# THE IMPACT OF SOCIAL MEDIA, ENVIRONMENTAL AWARENESS, AND PLACE ATTACHMENT ON ENVIRONMENTALLY RESPONSIBLE BEHAVIOR OF TOURISTS AT SAINT MARTIN'S ISLAND, BANGLADESH

ENAMUL HAQUE

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE MASTER DEGREE OF MANAGEMENT
IN INTERNATIONAL TOURISM MANAGEMENT
FACULTY OF MANAGEMENT AND TOURISM
BURAPHA UNIVERSITY
2021

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สาขาวิชาการจัดการการท่องเที่ยวระหว่างประเทศ
คณะการจัดการและการท่องเที่ยว มหาวิทยาลัยบูรพา
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The Thesis of Enamul Haque has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Management in International Tourism Management of Burapha University

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2 December 2021

62920343: MAJOR: INTERNATIONAL TOURISM MANAGEMENT; M.M. (INTERNATIONAL TOURISM MANAGEMENT)
KEYWORDS: SOCIAL MEDIA ENVIRONMENTAL AWARENESS PLACE ATTACHMENT ENVIRONMENTALLY RESPONSIBLE BEHAVIOR

ENAMUL HAQUE : THE IMPACT OF SOCIAL MEDIA, ENVIRONMENTAL AWARENESS, AND PLACE ATTACHMENT ON ENVIRONMENTALLY RESPONSIBLE BEHAVIOR OF TOURISTS AT SAINT MARTIN'S ISLAND, BANGLADESH. ADVISORY COMMITTEE: TINIKAN SUNGSUWAN, Ph.D. 2021.

The tourism industry is rapidly expanding and is considered crucial for economic prosperity. The rapid growth of tourism frequently has negative environmental impacts on the global climate. This environmental damage is caused by tourists' adverse behavior, such as natural disturbance, pollution, crowding. Tourists' actions have caused significant ecological issues to DMOs and policymakers. So it's crucial to master the fundamentals of tourists' ERB. Due to the rising use of digital platforms, social media is becoming vital for influencing tourists' attitudes. This study focused on investigating the elements that influence visitors' ERB and then constructing an ERB model using SEM by AMOS software.

An implicated model (S-O-R model) in this research shows tourists' usages of social media as a stimulus, environmental awareness (EA), place attachment (PA) formed by social media as an organism, and tourists' ERB as a response. Social media usages enhance EA and PA, affecting travelers to ERB. The integrated ERB model was empirically evaluated using 467 visitors' online survey data. However, the research indicated that social media profoundly influenced EA, PA, and tourists' ERB. This paper provides a solid theoretical foundation and offers ways for implementing sustainable tourism policies.

# ACKNOWLEDGEMENTS

This paper and the research behind it would not have been possible without the exceptional support of my supervisor, Dr. Tinikan Sungsuwan. Her enthusiasm, knowledge, and exacting attention to detail have been an inspiration and kept my work on track from my first encounter to the final draft of this paper. I would like to thank my shadow advisor, Dr. Sarunya Sanglimsuwan and Asst. Prof. Dr. Petcharut Viriyasuebphong, for their patients, adequate guidance, and continuous supports. I have significantly benefited from their wealth of knowledge and meticulous editing. Heartful thank also goes to Asst. Prof. Dr. Chavana Angkanurakbun, Dr. Sarunya Sanglimsuwan, and Dr. Chitlada Pinthong, for IOC checking (content validity) of the research survey questionnaire. Respectful thanks to my committee members, Asst. Prof. Dr. Apinya Ingard and Asst. Prof. Dr. Sakchai Serarnawat. Your encouraging words and thoughtful, detailed feedback have been essential to me. Thank you to the interviewees, who generously took time out of their schedules to participate in my research and make this project possible.

I am most thankful for the Thailand International Cooperation Agency (TICA), Ministry of foreign affairs, Thailand that has provided financial support; Burapha university authority (graduate building and faculty of management & tourism) for providing continuous advisory & technically supports; and my root organization Ministry of civil aviation & Tourism (MoCAT), Bangladesh that has given me the administrative order (No. 30.00.0000.010.25.001.15-638 (14); 15072019) for the larger project from which this paper grew.

Cordial thanks to my family members and all home & abroad friends for endless psychological supports. You all have always stood behind me, and this was no exception. Especially Mom (ma) and dad (abba), thank you for fielding a ridiculous number of phone calls, for all of your love & reminding me, and for any time, anywhere. Finally, I would like to thank again to Dr. Tinikan Sungsuwan, who gave me the opportunity to complete this work by agreeing to be my advisor.

Enamul Haque

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# CHAPTER I

# INTRODUCTION

The introduction chapter of this thesis named the impact of social media, environmental awareness, and place attachment on environmentally responsible behavior of tourists at saint martin's island Bangladesh explains the semiotic atmosphere, the aim, the benefit, the geographical area, and respondents of the thesis. In this chapter, the researcher clarifies the terms, scope of research, and study structure in a nutshell. This chapter covers the following sections:

- Background of research and statement of the problems
- research questions
- research objective
- contributions of the study
- scope of the research
- definitions of terms, and
- Structure of the study

By reading the first part of the chapter, readers can understand the research's necessity, importance, and problem. In the objective parts, the researcher tries to explain the main aim of this research, the benefit of this empirical research in the actual situation. By reading the rest of this chapter, the readers will be able to pretend effortlessly the complex and enigmatic terms used in this thesis. They can also be able to presume the next steps of the research.

## Background & statement of the problems

Tourism is frequently considered an essential mechanism for a country's economic expansion and evolutions (Brida and Risso, 2009), increasing local populations' economic welfare (Tang and Tan, 2015). According to some international tourism organizations (UNWTO, 2019; WTTC, 2019), the world economy is radically developing depending on the tourism industry. Several countries have developed tourist destinations and earned a large amount of foreign currency from tourism revenues. For example, Malaysia has developed tourism as a subsector as a service sector in medical tourism and eco-tourism, giving vast priority to sea beaches and flora & fauna, resulting in a vast impact on GDP (Tang and Tan, 2015). According to World Tourism Organization (UNWTO, 2019), tourism exports account for 28% of the world's commercial services exports and 7% of overall goods and services. The tourism industry plays a vital role globally, with 10.3% of GDP in 2019, whereas some developing countries like Bangladesh have only 3.0% (WTTC, 2020). According to the government of Bangladesh, the projecting contribution of the tourism sector in GDP in the fiscal year of 2019-2020 was 5.6% (MoCAT, 2019).

However, with the economic benefits for certainty, tourism has a negative environmental impact burden on the local ecological system. Tourism consumption of such natural resources in tourist destinations affects environmental degradation (Camarda and Grassini, 2003). Tourism is one of the key contributors to emitting $CO_2$ to the world climate, especially in the low-income country's tourism industry (Haseeb and Azam, 2020). It is accounted for almost one-tenth of the world's carbon emissions (Independent, 2018). The improper or usages of consumption of the products by tourists generate waste and pollutions that may degrade the natural environment (Kreag, 2001). One in ten jobs in the world of tourism services is reflected worldwide. This contribution refers to 10% of the global gross national productions (WTTC, 2019) of the world economy utilizing essential resources, such as water and energy, to expand in line with the production of solid waste, including aseptic plastic contamination, unplanned sewage system, constantly losing biodiversity system and producing greenhouse gas indiscriminately (UNEP, 2019). As tourism is strongly reliant on a destination's environmental and socio-

cultural attractions (Kiatkawsin and Han, 2017; Su and Swanson, 2017), adverse tourism effects may significantly impact a destination's sustainability (Su et al., 2018).

According to UNEP (2019), every summer, over two hundred million Mediterranean visitors cause a 40% plastic throw in the sea while 80% of all tourism activities occur in coastal areas; another location continues the same detrimental trend. UNEP (2019) also stated that in April 2018, the Philippines temporarily imposed a prohibitory order to visit the Boracay island to remove the discarded sewages and upgrade its drainage systems. Thailand shut down the famous beach Maya Bay, which is popular for shooting 2000 movies, to recover from pollution and other damage caused by the tourists. In 2017, Indonesia announced: “garbage emergency” of a part of their famous tourist destination, Bali Island, which is the result of the irresponsible tourists’ behavior while consuming tourism products by the mass tourists. To protect turtles nesting on the beaches, Fort Myers Beach, Florida, has banned the use or even sale of any kind of plastic straws throughout the island. Isole Tremiti archipelago, Italy, has also strictly prohibited using any type of plastic plates, cups, and utensils to protect the natural inhabitants there (Panda, 2019). However, tourists may contribute to environmental destruction either consciously or unconsciously, such as disruption of wildlife (Chen, 2011); involving pollution activity (Logar, 2010); and making overcrowding (Dickinson and Robbins, 2008) even flower-picking (Chang, 2010).

Most tourists are less interested in adopting responsible behavior to the environment or supporting the products that encourage responsible tourism. The products and strategies for responsible tourism indicate differently, such as supporting awards, positive attitudes on ecolabels and certification schemes, choosing communication options, awareness of the environment, and attending educational campaigns designed to steer tourists’ behavior. However, the tourists’ response appears inadequate and does not fulfill its sustainable goals (Martens and Spaargaren, 2005). Despite the optimistic approach demonstration of tourists to responsible tourism, only one out of twenty tourists can behave responsibly, purchase environmentally friendly tourism packages, decide on an eco-friendly transportation

system, or buy locally produced products that inspire sustainable tourism (Chafe and Honey, 2005).

Bangladesh (148.460 sq km; 95$^{th}$ in position) is one of the smallest (CIA, 2020) but populous (165 million; 8$^{th}$ populous in the world) (Worldometers, 2020) country in the world. In Bangladesh, the tourism industry plays a less important role, with 3% GDP in 2019 (WTTC, 2020). Around 0.7 million international tourists came in the year 2018 in Bangladesh, which is minimal compared to neighboring countries. But in 2019, approximately 9,000,000 domestic tourists visited far-flung destinations in the country, which was 300,000 to 500,000 in 2000 (Dailystar, 2020). The most popular destinations are islands, hills, sea beaches, lakes, architectural sites, local communities (BBC, 2018).

St. Martin Island is locally named Narkel Jinjira or Coconut Island, Bangladesh's most stunning coral island. It forms away from 8 kilometers west of Myanmar's northwest coast, the southernmost part of Bangladesh, and the end of the river Naf to the Bay of Bengal. The span of the island extends from 92°18´ and 92°21´ East to 20°34´ and 20°39´ North. The island's significant biodiversity includes 234 species of fishes, 187 species of mollusks, 66 species of corals (order Scleractinia), two types of seagrasses, 133 types of seaweeds, three types of mangroves, 130 species of coastal & land birds, four types of marine turtles, five types of sea snakes, nine types of marine mammals, and also many terrestrial animals and plants (Ahammed et al., 2016; AHMED, 2006; Hilton-Taylor, 2000; IUCN, 2000; MoEF, 2001).

