

MANAGING POST COVID-19 CRISIS IN THE TOURISM AND HOSPITALITY SECTOR THROUGH SUSTAINABLE RECOVERY STRATEGIES

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Abstract: This study aims to formulate effective and sustainable strategies to manage post COVID-19 crisis in the tourism and hospitality industry. Data were collected from 290 respondents using the purposive sampling procedure in which the response rate is 70.7%. The structural equation modeling software, SmartPLS 3.0, is used to analyze the constructs of this study and hypothesis testing. The result shows that among the 6 hypothesized paths, 4 were supported, and out of 32 relationship paths, 25 paths are significant. This study reveals that travel risk management, service delivery system, hygiene and safety are the most influential factors of travel behavior.

Key words: Travel Risk Management, Service Delivery System, COVID-19, Travel Behavior, Crisis Management, Sustainable Plan

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INTRODUCTION

As the largest in the world, the tourism and travel industry offers tourists and travellers memorable experiences and contributes to community or tourism developments (Lea, 1988; Edgell, 2016). Tourism has grown to become a key global sector that has been fast developing since 1950. However, the tourism industry has faced varied crisis events such as climate change, war and refugee crisis, health and well-being related crisis, and economic depression (Bodrud-Doza et al., 2020). The new decade 2020 has started with full of uncertainty due to the unfortunate incidence of a new infectious disease, SARS-CoV-2, commonly named COVID-19 (Nkengasong, 2020; Kaushal and Srivastava, 2021). The outbreak of COVID-19 has deepened the economic and social imbalances (Jamal and Higham, 2021). Before the outbreaks of COVID-19, the tourism and hospitality industry was operate as one of the world economy's most affluent sectors, accounting for 10% of global GDP and creating more than 330 million jobs globally (IMF, 2020). In a recent report, WTTC (2020) stated that COVID-19 has curved down the growth of the tourism and hospitality industry as its contribution to global GDP shrunk to 5.5%, and employment stood for 272 million in 2020. The world is facing the challenges of COVID-19 pandemic whereas it had a negative consequences on global business and economy at a unexpected rate (Ozili and Arun, 2020). The tourism business is vulnerable to risks, such as natural disasters, pandemics, terrorism and economic crises among others, and these risks undesirably affect the country's culture, environment and socio-economic conditions. Likewise, Pforr (2009) holds that recreational destinations of tourists are at risk due to crisis and natural disaster such as transmittable viruses and natural disasters. It is to be mentioned that the SARS outbreak expanded from continent to continent in 2002–2004, infecting over 8000 individuals (Pine and Mc Kercher, 2004). Breitsohl and Garrod (2016) highlighted that crises and disasters would negatively impact tourism. For instance, China faced six billion dollar loss and 80% guests lost due to the period of SARS and 60% inbound tourists lost after the epidemic (Hai et al., 2004).

The two most challenging aspects for the tourism business are health problems and climate change. This time, COVID-19 is the most challenging factor for the tourism industry. An emergency on public health, including noteworthy epidemics of infectious disease, was declared by the World Health Organization (WHO) in January 31, 2020 (Yang et al., 2020). Statistically, world travel and tourism industry is the mostly affected due to COVID-19 (UNWTO, 2020).

Due to the COVID-19 Pandemic, one of the most affected industries in the world is the Tourism and Hospitality Business (UNWTO, 2020). Even the developed regions of the world and their tourism destinations could not stand against this pandemic due to the lockdown measures and health security issues (European Parliament, 2020). All the tourist destinations around the world are currently suffering severely due to drastic fall in the tourists' number. Moreover, the tourism based small and medium scale enterprises, for instance hotels, restaurants, and tourism service providers, are struggling most to survive and continue. Many tourism business owners had to shut down their businesses as they could not bear the initial shock of this crisis. Also, the giant Airlines companies are struggling to continue their operation, and they have grounded their thousands of aircraft in the last three months. Millions of employees in this industry around the world have already lost their jobs and living in a miserable life (UNCTAD, 2020).

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Tourism and Hospitality Industry with all efforts is seeking to turn around after the COVID-19 pandemic. However, numerous studies on the impacts of the SARS, MARS, Swine Flu, and Ebola epidemics on the tourism and hospitality industry found that tourists usually took a long time to be comfortable with the post-crisis period, and they usually go through a series of mental stages to avoid their potential health crisis and to revisit destinations (Smith, 2006; Chen et al., 2007; Lee et al., 2012 and Cahyanto et al., 2016). Compared to other diseases' outbreaks the COVID-19 is far more intense than these earlier crises as the earlier viruses mostly spreaded within specific locations (Haque and Haque, 2018). COVID-19 is very infectious and had a global reach that highlights the importance of understanding its impacts before planning to heal the impacts. Domestic tourism market plays a significant part in the socio-economic sustainability of a destination through job creation, economic escalation, poverty reduction, community welfare, local peoples' capacity building, and creation of a generally better society and economic contribution of a nation. Therefore, the key aim of this paper is to find out the effect of COVID-19 on tourism and hospitality industry in Bangladesh by highlighting domestic tourist; and to propose a recovery and sustainable strategies for managing post COVID crisis. This study suggests a policy framework to overcome the challenges of COVID-19 pandemic to assist tourism industry development.

