating role, it has demonstrated that perceived risk can moderates the relationship between attitudes, subjective norms and perceived shavioural control and intention to visit hotels. Therefore, the hypothesis id developed as follows

H5: Perceived health risk of COVID-19 moderates the relationship between attitude on intention to visit hotels in Penang.

H6: Perceived health risk of COVID-19 moderates the relationship between subjective norm on intention to visit hotels in Penang.

H7: Perceived health risk of COVID-19 moderates the relationship between perceived behavioural control on intention to visit hotels in Penang.

Methodology

Population and Sample

This research proposed one of the non-probability sampling techniques, which was purposive sampling. Non-probability sampling was used as the elements do not have a known or predetermined chance of being selected as subjects.

The population for this study were Malaysians followers in various travel and vacation Facebook page. Therefore, in determining sample size for this study, Power Analysis has been used whereby, the minimum of 129 respondent required for this study based on the f^2 effect size with the amount of four exogenous variables available in the framework. However, due to the straight lining problem occurred in the total of 133 acquired respondents, the total respondent available for this study were reduced to 125 respondents. Due to the problem of respondent did not meet the requirement of minimum sample size of 129, the rule of thumb in determining sample size by Roscoe (1975) was used which a sample size larger 30 and less than 500 are considered appropriate for most research (Sekaran & Bougie, 2016). Thus, this study proceeded with total number of 125 respondents.

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Data Collection Method

The survey tools used for this study called Google Forms since the anywhere-anytime-access advantages that have made this type of online survey tools popular in conducting research survey (Raju & Harinarayana, 2016). The link for the survey was disseminated to the Facebook page and private groups and a screening question are required to be answered by the participant in order to know whether the participants is a Malaysian citizen that resides in Malaysia or not.

Study Area

Penang is based on the island of Penang. It occupies 285 km2 island area and mainland recognized as Seberang Perai with 737 square kilometers area. The Penang Bridge and ferries connect the island to the mainland. Around 1.7 million people live in the state, representing a diverse range of faiths, nationalities, and cultures (Mohaidin et al., 2017). The Penang climate is humid and sunny with intermittent cooling downpours. (Mohaidin et al., 2017).

Besides, Penang is well-known tourist destination for its lush tropical forests, diverse cultures, and several modern resorts. It is in the center of George Town, Penang, Malaysia. It is also one of the most populous cities in Malaysia. As a result of its rich heritage sites, George Town has been listed among the world heritage cities of the United Nations, which has also boosted tourism (Mohaidin et al., 2017). The city has great transportation systems that allow tourists to move within easily and access Penang. These distinctive features contribute to the exclusive tourism picture of this island. The state has made progress in developing marine tourism (Isa and Ramli, 2014).

The number of hotels in Penang is 51 in total including the rating from 1 until 5-star (MOTAC, 2020). The total number of hotel guests in Penang reached a record of 3.54 million in 2019, and in 2020, domestic hotel occupancy survey by quarterly data collected from Tourism Malaysia shows that 29.44% changes in occupancy rates which is lower than 2019 (Tourism Malaysia, 2021b, 2021a). The cause of decrease in hotel occupancy rates in Penang most probably because of COVID-19 pandemic. By using he aforesaid qualities in Penang, this study will be conducted here.

Data Analysis

Data analysis used for this research is Partial Least Square - Structural Equation Modeling (PLS-SEM) through Smart-PLS Software for analysis execution. For descriptive analysis, which is demographic profile of the respondents was analyzed by SPSS Software 26. Next, PLS-SEM analysis will be used to test the relationship among the variables as well as to test the moderating role of perceived health risk on the extension of the existing theory.

According to Hair et al (2016), For exploratory research or the expansion of a structural theory, PLS-SEM is preferable. On top of that, (Hair et al., 2016) suggests the use of PLS-SEM approach based on the complexity of the research model and different types of relationships between the construct as this study will be testing the direct effects as well as moderating effects.

Questionnaire Development

Based on the findings by Davahli et al (2020), there are few studies of perceived risk on other countries but there are limited study on perceived health risk conducted in Malaysia. In addition, Matiza (2020) supported the idea that the health risks in tourism are linked to possible health and well-being risks in the tourists' tourism and the perceived health risk is

one of the most important factors in the decision-making process. As a result, in an extension of Ajzen's Theory of Planned Behavior, perceived health risk was chosen as a moderator. According to Soliman (2019), Theory of Planned Behaviour (TPB) is one of the most established theories for predicting attitudes and behaviours. In general, the more favourable the attitude, subjective norm, and perceived behavioural control, the more likely the person to engage in the behaviour. The proportionality of each of these factors depends on behaviour and situation. In certain applications alone, attitudes can have an important impact over intentions, in others, attitudes and behavioural control both affect intentions significantly, and in others, each of these three successfully contributes independently (Ajzen, 1991).

Pilot Test

Table 1

Pilot test has been conducted with the purpose of testing the reliability of each indicator to the variables of exogenous which are perceived health risk, attitude, subjective norm, perceived behavioural control towards endogenous variables of intention to visit hotel. Through the pilot test, the results occurred as table 1 below:

Cronbach's rho_ Composite Average Variance Extracted (AVE) Alpha Reliability А 0.873 0.878 0.922 0.798 ATT IVH 0.906 0.909 0.941 0.841 PBC 0.816 0.817 0.891 0.732 PH 1.000 R SN 0.439 0.855 0.491 0.511

Construct Reliability and Validity Value before Items Deleted

The result above showed that there was a problem with subjective norm item whereby the composite reliability result does not meet the values of composite reliability which is 0.60 to 0.70. Therefore, a few items from subjective norm have to be deleted to achieve composite reliability value. The two items that has been deleted was item SN3 and S4 (table 2). After both items deleted there was an improvement on composite reliability and validity values.

Table 2

Measurement Items Deleted

SN3 - My friends approve if I visit hotels in Penang in the past RMCO situation.

SN4 - I would be influenced by my colleagues' opinion when deciding to visit hotels in Penang in the past RMCO situation.

	Cronbach's	rho_	Composite	Average	Variance	Extracted
	Alpha	Α	Reliability	(AVE)		
ATT	0.873	0.878	0.922	0.798		
IVH	0.906	0.909	0.941	0.841		
PBC	0.816	0.817	0.891	0.732		
PH	H daga	1 000				
R		1.000				
SN	0.483	0.849	0.736	0.593		

Construct Reliability and Validity Value after Items Deleted

Table 3 above showed that, after two items deleted from subjective norm variables, the composite reliability and validity value of subjective improved from 0.491 to the value of 0.736 which is acceptable in PLS analysis.