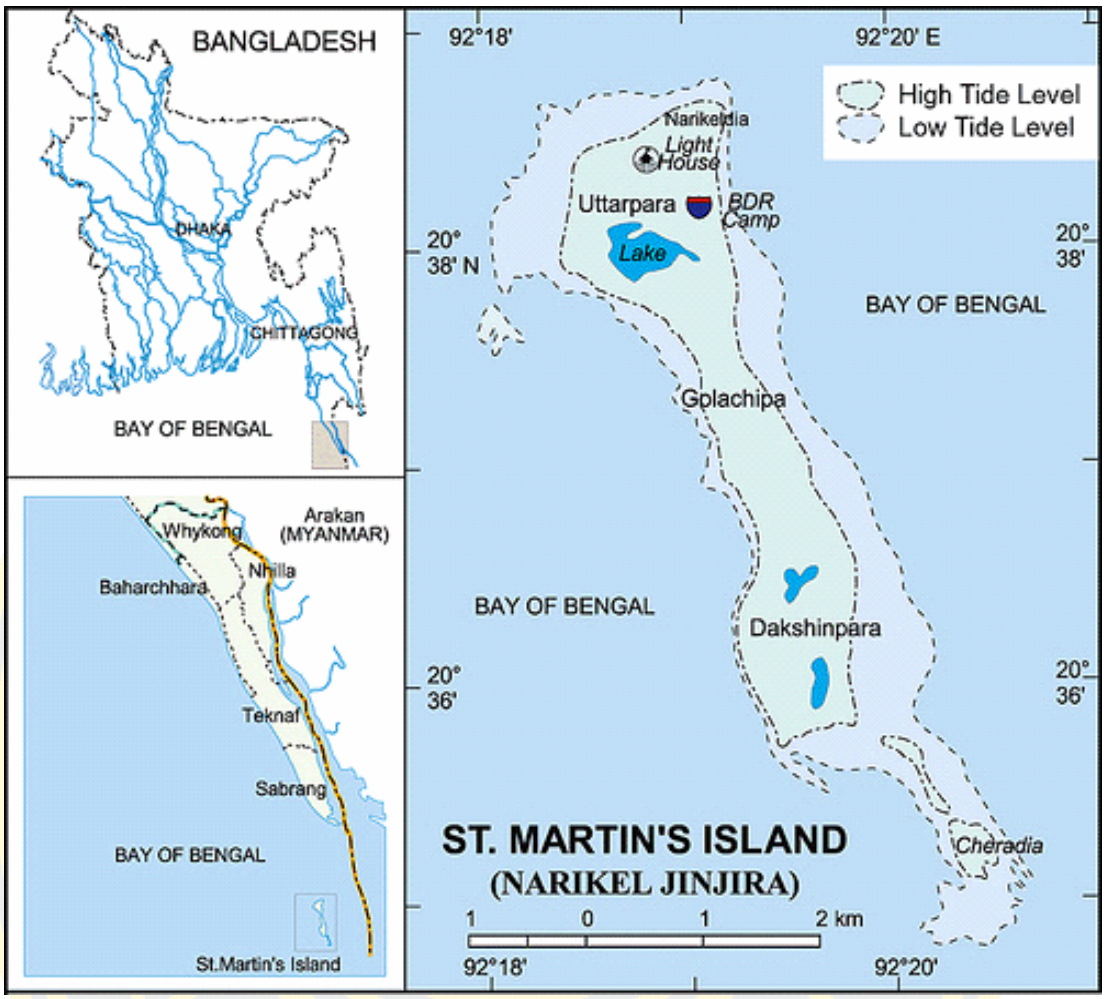


Figure 1 Map of Saint martin's island in Bangladesh

Source: researchgate.net (2016)

Table 1 St. Martin Island's eco-condition and optimal reef growth condition

| Parameters | Values | Vulnerable Range |
|---|---|---|
| Temperature of sea-surface (°C) | 22 - 29 | 20 - 30 |
| Water's Salinity (ppt) | 27 - 35 | 25 - 42 |
| Turbidity (Secchi disc/meters) | 2. 9 - 4.6 | > 7.0 |
| pH | 7.4 - 7.9 | 7.0 – 8.5 |

Source : Ahammed et al. (2016)

These resources with enormous biological diversity make the island one of the top destinations for all types of tourists of the country and the world. In the picking season (November- March) of tourism in Bangladesh, around 3,500 tourists visit every day (Nafi and Ahmed, 2017) in the island. Regular extensive ferry services and different types of engine boats, used for transporting a large number of tourists to the island along with consuming products for tourists results in a significant amount of crude oil, spiking non-degradable plastic, and other unbiodegradable wastes are discharged to the marine water at the beachside of the island.

In addition, significant quantities of the untreated market and domestic items, including sewage, are also discharged by the local people into the seawater for tourism business purposes (Feeroz, 2009). Furthermore, the unplanned hotels' sewage line is contaminating seawater, and the emitting of electric lights in the surrounding sandy beach hazarded the natural spawning system of turtles, which was the natural nesting place of the sea turtles sea area (Abdullah, Chowdhury, & Hossain, 2010).

Following up the recommendations of the National Conservation Society of Bangladesh, St. Martin's island is included as an ecologically critical area by enacting the Bangladesh Environment Conservation Act from the government of Bangladesh (Iftekhar and Takama, 2008). The island's unique environment and complex ecological system are being destroyed day by day because of improper planning of tourism and human behavior (Feeroz, 2009). According to the BBC (2013), the island's ecosystem will be fragile day by day due to unplanned tourism and irresponsible touristic manner.

The intense irresponsible tourism activities lead to an ecological tragedy on Bangladesh's coral island. The reason for the unplanned & eco-unfriendly tourism, tourists' erratic behavior, and the impactful amount of sewage and waste disposed on the seawater is accelerating the destruction of the island's natural environment. Saint Martin's Island's vulnerable ecosystem only supports sustainable tourism and can be effective through the environmentally responsible behavior of tourists.

## Research Question

The research area, St. Martin Island, is situated in the divine blue waters of the Bay of Bengal, one of the most beautiful places in Bangladesh. It is popular with

tourists because of its enriched coral resources, sandy beaches, plenty of coconut trees, unique marine ecology system with bountiful divine beauty. Everything is mainly dependent on non-grid power due to the island's unavailability of a power grid system. Environmentalists are raising their voices concerning the increasing number of tourists and their irresponsible behavior, beach pollution by locals and tourists, and illegal coral collection to fulfill tourists' demand, threatening the unique ecosystem (Ahammed et al., 2016). Because of tourists' irresponsible behavior, excessive coral collection and fishing, random disposal of plastic and polythene by the tourists, environmentally unfriendly business policy (using large chunks of coral for decoration), death of turtles by nets, haphazard gathering of big water vessels, a massive number of tourists gathering in the island, are making the ecology system of the island fragile every day (BBC, 2013). Some studies had identified that in 1980, there was 141 coral on the island; in 1990 it was 127 types; in 1997 it was 65 types of coral, but in 2016, it went down to 41 only (Ahammed et al., 2016; English et al., 1997; Mollah, 1997; Tomascik, 1997).

Tourism has proliferated around the marine area, especially in the island, in the past few years, and contemporary tourism-related development works have led to a severe threat to the biodiversity of those islands of Bangladesh (Groundreport, 2008; Hasan, 2000; Hasan, 2009). Tourism-related activities, the overexploitation of resources, and global warming are responsible for reducing and destroying the number of coral colonies and overall biodiversity of the island like St. Martin. Because of human activities, most coral reefs are now in danger of their existence (Gazi et al., 2020).

Tourism has risen in developing countries such as Bangladesh in recent years, and it is a constituent part of the economic development by experiencing the domestic tourism's massive growth in the last decade. Besides this enormous growth of tourism, environmentally friendly responsible behavior issues should be thought to protect the biodiversity of this planet. One of Bangladesh's alluring and vulnerable tourist destinations is Saint Martin's Island because of its unique characteristics. Thus, this research will explore the myriad challenges of responsible tourism and consider the mental issues to increase responsible tourist behavior in coral islands such as St. Martin Island of Bangladesh.

Creating regular awareness among tourists about beach pollution and its impacts on the ecosystem via mass media (e.g., TV, Radio, and Newspapers) may be an efficient method for eradicating such a severe issue (Bhuyan et al., 2019). Some studies show that social media networks have a significant impact on tourists' actual and intentional behavior (Javed et al., 2020), tourism destinations (Briciu and Briciu, 2020), and environmental awareness (Kaur, 2015). The researcher developed the research questions as follows-

I. What factors impact the environmentally responsible behavior of tourists while traveling to an eco-sensitive tourism destination?
II. What kind of indicators are found on these factors that impact the environmentally responsible behavior of tourists while traveling to an eco-sensitive tourism destination?
III. How do these factors affect tourists' environmentally responsible behavior while traveling to an eco-sensitive tourism destination?

## Research Objectives

As an attempt to answer the research question, the objectives of the research itself are:

I. To explore the factors that affect tourists' environmentally responsible behavior (ERB) to an ecologically sensitive tourism destination.
II. To investigate those factors' influence on tourists' environmentally responsible behavior (ERB) to an ecologically sensitive tourism destination.
III. To develop the relationship model of ERB using Structure Equation Modeling (SEM).

## Contributions of the study

1. Theoretical Contribution
    1.1. This research effectively develops a new theoretical framework following the S-O-R theory and platforms for examining the antecedents and their influencing mechanisms of tourist ERB, inspiring future scholars to do further research.
    1.2. The suggested model may enhance current consumer behavior theory and analytical frameworks since it suggests integrating aspects of tourist behavioral psychology.

1.3. The result of this study can hopefully add to develop the image of social media to the tourism studies.

2. Application Contributions

2.1. It may help the policymakers and the government to be more conscious of making sustainable tourism and environmentally friendly policies and finding a way to make the mass tourists aware of the tourism consciousness.

2.2. Destination management organizations could be more conscious of finding a way to protect their destination by developing the image of their destinations by using social media.

2.3. Hopefully, this study's result can help the tourists improve their responsibilities to nature, especially ecological destinations.

2.4. The local people and tourists can be more conscious of eco-responsible tourists' behavior.

## Scope of the research

### Scope of Theory

The Stimulus Organism Response (S-O-R) theory by Mehrabian and Russell (1974) is applied in this thesis to explore the relation of social media, place attachment, and environmental awareness to Environmentally responsible behavior (ERB) of the tourists. Founding the high recommendation (Jani and Han, 2015; Kim et al., 2020; Su et al., 2020) of using S-O-R theory in the tourism field to explore the behavioral intension of tourists, the researcher has felt interested in using this model to analyze the tourists' ERB in an ecologically sensitive destination.

Stimuli: Stimuli is the content that shapes individuals' cognitive and emotional processes and helps to influence their approach behaviors. In this research, Social media is considered as stimuli.

Organism: Stimuli grown from social media help develop perceptions such as the destination's environmental awareness, social responsibility, and any other perceptions that can be developed related to the physical destination. The stimuli contribute to tourists' environmental awareness and attach them to the destinations as emotional states as an organism.

Response: Organism triggers a behavioral response. A consumer's

behavior can be predicted by the created organism from stimuli, which is considered a response.

There are three independent variables in this research: social media is considered stimuli; environmental awareness and place attachment raised from using social media are considered organisms. The only dependent variable in this research is Environmentally Responsible Behavior (ERB).

**Scope of Variables**

According to the study's conceptual framework, three independent variables consist of direct latent variables. The independent variables used in this research are social media, environmental awareness, and place attachment. The only dependent variable in this research is environmentally responsible behavior (ERB), which is treated as a response to merging in the S-O-R framework.

**Scope of population**

The targeted population in the research is that travelers who visit the island as a tourist. According to Nafi and Ahmed (2017), in the picking season of tourism in Bangladesh (November-March), around 3500 tourists arrive every day. According to the country's two famous daily national newspapers, at least 10,000 to 20,000 tourists visit the island every day in the peak season of tourism (1st November to 31st March) of every year (Independent, 2018; Prothomalo, 2018). The researcher found variations of data from the different reliable sources. According to Rubin (2012), a population is the entire universe of cases we seek to generalize from the sample data. In this sense, the people of this research consist of all the visitors who have the experience of visiting the island and use social media in their daily life, which is massive and indefinite.

**Geographic locations and time**

This study is conducted on the only coral island of Bangladesh named St. Martin Island, Bangladesh's most stunning coral island. It forms away from 8 kilometers west of Myanmar's northwest coast, the southernmost part of Bangladesh, and the end of the river Naf to the Bay of Bengal. The span of the island extends from 92°18´ and 92°21´East to 20°34´ and 20°39´North. Since the research time limitation, the location is focused on this small but sensitive area of the country. This research’s population is acquired through several different regions of the country.