BACKGROUND OF THE STUDY

A crisis is defined as an "unexpected, widely publicized, and detrimental incident that causes broad and negative opinions among assessors and interferes with the usual operations of an organization" (Bundy and Pfarrer, 2015). In addition, "crisis" depict as the impact of many events on tourist operations at a destination, segment, or worldwide level in the tourism industry. In the last few decades, tourism and hospitality industry has experienced some crisis events, which were highlighted in several studies, for example foot and mouth disease, terrorist attack on 9th September in 2001, hurricane Katrina, SARS and Avian Flu, worldwide financial crisis and the outbreak of swine flu, and COVID-19, had an adverse impact on tourism in the past (Blake et al., 2003; Blake and Sinclair, 2003; Chacko and Marcell, 2008; Kuo et al., 2008; Page et al., 2012; Yang et al., 2020). According to Ritchie and Jiang (2019) previous tourist crisis management research has primarily focused on recovery. As a result, there are five important success criteria for tourist recovery, including a crisis management plan, market segmentation, recovery-marketing plan, and collaboration among the personnel (Mansfeld, 1999; Campiranon and Scott, 2014). However, the integration process of these elements into a company's response tacticts is not clearly explained. Hence, developing feasible methods, that will lead tourism businesses in strategically responding to the issue, is difficult to formulate.

Following the global trend, the tourism and hospitality industry in Bangladesh also has suffered a lot during the COVID-19 crisis. In Bangladesh, 300,000 (approximately) employees are directly, and four million people are indirectly employed in this industry. Furthermore, this industry contributes to the livelihoods of 15 million families (The Daily Kalerkantho, 2020). Bhunia et al. (2021) showed that COVID-19 outbreak had a negative impact on the socio-economic factors of working class people in several ways, such as job lost of daily and migrant workers, increased the cost of living, incomecost of small and medium business in India and Bangladesh. Globally most of the tourism activity is international, though in reality, tourism sector is dominated by domestic tourism (Cahyanto et al., 2016; Cooper et al., 2008). Studies on the domestic tourism market are especially critical for a country like Bangladesh, where the domestic market primarily dominates the industry (Amin, 2017). Domestic tourism market plays a significant part in a destination's socio-economic sustainability through job creation, economic escalation, poverty reduction, community welfare, local peoples' capacity building, and creation of a better and stable society (Schalkwyk, 2012). Deb and Nafi (2020) reveals that during the stated pandemic period airlines have cancelled flights, hotels are almost vacant, tourism industry in Bangladesh face huge economic and job losses. Thus, the aim of this study is to analyse the effect of COVID-19 and its potential Post-COVID threats for the tourism and hospitality industry from the domestic tourism market aspect. The study will also provide possible best strategies to overcome the threats and revitalize tourism.

LITERATURE REVIEW

Travel risk perception

Travel from one place to other place or one country to other country at a particular time depends on some specific context. A tourist would likely avoid traveling to that particular destination if there are some risks associated with travel (Sönmez and Graefe, 1998). Likewise, the risk related to travel in the COVID-19 pandemic has influenced tourist travel intentions (Meng et al., 2021). Page (2009) and Rosello et al. (2017) found that infectious diseases are the mentionable general perceived health related risk for potential tourists when selecting a tourist destination.

COVID-19 is the most vulnerable infectious disease in the last century that prevent tourist taking domestic and international travel (Teeroovengadum et al., 2021). Risk is an intrinsic characteristic of traveling decision-making for tourists (Reisinger and Mavondo, 2005). Perceived risk in travel is a crucial factor while visiting a tourism destination (Quintal et al., 2010). Qiu et al. (2018) studied on social impact of SARS outbreak in China in 2013.

The researcher found that lack of official information and spread of rumours have developed and eventually exaggerated social panic all over the society (Qiu et al., 2018). Workers who are losing jobs will have less stable employment (Jarosch, 2015). All the tourist destinations around the world are immensely suffering due to drastic fall in the tourists' number. Tourism based small and medium scale enterprises, including hotels, restaurants; tourism service providers, are struggling to sustain. Hyams et al. (2002) asserted that unknown deadly virus causes stress, anxiety, and fearin the community badly impact on the community people life.

H1: Travel Risk Perception of COVID-19 effect on the Tourist Behavior

Travel risk management

Tourism industry is recognized as a sensitive sector to crises, tragedies and disasters (Ritchie, 2004). To manage travel risk, it is essential to collect information about the activities of travellers and maintain rules and regulation of health guideline (Simons et al., 2021). In this regard, information source reliability is the most desirable thing for the travelers and business operators. Travel industries are susceptible to exogenous vulnerabilities like natural disasters, sociopolitical issues, and risks associated at all industry levels, including business organizations, tourism destinations, and at national level (Williams and Baláž, 2015). However, risk management in travel and tourism henceforth has an essential role in tourism overall competitiveness (Liu et al., 2019). Anxiety at the individual level plays an important role to shape travellers' perceptions regarding travel health risk (Chien et al., 2017), and COVID-19 intensified this kind of anxiety level. The understanding of risk factors and vulnerability measures are important to take appropriate risk reduction and mitigate measures (Ritchie, 2004), which is a compulsory circumstance to build a sustainable destination (Espiner et al., 2017; Meli'an-Alzola et al., 2020). Arbulú et al. (2021) identified that COVID-19 creates a great disruption in supply chain management aspects, and historically seasonality plays as the major risk in tourism business. During and post era of COVID-19 perceived risk or health risk influences tourist travel behavior and tourist's travel decision before make a decision to travel a tourist destination (Matiza, 2020). Moreover, countrywide lockdown imposed during the peak time of tourism accelerate the risk of joblessness (Arbulú et al., 2021). Villac'e-Molinero et al. (2021) outlined the decision making procedure to understand the reason of travellers continue or cancel their travel procedures. Also the researcher studied on the variables that effect travellers' travel risk perception under a scenario in which the journeys were still possible in some areas located in European and American countries.