Data Analysis and Results

Table 3

Reflective Measurement Model Assessment Internal Consistency

The first criterion to evaluated in reflective measurement model is internal consistency reliability. Cronbach's alpha is the conventional measure for internal consistency and offers a reliability estimate based on the interrelationship of the indicator variables observed.

PLS-SEM, on the other hand, prioritises signs according to their individual dependability. Additionally, Cronbach's alpha is very sensitive to the total number of items on the scale and hence emphasises internal consistency. As a result, it can provide a more cautious estimate of internal consistency. Due to the limitations of Cronbach's alpha, a different measure of internal consistency known as composite reliability is technically more relevant (Hair et al., 2017).

The composite reliability scale has a scale of 0 to 1, with higher values indicating greater dependability. It is commonly interpreted similarly to Cronbach's alpha. Composite reliability values ranging from 0.60 to 0.70 are acceptable in exploratory research, while values ranging from 0.70 to 0.90 are acceptable in more advanced stages of research. However, values greater than 0.95 are undesirable because they indicate that all of the indicator variables are measuring the same phenomenon and, thus, are unlikely to be a valid measure of the construct (Hair et al., 2019).

In table 4 shows the results of Cronbach's alpha for each construct after running the PLS Algorithm analysis in SmartPLS software. As seen in the table, the models are clearly described by the items in the questionnaire.

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ATT	0.873	0.878	0.922	0.798
IVH	0.906	0.908	0.941	0.841
PBC	0.816	0.817	0.891	0.732
PHR		1.000		
SN	0.833	0.865	0.899	0.747

Table 4Cronbach's alpha and Composite Reliability scores

On the note of table 4 on composite reliability scores, Attitude (ATT) showed the score of 0.922, Intention to Visit Hotel (IVH) 0.941, Perceived Behavioural Control (PBC) 0.891, and Subjective Norm (SN) score is 0.899. These showed the results of the values between 0.70 and 0.90 are met and not exceed 0.95 thresholds which considered as good reliability values of the construct.

Convergent Validity

Typically, two validity subtypes are examined for validity assessment: convergent validity and discriminant validity (Garson, 2016; Hair et al., 2017). Convergent validity demonstrates that a group of indicators represents the same underlying concept. To evaluate this validity subtype, researchers used the Average Variance Extracted (AVE) method proposed by Fornell and Larcker (1981), where an AVE value of at least 0.5 indicates sufficient convergent validity (Götz et al., 2010). The AVE values are shown in Table 4. All of the values are greater than the recommended value of 0.5, indicating that each item has adequate convergent validity. AVE, along with composite reliability, is a measure of convergent validity (CR). To provide convergent validity, AVE should be 0.5 or greater and CR should be 0.7 or greater. Furthermore, the CR should be greater than the AVE (Hair et al., 2019).

Discriminant Validity

Discriminant validity refers to the degree to which a construct is different from other constructs based on empirical standards. As a result, establishing discriminant validity requires that a structure is different and captures events not represented in the model by other structures (Hair et al., 2017). Researchers have traditionally relied on two discriminatory validity metrics. Cross-loading is usually the initial technique to determine the discriminatory validity of the indicator. The outer loading of an indicator on the related structure construct must be larger than any other any of its cross-loadings (i.e. correlation) on other constructs (Hair et al., 2017).

Cross Loadin	g				
	ATT	IVH	PBC	PHR	SN
ATT1	0.888	0.597	0.524	-0.143	0.572
ATT2	0.886	0.565	0.637	-0.290	0.572
ATT3	0.905	0.496	0.571	-0.210	0.634
IVH1	0.543	0.918	0.481	-0.233	0.411
IVH2	0.607	0.910	0.530	-0.266	0.427
IVH3	0.559	0.923	0.425	-0.226	0.492
PBC1	0.422	0.437	0.814	-0.107	0.271
PBC2	0.618	0.454	0.882	-0.022	0.513
PBC3	0.614	0.453	0.869	-0.097	0.472
PHR1	-0.107	0.041	-0.020	-0.154	-0.012
PHR2	-0.119	0.034	-0.067	-0.127	-0.027
PHR3	-0.187	-0.089	-0.090	0.337	-0.088
PHR4	-0.047	0.090	-0.075	-0.341	-0.013
PHR5	-0.273	-0.081	-0.158	0.308	-0.197
PHR6	-0.229	-0.097	-0.155	0.365	-0.188
PHR7	-0.016	0.002	-0.037	-0.007	0.003
SN1	0.489	0.342	0.375	-0.166	0.814
SN2	0.529	0.387	0.356	-0.141	0.883
SN5	0.669	0.498	0.517	-0.204	0.895

Table 5

From the table above, ATT1 loads high on its corresponding construct ATT (0.888) but much lower on construct IVH (0.597), PBC (0.524), PHR (-0.143) and SN (0.572). ATT2 loads high on its corresponding construct ATT (0.886), IVH (0.565), PBC (0.637), PHR (-0.290), and SN (0.572). ATT 3 load is high on its corresponding construct ATT (0.905), but much mower on construct IVH (0.496), PBC (0.571), PHR (-0.210), and SN (0.634). Same goes to other construct of IVH1 (0.918), IVH2 (0.910), IVH3 (0.923), PBC1 (0.814), PBC2 (0.882), PBC3 (0.869), SN1 (0.814), SN2 (0.883) and SN5 (0.895) has showed no discriminant validity problem.

However, for PHR construct, only PHR3 (0.337), PHR5 (0.308) and PHR6 (0.365) represent no discriminant validity problem while cross loading of PHR1(-0.154), PHR² (-0.127), PHR4 (-0.341), and PHR7 (-0.007) represent discriminant validity problem on the contstruct of perceived health risk (PHR). The Fornell-Larcker criteria is the second approach for assessing discriminant validity. It compares the square root of the AVE values to the latent variable correlations (Hair et al., 2017). The square root AVE of each construct should be larger than the greatest correlation with any other construct. Another approach to evaluate the Fornell-Larcker criterion results is to examine if the AVE exceeds the squared correlation with any other concept. The Fornell-Larcker approach is based on the assumption that a construct has more variation with its related indicators than any other construct. Below are the Fornell-Larcker criterion table with ATT a value of (0.893), IVH (0.917) and PBC (0.856).