Because of the information variation about the population size of the study, the researcher counts the population size as massive and indefinite. So the researcher used Schumacker and Lomax (2016) suggestions to approach the sampling size, which indicates the number between 250 - 500. A quantitative purposive sampling technique will be used to collect the data from the targeted number of samples. A questionnaire will be given out from 15th May – 14th June 2021 who have the experience of visiting the targeted site use at least one social media in their daily life and are interested in participating in this study.

## Definition of the terms

As a travel destination, nowadays, the coral island is at the top for travelers worldwide. Traveling to a coral island is the scope to refresh the tourists themselves and an excellent chance to know the diversity of nature—the concepts of traveling to the coral island usually different from the regular destination's traveling. When tourists engage themself individually to travel in a sensitive destination like a coral island, they will have to be concerned about the interconnected nature of the destination to protect the ecosystem of the area by their responsible behavior. Concerning the study, there are some terms used by the researcher defined as follows-

Environmentally responsible behavior (ERB): ERB is those specific actions of an individual or group directly related to the remediation of environmental issues or environmental problems.

General ERB: General ERB of tourists' constructs of environmental behaviors including civic action (e.g., participation in public hearings, petition signing, civil protest, solving problems), educational action (e.g., watching television programs, reading articles or books), financial action (e.g., purchasing or boycotting environmentally friendly products, donations to conservation environment, campaign contributions), legal action (e.g., lawsuits, injunctions), physical action (e.g., picking up litter, sorting trash for recycling purposes), and persuasive action (e.g., motivating others by making a speech) of tourists.

Specific ERB: Specific ERB indicates the totality of tourists the sustainable behavior (e.g., understanding and respecting to local culture, conserving the natural environment, reducing obstruction of local environment), pro-environmental behavior (e.g., a person visits a site less frequently or not at all while the location is recovering

from environmental destruction), and environmentally friendly behavior (e.g., the actions to reduce the damage of a specific destination).

Social media: Social media is any digital platform encompassing a wide range of web-based technology platform which facilitates the sharing or finding of ideas, information, concepts, and different forms of expressions in the virtual communities more comfortably and quickly. Facebook, YouTube, what's app, Instagram, Twitter, Line, and WeChat are the most common and popular social media all over the world (Statista, 2020).

Social media channels: social media channels are those types of platforms where people, as well as tourists, share different types of content in competitive and irremissible ways to fulfill their other demands such as to keep in touch and to seek attention from friends and family, to show the social status, to be psychologically satisfied during their travel.

Social media tourism promotion: Tourism promotion is a path of promoting a destination by using social media platforms which refers to creating the temptation to travelers to explore a destination by user-generated commercially and noncommercially contents.

Tourists' information search: Tourism information search refers to searching travel-related reliable information that helps the tourist make a rational decision to destinations.

Environmental awareness: Environmental awareness is the intentional perceptional behavior of an individual to pretend the sensitivity and fragileness of the ecological balance and make sense to protect the natural environment by behaving or creating environmental awareness.

Environmental knowledge: Environmental knowledge refers to that type of knowledge of individuals related to complex ecological skills, far-flung effects, environmental problems, and environmental action strategy.

Environmental attitude: The environmental attitude in this study is the direct and indirect interest, activities, or behavior of individuals about environmental issues, environmental protection, environmental catastrophe and, knowing the way to save nature.

Place attachment: Place Attachment is the emotional link between a person and a place, and it is heavily impacted by a person's personal psychological positive or negative experiences with that place.

Place identity: Place attachment is the psychological emotion of persons produced by regular visits, identification, and personal thoughts with the area.

Place dependence: Place dependence indicates how effectively a location/destination facilitates its users and the importance of a place for full feeling the functional goals of individuals than other places, which helps to elicit the actual actions or behaviors from individuals.

## Structure of the study

The study is structured into five chapters for successful completion:

Chapter 1 corkscrews the background of research and statement of the problems, research questions, research objective, contributions of the study, the scope of the study, definitions of terms, and the structure of the study.

Chapter 2 exhales deep reviewing the extant studies to enrich by information and get a supportive theoretical framework that is regarded as relevant to this study. This chapter consists of details discussing theoretical foundation, Review of related research, Environmentally responsible behavior (ERB), Dimensions of ERB, Social media, Environmental awareness, Place attachment, building conceptual framework, and rising research hypothesis.

Chapter 3 deals with the research methodology of the study. It comprises the Introduction, Research designing, Variable selection, Target population, Sample size technique, Sampling Design, Research instrument development, Reliability & Validity testing, Data collection method, Data analysis procedure.

Chapter 4 demonstrates the results of the study. The result will be shown after collecting and analyzing the data.

Chapter 5 will conclude the study with a discussion, limitation, and recommendation for future research.

# CHAPTER II

# LITERATURE REVIEWS

This chapter will provide theoretical frameworks containing a theoretical basis that supports the research to support the background in the last chapter. The chapter consists of a theory regarding behavior in which the overall image consists of environmental attitude and actions of tourists while visiting an eco-friendly tourists destination. Therefore, this chapter is divided into some parts, namely: theoretical foundation, review of related research, tourism, environmentally responsible behavior, dimensions of ERB, social media, environmental awareness, place attachment, conceptual framework, and research hypothesis. The aim of elaborating on these concepts are to

- provide the theoretical mapping
- exploring the previous researchers' idea to the related fields
- find the relation of every component using this research
- show the importance of this research and
- discover the ways of thinking in doing this research.

The topic's keywords are Environmentally responsible behavior of tourists, Environmental awareness, Place attachment, and Social media.

## Theoretical foundations: S-O-R Theory

The Stimulus Organism Response (S-O-R) theory (Mehrabian and Russell, 1974) explains that the stimulus causes a response depending on the internal evaluations of an organism. The internal assessment may happen both consciously and unconsciously. In every situation, the inner tale has become the basis of unconsciousness or relatively automatic evaluations that cause emotion and response. This response may occur internally, such as heart beating, sweating, and externally such as shrieking and screaming. However, psychologically can be changed the behavior of human beings consciously or unconsciously, or subconsciously.

Following the S-O-R theory, individuals respond one of two general ways to the environment: approach behaviors involve all conclusive behaviors, such as the desire to explore, work, affiliate, or stay, whereas averting conducts including opposite, such as not having to do something positively (Mehrabian and Russell, 1974). The S-O-R theory emphasizes the mental or emotional attributes of the around atmosphere, which is called aesthetic incitements (Wohlwill, 1976). In this theory, Mehrabian and Russell (1974) focused on emotional responses only, but Bitner (1992) encompassed thought and physiology and broadened its application to cap applications. Jacoby (2002) presented an integrative S-O-R framework with cognitive and affective structure incorporating all past interactions involving long-term memory. Recently, Kim and Lennon (2013) extended the S-O-R theory of Mehrabian and Russell, including the internal source (such as website quality) and external sources (such as reputations) of information as trigger influencing (stimuli) that affect intention (response) through cognizing and emotions (organism) of the consumers.

External components of the individual's environment generate stimuli, subsequently processed by the organism inside (Bagozzi, 1986). According to Lee et al. (2011), “Stimuli (e.g., object stimuli and social psychological stimuli) develop persons' cognitive and emotional states, which influence psychological responses of approach or avoidance.” The S-O-R framework's effectiveness in predicting customer responses has been widely documented in a variety of settings, including online stores (Mazaheri et al., 2010), restaurant service (Jang and Namkung, 2009), high-tech products (Lee et al., 2011), and tourism destination contexts (Su et al., 2014). Cues

include physical objects and social and psychological stimuli (Slama and Tashchian, 1987). Stimuli specific to a tourism location might consist of a tourist's thoughts of how the destination is handled and the service surrounding their journey to and from the destination. Brand management, socially responsible management, and any other impressions that may be created linked to the actual destination are all examples of perceived destination management.

Jang and Namkung (2009) extend Mehrabian and Russell's S-O-R framework with restaurant's specific stimuli and measures of emotional actions of consumers in the tourism-related field to resolve the need for a complete assessment of restaurant quality. Concerning the S-O-R model of Mehrabian and Russel (1974), Kim and Moon (2009) claim that service served by restaurant capes contribute to both negative and positive experimental attitudes of consumers in the restaurants, which is measured by the consumers using their cognitive and affective process. Following the S-O-R framework, Chang et al. (2014) explore that the actual theme park visitors feel physical experiences, the greater their level of perceived worth (hedonic and utilitarian values), and the greater their desire to revisit the park. Rajaguru (2014) indicated that within the motion picture audiences, the S-O-R framework concludes the visual and vocal significance on the motivation of tourism as stimuli and the connection between the desire of travel and real visits as the response.

The S-O-R model is highly effective in understanding relationships between stimuli (e.g., hotel atmosphere), organism (e.g., emotions), and reaction in the field of tourism considered as the response (e.g., hotel loyalty)(Jani and Han, 2015). Su et al. (2020) also used the S-O-R model, finding the perception of tourist behavior as stimuli (destination eco-friendly reputation), organism (positive and negative emotions), response (tourists' satisfaction, recollection of trip, ERB). Applying the S-O-R model, Kim et al. (2020) show that the aim to visit tourism places in virtual reality (VR) is demonstrated by attachment to Virtual Reality. In the S-O-R model, they use authentic experiences (as stimuli), cognitive response & emotional reaction (as an organism), and attachment to Virtual Reality & visit intention (as a response). The researcher wants to study, develop, and test of extended S-O-R model to predict the potential impact of some factors on tourists' ERB.

## Review of related research

For a better understanding of this research, some previous researches have been studied to acquire knowledge about tourism image, tourist perspective, tourists' responsible behavior, place attachment, environmental awareness, social media are explored in each research. Some of those are as follows-

Table 2 Summary of the previous research

| No | Author/Publishing Year/Title/Place | Findings | Contribution to the study |
|---|---|---|---|
| **1.** | Su et al. (2020) From recreation to responsibility: Increasing environmentally responsible behavior in tourism/China | The reputation of a destination's environmental friendliness has a favorable influence on both positive emotions and visitor satisfaction, whereas it has a negative impact on negative emotions. Positive emotions significantly and positively influence tourist satisfaction, tourists' recollection, and ERB. On the contrary, negative emotion has a significant adverse effect on these constructs. Furthermore, tourist satisfaction positively affects recollections and ERB, and recollections have a positive impact on ERB. | This study's contributions towards managing destination reputation are worthy of the destination marketers' attention. It was shown that a visible mistake may be immediately transmitted to the public and can harm a destination's image dramatically. It offers that Destination management organizations (DMOs) should develop strategies for eco-friendly reputation management. It was also shown that emotional experience and recollection had a significant influence on visitors' ERB. |
| **2.** | Yuxi and Linsheng (2017) Impact of Tourist Environmental Awareness | Theory of environmental awareness and tourist perception, SEM analysis, in-depth analysis is used in this study. It shows that visitors have a better | This study identified the tourists with pro-environmental trends as critical to eco-tourist resource management and |

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| | on Environmental Friendly Behaviors: A Case Study from Qinghai Lake, China/China | view of themselves and that loss of perception has a negative effect on an environmentally friendly index (EFI). Perceived gains positively affect efficiency and EFI perceptions, while perceived declines have detrimental impacts on EFIs. The findings indicate that environmental consciousness and the environmental friendliness of visitors have a substantial connection. | sustainable use. It showed that understanding the importance of awareness for environmentally friendly behaviors is growing and how the interaction of perceived quality and environmental awareness influences tourists' environmental behavior, which may contribute to DMOs understanding the tourists' behavior. |
| **3.** | He et al. (2018) Destination perceptions, relationship quality, and tourist environmentally responsible behavior/China | This research investigates the positive effects of meaning expectations on tourism satisfaction and environmental engagement. It indicates perceived employee quality to value expectations of service satisfaction for the environmentally friendly behavior of tourists and employee quality to value perceptions to environmental dedication. | So, it looks at meaning expectations that affect visitor happiness and the environment. Destination operators must try to create a positive tourist experience and measure visitor satisfaction over time. It shows that analysis can identify the most dependable satisfaction indicators to select successful strategies and tactics. |
| **4.** | Lee and Jan (2015) The effects of recreation | This study examined the recreational experience that promotes biosphere importance and enables | This thesis provides a theoretical action model for academics, policymakers, |