H2: Travel Risk Management of COVID-19 effect on the Tourist behavior

Service delivery system and distribution channels

In COVID-19 situation, tourism and hospitality related businesses get opportunities to adopt innovative approaches for the survival and remain competitive in the market. After resuming operation of tourism and hospitality industry, businesses allowed less customers despite having more capacity to ensure physical distancing among customers (Seyitoğlu and Ivanov, 2020). However, tourism and hospitality industry does not change its basic services but the way the services delivered to the tourists is changing. Essentially, information and communication technologies, such as automation, for tourism and hospitality businesses in marketing, distribution, supply chain management, product design and service design, play a significant task in tourism and hospitality industry (Buhalis, 1998; Benckendorff et al., 2019; Tussyadiah, 2020). At present the outbreak of COVID-19 open the new way for technologies like use of robots in the hospitality industry (Gretzel et al., 2020; Sigala, 2020). This pandemic has changed the behavior of tourists and help to make more cautious about the health and hygiene facilities of tourism destination (Wen et al., 2020). Consequently, tourism and hospitality industry needs to provide accurate service delivery systems to meet the customers' demand. Moreover, the competitive advantage of a business depends on the relationship among the internal and external service providers relationship management and distribution systems. The society and stakeholders are concern about the return of capital and social wellbeing activities from the tourism businessman (Jurgens et al., 2010). Seyitoğlu and Ivanov (2020) found three service delivery systems during the pandemic like robotic, hybrid (offline and online), and physically detached service distribution system to meet the expectation of customers. Lau (2020) expressed that live-stream promotion and conference are familiarized to improve the information quality in the primary stage of the pandemic; and robots, facial recognition, and artificial intelligence are incorporated to the day-to-day operations to improve service quality.

H3: Service Delivery Systems of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior

H4: Distribution Channels of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior

Hygiene and safety in tourism and hospitality

Hotels, restaurants, museums, cruise lines, airports, and airlines are revising their safety and health protocols to reducing COVID-19 virus contamination (Seyitoğlu and Ivanov, 2020). To control this situation, protective measures, like masks, gloves and transparent anti-virus helmets, are the essential equipments for tourism and hospitality employees who come in direct contact with customers (Sigala, 2020). Some businesses have implemented robots for the decontamination of accommodations and services with electromagnetic light (Rosen, 2020). Also, facemasks, apparent faceshield, and gloves is considered as a typical equipment for the employees of hospitality industry (Sigala, 2020). Some hotels adopt the benefit of technological advancement, such as disinfect rooms through ultraviolet light using robots (Rosen, 2020). Chemli et al. (2020) stressed that well-known control on highlighting potential travellers' consciousness during the outbreak of COVID as a preliminary source of evidence. Likewise, the risk in physical concern to people travel alone rather than group. Therefore, this research provides an evidence to the stakeholders and regulatory authority about the service delivery process to manage post COVID crisis and also provide authentic, organized and responsible information during recovery phase.

H5: Hygiene and Safety of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior

2.5 Tourist behavior

From the immediate response of COVID-19, the researchers identified that the travel pattern has changed significantly as the world goes under the new normal situations and the following discussion highlighted on these issues. The risk of virus spread and transmission altered travel behavior as travellers decrease their annual trips (Anwari et al., 2021). De Vos (2020) stated that social distancing is the primary new normal phenomenon in the pandemic situation; different types of outdoor

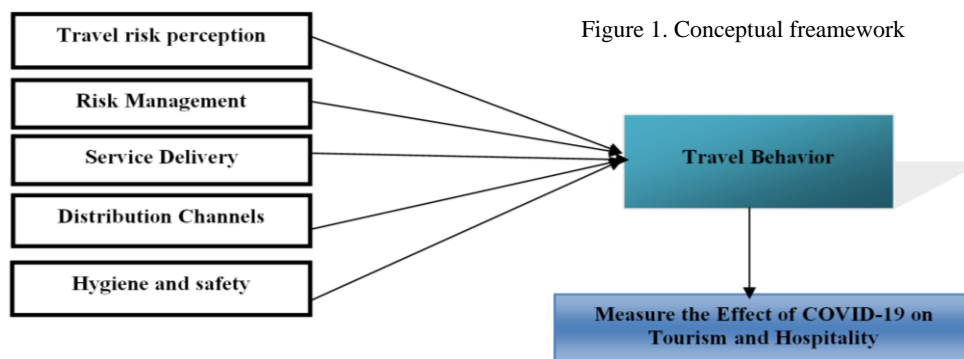
activities are changed significantly; and travel demand has reduced as people use less public transport. In Switzerland, usage of municipal vehicle has dropped 90% (Molloy et al., 2020), people are using more shared private transport than previous time, and people adopted the concept of "work from home" to avoid the personal contact (Shamshiripour et al., 2020).