	ATT	IVH	PBC	PHR	SN
ATT	0.893				
IVH	0.623	0.917			
PBC	0.646	0.524	0.856		
PHR	-0.239	-0.265	-0.088		
SN	0.662	0.483	0.491	-0.200	0.864

Table 6 Fornell-Larcker Criterion

However, previous research has discovered that neither cross-loadings nor the Fornell-Larcker criteria successfully uncover discriminant validity problems (Henseler et al., 2015). When two constructs are completely linked, cross loadings, in particular, fail to reveal a lack of discriminant validity, rendering this criterion ineffective for empirical study. Similarly, the Fornell-Larcker criteria fails miserably, especially when the indicator loadings of the constructions under examination differ just marginally (e.g., all indicator loadings vary between 0.60 and 0.80). The Fornell-Larcker criteria performs better in detecting discriminant validity problems when indicator loadings change more widely, but it remains rather weak overall (Hair et al., 2017).

As a remedy, the discriminant validity was assessed using the 'HTMT' criterion provided by Henseler et al., (2015) and revised by Hair et al., (2017). The tougher requirement for HTMT values is ≤ 0.85 ; however, the criterion is liberal if the HTMT values are ≤ 0.90 . The results in Table 7 demonstrate that the current study's HTMT values meet the rigorous requirement (HTMT ≤ 0.85). Based on these data, it is feasible to conclude that the study's four constructs were unique from one another. Overall, the findings of the validity tests demonstrate that the measurement items are reliable and valid (Hair et al., 2017).

Table 7

Heterotrait-Monotrait (HTMT) Criterion

	ATT	IVH	PBC	SN
ATT				
IVH	0.693			
PBC	0.764	0.607		
SN	0.764	0.544	0.580	

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Formative Measurement Model Assessments

Convergent Validity

Convergent validity is assessed by the correlation of the construct with an alternative measure of the same concept and the procedure is referred to as redundancy analysis (Hair et al., 2017). Based on the figure 1 below, the redundancy analysis showed that the path coefficient between formative constructs of Perceived Health Risk (PHR) and reflective constructs of PHR global item do not exhibit convergent validity because according to Hair, 2017 the path coefficient should be >0.7.



Figure 1: Redundancy Analysis Path Model Results

Collinearity Evaluation of Formative Indicators

The variance inflation factor (VIF) is a popular tool for determining formative indicator collinearity. VIF values of 5 or above suggest severe collinearity concerns between formatively assessed concept indicators. However, collinearity issues might arise with lower VIF values of 3. VIF levels should ideally be close to 3 or below (Hair et al., 2017).

Table 8

Variance Inflation Factor (VIF) Results

Indicators	VIF
PHR1	1.182
PHR2	1.865
PHR3	2.723
PHR4	2.036
PHR5	2.915
PHR6	1.949
PHR7_global	1

Based on the table above, all Perceived Health Risk (PHR) item showed a results value of 1.182 for PHR1, 1.865 for PHR2, 2.723 for PHR3, 2.036 for PHR4, 2.915 for PHR5 and 1.949 for PHR6. The value of formative model of PHR showed that there is no collinearity issue occurred and ideally closed to 3 and lower (Hair et al., 2017).

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Significance and Relevance

Because PLS-SEM is a nonparametric approach, statistical significance is determined through bootstrapping. Hair et al (2017) advises employing BCa bootstrap confidence intervals for significance testing when the bootstrap distribution of the indicator weights is skewed. However, the absence of a substantial indicator weight does not always mean that the measurement model is of poor quality. The indicator's absolute contribution to the construct, on the other hand, is determined by its outer loading (i.e. the bivariate correlation between the indicator and its construct). Hair et al (2017) recommends that indicators with nonsignificant weights be removed if the loading is also nonsignificant. A low but significant loading of 0.50 or less suggests that the indicator should be deleted unless there is strong support for its inclusion based on measurement theory.

Thus, based on the table 9 below, all indicators have a value lower than 0.5 except for PHR indicator whereby there are only two that have value higher than 0.5 which is PHR 3 and PHR 6. Meanwhile, the other three PHR 1, 2 and 4 indicators showed a negative value while PHR 5 showed a value of 0.258 and PHR 7 (0.0025). However, due to the indicator that will be used in two-stage approach for moderating effects, all the indicators are kept in order to retain the measurement end result of the constructs developed.

After determining the statistical significance of the indicator weights, the researcher would investigate the relevance of each indicator. The indicator weights are standardised to values between -1 and +1 but can take lower or higher values in exceptional cases, indicating an abnormal result (e.g., due to collinearity issues and/or insufficient sample numbers). A weight around 0 suggests a weak link, whereas weights near +1 (or -1) indicate a substantial positive (or negative) relationship.

Therefore, based on the outer weight result below, indicator of PHR 3 and PHR 6 have strong positive relationship among the constructs. Meanwhile, PHR 1, 2 and 4 have strong negative relationship among the constructs and PHR 5 and 7 showed a weak relationship among the constructs.

Table 9

Outer Weight Results

	ATT	IVH	PBC	PHR	SN
ATT1	0.404				
ATT2	0.382				
ATT3	0.335				
IVH1		0.351			
IVH2		0.388			
IVH3		0.351			
PBC1			0.380		
PBC2			0.395		
PBC3			0.394		
PHR1				-0.098	
PHR2				-0.389	
PHR3				0.814	
PHR4				-1.118	
PHR5				0.258	
PHR6				0.549	
PHR7				0.025	
SN1					0.321
SN2					0.363
SN5					0.467

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Table 10 Outer Loading Results

	ATT	IVH	РВС	PHR	SN
ATT1	0.888				
ATT2	0.886				
ATT3	0.905				
IVH1		0.918			
IVH2		0.910			
IVH3		0.923			
PBC1			0.814		
PBC2			0.882		
PBC3			0.869		
PHR1				-0.154	
PHR ²				-0.127	
PHR3				0.337	
PHR4				-0.341	
PHR5				0.308	
PHR6				0.365	
PHR7				-0.007	
SN1					0.814
SN2					0.883
SN5					0.895

Structural Model Assessments

Significance of the relationship between constructs

To evaluate the importance of the connection, the full bootstrapping technique with a suggested 5000 subsamples was used. To test the hypotheses between constructs, path coefficients that are significant will be took as an absolute consideration (Hair et al., 2019). After performing the bootstrapping procedure, results were reported in table 11.