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| | experience, environmental attitude, and biospheric value on the environmentally responsible behavior of nature-based tourists/Taiwan | visitors from the natural environment to participate in their everyday lives and learn ERB site-specific when traveling to tourist destinations. Providing a meaningful vacation experience contributes to sustainable tourism growth. | administrators, and visitors in environmental tourism. This research further applies to sustainable travel and environmental literature. |
| **5.** | Cheng and Wu (2015) How do environmental knowledge, environmental sensitivity, and place attachment affect environmentally responsible behavior? An integrated approach for sustainable island tourism/Taiwan | This research shows that tourists' higher environmental awareness (EK) levels are correlated with greater environmental vulnerability. Tourists are more prone to display ERB as they are particularly receptive to the attraction. In mediating interactions between EK and ERB, environmental vulnerability and attachment have been shown to have significant consequences. | DMOs should emphasize marketing and sustainable tourism while embracing sustainable growth and environmental conservation principles to strengthen their sensitivity to tourist attractions. It also suggested that mass visitors exhibit their connection to the location and perform ERB after enhancing sensitivity. |
| **6.** | Cheng et al. (2013) The influence of place attachment on the relationship between | This research investigates the appeal of destinations correlated with a higher level of connection, and the main contributor is to identify rather than depend on services and facilities. (2) Greater | It was recommended that tourism administrators from the island should be careful to improve the appearance and confidence of the visitors in the |

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| | destination attractiveness and environmentally responsible behavior for island tourism in Penghu, Taiwan/Taiwan | destination attractiveness is linked to stronger ERB for the environment of the destination. (3) ERB strengthens higher position binding. (4) The attachment plays an essential mediating function in the interaction between the attraction of the destination and the ERB. | attractiveness of the destination. Management teams should aim to meet and meet the actual needs and resources of tourists on the island to build a sense of dependency on the destination, which will help create mass tourists' ERB. |
| **7.** | Shen et al. (2020) Could Smart Tourists Be Sustainable and Responsible as Well? The Contribution of Social Networking Sites to Improving Their Sustainable and Responsible Behavior/China | The research shows that social networking platforms motivate intelligent visitors to be responsible and sustainable. It indicates that competent visitors and sustainable tourism management activities are more successful when digital platforms such as social network sites (SNS) are sufficiently implemented and appropriately utilized. | This thesis explores the current awareness deficit by recommending the optimal usage of intelligent technologies, namely SNSs, in sustainable and responsible behavior. DMOs will use digital networks/platforms to promote sustainable tourism; SNSs are the most relevant and vital channels with their roles and functionality. |

In this part, the tourists' environmentally responsible behavior is discussed. The researcher tried to clarify all the ERB matters, e.g., responsible behavior, ERB, to discuss the ERB.

Table 3 Frequency of dependent variables

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| 1. Su et al. (2020)/From recreation to responsibility: Increasing environmentally responsible behavior in tourism/China | Environmentally responsible behavior | | | | | | | | |
| 2. Yuxi and Linsheng (2017)/Impact of Tourist Environmental Awareness on Environmental Friendly Behaviors: A Case Study from Qinghai Lake, China/China | | Environment-friendly index | | | | | | | |
| 3. He et al. (2018)/ Destination perceptions, relationship quality, and tourist environmentally responsible behavior/China | Environmentally responsible behavior | | | | | | | | |

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| 4. Lee et al. (2013)/Conceptualizing and measuring environmentally responsible behaviors from the perspective of community-based tourists/Taiwan | Environmentally responsible behavior | | | | | | | | |
| 5. Mihalic (2016)/ Sustainable-responsible tourism discourse–Towards 'responsustable' tourism/ Slovenia | | | Responaustable tourism | | | | | | |
| 6. Zgolli and Zaiem (2018)/The responsible behavior of tourist: The role of personnel factors and public power and effect on the choice of destination/Tunisia | | | | Responsible behavior of tourists | Choice of destinations | | | | |
| 7. Song et al. (2012)/The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior/South Korea | | | | | | Desire of tourists | Behavioral intention to revisit | | |

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| 8. Lee et al. (2017)/ Differences in tourist ethical judgment and responsible tourism intention: An ethical scenario approach/ South Korea | | | | Responsible tourism intentions | | | | | |
| 9. Kvasova (2015)/The Big Five personality traits as antecedents of eco-friendly tourist behavior/Cyprus | Eco-friendly tourist behavior | | | | | | | | |
| 10. Carasuk et al. (2016)/ Exploring values, drivers, and barriers as antecedents of implementing responsible tourism/UK | | | | Responsible tourism practice | | | | | |
| 11. Ghimire and Upreti (2011)/ Community participation for environment-friendly tourism: the avenue for local peace/Nepal | | | | | | | | Environmental sensitivity | |
| 12. Han et al. (2016)/Tourists' environmentally responsible behavior in response to climate change and tourist experiences in nature-based tourism/Korea | Environmentally responsible behavior | | | | | | | | |

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| 13. Zhang (2019)/ Study on the influence of eco-tourism environmental image on leisure experience and tourism satisfaction/China | | | | | | | | | Leisure experience |
| 14. Chubchuwong et al. (2015)/The effect of nature-based tourism, destination attachment and property ownership on environmental friendliness of visitors: A study in Thailand/Thailand | Pro-environment behavior | | | | | | | | |
| 15. Cheng et al. (2013)/The influence of place attachment on the relationship between destination attractiveness and environmentally responsible behavior for island tourism in Penghu, Taiwan/Taiwan | Environmentally responsible behavior | | | | | | | | |
| 16. Lee (2011)/How recreation involvement, place attachment, and conservation commitment affect environmentally responsible behavior/Taiwan | Environmentally responsible behavior | | | | | | | | |

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| 17. Shen et al. (2020)/Could Smart Tourists Be Sustainable and Responsible as Well? The Contribution of Social Networking Sites to Improving Their Sustainable and Responsible Behavior/China | | | Sustainable & Responsible behavior | | | | | | |
| 18. Su and Swanson (2017)/The effect of destination social responsibility on tourist environmentally responsible behavior: Compared analysis of first-time and repeat tourists/China | Environmentally responsible behavior | | | | | | | | |
| 19. Confente and Scarpi (2020)/ Achieving Environmentally Responsible Behavior for Tourists and Residents: A Norm Activation Theory Perspective/ Italy | Environmentally responsible behavior | | | | | | | | |
| 20. Luo et al. (2020)/Influencing Mechanism of Tourist Social Responsibility Awareness on Environmentally Responsible Behavior. | Environmentally responsible behavior | | | | | | | | |
| Variables | A | B | C | D | E | F | G | H | I |
| Total | 11 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 |

| Author (Publishing year)/Title/Place | Dependent Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I |
| Frequency (%) | 55 | 5 | 10 | 15 | 5 | 5 | 5 | 5 | 5 |

***Note: A = Environmentally responsible behavior, B = Environment friendly index, C = Responaustable tourism, D = Responsible tourism practice, E = Choice of destinations, F = Desire of tourists, G = Behavioral intention to revisit, H = Environmental sensitivity, I = Leisure experience

Table 3 indicates the frequency of variables. There are 11 of 20 variables that high frequency such as Environmentally responsible behavior (55%), Responaustable tourism (10%), and Responsible tourism practice (15%). In this study, the researcher is interested in the environmentally responsible behavior (ERB) variable because it is the most commonly used factor to understand the tourist behavior related to the responsibility about the environment. The other significant frequented variables may be considered to further researches.

## Responsible tourism

Many forms of tourism are identified by literature as "sustainable," ecological tourism (eco-tourism), green tourism, soft rural tourism and agro-tourism, community-based tourism, solidarity, and responsible tourism. The tourist growth must focus on the principles of viability and long-term economic, ethical, and social accountability to the local people of the tourist destinations (Juganaru et al., 2008). By incorporating into the natural, cultural, and human climate, tourism contributes to sustainable growth. In a world, area, or tourist destination, sustainable tourism enables the growth of tourism and recreational activity, taking into account the fundamental concepts of sustainable development, respecting the ecosystem, communities, the economy, and the local culture of the tourist destination region (Juganaru et al., 2008). In line with the concept of the International Tourism Solidarity Forum in Marseille, France, in 2003, the solidarity and responsible tourism movement is a social movement that aims to hold the tourism industry under control and to promote local communities at destinations, and to promote the intercession for territorial growth (IFSTM, 2003). This intercession is constructed entirely from the local communities'

social, individual, educational, economic, and environmental infrastructure (Juganaru et al., 2008). This type of tourism is a responsibility of all stakeholders, including the host community, the intermediaries, and visitors, a commitment focused on local traditions and values that protect the environment and a fair allocation of the revenues produced. Leading tourism encompasses types of alternative or more integrated tourism, mainly: eco-tourism, cooperation tourism, tourism in the environment, and tourism "for the poor community."

## Environmentally responsible behavior in tourism

The concept "environment" has a wide variety of concepts and perceptions. 'Environment' implies literally 'surroundings.' Therefore, the world of an entity, thing, element, or structure contains all other entities surrounded by it. The ecosystem is the natural universe in a particular geographical region, influenced by human action as per the Oxford dictionary. It covers the living and non-living objects in which an individual communicates or impacts.

On the other hand, according to UNWTO, tourism is defined as a social, cultural, and economic phenomenon that entails people's movement to countries or places outside their usual environment for personal or business/professional purposes. These people are considered travelers (tourists or travelers, residents or non-residents), and tourism has to be related to their daily activities, including tourist expenses (UNWTO, 2020). As part of its materials, tourism uses nature (Buckley et al., 2003; Weaver, 2001); it impacts environmentally (Buckley, 2004; Liddle, 1997); and even though tourism contributes to conserving the environment (Buckley, 2003, 2012). People visit other people and locations, and the most iconic destinations involve nature and culture: national parks and renowned structures. Around one-fifth of the world's tourism and tourism sector relies heavily on the natural environment, worth some US dollars a year (Buckley, 2009). Many tourism activities are directly involved with nature (Buckley et al., 2003; Newsome et al., 2012).

Tour operators merge components into items that can be purchased and packaged to attract specific industry segments, including travel and transport,

hospitality and catering, and entertainment (Buckley, 2009). Many outdoor tourist events have many people but fewer facilities and related expenses. Most of them are accessible either for autonomous leisure or as commercial tourist items. They can be regarded as a user, adventure, and (non-consumptive) nature-based in three groups. These may both have maritime and terrestrial components (Cater and Cater, 2007). Consumptive nature-based tourism applies to hunting and fishing (Buckley, 2017; Buckley et al., 2014).