During COVID-19, many studies suggested that airways is the most suffered mode of business (Gössling et al., 2020; Shamshiripour et al., 2020). Besides, online based shopping, internet based communication and entertainment media have faced losses during the pandemic (Shamshiripour et al., 2020; Anwari et al., 2021). Several scholars stated that COVID-19 pandemic decreases domestic and international travel trip also have an undesirable effect on human psychology and behavioral pattern (De Vos, 2020; Zhang et al., 2021). Moreover, De Vos (2020); Shamshiripour et al. (2020) and Molloy et al. (2021) suggested to highlight on physical work, such as walking and cycling, and sustainable and resilient infrastructure for transportation, instead of imposing hard restrictive guidelines to protect from COVID-19 (Parady et al., 2020).

H6: Tourist Behavior in Covid-19 Pandemic situation effect on the Tourism and Hospitality industry

Conceptual Framework: The effect of COVID-19 is significant in travel and tourism industry. Škare et al. (2021) stated that the policymakers and tourism stakeholders are not properly understood the adverse effect and losses of pandemic on tourism and hospitality industry. This study focus on China and found that COVID-19 is totally different than previous crisis events and recommended for public private policy support, operationa sustainability, and coordination to overcome the crisis. Rogerson and Rogerson (2020) also stated the importance of coordinated services among all the stakeholders and emphasize on the policy support.

Foo et al. (2020) studied on COVID-19 effect on Malaysia tourism industry and stated that Malaysian government has declared a financial stumulus package for the tourism industry. This study conclude that similar types of incentives will assist to survive the tourism industry during this challenging time is similar suggestions with Deb and Nafi (2020). Deb and Nafi (2020) also emphasized on the renovation of service delivery systems, partnership among stakeholders, policy for minimizing the travel risk, and maintaining the safety procedures for tourists for recovering tourism. Kaushal and Srivastava (2021) studied on COVID-19 effect on Indian tourism and mentioned that travel risk management, maintaining the health and hygiene protocol, developing the service delivery systems will help to minimize the effect of COVID-19. Herman et al. (2016) found that tourist map and touristic planning are significant factors for the development of tourism. Refaat and Arafa (2022) revealed that restriction on travel influences of the travelers decision on destination choice. In addition, policies for touism development towards service quality and promotional aspects must be supported by good governance (Ariyani and Fauzi, 2022). To design a conceptual framework based on the previous studies and expert survey shows that travel perceived risk, managing capacity of risk, managing delivery systems of services and distribution channels, safety and hygiene are crucial factors. The conceptual framework of this study is presented in Figure 1.



METHODS AND MATERIALS

Data collection

In this study a mixed methods is considered while mixed methods studies combine qualitative and quantitative approaches throughout all the steps of research process for example development of conceptual framework, data collection, and data analysis, and implication (Creswell, 2013). Primary non-disguised methods (focus group discussion and expert interview) were used to identify the pertinent parameters of the study (Malhotra, 2011). A focus group discussion were conducted through a semi-structured questionnaire among the ten members to measure the impact of COVID-19 outbreak on the tourism and hospitality industry, and the length of the focus group was one and half hour (90 minutes) in which five (05) experts from tourism industry, two (02) from academia, and three (03) from national tourism organizationa are included. This study also applied a quantitative approach using a structured questionnaire. The questionnaire were divided into two parts whereas intial part is related to the demomgraphic part of the respondents and section part included 32 variables that were recognized and divided into seven groups to meausure the impact of COVID-19 on Tourism and Hospitality industry were answer on 5 (five) point likert scale, with 5 indicating strongly agree to 1 strongly disagree. Afterwards, a self administrative, and face to face survey method was adopted whereas data were collected from domestic tourists. Findings of these steps were compared with the existing literature to identify a refined set of variables to proceed further. Moreover; 300 to 500 sample sizes is are recommended by Roscoe (1975), and whereas 200 to 400 sample size is recommended by McQuitty (2004). To robust of Structural Equation Modeling at least two hundred (200) samples are required (Harris and Schaubroeck, 1990). Gorsuch (1983) suggested that per construct required at least 05 participants and not a lesser amount of 100 persons per data analysis. In this study, 410 questionnaires were distributed, and the amount of

valid survey returns was 380 and response rate was 92.68%. Among the respondents, 320 had visited any tourism destinations within the country or abroad more than two times in a life but rest had not. Hence, the missing data rate were more than 15%. Moreover, Lamb et al. (2014) stated that a dataset if 15% or more remarkable opinion is missing then it should be disregarded. After collecting the survey questionnaire for the respondents, almost 290 questionnaires were applicable (valid response rate 70.7%) for further study. Furthermore, the critical path model analysis required sample size is 200 or more (Kline, 2005). Primarily, a pilot test was conducted to measure whether the initially developed survey instrument captured the constructs or not. The test was undertaken to calculate and to verify the reliability and internal consistency of the questionnaire items by measuring Cronbach alpha (Malhotra, 2011). For the quantitative part, multivariate analysis i.e. Structural Equation Modelling (SEM) used SPSS version 22 along with SmartPLS version 4.0 was used to achieve the PLS-SEM analysis and to analyse quantitative data for conceptual framework justification of the study.