Table 11

Bootstrap Path Coefficient Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
ATT -> IVH	0.334	0.326	0.122	2.750	0.003
ATT PHR - > IVH	0.275	0.290	0.096	2.853	0.002
PBC -> IVH	0.236	0.241	0.128	1.845	0.033
PBC PHR - > IVH	-0.179	-0.177	0.126	1.419	0.078
PHR -> IVH	-0.124	-0.126	0.067	1.841	0.033
SN -> IVH	0.132	0.138	0.111	1.199	0.115
SN PHR -> IVH	-0.190	-0.193	0.100	1.900	0.029

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Coefficient of Determination (R²)

Table 12

R² Value Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
IVH	0.478	0.509	0.076	6.277	0.000

Table above showed R square value of 0.436 for four respective exogenous constructs namely perceived health risk (PHR), Attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC) that linked to the endogenous of intention to visit hotel. According to Hair, (2017), the R² value ranges from 0 to 1, with higher levels indicating higher levels of predictive accuracy. It is difficult to provide guidelines for acceptable R² values because they vary depending on model complexity and research discipline. Whereas R² values of 0.20 are considered high in disciplines such as consumer behaviour, researchers expect much higher values, such as 0.75 and above, in success driver studies (e.g., in studies aimed at explaining customer satisfaction or loyalty). R² values of 0.75, 0.50, or 0.25 for endogenous latent variables can be described as substantial, moderate, or weak in scholarly research on marketing issues, respectively (Hair et al., 2011; Henseler et al., 2009). Thus, from the explanation above, it could be concluded that R² value of 0.478 high to indicate the higher levels of predictive accuracy.

Effect Size f² Value

After assessing the relationship, the next step is the assessment of the level of effect size by means of Cohen's f² (Hair et al., 2017). According to a set criterion, f² values equal to 0.0, 0.15, and 0.35 represent small, medium, and substantial effect size. Table 4 depicts the summary result of effect size. Results provided in table 4.13 signify that the Attitude (ATT) construct has a small to medium effect size (0.135) together with moderating effect of perceived health risk on attitude (0.078). In addition, perceived behavioural control has medium to large effect size (0.223) as well as moderating effect of perceived health risk on perceived behavioural control (0.286). Meanwhile, perceived health risk has medium effect size (0.197) along with moderating effect of perceived health risk on subjective norm (0.167). Lastly, subjective norm has a large effect size with the value of (0.315). Therefore, this study concluded that the effect size f² ranges from medium to large as per Cohen's f² criteria.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	
ATT -> IVH	0.084	0.098	0.077	1.102	0.135	
ATT PHR -> IVH	0.068	0.077	0.048	1.417	0.078	
PBC -> IVH	0.057	0.080	0.074	0.762	0.223	
PBC PHR -> IVH	0.018	0.028	0.032	0.564	0.286	
PHR -> IVH	0.027	0.036	0.032	0.851	0.197	
SN -> IVH	0.017	0.030	0.035	0.482	0.315	
SN PHR -> IVH	0.027	0.033	0.028	0.967	0.167	

Table 13
Effect Size f ² Results

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Blindfolding and Predictive Relevance Q²

For a given omission distance D, the blindfolding procedure is used to calculate the Q^2 value. Blindfolding is a sample reuse technique in which each dth data point in the endogenous construct's indicators is removed and the parameters are estimated using the remaining data points (Hair et al., 2017; Henseler et al., 2015).

	SSO	SSE	Q ² (=1-SSE/SSO)
ATT	375.000	375.000	
IVH	375.000	247.930	0.339
PBC	375.000	375.000	
PHR	875.000	875.000	
SN	375.000	375.000	

Table 14 Blindfold Analysis Results

As shown in the table above, Q² value of endogenous construct of intention to visit hotel (IVH) is considerably above zero. The findings provide strong support for the model's predictive relevance in terms of endogenous latent variables.

Q² Effect Size

Due to the solely endogenous construct available which is intention to visit hotel (IVH) with the q^2 value of 0.339, by following the rule of thumb, the q^2 effect size for this relationship can be considered medium to large effect size.

Moderation Model Assessments

A situation in which the relationship between two constructs is not constant and is determined by the values of a third variable known as a moderator variable is referred to as moderation. In the model, the moderator variable (or construct) modifies the strength or even the direction of a relationship between two constructs.

Moderators can emerge in structural models in a variety of ways. They may be used to represent observable characteristics such as gender, age, and income. However, they can indicate unobservable qualities like risk attitude, brand attitude, or ad liking. A single item, a group of items, or reflective or formative indicators can be used to assess moderators. The most essential distinction is the measuring scale of the moderator, which entails differentiating between categorical (usually, binary) and continuous moderators. Continuous moderators are generally assessed using many things, although they may potentially be measured with just one. The product indicator method, the orthogonalizing method, and the two-stage approach are three major approaches in moderation model assessment. In this study, however, a two-stage method was used.

When the exogenous construct and/or moderator are measured formatively, Chin et al. (2003) proposed a two-stage approach for running a moderation analysis. The general applicability of the two-stage approach stems from its explicit use of PLSSEM's advantage in estimating latent variable scores (Henseler & Chin, 2010; Rigdon et al., 2010). The following are the two-stages approach of moderation measurement model analysis:

Stage 1: The main effects model (i.e., without the interaction term) is estimated to obtain the scores of the latent variables. These are saved for further analysis in the second stage.

Stage 2: The latent variable scores of the exogenous latent variable and moderator variable from Stage 1 are multiplied to create a single-item measure used to measure the interaction

term. After that, moderating effect variable were added before bootstrapping analysis. All other latent variables are represented by means of single items of their latent variable scores from Stage 1.



Figure 2: Path Model Results of Stage 1 (Two-Stage Approach)



Figure 3: Path Model Results of Stage 2

Path model result in figure 3 above occurred after complete bootstrapping has been done with 5000 subsamples. Next, the results of path coefficient appeared as table below with two constructs that not significant which was the moderating effect of perceived health risk on perceived behavioural control towards intention to visit hotel along with the direct effect of subjective norm towards intention to visit hotel.

	Original	Sample	Standard	T Statistics	Р
	Sample (O)	Mean (M)	Deviation (STDEV)	(O/STDEV)	Values
ATT -> IVH	0.334	0.325	0.121	2.754	0.003
ATT PHR -> IVH	0.273	0.287	0.094	2.915	0.002
PBC -> IVH	0.237	0.243	0.124	1.903	0.029
PBC PHR -> IVH	-0.184	-0.179	0.127	1.443	0.075
PHR -> IVH	-0.125	-0.128	0.066	1.897	0.029
SN -> IVH	0.132	0.136	0.108	1.224	0.111
SN PHR -> IVH	-0.187	-0.191	0.100	1.880	0.030