Adventure tourism utilizes outdoor wild places rather than nature as a setting for exciting leisure (Buckley, 2017; Buckley et al., 2014). However, there is a significant overlap, both in individual motives and industrial goods design that also incorporate natural, adventurous, and cultural elements in a single product (Buckley, 2009; Stronza and Durham, 2008). It can be fun and educational to see wildlife (Buckley, 2017; Buckley et al., 2014; Prakash et al., 2019); In breathtaking settings, several adventure events take place. Non-consumptive tourism involves all practices focused on viewing or enjoying animals or plants (Buckley et al., 2003; Newsome et al., 2012). This sub-sector depends mostly on national parks, wilderness areas, and other natural lands and oceans worldwide (Buckley et al., 2003; Casson et al.; Cater and Cater, 2007). Residents, individual tourists, and business tour customers are visited. Nature-based tourism offers a noticeable cash component in biodiversity and ecosystems (Costanza et al., 1997; Kumar, 2017; Romero-Brito et al., 2016). Climate change now alters the relative popularity of different tourist attractions at various times of the year (Huddart and Stott, 2020). In some coastal regions, beach tourism destinations can be impacted by storms, and the disruption to the coral reefs correlated with rising ocean temperatures and acidity impact dive tourism destinations. Native environments which are currently desirable to the tourism industry can be overrun by weeds, wild animals, or parasites of plants and animals (some of which are spread by tourists) and may thus become less desirable. Different industries of tourism may be impacted (Hall, 2006; Huddart and Stott, 2020). Different forms and elements of tourism have very different environmental effects and use very different tools for environmental protection (Buckley, 2008, 2009).

Tourism has to do with the tourism industry itself and society, even with the climate in the broader political economy (Holden, 2016). It is geographically linked (Leiper, 1979), an interrelated system of all parts (Var and Gunn, 2020) of tourism. Laws (1991) covered the climate and included a variety of various features in the tourism structure. Environmental and cultural transition is the product of this tourism framework (Holden, 2016).

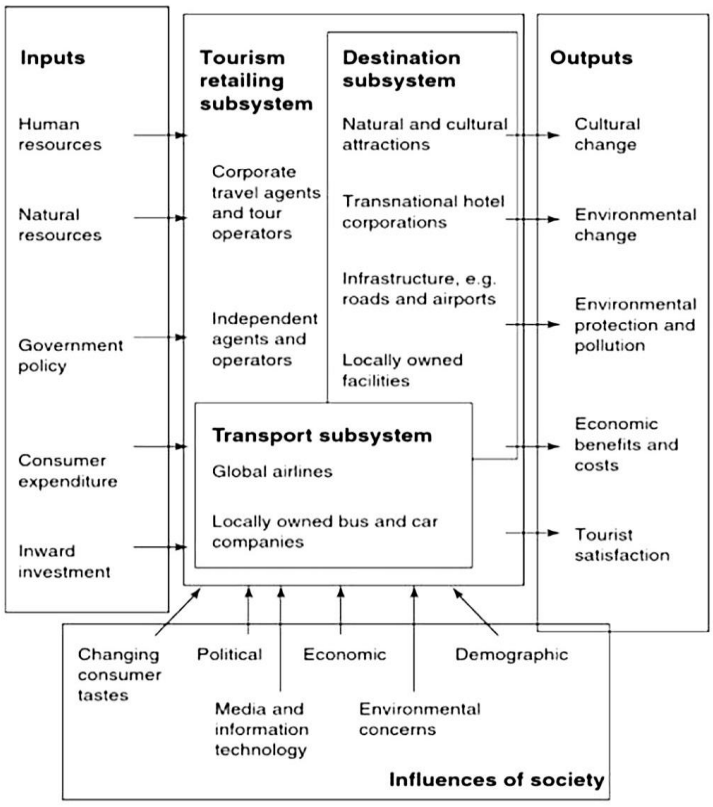


Figure 2 Model of the tourism system: an environment perspective
Source: Holden (2016)

Behavior refers to action usually measured by commonly agreed acts or actions, especially to others. This behavior applies to socially perceived behaviors, namely by an ideal norm. It is calculated according to ethical standards. Based on the current APA psychology dictionary (APADP, 2020), behaviors are a reaction of an individual to external or internal stimulus, including objective, measurable activity, reflectively observable actions, and unconscious processes.

Environmentally responsible behavior (ERB) is a burning issue from past to present. Different researchers named this behavior differently, such as; environmentally-relevant behavior (Bechtel, 2010; Stern, 2000), pro-environmental behavior (Krajhanzl, 2010; Tian and Robertson, 2019), Responaustable tourism (Mihalic, 2016), environmentally responsible behavior (Abdullah et al., 2019; Wang et al., 2019). ERB is a type of behavior that refers to a person's behavior that encourages environmental protection and maximizes negative impacts on the environment (Steg and Vlek, 2009).

ERB is defined as a person's behaviors demonstrating their utmost to conserve the environment and solve environmental concerns (Schultz, 2000; Stern, 2000). Tourists who participate in ERB will take action to mitigate their impact on the environment (Kollmuss and Agyeman, 2002) and can also take environmental measures (Steg and Vlek, 2009). ERB is also deemed a crucial driver for good eco-tourism and sustainable growth (Lee et al., 2015). Experts stressed ERB even in the 1970s and continuously established measurements in various contexts for measuring such ERBs (Cottrell and Graefe, 1997). Krajhanzl (2010) claimed that while the community records environmental, biodiversity, biosphere, and temperature shifts related to human action, practitioners center their interest primarily on environmental behavior associated with the use of oil, raw materials, waste generation, and emissions.

Environmentally Responsible Behavior (ERB) is a particular expression representing "any activity, person or community, aimed at environmental problems/problems" (Sivek and Hungerford, 1990). The synthesis of self-interest and attention to other humans, animals, or environments characterizes it (Bamberg and Möser, 2007). ERB was portrayed as a person who strives best to preserve the environment by finding solutions to environmental problems (Stern, 2000). The action can help safeguard the natural ecosystem or support sustainable growth (Cottrell, 2003). Lee et al. (2013) recommend that ERB tourists minimize environmental-adverse practices and show a willingness to preserve the atmosphere. In other words, tourist ERB will mitigate or discourage the degradation of the natural environment (Chiu et al., 2014). ERB can be transmitted privately by non-activist conduct and/or openly through environmental development strategy (Stern, 2000).

Environmentally Responsible Behavior (ERB) is those specific actions of individuals or groups directly related to the remediation of environmental issues or environmental problems.

**General and specific ERB**

Researchers have divided ERB into two sub-categories: general ERB and specific ERB, depending on sewage discharging (Cottrell and Graefe, 1997) and gasoline (Heberlein and Black, 1976). Iwata (2001) stresses that several behaviors, such as waste recovery and energy management, represent environmental responsibility. Thapa (2010) proposed that ERB has many aspects: recycling garbage, refusing such transactions to reduce environmental effects as a kind of green consumerism, being actively involved in the community to affect environmental decisions, and educating oneself regarding environment protection. Lee (2011) argues that environmentally friendly behavior can incorporate four aspects: civil action, education, recycling, and persuasive action. Cottrell and Graefe (1997) found that ERB contains knowledge on detrimental impacts on the natural surroundings, concerns regarding environmental deterioration consequences, and willingness to protect and preserve the environment. Several researchers have both general actions (discussing environmental issues with others; encouraging family and friends to practice environmentally responsible behavior) and specific activities (recycling; showing interest buying environmentally sustainable goods; turning the lights off, and using alternative energy sources for conservation, such as solar, hydro or wind power; and deducting the dependence on fossil fuel by using alternative types of transportation) (Cottrell, 2003; Thøgersen, 2006; Vaske and Kobrin, 2001). The measures of environmental behaviors are classified into six categories by Smith-Sebasto and D'Costa (1995): “civic action,” “educational action,” “financial action,” “legal action,” “physical action,” and “persuasive action.”

Defined six factors of Smith-Sebasto (1992) are as follows-

Civic action: any activity by an individual or persons not subject to monetary exchange or effective strategy to promote environmental conservation by political means, such as voting, participating in public hearings, signing of petitions, civil disobedience, or demonstration (Smith-Sebasto, 1992, p. 24).

Educational action: any human or community action aimed primarily at acquiring details about environmental matters and/or concerns, e.g., attending tv programs, reading articles/books, educational training (Smith-Sebasto, 1992, p. 25).

Financial action: Any action which primarily involves the exchange or withholding of funding by a person or a company for the explicit promotion of the preservation of the natural environment, e.g., purchasing or boycotting products based on the environmental friendliness of the person or group; making contributions to conservation organizations and/or causes; (Smith-Sebasto, 1992, p. 23).

Legal action: any civil action undertaken by a person and/or agency directed at some aspects of the regulation of environmental law or legal limitation before any alleged undesirable environmental behavior. e.g., litigation, injunctions (Hungerford and Peyton, 1976, p. 132).

Physical action: any activity by a person or community which has a particular motor effort as its prime concern, which does not include the sharing of funds to save the environment, e.g., litter collection, waste sorting for recycled purposes. Participation in environmental cleanup campaigns, domestic resource conservation installations (Smith-Sebasto, 1992, p. 24).

Persuasion action: Any non-monetary initiatives. e.g., letters, speeches, informal discussions, lobbying by a person or a party to motivate others, such as individuals, associations, businesses, industries, or public authorities, to preserve the natural environment (Smith-Sebasto, 1992, p. 23).

With appropriate awareness or attitudes, people can participate more often in site-specific ERBs (Cottrell and Graefe, 1997; Heberlein and Black, 1976). Providing essential information or promoting particular behaviors will also be necessary for motivating individuals to participate in ERB-specific sites. In terms of understanding the environmental behavior of visitors at tourist attractions, their environmental behavior needs to be measured in particular places. Halpenny (2010) calculated how the ERB impacts tourists' ERBs in general and related to the park from the tourism perspective. Kim et al. (2011) reviewed the link between understanding in protected areas and the general & site-specific ERB. Depending on the study of Smith-Sebasto and D'Costa (1995), Lee et al. (2013) have been used to assess community-based tourist residences using the general ERB, including civil, economic, physical, and

site-specific behavior with reverence for the local identity, the preservation of the natural ecosystem and reduced local environmental interferences (Kim et al., 2011; Lee & Lin, 2001; Lee, 2007); pro-environmental actions that are voluntary to visit a destination less or zero as the site has to rebuild due to environmental degradation (Halpenny, 2010; Walker & Chapman, 2003) and environmentally friendly behavior which is an individual's conduct to minimize harm to a particular destination (Alessa et al., 2003). However, The researcher intends to analyze the general ERB using these six factors of Smith-Sebasto and D'Costa (1995) and to analyze the specific ERB using the three factors of Lee et al. (2013).

In a nutshell, general ERB of tourists' constructs of environmental behaviors includes civic action (e.g., Voting, public hearing attendance, signing of petitions, civic disobedience), educational action (e.g., attending TV programs, reading blogs/articles/books), financial action (e.g., buy or boycott goods that are eco-safe, donations to conservation environment, campaign contributions), legal action (e.g., lawsuits, injunctions), physical action (e.g., litter collecting, grading the trash for recycling purposes), and persuasive action (e.g., motivating others by making a speech) of tourists. On the other hand, specific ERB indicates the sustainable, tourists' pro-environmental and environmental activities.

**Increasing ERB**

Environmental education (Hines et al., 1987); focuses on developing ERB; the study has successfully centered on the pioneering principles of environmental responsibility in cultivating desired behaviors while providing environmental education. Environmental education ultimately intends to minimize harmful environmental effects by affecting human beliefs, perceptions, and actions in a constructive way (Hines et al., 1987). Van Matre (1990) says, "Environmental education, which educates citizens about the environment without requiring them to improve their lives, is not eco-education; it is a natural science. However, the success of environmental education in shaping behavior is discussed and relies on several factors, including the circumstances, duration, affective elements, and practical consequences. In general, researchers believe that more significant initiatives appear to have more excellent effects on behavior than short programs and that realistic field programs have a more beneficial impact than comparable elements in classrooms

(Bogner, 1998; Daniels and Marion, 2005; Metzger and McEWEN, 1999; Zint et al., 2002). Recent researches have also shown that, for example, social media have important direct and indirect implications for the motivation and behavior of visitors (Javed et al., 2020), modified visitor recycling behavior (Sujata et al., 2019), reconstructed consciousness of responsible consumption (Nalewajek and Macik, 2013), and developed environmental behavior (Robelia et al., 2011). ERB comprises environmentalism, commitment, and ecological knowledge (Cottrell and Graefe, 1997). Consumers demonstrate ERB through engaging in environmental activism, non-activist conduct in public, and environmentally conscious actions in their personal lives (Stern, 2000).