Measures

In business research Chin (1995, 1998) applied and introduced partial least squares structural equation modelling (PLS-SEM). Today, “PLS-SEM has evolved into a stand-alone method capable of investigating real-world problems, rather than being an alternative to covariance-based SEM” (Latan and Noonan, 2017: xi). Wold (2006) stated PLS-SEM method has an exclusive opportunity and strength of model as well as develops a path model. Advanced progresses extending from new estimators (e.g. Dijkstra and Henseler, 2015; Dolce et al., 2018; Schubert and Cantaluppi, 2017) and model evaluation metrics (e.g. Aguirre-Urreta and Rönkkö, 2018; Henseler et al., 2015). To analyze the data and hypothesis testing PLS-SEM is applied in this study. Moreover; Hair et al. (1998) and Byrne (2001) suggested that Confirmatory Factor Analysis (CFA) must be done after Exploratory Factor Analysis (EFA) for validating and authenticating the scales originated from EFA. In addition; all the constructs were measured by Likert scale and collected data through a structured questionnaire including the items under the constructs are provided in the table.

Table 1. Items used in the study

Constructs	References
Travel Risk Perception	Neuburger and Egger (2021); Jahari et al. (2021); Perić et al. (2021); Hotle et al. (2020)
Travel Risk Management	Rahman et al. (2021); Neuburger and Egger (2021); Kaushal and Srivastava (2021); Oroian and Gheres (2012); Steene (1999)
Service Delivery System	Muhammedrisaevna (2021); Jaaron et al. (2021); Kaushal and Srivastava (2021); Abubakar (2002);
Distribution Channels	Gretzel et al. (2020); Kaushal and Srivastava (2021); Sigala (2020); Wen et al. (2020)
Hygiene and Safety for Tourism	Pendergast (2006); Seyitoğlu and Ivanov (2020); Rosen (2020); Kaushal and Srivastava (2021)
Travel Behaviour	Neuburger and Egger (2021); Matiza (2020); Kim et al. (2021)
Measure the effect of COVID-19 on Tourism and Hospitality	Wachyuni and Kusumaningrum (2020); Xiang et al. (2021); Škare et al. (2021)

DATA ANALYSIS AND DISCUSSION

Socio-demographic summary of respondents

Table 2 displays the socio-demographic summary of the respondents. 64.8% respondents are male and 35.2% respondents are female in this study. Majority of the respondents are younger in this study as 67% of the respondents belongs to the 20 to 40 age group, 43 % of the respondents are completing their graduation and 41% have completed higher secondary. Almost 41% of the respondents state that their monthly income more than 61 thousand taka, whereas about 28 % respondents income level is below 20 thousand taka. 48% of the respondents travel with family or alone in this pandemic situation.

Table 2. Respondents of Socio-demographic profile

	Frequency	Percentage		Frequency	Percentage
Gender			What is your monthly income (BDT/Rupees)?		
Female	102	35.2	Below 20,000	81	27.9
Male	188	64.8	21,000-40,000	18	6.3
Total	290	100.0	41,000-60,000	72	24.8
Age			More than 61,000	119	41.0
20-30	102	35.0	Total	290	100.0
31-40	93	32.0	Travel Pattern during COVID-19 epidemic		
41-50	54	18.6	Alone	138	47.6
Above 50	39	13.4	Family	140	48.3
Total	290	100.0	Group	12	4.1
Educational status			Total	290	100.0
Primary	3	1.0			
High School	39	13.5			
Higher secondary	120	41.4			
Graduation	125	43.1			
Total	290	100.0			

Analysis of Measurement Model

The first steps in assessing PLS-SEM results encompass investigative the measurement model including validity and reliability, and structural model analysis (Hair et al., 2019). When measurement model fulfill all the required criteria then researchers move to evaluate the structural model (Hair et al., 2017). Internal consistency of the various variables are being evaluated by the measurement model analysis. Firstly, measurement mode analysis includes investigative the indicators loading. Loading above 0.708 are suggested (Hair et al., 2018). However, table 3 displays that all the indicators loadings exceeded the value of 0.644 as Chin (1998) recommended the value of 0.6. However, Figure 2 presents that the construct's factor loading is greater than 0.7 and the factors loading of all the constructs' are ranging from 0.644 to 0.915.