Table 15 Bootstrapping Path Coefficient Results

Hypotheses Testing

Table 16

T-Statistics Results

Hypothesis	Path	T-	P-
		Statistics	Value
H1: Attitude towards behaviour has a significant influence on intention to visit hotels in Penang.	Attitude -> Intention to Visit Hotel	2.750	0.003
H2: Subjective norms have a significant influence on intention to visit hotels in Penang.	Subjective Norm -> Intention to Visit Hotel	1.199	0.111
H3: Perceived behavioural control has a significant influence on intention to visit hotel in Penang.	Perceived Behavioural Control -> Intention to Visit Hotel	1.845	0.033
H4: Perceived health risk of COVID-19 has a significant influence on intention to visit hotels in Penang.	Perceived Health Risk -> Intention to Visit Hotel	1.841	0.033
H5: Perceived health risk of COVID-19 moderates the relationship between attitude and intention to visit hotels in Penang.	Attitude * Perceived Health Risk -> Intention to Visit Hotel	2.853	0.002
H6: Perceived health risk of COVID-19 moderates the relationship between subjective norm on intention to visit hotels in Penang.	Subjective Norm * Perceived Health Risk -> Intention to Visit Hotel	1.900	0.029

H7: Perceived health risk of COVID-19	Perceived Behavioural	1.419	0.075
moderates the relationship between	Control * Perceived Health		
perceived behavioural control on	Risk -> Intention to Visit		
intention to visit hotels in Penang.	Hotel		

The first column displays the tested hypotheses, while the second displays the hypotheses' paths. The T-statistics value is shown in the third column, and the significance level is shown in the fourth. As can be seen, two of the tested paths do not show significant values, implying that the hypotheses of:

- H2: Subjective norms have a significant influence on intention to visit hotels in Penang.
- H7: Perceived health risk of COVID-19 moderates the relationship between perceived behavioural control on intention to visit hotels in Penang.

will be rejected. That means, subjective norm does not have significant influence on the

Summary of Hypotheses Test				
Hypotheses	Support			
H1: Attitude towards behaviour has a significant influence on	YES			
intention to visit hotels in Penang.				
H2: Subjective norms have a significant influence on intention to	NO			
visit hotels in Penang.				
H3: Perceived behavioural control has a significant influence on	YES			
intention to visit hotel in Penang.				
H4: Perceived health risk of COVID-19 has a significant influence on	YES			
intention to visit hotels in Penang.				
H5: Perceived health risk of COVID-19 moderates the relationship	YES			
between attitude and intention to visit hotels in Penang.				
H6: Perceived health risk of COVID-19 moderates the relationship	YES			
between subjective norm on intention to visit hotels in Penang.				

intention to visit hotels in Penang during pandemic and the variable of perceived health risk does not moderates the relationship between perceived behavioural control on intention to visit hotels in Penang during pandemic.

On the other hand, hypotheses below are proven. In addition, summary of all the hypotheses was presented in table 17 and the detailed analysis of the proven hypotheses is presented in Discussion section.

Table 17

Summary of Hypotheses Testing

- H1: Attitude towards behaviour has a significant influence on intention to visit hotels in Penang.
- H3: Perceived behavioural control has a significant influence on intention to visit hotel in Penang.
- H4: Perceived health risk of COVID-19 has a significant influence on intention to visit hotels in Penang.
- H5: Perceived health risk of COVID-19 moderates the relationship between attitude and intention to visit hotels in Penang.

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• H6: Perceived health risk of COVID-19 moderates the relationship between subjective norm on intention to visit hotels in Penang.

Discussions

From the seven of the hypotheses, the PLS analysis had showed two of the hypotheses are not supported when it comes to the direct effect of subjective norm towards intention to visit hotels as well as one of the moderating effects of perceived health risk on perceived behavioural control towards intention to visit hotels.

The data did not support second hypothesis (H2) showing that subjective norm does not have significant influence on intention to visit hotels. This result is not consistent with findings in Yean et al (2015) because directly, travellers are not influence by the family members and friends in order to make decision to visit hotels in Penang even though during RMCO period. Travellers also would not intend to visit hotels even after being influenced by the person closest to them. However, the other three variables of perceived health risk (PHR), attitude (ATT) and perceived behavioural control (PBC) showed the significant influence towards the intention to visit hotels.

As a result, for research questions 1, the exogenous of attitude, perceived behavioural control, and perceived health risk plays a significant role of direct effect on the intention to visit hotels in Penang, while subjective norms does not have significant role towards intention to visit hotels in Penang based on the data collected from 125 respondents.

Meanwhile, the other rejected hypothesis (H7) of perceived health risk moderating effects also not significantly moderate the relationship between perceived behavioural control and intention to visit hotels. This result also not parallel with the study done by Zhang et al., (2020) that indicates risk perception could moderate the relationship between perceived bahavioural control towards intention. The reason behind this might be because people have full control of themselves whether visit or not to visit hotel and people have enough resources and would intend to visit hotel when they have safety precautions beforehand during the period of Recovery Movement Control Order (RMCO).

In contrast, H1 was supported with the p-value of 0.003, which means that people had portrayed the positive attitude even though during pandemic and showed that in the period of RMCO, they used the opportunities to visit hotels in Penang. Besides, based on the respondents data results, they thought of visiting hotels in Penang would give the positive impact and they also felt enjoyable to stay at hotel during pandemic.

Additionally, with the p-value of 0.033, hypothesis three (H3) was supported, showing that perceived behavioural control has a positive effect on the intention to visit hotels. This is because, when travellers has enough resources and had readied with the safety precautions, they would intend to visit hotels during RMCO even though the pandemic does not end yet.

Furthermore, hypothesis 4 (H4) was also supported with the p-value of 0.033, showing that perceived health risk has significantly influence the intention. This is because, when travellers possessed high level of worry and reluctant to visit hotels in Penang during pandemic, the intention to visit hotels in Penang in RMCO period would also decreased. Moreover, travellers also would prefer to shorten the duration of potential trips to visit hotels in Penang due to the health risk of COVID-19.

Last but not least, hypothesis five (H5) with p-value of 0.002 and hypothesis six (H6) with p-value 0.029 both has shown that high perceived health risk could moderate the relationship of attitude (ATT) and subjective norm (SN) towards the intention to visit hotels in Penang during RMCO period. These results of hypotheses five and six (H5) (H6) has proved the study

done by Zhang et al (2020) that perceived risk could moderates the relationship between attitude and subjective norm towards intention.

Research Implications

By identifying the relationships of all the construct as well as examining the moderating role of perceived health risk on the variables in Theory of Planned Behaviour, it could lead the performed study to several implications in both theory and practice.