## Dimensions that affect ERB

This part indicates the factors that impact environmentally responsible behavior used by researchers. To establish a conceptual framework, the researcher chose comparatively the higher frequencies from the table.

Table 4 Frequency of independent variables

| Topics Name | Independent Variables | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
| 1. Su et al. (2020)/From recreation to responsibility: Increasing environmentally responsible behavior in tourism/USA | | Tourists satisfaction | Tourists recollection | Negative emotions | Positive emotions | | | | | | | | | | | Destination eco-friendly reputations | | |
| 2. Yuxi and Linsheng (2017)/Impact of Tourist Environmental Awareness on Environmental Friendly Behaviors: A Case Study from Qinghai Lake, China/China | | | | | | Environmental awareness | Perceived quality | Perceived gains | Perceived loss | | | | | | | | | |

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|---|---|
| 3. He et al. (2018)/ Destination perceptions, relationship quality, and tourist environmentally responsible behavior/China | Tourists' satisfaction<br>Environmental commitment<br>Perceived quality<br>Value perception |
| 4. Zgolli and Zaiem (2018)/ The responsible behavior of tourist: The role of personnel factors and public power and effect on the choice of destination/Tunisia | Choice of destinations<br>Social engagement<br>Concern with sustainable tourism<br>Exemplarity of public power |
| 5. Kim and Stepchenkova (2020)/ Altruistic values and environmental knowledge as triggers of pro-environmental behavior among tourists. | Environment knowledge<br>Altruistic value |

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|---|---|
| 6. Zhou et al. (2020)/Visitor Engagement, Relationship Quality, and Environmentally Responsible Behavior. | Visitors' engagement<br>Relationship Quality |
| 7. S. Li et al. (2020)/How does self-image congruity affect tourists' environmentally responsible behavior? | Self-image congruity<br>New ecological paradigm<br>Destination psychological ownership |
| 8. Lee and Oh (2018)/The Causal Effects of Place Attachment and Tourism Development on Coastal Residents' Environmentally Responsible Behavior. | Place identity & dependence<br>Perceived concern<br>Perceived benefits |

| | | |
|---|---|---|
| 9. Kiatkawsin et al. (2020)/ Determinants of Smart Tourist Environmentally Responsible Behavior Using an Extended Norm-Activation Model. | Cultural involvement<br>Awareness of consequence<br>Attitudes towards cultural [illegible]<br>Personal norms | Ascription of responsibility |
| 10. Luo et al. (2020)/ Influencing Mechanism of Tourist Social Responsibility Awareness on Environmentally Responsible Behavior. | Negative impact perceptions | Public & self-responsibility awareness |

| | | | | | | |
|---|---|---|---|---|---|---|
| 11. Confente and Scarpi (2020)/Achieving Environmentally Responsible Behavior for Tourists and Residents: A Norm Activation Theory Perspective/ Italy | Place identity | | Environmental sensitivity | Awareness of negative consequences | | Ascription of responsibility |
| 12. Confente and Scarpi (2020)/How do recreation experiences affect visitors' environmentally responsible behavior? Evidence from recreationists visiting ancient trails in Taiwan/ Taiwan | Place attachment | Recreation experiences | Environmental attitudes | | | |

| | | | | |
|---|---|---|---|---|
| 13. Xu et al. (2018)/ Interrelation-ships between tourist involvement, tourist experience, and environmentally responsible behavior: a case study of Nansha Wetland Park, China/China | Tourists' experience | | Tourists' involvement | |
| 14. Lee and Jan (2015)/ The effects of recreation experience, environmental attitude, and biospheric value on the environmentally responsible behavior of nature-based tourists/Taiwan | Recreation experience | Environmental attitudes | | Biospheric Value |

| | |
|---|---|
| 15. Lee and Jan (2015)/ Tourists' environmentally responsible behavior in response to climate change and tourist experiences in nature-based tourism/Korea | Tourist experiences<br>Perceptions toward climate change |
| 16. Su and Swanson (2017)/The effect of destination social responsibility on tourist environmentally responsible behavior: Compared analysis of first-time and repeat tourists/China | Destination identifications<br>Negative emotions<br>Positive emotions<br>Destination social responsibility |

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| 17. Cheng and Wu (2015)/How do environmental knowledge, environmental sensitivity, and place attachment affect environmentally responsible behavior? An integrated approach for sustainable island tourism/Taiwan | Place attachment<br>Environmental sensitivity<br>Environmental knowledge |
| 18. Lee (2011)/How recreation involvement, place attachment and conservation commitment affect environmentally responsible behavior/Taiwan | Place attachment<br>Recreation involvement<br>Environmental commitment |

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| 19. Chiu et al. (2014)/ Environmentally responsible behavior in eco-tourism: Antecedents and implications/Taiwan | Tourists' satisfaction | Activity involvement | Perceived value | | | |
| 20. Cheng et al. (2013)/ The influence of place attachment on the relationship between destination attractiveness and environmentally responsible behavior for island tourism in Penghu, Taiwan/Taiwan | Place attachment | | | | | Destination attractiveness |
| 21. Chubchuwong et al. (2015)/The effect of nature-based tourism, destination attachment and property ownership on environmental-friendliness of visitors: A study in Thailand/Thailand | Destination attachment | Tourism experience | | Pro-environmental attitudes | Ownership of property | |

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|---|---|---|---|---|---|---|
| 22. Zhang (2019)/Study on the influence of eco-tourism environmental image on leisure experience and tourism satisfaction/China | Tourism satisfaction | Leisure experience | | | | |
| 23. Javed et al. (2020)/The Role of Social Media on Tourists' Behavior: An Empirical Analysis of Millennials from the Czech Republic/ Czech Republic | | | | | | Social media |
| 24. Chung and Han (2017)/ The relationship among tourists' persuasion, attachment and behavioral changes in social media/Korea | | | Behavioral attachment | Travel information | SM normative influence | |

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| 25. Shen et al. (2020)/ Could Smart Tourists Be Sustainable and Responsible as Well? The Contribution of Social Networking Sites to Improving Their Sustainable and Responsible Behavior/China | Social networking sites |
| 26. Hamid et al. (2017)/ Social media for environmental sustainability awareness in higher education/Malaysia | Social media |
| 27. Öz (2015)/Social media utilization of tourists for travel-related purposes/Turkey | Social media |
| 28. Xiang and Gretzel (2010)/Role of social media in online travel information search/USA | Social media |

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|---|---|
| 29. Živković et al. (2014)/The impact of social media on tourism/Serbia | Social media |
| 30. Hamid et al. (2017)/ Social media for environmental sustainability awareness in higher education. | Social media |
| 31. Han et al. (2018)/ Evaluating user-generated content in social media: an effective approach to encourage greater pro-environmental behavior in tourism?/China | Users generated content in social media |
| 32. Robelia et al. (2011)/Environmental learning in online social networks: Adopting environmentally responsible behaviors/USA | Online social networks |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33. Severo et al. (2019)/ The Influence of Social Networks on Environmental Awareness and the Social Responsibility of Generations/Brazil | | | | | | | | | | | | | | | | | | Social environmental networks |
| 34. Sujata et al. (2019)/ The role of social media on recycling behavior/Malaysia | | | Social norms | | | | | Self-efficacy | | Attitude | | | | | | | | SM usages |
| 35. Kvasova (2015)/The Big Five personality traits as antecedents of eco-friendly tourist behavior/Cyprus | | | | | Neuroticism | | | Agreeableness | | Extraversion | Openness | | | Conscientiousness | | | | |
| Variables | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
| Total | 09 | 04 | 13 | 02 | 04 | 11 | 04 | 10 | 02 | 07 | 02 | 01 | 02 | 01 | 04 | 02 | 01 | 12 |
| Frequency (%) | 26 | 11 | 37 | 6 | 11 | 31 | 11 | 28 | 6 | 20 | 6 | 3 | 6 | 3 | 11 | 6 | 3 | 34 |

***Note:

A = Destination attachment, B = Tourists' satisfaction, C = Tourist's experience, D = Negative emotions, E = Positive emotions, F = Environmental awareness, G = Perceived quality, H = Perceived gains, I = Perceived loss, J = Tourists behavioral attachment, K = Self-image congruity, L = New ecological paradigm, M = Destination ownership, N = Travel information, O = Ascription of responsibility, P = Biospheric Value, Q = Destination attractiveness, R = Social media

In table 4, there are three from 18 variables that got comparatively higher frequency than others such as, Social media (34%), Environmental awareness (31%), Place attachment (26%). Here contextually noted that another variable has more frequencies rate (e.g., Tourist's experience-37%, Perceived gains-28%) used by the previous researchers. But having the personal interest of recent undeniable issues like social media and so on are taken as independent variables in this research.

## Social media

Social media is a multi-medium that enables people to build and distribute information on digital platforms quickly. Social networking includes a wide variety of blogs and applications. It is a web-based platform where users communicate, develop their stories, transmit information, and discuss thoughts through a virtually linked world (Dollarhide, 2020; Luttrell, 2018; Munar, 2010). It's an effective networking platform that integrates strongly into the modern world, from social to economic existence (Zeng and Gerritsen, 2014). Boyd refers to social media as forums for social networking, networking, video sharing, and other associated resources that enable participants to create and distribute their knowledge (Boyd, 2010). Meikle and Young (2011) have described social networking as an expression of integration between personal and public communication. Kaplan and Haenlein (2010) report that social media is "a community of web-based apps that draw on the ideological and technical foundations of web 2.0 and allow user produced content to be created and exchanged."

It should be noted that the concept of social networking has changed owing to its growing usage and extension. In this vein, Cohen abbreviated the discussion regarding social media explanation by developing 30 different social media meanings and describing the basic features of social media (Cohen, 2020). These characteristics include (a) the use of social media online applications, platforms, and tools, and thus a reliance solely on information technology for technical operation; (b) social media refers to communication channels that enable the creation and exchange of content between participants and the general public, resulting in pervasive changes; and (c) social media connections, which connects users within a virtual community and, as a result, has implications for the bee population (Zeng and Gerritsen, 2014).

Anjum (2011) separates social media into as following three components-

1. Publishing technology for everyone: Everyone who has an account in social media can share their content and opinion publicly without restrictions. People can interact and share information where they are used to interacting with other users.

2. Information diffusions: Social media is the fastest channel for information distribution. For example, the content posted on Facebook or Twitter spreads faster than any other traditional media like TV or Newspapers.

3. Building the relations: Social media has become the most protentional communication platform for maintaining relationships with others from different geographical ends. Thus, social media is the main medium to connect and share information with others (Anjum, 2011).

## Usages of social media & tourists' behavior

Social media users are increasing rapidly every day, backed up by the development of the Internet. In January 2020, nearly 3.6 billion people actively used social media, which is 49 percent of global usages, and its number will be reached in 4.141 billion by the year 2025 (Statista, 2020). One-fifth of the world's recreational visitors have used social media to collect ideas and inspiration for tourist resorts, accommodation, holiday events, attractions, and restaurants (eMarketer, 2013). According to Crowdriff (2020), about 52% of travelers plan their trip inspired by the post of their friends on social media, 42% of consumers use their phone using social media looking for travel inspiration, 52% of travelers liked, and 59% of travelers post about the destination page in social media whereas 74% of all travelers use social media platform. This study is in Bangladesh, where about 58.77 million people in 2020 use social media, which will be 99.3 million in 2025 (Statista, 2020). Facebook, YouTube, Instagram, Twitter, LinkedIn, WhatsApp are the most popular social media among the social media users of Bangladesh (Statcounter, 2020).