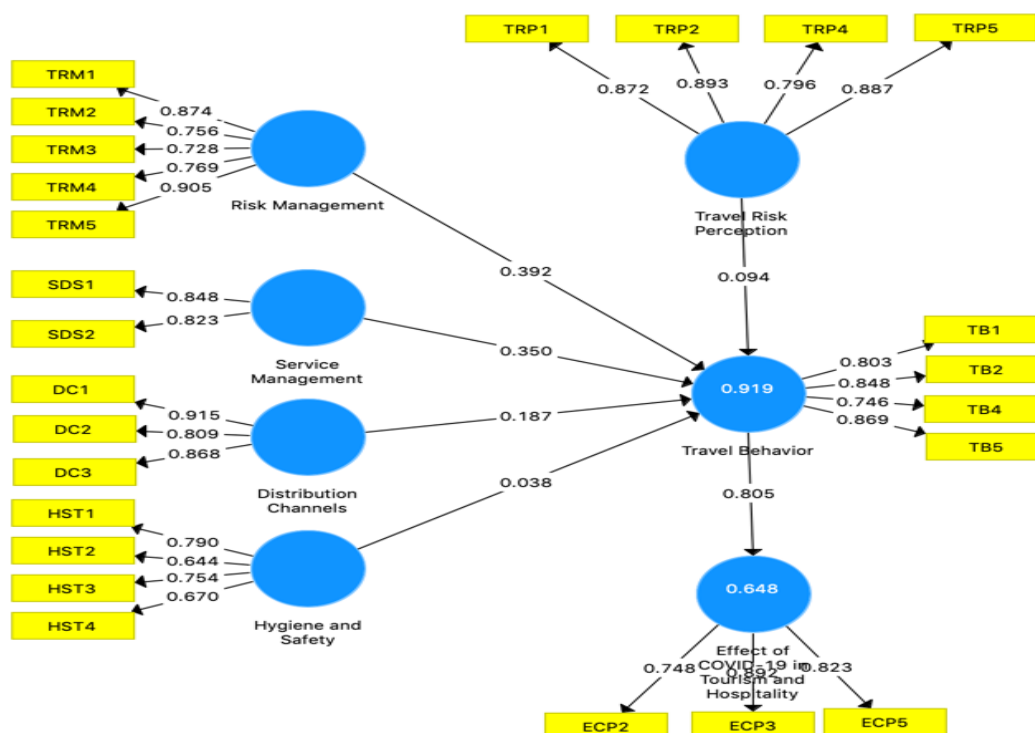


Figure 2. Measurement Model

Table 3. Measurement items and Reliability

Constructs and respective items		Factor Loading
Travel Risk Perception		
The consequence of the COVID-19 outbreak has generated anxiety for travelling to domestic destinations.	TRP 1	0.872
The consequence of the COVID-19 outbreak has formed anxiety for travelling to international destinations.	TRP 2	0.893
I Prefer to travel alone due to the COVID-19 pandemic	TRP 3	Dropped
After COVID-19, I will prefer to travel small cities and rural areas	TRP 4	0.796
I will try to avoid group travel in COVID-19 situation	TRP 5	0.887
Travel Risk Management		
I worry on COVID-19 and how long I will be able to handle isolation	TRM 1	0.874
I doubt whether we are getting the appropriate information from the government about COVID-19 pandemic	TRM 2	0.756
I search a well infrastructure tourism destination alongwith medical/health facilities as per the guidelines of COVID-19	TRM 3	0.728
I seek destinations with psychical distance and hygienic facilities as per the guidelines of COVID-19	TRM 4	0.769
Online and contactless service management systems are effective for reducing travel risk management	TRM 5	0.905
Service Delivery System		
I prefer takeout or home delivery service rather than going to restaurant.	SDS 1	0.848
During and after pandemic, I prefer contactless service to minimize interpersonal interaction	SDS 2	0.823
I prefer clean and sanitized service delivery systems	SDS 3	Dropped
Distribution Channels		
Online platform will be more preferable for eReservation and eVisa, ePayment, eShopping and others services related to tourism and hospitality	DC 1	0.915
I prefer online platform for information search, destination selection, and sharing experience.	DC 2	0.809
Using online distribution channels, people can work from home and maintain the social distance	DC 3	0.868
Online distribution channel is effective for go through customer review prior to travel.	DC 4	Dropped
Hygiene and Safety for Tourism		
Post COVID-19, I seek hygiene facilities while travelling different tourism destination	HST 1	0.790
I will prefer to use face mask in public area and tourist destination	HST 2	0.644
Employees personal hygiene and maintaining safety protocol in essential for me	HST 3	0.754
I prefer healthy and hygiene services	HST 4	0.670
I prefer tourism and hospitality medical support in the tourism destination.	HST 5	Dropped
Travel Behaviour		
I think hotels are trying to maintain the proper safety and hygiene guideline	TB 1	0.803
I think transportations are maintaining the COVID-19 guideline	TB 2	0.848
I think tourist are maintaining the COVID-19 guideline (social distancing and use facemask) in the tourist spot	TB 3	Dropped
I think tourism and hospitality employees are maintaining COVID-19 guideline.	TB 4	0.746
I am properly maintain all the safety protocol during my travel in tourist spot	TB 5	0.869
Effect of COVID-19 Pandemic		
I feel psychological stress during the outbreak of COVID-19	ECP 1	Dropped
The outbreak of COVID-19 affect the behavioral pattern of traveller	ECP 2	0.748
I feel apprehensive due to the outbreak of COVID-19	ECP 3	0.892
I feel financial stress due to COVID-19	ECP 4	Dropped
I feel anxiety in my workplace due to COVID-19	ECP 5	0.823

Composite reliability (CR) is the most common and popular indicator to examine the reliability of the internal consistency. Hence, CR should be greater than 0.7 and Average Variance Extracted (AVE) of each latent variable should be greater than 0.5 (Fornell and Larcker, 1981). In this study, the lowest CR and AVE are 0.808 and 0.514 respectively. However, Cronbach's Alpha and rho_A value should be greater than 0.7 (Nunnally, 1978). The lowest Cronbach's Alpha and rho_A value of this study are 0.705 and 0.717. Table 4 shows the results of the measurement model.

Table 5 shows the discriminant validity results of this study. According to Fornell and Larcker (1981) the square root of the AVE of respectively construct is higher than its corresponding correlation coefficients pointing towards satisfactory discriminant validity. Thus, the adequate convergent validity and discriminant validity was in the measurement model.