As suggested by Davahli et al (2020), one of the potential future research to study the hospitality industry during this period of pandemic is on the risks of continuation of activities during the pandemic as the study on the perceived health risk (PHR) of COVID-19 on consumer behavioural intention is still limited (Li et al., 2019). Therefore, this study has contributed to the body of literature in an extension of Theory of Planned Behaviour with the addition of perceived health risk of COVID-19 as moderator towards the intention to visit hotels in Penang. Thus, from this research, it has benefited the researchers and benefited the broad knowledge of guest perceived health risk associated with COVID-19 on intention to visit hotels.

On the other hand, there are a few implications for practice as well. The results showed a strong significance of moderating role of perceived health risk on the relationship between attitude and intention to visit hotel. Through identifying those changes in attitude because of moderating effect of perceived health risk, managers of hotel industry could be more aware about what potential travellers needed when visiting hotels in the time of pandemic of COVID-19 and allowing potential travellers give a positive optimum frequency of visit to the hotels in Penang.

Limitations of the Study

This study has some limitations that may affect its conclusions. The first limitation is the size of the sample used in the study. The aim was to gather the data from single Facebook page of 'KakiTravel'. However, the response rate was very low because of low Facebook page activity and the questionnaire have been distributed to all potential vacation Facebook page in order to acquire a minimum sample. Besides, the acquisition of respondent's data also just limited to only through online survey due to the MCO implementation in Malaysia. Another limitation is the lack of time available for data collection. Data relationships may be affected by the small sample size due to limited access and lack of time. Furthermore, the obtained sample may not act as true representation of all individuals and might impacting the result generalization.

Future Study Recommendation

The ideas presented in this dissertation could be further explored in a number of ways, despite the limitations mentioned above.

Greater sample size: Due to sample size issues that resulted in a limited number of responses, additional research would benefit from a larger sample size, potentially uncovering new important relationships and/or confirming those already discovered and achieving a higher level of generalizability.

Exploring other factors: The author has explored the theoretical model of Theory of Planned Behaviour with the extension of an addition of moderating role of perceived health risk towards intention to visit hotels. However, there may be other variables to be researched further. The framework used can be expanded more by including other potential strong variables which were not included in the study framework. Additionally, researchers could use this study to other potential effects in order to add more body of literature to the Theory of Planned Behaviour such as mediation effects of perceived health risk.

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References

- Abrantes, A. M., Abrantes, J. L., Silva, C., Reis, P., & Seabra, C. (2021). Health Risks, Pandemics and Epidemics Affecting Tourism: Understanding COVID-19 Pandemic. *Pandemics and Travel*, 7–28. https://doi.org/10.1108/978-1-80071-070-220211002
- Adam, I. (2015). Backpackers' risk perceptions and risk reduction strategies in Ghana. *Tourism Management*, 49, 99–108. https://doi.org/10.1016/j.tourman.2015.02.016
- Ajanovic, A., & Ivanovic, K. (2014). *Cognitive absorption and the behavioral intention to use business intelligence: Determinats and influence of cognitive absorption. May*, 3–99.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T
- Ajzen, I., & Cote, N. G. (2008). Attitudes and the Prediction of Behavior. In *Attitude and attitude change* (Issue January 2008, pp. 289–311). Psychology Press.
- Ajzen, I., & Driver, B. L. (1992). Application of the Theory of Planned Behavior to Leisure Choice. *Journal of Leisure Research*, 24(3), 207–224. https://doi.org/10.1080/00222216.1992.11969889
- Ajzen, I., & Fishbein, M. (1977). Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research. *Psychological Bulletin*, *84*(5), 888–918. https://doi.org/10.1007/s11614-012-0060-4
- AL Ziadat, M. T. (2015). Applications of Planned Behavior Theory (TPB) in Jordanian Tourism. International Journal of Marketing Studies, 7(3), 95–106. https://doi.org/10.5539/ijms.v7n3p95
- Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour : A Meta-Analytic Review. *British Journal of Social Psychology*, 40, 471–499.
- Bae, S. Y., & Chang, P. J. (2020). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards 'untact' tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, 0(0), 1–19. https://doi.org/10.1080/13683500.2020.1798895
- Barlett, C. P. (2019). Social Psychology Theory Extensions. In *Predicting Cyberbullying* (pp. 37–47). https://doi.org/10.1016/b978-0-12-816653-6.00005-4
- Bianchi, C., Milberg, S., & Cúneo, A. (2017). Understanding travelers' intentions to visit a short versus long-haul emerging vacation destination: The case of Chile. *Tourism Management*, 59, 312–324. https://doi.org/10.1016/j.tourman.2016.08.013
- Casidy, R., & Wymer, W. (2016). A risk worth taking: Perceived risk as moderator of satisfaction, loyalty, and willingness-to-pay premium price. *Journal of Retailing and Consumer Services*, *32*, 189–197. https://doi.org/10.1016/j.jretconser.2016.06.014
- Cheng, S., Lam, T., & Hsu, C. H. C. (2006). Negative Word-of-Mouth Communication Intention: An Application of the Theory of Planned Behavior. *Journal of Hospitality and Tourism*

Research, *30*(1), 95–116. https://doi.org/10.1177/1096348005284269

- Chinazzi, M., Davis, J. T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., Piontti, A. P. Y., Rossi, L., Sun, K., Viboud, C., Xiong, X., Yu, H., Halloran, M. E., Longini, I. M., & Vespignani, A. (2020). The effect of travel restrictions on the spread of the 2019 novel coronavirus (2019-nCoV) outbreak. *MedRxiv*, 400(April), 395–400. https://doi.org/10.1101/2020.02.09.20021261
- Chu, A. Z., & Chu, R. J. (2013). Service willingness and senior tourists: knowledge about aging, attitudes toward the elderly, and work values. *Service Industries Journal*, *33*(12), 1148–1164. https://doi.org/10.1080/02642069.2011.628659
- Cooper, M. (2005). Japanese tourism and the SARS epidemic of 2003. *Tourism Crises: Management Responses and Theoretical Insight, August 2014*, 117–132. https://doi.org/10.1300/J073vl9n02_10
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Fourth). SAGE.
- Davahli, M. R., Karwowski, W., Sonmez, S., & Apostolopoulos, Y. (2020). The hospitality industry in the face of the COVID-19 pandemic: Current topics and research methods. *International Journal of Environmental Research and Public Health*, *17*(20), 1–22. https://doi.org/10.3390/ijerph17207366
- Fuchs, G., Reichel, A., & Reichel, A. (2006). Tourist Destination Risk Perception : The Case of Israel. Journal of Hospitality & Leisure Marketing, 14(2), 83–108. https://doi.org/10.1300/J150v14n02
- Godovykh, M., Pizam, A., & Bahja, F. (2020). Antecedents and outcomes of health risk perceptions in tourism, following the COVID-19 pandemic. *Tourism Review*, *76*(4), 737–748. https://doi.org/10.1108/TR-06-2020-0257
- Gursoy, D., & Chi, C. G. (2020). Effects of COVID-19 pandemic on hospitality industry: review of the current situations and a research agenda. *Journal of Hospitality Marketing and Management*, *29*(5), 527–529. https://doi.org/10.1080/19368623.2020.1788231
- Hair, J. F., Hult, G. Th. M., Ringle, C. M., & Sarstedt, M. (2016). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In SAGE (Second, Vol. 53, Issue 9). SAGE Publications, Inc.
- Hair, J. F., Hult, G. Th. M., Ringle, C. M., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). In *SAGE Publications* (Second, Vol. 38, Issue 2).
 SAGE Publications, Inc. https://doi.org/10.1080/1743727x.2015.1005806
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203
- Han, T. I., & Stoel, L. (2017). Explaining Socially Responsible Consumer Behavior: A Meta-Analytic Review of Theory of Planned Behavior. *Journal of International Consumer Marketing*, 29(2), 91–103. https://doi.org/10.1080/08961530.2016.1251870
- Hasan, M. K., Ismail, A. R., & Islam, M. F. (2017). Tourist risk perceptions and revisit intention: A critical review of literature. *Cogent Business and Management*, 4(1). https://doi.org/10.1080/23311975.2017.1412874
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8
- Hoque, A., Shikha, F. A., Waliul Hasanat, M., Arif, I., & Abdul Hamid, A. B. (2020). The effect of coronavirus sars-cov-2 in the tourism industry in Africa. *Asian Journal of*