Considering the widespread use of social media in the tourism sector, it allows visitors to schedule their trips and ultimately affects tourism behavior. The importance of social media for tourism reiterates tourists' behavior, which has been influenced by their travel intent and purpose (Zeng and Gerritsen, 2014), such as business travelers could use social media rather than visitors who fly for recreation

(Verma et al., 2012). Some recently published studies have shown that social media is increasingly important, such as a study in Romania that explore the position of YouTube and its effect on prosumers and that YouTube has become a critical source for tourism development (Briciu and Briciu, 2020). Similarly, another research in Longyearbyen examined motivating factors focused on the impact of social media (Aldao and Mihalic, 2020). In this respect, social media users have had some impact on the actions of prospective visitors. These central travelers are often called "tourist opinion leaders"; although their activity is small, it depends on tourists' knowledge and destination preference (Vrana and Zafiropoulos, 2010; Yoo et al., 2011). Despite the increasing significance of social media in the tourism sector, literature overlooks the networks by which they conduct and the actual behavior of visitors influences. Social media and mobile internet usages are particularly prevalent in adolescents and young adults (Lenhart et al., 2010). Some research has shown that social media influencers traditionally affect the behavior of millennials, as seen in rural tourism in Greece (Chatzigeorgiou, 2017). That is why millennials can be called the Internet generation (Pitta et al., 2012). About 40% of UK millennials consider how Instagramable a location is while planning a trip (Crowdriff, 2020).

Tourists become co-makers, co-producers, co-marketers, and co-consumers of tourism experience by utilizing social media. (Brandt et al., 2017; Fotis, 2015; Marianna et al., 2012). Well-informed, knowledgeable, and challenging visitors with customized and affordable experiences may be co-creators of experiences and co-directors of tourist services. (Gretzel et al., 2015; Statista, 2020). Fotis (2015) aimed to disclose the function and effect of social media/websites on customer behavior during the tourism/travel cycle: before and after the journey. Jafari (2002) refers to new ways of meaning formation in social media/social network websites. Tourists sharing their experience on social networks enable other tourists to decide, build content for websites they love, reinforce social links and gain attention (Chung et al., 2017; Munar et al., 2017). Huang et al., (2017) examine how visitors utilize intelligent technology to improve tourism satisfaction. Ho and Gebsombut (2019) examined how, as part of tourism technology, networking aspects of social networks improve visitor motivation and intentions. Researchers believe that tourism is an environment that provides opportunities for the whole environment and all. As Gretzel et al. (2015)

described, one of the values of tourism destinations is an increase in resource management quality with a focus on sustainability shared by other researchers (Serra & Neuhofer, 2018; Gretzel et al., 2016). Chung and Han (2017) observed that the conduct of visitors using social media was normative. There is a strong connection and link between tourist destinations and environmental management, in the sense that one of the key aims of any tourist destination is to inspire intelligent visitors to conduct themselves more responsibly. Sustainable tourism management needs and includes intelligent and thoughtful travelers who are environmentally conscious and concerned about acting environmentally-friendly (Pearce, 2018). This argument also encouraged this researcher to find out the impact of social media to make tourists more responsible for their activities while consuming the tourism products, especially to an ecologically balanced tourism destination. Javed et al. (2020) found the three observations of social media to tourists' ERB, namely 'social media channels,' 'tourists information search,' and 'tourism promotion.'

**Social media Channels**

Social media can be presented and used for different purposes, including sharing information, chatting to friends, business networks, video sharing. The classification of each type depends on its unique combination, such as the feature, tools, and usage (Dagnew, 2014). Young people, especially teenagers, are addicted to social media all over the world. In America, Anderson and Jiang (2018) find that 95% of teenagers have smartphone access, and 45% claim they're almost always online. Moreover, Manthiou et al. (2016) put the opinion that people use smartphones, tablets, iPad, desktop computers for their transactions and for getting insights into the tourists' destinations. The social media platforms have usually been categorized as digital networks into seven categories (e.g., Facebook), travel sites (e.g., Trip Advisor), posting images and videos (e.g., YouTube or Flickr), blogs (e. g., Blogging), wikis (e.g., Wikipedia), sharing micros blogs (e.g. Twitter) and more (Fotis, Buhalis, & Rossides, 2012; Kaplan and Haenlein, 2010; Xiang and Gretzel, 2010). Some popular social media are-

Facebook: Facebook, the most famous and giant social media established in 2004 by Mark Zuckerberg, has more than 3.6 billion users worldwide (Statista, 2020).

Posting content on Facebook has a high trend of engagement with users. Mariani et al. (2016) investigated that the contents with visual photos have a significant effect on Destinations Organization Managements' Facebook engagement. Moreover, Jadhav et al. (2018) find that Facebook has had a strong behavioral impact on travel, scheduling, and social networking.

Instagram: Instagram is also a property of Facebook, recognized as one of the best-known social media for sharing photos and videos in hobbies or some snapshots to followers. It holds one billion users, 50 billion photos shared per day, 500 million posting stories per day, 4.1 billion likes every day (Aslam, 2019). According to Fatanti and Suyadnya (2015), Instagram offers full communication from tourism branding to content photography created by users. Moreover, Crowdriff (2020) found that about 40% of UK millennials consider how Instagramable a location is while planning a trip.

YouTube: YouTube was established in 2005, which is one giant social media for mainly sharing videos, including more than one billion videos are being watched, 500 hours of videos are being uploaded per minute by the users (Youtube, 2020). YouTube authorization and sponsorship were shown in the diversity of channels which included entertainment, fashion, comedy, food, beauty, and gaming channel (Wu, 2016). As per Reino and Hay (2016), Tourists don't want to be casually entertained, want to check and detect what's going on their holidays, and YouTube provides them the chance to browse at very particular events, to see feedback, and to get assistance and advise on their destinations. It is the democracy of destinations like YouTube that frees the visitor. They will now determine what they want to do depending on other travelers' experiences, and tourists don't want to sell a spot, but instead, they want to work on their perspectives based on the experiences of like-minded people.

LinkedIn: LinkedIn is the platform where users share their skills and story to promote their credits name with other people, professional workers, or followers. Users' profile is generally complete with their biography from many workplaces, skills, strength, and the automatic feature of profile description. Furthermore, the users in LinkedIn gain the opportunity to promote their brand image and portfolio.

Twitter: Twitter is a microblogging site that is popular for sharing information and recent news. Kwak et al. (2010) identified Twitter as a microblogging service that shows the high trend of something recently happening. Kudeshia and Mittal (2016) investigated the effect of e-word-of-mouth on brand attitude and purchase intention through Facebook, and Twitter found a significant effect on purchase intention. The finding pointed out that user-generating positive eWOM on these platforms significantly affected online consumers' brand attitudes and purchase intent.

So, social media channels are those types of platforms where people, as well as tourists, share different kinds of content in competitive and irremissible ways to fulfill their other demands such as to keep in touch and to seek attention from friends and family, to show the social status, to be psychologically satisfied during their travel.

**Tourists' information search**

Tourists' information search applies to searches from different sites before making a buying decision (Moutinho et al., 2011). It refers to three important considerations: motivations, factors, and sources. The significant factors behind the search for tourist information are good travel opportunities at appropriate rates (Raitz and Dakhil, 1989) and the standard level of travel (Goeldner and Ritchie, 2007). Tourist information search also helps travelers choose a place and make decisions about travel and venue events, as well as boarding and lodging (Perdue, 1985; Snepenger et al., 1990). In addition, the search for tourist information decreases travel confusion and improves the quality of travel (Fodness and Murray, 1997). The determinants of tourist information search are influenced by factors such as the size of a traveling group, previous knowledge, friends and family at the destination, and the place's distinctiveness (Snepenger et al., 1990). Previously, tourist knowledge sources such as brochures, directories, travel agencies, periodicals and journals, and friends and family were mainly utilized to locate previous recollections (Blackwell et al., 2006; Raitz and Dakhil, 1989). However, nowadays, social media also exceeds all conventional outlets as a means of tourist information search (Ho & Liu, 2005; Jacobsen and Munar, 2012). Consequently, the mentality and behavior of travelers

may have shifted, as they represent a significant part of traveler search results, and the role of social media in the field of online tourism is increasing (Xiang and Gretzel, 2010).

So, the tourism information search refers to searching travel-related reliable information that helps the tourist decide to destinations.

**Tourism promotion**

The branding mechanism, advertising operations, and the tourism business as a whole have all been altered by social media and Web 2.0 (Sigala et al., 2012). Interestingly enough, the rise and success of traditional social media have demonstrated distrust and diminished their influence (Fotis et all., 2012). Because of its integrated connectedness, social media has become a remarkably effective tourist marketing tool (Sotiriadis and Van Zyl, 2013). Not only has social media opened up new options for tourist marketing, but it has also forced tourism organizations to rethink their operations and business models (Zeng and Gerritsen, 2014), which have become important for visibility and reengineering to support the tourism business. In the tourism sector, a report by Crofton and Parker has shown that social media also played a significant role in growing the amount of visitors in Atlantic Canada (Crofton and Parker, 2012). Some scholars identify social media as a modern approach for virtual marketing to promote tourism through immersive virtual interactions with social media site users (Valls et al., 2013) to build consumers' loyalty (Senders et al., 2013).

So, tourism promotion is a path of promoting a destination using social media platforms, which tempt travelers to explore a destination through user-generated commercial and noncommercially contents.

## Environmental Awareness

Environmental protection and restoration are critical concerns for human civilization, and numerous governments have reacted by developing regulations and standards to control human activities. Milton (1993) contends, however, that it is dependent not just on governments and other institutions but also on the decisions and actions of people.

In accordance with Ham et al. (2016), "environmental awareness is the attitude regarding environmental consequences of human behavior. Following the typical definition of attitude, environmental awareness is a predisposition to react to environmental issues in a certain manner". Whereby pro-environmental behavior is "a behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built world" (Kollmuss and Agyeman, 2002). Most climate scientists now consider environmental consciousness a significant force behind environmental behavior (Mobley et al., 2010). Within human cultures, environmental awareness that represents people's opinions on their interactions with human-nature connection gradually evolves, influencing human experience and conduct (Howell and Allen, 2017).

Burgess et al. (1998), one of the oldest and simplest theories of pro-environmental behavior, believes that environmental knowledge leads to environmental awareness (attitude), which leads to pro-environmental conduct.


Figure 3 Pro-environmental behavior model by Burgess et al. (1998).
Source: Kollmuss and Agyeman (2002)

The model can be classified into linear models, including rational action theory, planned behavior theory, and environmental behavior prediction models. Nevertheless, Kollmuss and Agyeman (2002) argue that these models are inadequate for displaying a linear development between knowledge, consciousness, and conduct, citing a variety of studies. Instead, according to Kollmuss and Agyeman (2002) quantitative study, there is a gap between awareness and behavior, and environmental behavior intentions are impacted by environmental knowledge and awareness, resulting in behaviors. According to Ham et al. (2016), environmental awareness may be the first step toward pro-environmental conduct; however, being environmentally aware does not imply they are inherently pro-environmental. Overall, environmental

awareness has a wide meaning, indicating environmental knowledge as well as attitudes and values. Furthermore, determining what constitutes environmental consciousness and pro-environmental conduct is a difficult task, making it a complex variable to assess.