Table 4. Results of Measurement Model

Construct Reliability and Validity	Cronbach's Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Distribution Channels	0.831	0.846	0.899	0.748
COVID-19 effect on Tourism and Hospitality	0.760	0.773	0.863	0.678
Hygiene and Safety	0.727	0.7.36	0.808	0.514
Risk Management	0.866	0.875	0.904	0.655
Service Management	0.705	0.7.17	0.822	0.698
Travel Behavior	0.834	0.839	0.890	0.669
Travel Risk Perception	0.886	0.892	0.921	0.745

Table 5. Discriminant Validity

Note: The square root of AVE in every multi-item construct is shown on the main diagonal

	Distribution Channels	Effect of COVID-19 on Tourism & Hospitality	Hygiene and Safety	Risk Management	Service Management	Travel Behavior	Travel Risk Perception
Distribution Channels	0.865						
Effect of COVID-19 on Tourism and Hospitality	0.853	0.823					
Hygiene and Safety	0.634	0.592	0.717				
Risk Management	0.768	0.717	0.575	0.809			
Service Management	0.702	0.671	0.423	0.777	0.836		
Travel Behavior	0.847	0.805	0.591	0.904	0.868	0.818	
Travel Risk Perception	0.939	0.863	0.643	0.786	0.694	0.846	0.863

Table 6. Results of Structural Model

Hypothesis	Relationships	T Statistics	P Values	Remarks
H1	Travel Risk Perception -> Travel Behavior	0.785	0.216	Not supported
H2	Risk Management -> Travel Behavior	9.091	0.000	Supported
H3	Service Management -> Travel Behavior	7.601	0.000	Supported
H4	Distribution Channels -> Travel Behavior	1.413	0.079	Not supported
H5	Hygiene and Safety -> Travel Behavior	1.747	0.040	Supported
H6	Travel Behavior -> Effect of COVID-19 in Tourism and Hospitality	16.523	0.000	Supported

Table 7. Results of Path Coefficient

	T Statistics	P Values	Remarks
DC1 <- Distribution Channels	55.959	0.000	Supported
DC2 <- Distribution Channels	23.929	0.000	Supported
DC3 <- Distribution Channels	38.924	0.000	Supported
ECP2 <- Effect of COVID-19 on Tourism and Hospitality	20.034	0.000	Supported
ECP3 <- Effect of COVID-19 on Tourism and Hospitality	47.832	0.000	Supported
ECP5 <- Effect of COVID-19 on Tourism and Hospitality	30.008	0.000	Supported
HST1 <- Hygiene and Safety	24.069	0.000	Supported
HST2 <- Hygiene and Safety	10.176	0.000	Supported
HST3 <- Hygiene and Safety	21.662	0.000	Supported
HST4 <- Hygiene and Safety	12.459	0.000	Supported
SDS1 <- Service Management	35.638	0.000	Supported
SDS2 <- Service Management	26.783	0.000	Supported
TB1 <- Travel Behavior	19.425	0.000	Supported
TB2 <- Travel Behavior	32.308	0.000	Supported
TB4 <- Travel Behavior	19.933	0.000	Supported
TB5 <- Travel Behavior	33.629	0.000	Supported
TRM1 <- Risk Management	38.954	0.000	Supported
TRM2 <- Risk Management	16.070	0.000	Supported
TRM3 <- Risk Management	15.536	0.000	Supported
TRM4 <- Risk Management	22.459	0.000	Supported
TRM5 <- Risk Management	39.016	0.000	Supported
TRP1 <- Travel Risk Perception	36.946	0.000	Supported
TRP2 <- Travel Risk Perception	45.321	0.000	Supported
TRP4 <- Travel Risk Perception	23.699	0.000	Supported
TRP5 <- Travel Risk Perception	42.812	0.000	Supported