Multidisciplinary Studies, 3(1), 52–58. https://doi.org/10.14505/jemt.v11.8(48).06

- Hu, M. R., & Lee, A. D. (2020). Airbnb, COVID-19 Risk and Lockdowns: Global Evidence. SSRN Electronic Journal, November. https://doi.org/10.2139/ssrn.3589141
- Huang, X., Dai, S., & Xu, H. (2020). Predicting tourists' health risk preventative behaviour and travelling satisfaction in Tibet: Combining the theory of planned behaviour and health belief model. *Tourism Management Perspectives*, 33(February 2019), 100589. https://doi.org/10.1016/j.tmp.2019.100589
- Jain, D. S. (2020). Would Hotel Industry Have to Redo the Rooms / Housekeeping Standards Post COVID? Instilling Greater Confidence to Bring Back the Customers. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3587897
- Kan, M. P. H., & Fabrigar, L. R. (2017). Theory of Planned Behaviour. In *Encyclopedia of Personality and Individual Differences* (pp. 1–8). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8
- Khan, M. J., Chelliah, S., Khan, F., & Amin, S. (2019). Perceived risks, travel constraints and visit intention of young women travelers: the moderating role of travel motivation. *Tourism Review*, 74(3), 721–738. https://doi.org/10.1108/TR-08-2018-0116
- Kourgiantakis, M., Apostolakis, A., & Dimou, I. (2021). COVID-19 and holiday intentions: the case of Crete, Greece. *Anatolia*, *32*(1), 148–151.

https://doi.org/10.1080/13032917.2020.1781221

- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, *9*(4), 233–242.
- https://doi.org/10.1002/jtr.607
- Law, R. (2006). The perceived impact of risks on travel decisions. *International Journal of Tourism Research*, 8(4), 289–300. https://doi.org/10.1002/jtr.576
- Lee, C. K., Song, H. J., Bendle, L. J., Kim, M. J., & Han, H. (2012). The impact of nonpharmaceutical interventions for 2009 H1N1 influenza on travel intentions: A model of goal-directed behavior. *Tourism Management*, 33(1), 89–99. https://doi.org/10.1016/j.tourman.2011.02.006
- Lee, R., Murphy, J., & Swilley, E. (2009). The moderating influence of hedonic consumption in an extended theory of planned behaviour. *Service Industries Journal*, *29*(4), 539–555. https://doi.org/10.1080/02642060802287189
- Lepp, A., & Gibson, H. (2003). Tourist roles, perceived risk and international tourism. *Annals of Tourism Research*, *30*(3), 606–624. https://doi.org/10.1016/S0160-7383(03)00024-0
- Lepp, A., Gibson, H., & Lane, C. (2011). Image and perceived risk: A study of Uganda and its official tourism website. *Tourism Management*, 32(3), 675–684. https://doi.org/10.1016/j.tourman.2010.05.024
- Li, Z., Sha, Y., Song, X., Yang, K., ZHao, K., Jiang, Z., & Zhang, Q. (2019). Impact of risk perception on customer purchase behavior: a meta-analysis. *Journal of Business and Industrial Marketing*, 35(1), 76–96. https://doi.org/10.1108/JBIM-12-2018-0381
- Lien, C. H., Hsu, M. K., Shang, J. Z., & Wang, S. W. (2021). Self-service technology adoption by air passengers: a case study of fast air travel services in Taiwan. *Service Industries Journal*, *41*(9–10), 671–695. https://doi.org/10.1080/02642069.2019.1569634
- Maichum, K., Parichatnon, S., & Peng, K. C. (2016). Application of the extended theory of planned behavior model to investigate purchase intention of green products among Thai consumers. *Sustainability (Switzerland)*, 8(10), 1–20. https://doi.org/10.3390/su8101077

Matiza, T. (2020). Post-COVID-19 crisis travel behaviour: towards mitigating the effects of

Vol. 13, No. 9, 2023, E-ISSN: 2222-6990 © 2023

perceived risk. *Journal of Tourism Futures, 2012*(April). https://doi.org/10.1108/JTF-04-2020-0063

- Menon, G., Raghubir, P., & Agrawal, N. (2011). Health Risk Perceptions and Consumer Psychology. SSRN Electronic Journal, September. https://doi.org/10.2139/ssrn.945673
- Mertzanis, C., & Papastathopoulos, A. (2021). Epidemiological susceptibility risk and tourist flows around the world. *Annals of Tourism Research, 86*(November 2020), 103095. https://doi.org/10.1016/j.annals.2020.103095
- Mohaidin, Z., Wei, K. T., Ali Murshid, M., & Murshid, M. (2017). Factors influencing the tourists' intention to select sustainable tourism destination: a case study of Penang, Malaysia. *International Journal of Tourism Cities*, 3(4), 442–465. https://doi.org/10.1108/IJTC-11-2016-0049
- Mostafa, M. M. (2007). A Hierarchical Analysis of the Green Consciousness of the Egyptian Consumer. *Psychology & Marketing*, *24*(5), 445–473. https://doi.org/10.1002/mar.20168
- MOTAC. (2020). *Pengelasan Hotel Portal Rasmi Kementerian Pelancongan, Seni, Dan Budaya Malaysia*. Ministry of Tourism, Arts and Culture Malaysia. motac.gov.my/semakan/hotel
- Narayanaswamy Vasantha Raju, & Harinarayana N. S. (2016). Online survey tools : A case study of Google Forms Online. *National Conference on "Scientific, Computational & Information Research Trends in Engineering, GSSS-IETW, Mysore, January 2016*, 1–12.
- Nazneen, S., Hong, X., & Ud Din, N. (2020). COVID-19 Crises and Tourist Travel Risk Perceptions. SSRN Electronic Journal, March 2020. https://doi.org/10.2139/ssrn.3592321
- Neuburger, L., & Egger, R. (2020). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: a case study of the DACH region. *Current Issues in Tourism*, 1–14. https://doi.org/10.1080/13683500.2020.1803807
- Ostrovskiy, A., Garkavenko, V., & Rybina, L. (2021). Influence of socio-psychological factors on consumers purchasing behavior in Kazakhstan. *Service Industries Journal*, *41*(7–8), 527–552. https://doi.org/10.1080/02642069.2019.1601707
- Poku, G., & Boakye, K. A. A. (2019). Insights into the safety and security expressions of visitors to the Kakum National Park: Implications for management. *Tourism Management Perspectives*, 32(August 2018), 100562. https://doi.org/10.1016/j.tmp.2019.100562
- Portnoy, D. B., Ferrer, R. A., Bergman, H. E., & Klein, W. M. P. (2014). Changing deliberative and affective responses to health risk: a meta-analysis. *Health Psychology Review*, 8(3), 296–318. https://doi.org/10.1080/17437199.2013.798829
- Reisinger, Y., & Mavondo, F. T. (2006). Cultural differences in travel risk perception. *Journal* of Travel and Tourism Marketing, 20(1), 13–31. https://doi.org/10.1300/J073v20n01_02
- Rivis, A., & Sheeran, P. (2003). Descriptive norms as an additional predictor in the theory of planned behaviour: A meta-analysis. *Current Psychology*, 22(3), 218–233. https://doi.org/10.1007/s12144-003-1018-2
- Roehl, W. S., & Fesenmaier, D. R. (1992). Risk Perceptions and Pleasure Travel: An Exploratory Analysis. *Journal of Travel Research*, *30*(4), 17–26. https://doi.org/10.1177/004728759203000403
- Sanchez-Canizares, S. M., Cabeza-Ramirez, L. J., Munoz-Fernandez, G., & Fuentes-Garcia, F. J. (2020a). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, *0*(0), 1–15. https://doi.org/10.1080/13683500.2020.1829571

- Sanchez-Canizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2020b). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, *0*(0), 1–15. https://doi.org/10.1080/13683500.2020.1829571
- Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill-building approach. In John Wiley & Sons (Seventh). John Wiley & Sons Ltd. https://doi.org/10.1007/978-94-007-0753-5_102084
- Shafieizadeh, K., Alotaibi, S., & Tao, C. W. (Willie). (2021). How do authenticity and quality perceptions affect dining experiences and recommendations of food trucks? The moderating role of perceived risk. *International Journal of Hospitality Management*, 93(December 2020), 102800. https://doi.org/10.1016/j.ijhm.2020.102800
- Shin, H., & Kang, J. (2020). Reducing perceived health risk to attract hotel customers in the COVID-19 pandemic era: Focused on technology innovation for social distancing and cleanliness. *International Journal of Hospitality Management*, 91(September), 102664. https://doi.org/10.1016/j.ijhm.2020.102664
- Soliman, M. (2019). Extending the Theory of Planned Behavior to Predict Tourism Destination Revisit Intention. *International Journal of Hospitality and Tourism Administration*, 00(00), 1–26. https://doi.org/10.1080/15256480.2019.1692755
- Sonmez, S. F., & Graefe, A. R. (1998). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of Travel Research*, *37*(2), 171–177. https://doi.org/10.1177/004728759803700209
- Thams, A., Zech, N., Rempel, D., & Ayia-Koi, A. (2020). An initial assessment of economic impacts and operational challenges for the tourism & hospitality industry due to COVID-19.
- Tourism Malaysia. (2021a). *Hotel Guests by states*. My Tourism Data. http://mytourismdata.tourism.gov.my/?page_id=362#!range=year&from=2012&to=2 015&type=5587833dc8f82,55878dfdebb19&destination=34MYP004
- Tourism Malaysia. (2021b). *Hotel Occupancy Survey by Quarterly*. My Tourism Data.
- Ugur, N. G., & Akbıyık, A. (2020). Impacts of COVID-19 on global tourism industry: A crossregional comparison. *Tourism Management Perspectives*, *36*(September), 100744. https://doi.org/10.1016/j.tmp.2020.100744
- Ulker-Demirel, E., & Ciftci, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. *Journal of Hospitality and Tourism Management*, *43*(September 2019), 209–219. https://doi.org/10.1016/j.jhtm.2020.04.003
- Wang, M., Jin, Z., Fan, S., Ju, X., & Xiao, X. (2020). Chinese residents' preferences and consuming intentions for hotels after COVID-19 pandemic: a theory of planned behaviour approach. *Anatolia*, 1–4. https://doi.org/10.1080/13032917.2020.1795894
- Williams, A. M., & Balaz, V. (2013). Tourism, risk tolerance and competences: Travel organization and tourism hazards. *Tourism Management*, *35*, 209–221. https://doi.org/10.1016/j.tourman.2012.07.006
- Yagcı, M. I., Dogrul, U., Ozturk, L., & Yagci, A. C. (2021). Effect of Perceived Risk on Tourists' Behavioural Intentions Post COVID-19 in Turkey. *Tourism Destination Management in a Post-Pandemic Context, December 2019*, 187–199. https://doi.org/10.1108/978-1-80071-511-020211013
- Yean, T. F., Johari, J., & Sukery, A. F. M. (2015). The influence of attitude, subjective norms, and perceived behavioural control on intention to return to work: A case of socso's insured employees. *Kajian Malaysia*, *33*, 141–154.

- Yuriev, A., Dahmen, M., Paille, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources, Conservation and Recycling*, 155(November 2019), 104660. https://doi.org/10.1016/j.resconrec.2019.104660
- Zhang, Y., Wu, S., & Rasheed, M. I. (2020). Conscientiousness and smartphone recycling intention: The moderating effect of risk perception. *Waste Management*, *101*, 116–125. https://doi.org/10.1016/j.wasman.2019.09.040