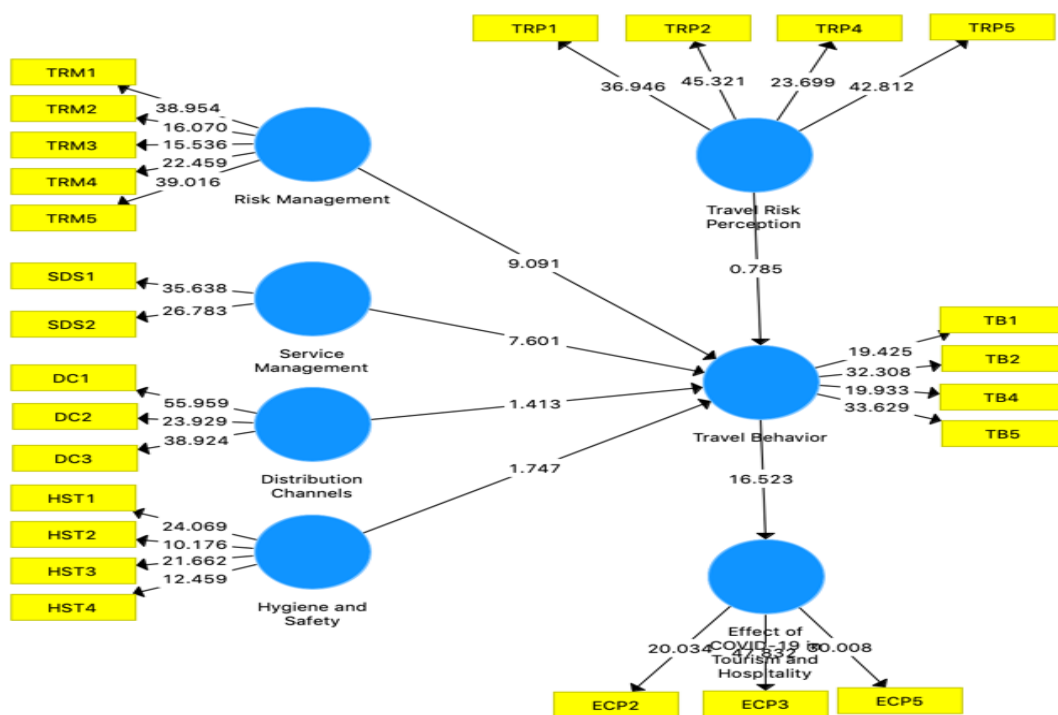


Figure 3. Structural Model

Valuation of Structural Model

Hair et al. (2014) suggested the bootstrapping technique to produce t-statistics, p-value and 95 % bias corrected confidence intervals that allow the assessment of the statistical significance for the measured relationships, both direct and indirect, hypothesized within the research model. Structural model helps to describe the evaluation process and describes the inner structural model outcomes. However, an well organized model was used in SEM-PLS to verify the proposed hypothesis (14,31). According to the data analysis of hypothesis testing H1, H2, H3, H4, H5, and H6 were tested and all the hypothesis were supported except H1 and H4. It expresses that travel risk Management (t = 9.091, p = .000), Service management (t = 7.610, p = .000), hygine and safety (t = 1.747, p = .000), have positive relation with the tourist travel behavior, and travel behavior (t = 16.523, p = .000) has positively related with the effect of COVID-19 pandemic on tourim and hospitality industry. Table 6 shows the the results of the variables of the proposed model. This study shows that proper travel risk management and service management, and hygiene and safety factor influence on the travel behavior in the pandemic situation. Table 7 of the study shows the the results of the variables of the proposed model. This study shows that proper travel risk management and service management, and hygiene and safety factor influence on the travel behavior in the pandemic situation. Table 7 of the study shows the the results of the variables of the proposed model.

CONCLUSIONS AND RECOMMENDATION

All countries in the world have been affected by the COVID-19 pandemic from a greater extent of economic to social losses (WHO, 2020). The effect of the COVID-19 pandemic has intensified because of globalization and global connectivity (Jord'a et al., 2020). This pandemic has changed travel behavior and the overall tourism and hospitality industry. This study reveals that travel perceived risk, travel risk management, service delivery system, hygiene and safety are consired as a critical factor of travel behavior in the Post COVID-19 era.

Working class employess are facing pychological and finanical stress as well as reduces international and domestic tourists during the pandemic is similar with the results of Bhunia et al. (2021); Arbulú et al. (2021). Moreover; this study divulges that home delivery, contactless service, eReservation, ePayment, eShopping are critical success factors of managing post COVID crisis in Tourism and Hopsitality which is similar with the results of eTourism Adoption of (Deb, 2021). The study also found that pandemic has generated anxiety for travelling to domestic and international destinations is similar with the results of Bauza et al. (2021). At the same time, respondents will prefer the small cities and rural areas for their travel destinations after the pandemic and using contactless or online services for risk management. Respondents express that wearing a face mask in public areas and tourist destinations, employees personal hygiene and maintaining safety protocol, and health and hygiene services are preferable which is similar with the study of (Seres et al., 2020). Respondents also expressed their preference for online platforms for information search, destination selection through image (Deb et al., 2020) and sharing experience.

The findings of this study provides useful information regarding the medical facilities in tourism destination and safety and hygiene maintainence for travel risk management. The study suggests that respondents prefer online platforms like eReservation and eVisa, ePayment, eShopping and other services related to tourism and hospitality in pandemic situations is similar with (Deb, 2021). Maintaining the proper safety and hygiene guidelines and COVID-19 protocol are vital for tourism and hospitality service providers like hotels, transportations, employees, parks and other establishments are essential for crisis recovery. In the theoretical aspect, researchers and tourism educators will get a clear idea about literature review on managing of post COVID-19 crisis in tourism and hospitality industry through a sustainable plan. Kebeta (2021)

suggested that a realistic guideline and policies are essential for the development of emerging tourism destinations in the post pandemic era. Apart from the theoretical contributions, the findings of this study will enhance the managerial skills of businessman, regulating authority of this industry through generate the knowledge of travel risk management, managing service delivery system, and hygiene and safety management by promoting rural tourism through local culture, heritage, and tradition (Deb et al., 2022). To implement the goals of SDG-2030 during the post COVID-19 era digital marketing i.e. virtual tourism and eTourism is essentials for tourism development (Deb, 2021). Though this study can make a significant contribution to the practitioners and educators of tourism with a scale of limitations. This study focused on causal method but in future a longitudinal study can make a better understanding of tourism recovery plan. This study based on Bangladesh perspective therefore no scope to get comparative statistics in between the countries so a further study can be conducted on Bangladesh and south asian countries. Only 290 respondents are considered for this study due to the time and fund limitation however in future more respondents could make a better understanding .

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