There is a significant difference between people in a common room. People have diverse degrees of environmental consciousness, recreational experiences, interests & ideas and act accordingly to address particular circumstances Lee et al. (2017). Environmental awareness and interpersonal relationships of travelers also decide their perceived consistency, environmental attitude, and behaviors. Although there is an increasing appreciation of the significance of environmental awareness for environmental behavior, there is less knowledge of the interactions between the environment and tourists and how they affect the environmental behaviors of tourists. Previous research focused primarily upon surveys that investigated attitudes towards environmental attitudes, social capital (Qiucheng and Lingqiang, 2014), and demographic characteristics (Li and Cai, 2004) to examine variations in attitudes and behaviors of various tourists. Several measures and theoretical frameworks have been created to better understand environmental consciousness and explain what motivates people to engage in environmentally friendly behavior (Fishbein and Ajzen, 1977; Kollmuss and Agyeman, 2002; Liere and Dunlap, 1980; Stern et al., 1995).

There have been two main streams for interpreting the environmental awareness concept. The first denotes a collection of feelings and understandings connected with views about human conduct and the environment (Kollmuss and Agyeman, 2002; Zsóka, 2008). The second one examines the notion of combining environmental senses and their issues with specific objectives to direct environmental behavior (Uehara et al., 2016). These definitional structures indicated that environmental awareness is a multi-dimensional construct, which consists of affective (e.g., concern or attitude), cognitive (e.g., knowledge), and conative (e.g., behavioral intention) factors, as Kollmuss and Agyeman (2002) and Zsóka (2008) proposed.

**Environmental knowledge**

Environmental knowledge is “factual information that individuals have about the environment, the ecology of the planet, and the influences of human actions on the environment” (Arcury and Johnson, 1987). Mohamed (2007) broadened it to provide an awareness of environmental concerns and an individual's familiarity relevant to environmental impact, appreciation, and collective accountability. Environmental awareness has been defined by Fryxell and Lo (2003) as common knowledge, including environmental conservation, environment, biodiversity. Hungerford and Volk (1990) research on environmental responsibility initially focused on the idea that awareness is related to beliefs and attitudes to action within the linear model.

This perspective suggested that an individual with environmental awareness and its associated issues would become more environmentally conscious and would thus be more committed to environmental responsibility (Hungerford and Volk, 1990). Awareness of environmental practices by tourists is gaining importance because of its effect on their conduct intentions (Choi et al., 2009). Chen and Tung (2014) found that green hotel customers' environmental decisions are influenced by their knowledge of environmental concerns. Lee et al. (2010) proposed that eco-tourism products attract tourists who are more environmentally conscious.

D'Souza et al. (2006) categorized environmental knowledge into the following two forms: (1) knowledge about the effect of a person on nature, and (2) knowledge about ways of reducing the impact of an individual. However, their behavior cannot be changed even though individuals have a high degree of environmental awareness (Bamberg and Möser, 2007). Environmental literacy often contributes to a high degree of sensitivity that encourages positive attitudes towards nature in turn (D'Souza et al., 2006). Environmental expertise is also required to moderate the association between environmental activity and tourist loyalty.

Tourists with a rich understanding of the world would be more serious about environmental concerns in visited areas, according to studies by (Wurzinger and Johansson, 2006). Marcinkowski and Rehrig (1995) examined that environmental knowledge was generated mainly from the environmental education setting,

concentrating on ecological knowledge and skills, environmental science, environmental issues, and environmental action methods.

So, environmental knowledge refers to that type of knowledge of individuals related to complex ecological skills, far-flung effects, environmental problems, and environmental action strategy.

**Environmental attitude**

Behavioral intentions are understood as the predispositions of an individual to engage himself in a specific behavior (Ajzen, 1985, 2005). According to the theory of Reasoned Action proposed by Ajzen and Fishbein (1980), the behaviors are indirectly related to the attitudes toward the behavioral intentions. The behavior is determined by the will to execute it, and the attitudes about the attitudinal object determine the intention. In this way, it would be explained that the pro-environmental behaviors are predicted by the pro-environmental behavioral intentions that, in turn, are indicated by the pro-environmental attitudes (Taufique et al., 2016). Pro-environmental attitudes are those that will preserve the environment (Steg and Vlek, 2009). Pro-environmental attitudes are not directly observable (Eagly and Chaiken, 1993; Heberlein, 2012); self-reported behavioral intentions can infer them.

Lian et al. (2014) suggested that an individual's aim towards the goal item was a mindset and that it was the source and planning for a course of action. An attitude is a dynamic psychological mechanism that encompasses thought, emotion and attitude and has enduring and transparent characteristics. Enfield (2012) suggested that the environmental attitude would reflect the combination of confidence in the particular environmental factors, the whole world, and persons or things closely related to the environment. These combinations had an overall evaluation that might be approval or objection, liked or aversion. When individuals have this feeling, they generate a deep sense of care for the ecosystem, participate vigorously in environmental conservation, and promote improvements (Mitchener and Jackson, 2012). Abdollahzadegan et al. (2013) suggested that the degree of commitment and support for environmental items and properties is an attitude of environmental concern for individuals. Sultan (2013) suggested that an attitude can be a persevering and persistent inclination towards humans, objects, and their environment. It may be

conjectured by explicit conduct, but its connotation was not restricted to merely explicit conduct. Ko and Dennis (2011) suggested a Schoolchild's value for the ecosystem as a whole and the perception of the position and responsibility of citizens to reside in the environment.

Moreover, they developed, depending on incorporating individual experiences and emotional propensity to agree or disagree with, like or oppose certain environmental issues or artifacts. These involve, for example, self-awareness of environmental duties or the degree of responsibility for environmental issues. Van Birgelen et al. (2011) suggested that an attitude towards the environment implies the viewpoint or tendency of an individual to believe and respect environmental concerns and whether or not they have complied with or disagreed and favored an initiative or are opposed to it. An environmental attitude may therefore be described as the long-term characteristics of an organism. They will have to deal with environmental problems and ultimately take steps to preserve the environment. The environmental approach in this situation combines environmental importance and environmental perception (Birgelen et al., 2011). At the same time, it will show a person's view of the task and position of people in the world.

The environmental attitude in this study is the direct and indirect interest, activities, or behavior of individuals about environmental issues, environmental protection, environmental catastrophe, and saving nature.

## Place attachment

Bowlby (1969) states that attachment is a special mutual connection between a child and a mother. Intense emotions, including connection, passion, and feeling, are often linked to solid attachment (Mugge et al., 2010). As an intimate relationship with persons, the original concept of a relationship is widely characterized as an emotional link between an individual and a specific item (Hyun and Kim, 2014). If people have attachments to a location or group, they are called "placement attachments" or "community attachments" (Gu and Ryan, 2008; Lee, Ki, Kang, & Reisinger, 2010; Yuksel et al., 2010).

The idea of place attachment arose in the field of geography (Tuan, 1977) and was then explored in psychology and designed of the environment (Low and Altman, 1992) and architecture (Kaltenborn, 1997). “Place” may be both tangible and intangible, the place of the environment. Along with the times, society and individuals provide the sense and importance of the place and show it in individuals, communities, and cultures (Halpenny, 2010). Place attachment is a multi-dimensional definition of the cognitive process and location of an individual (Scannell and Gifford, 2010), and positive emotional links between a person and a particular place (Hidalgo and Hernandez, 2001; Manzo, 2005; Mesch and Manor, 1998; Williams and Vaske, 2003). The place often links people with the natural environment and evokes identity, gratification, and an interest in a particular area (Moore and Graefe, 1994), as well as connecting love, understanding, and behavior (Harris et al., 1996).

Place attachment has been utilized by leisure tourism researchers to explore the emotions and behaviors of tourists or recreationalists (Bricker and Kerstetter, 2000; Hou et al., 2005; Hwang et al., 2005; Kyle, Bricker, et al., 2004). The majority of leisure tourism studies investigated the relationship between two structures: place identification and dependence (Bricker and Kerstetter, 2000; Kyle, Absher, & Graefe, 2003; Moore and Graefe, 1994). A major self-identifying substructure and a critical symbolic link between a person and a location are referred to as place identification (Lalli, 1992; Stedman, 2002; Williams and Vaske, 2003). In a nutshell, identification is an emotional feeling as well as an effective and symbolic sense triggered by a body of experience (Cheng et al., 2013). By repeated visits, the identification of an individual with the place is strengthened, and attachment is established (Moore and Graefe, 1994; Williams et al., 1992). The place dependence represents how much a place supports the specific tasks of the users and the significance of a place in the achievement of individual functional objectives (Moore and Graefe, 1994). Dependence on the position may often quickly lead to actual decisions or conduct by individuals (Williams et al., 1992; Williams and Vaske, 2003).

**Place identity & place dependence**

Place identity is a psychological feeling generated by the accumulation of experiences by repeated visits, the recognition of an individual, and personal feelings about the place. This identity of a place creates and enhances the individual's affective and symbolic significance. Kyle et al. (2010) defined place identity as the "cognitions, values, expectations or thoughts of individuals that the person is invested in a specific circumstance." Place dependency shows how easy a position is to its users, as well as how important a place is for a fuller understanding of people's practical objectives. Place dependency causes people to take actual decisions or behaviors. Place dependency implies "how much an environment contributes to the achievement of an existing alternative" (Jorgensen and Stedman, 2001).

Although place identification and place reliance seem to be identical on the surface, they have different meanings. Several researchers showed that these two dimensions may affect the dependent variable differently between place identity and place dependence (Budruk et al., 2009; Payton et al., 2005). For example, Kyle, Graefe, et al. (2004) discovered that the Appalachian Trail's circumstances were more challenging, although others with location dependency did not. According to these findings, travelers with a strong sense of place identity are less tolerant of environmental disturbance than individuals with a strong sense of place reliance. Place identity, rather than place dependence, is likely to lend greater weight to people's connections with their surroundings (Payton et al., 2005). The dependence on the place is mostly determined by an individual's interpretation of practical meaning, including if they are comfortable with the park's natural conditions (White et al., 2008).

On the other hand, dependence on the place may be seen as a precedent variable that promotes the creation of place identity. This relationship is probable since the technical aspect of the place can easily be satisfied in a short time. For instance, the high satisfaction of a traveler with the nature of the park tends to establish place dependence and bind the person to the place emotionally. Several studies revealed empirically that the place identity was established after place dependence (Oh et al., 2012; Vaske and Kobrin, 2001). Oh et al. (2012) examined

specifically how the functional attachment of anglers to visitor attractions is linked to emotional attachment. Their findings show that dependence on location precedes place identity, which suggests that anglers technically happy with recreational settings are much more likely to be gradually associated emotionally with the place.

Place identity is the psychological feeling of individuals generated through accumulating familiarity by repeat visits, recognition of a person, personal feelings with the place. On the other side, place dependence shows how often a place/destination favors its users and the value of a place for a complete understanding of individuals' functional goals than other places, which helps stimulate actual acts or behavior.

## Hypothesis building

### Social media (SM) and Environmental awareness (EA)

The most prominent web-based social networks are social media (Cheng, Davis, Burnett, & Ritz, 2010). Facebook is the most famous social networking platform, and it has billions of daily users (Statista, 2020).

Hungerford and Volk (1990) demonstrate that environmental concern raises awareness and attention to the environment and its problems. There is a strong link between both environmental awareness and environmental knowledge, which leads to increases in environmental awareness (Hungerford and Volk, 1990; Ramsey and Rickson, 1976; Zsóka, Szerényi, Széchy, & Kocsis, 2013). Lively (2011) suggests that social media will accelerate sustainable development and help to build understanding (awareness) of the environment. Users may connect with online communities through social media applications (Shinton, 2012). Content generation and distribution (media and text) enable social network consumers to share, connect and collaborate (Jussila et al., 2011; Lee & Ma, 2012). Many environmental campaigns have been carried out via social media; social media, for instance, has been used to promote environmental behavior, sign petitions, bring news, motivate people, and increase awareness (Kaur, 2015) that social media should support environmental campaigns so they can attract diverse audiences. According to Idumange (2012), social media may help environmental projects reach a large audience. Idumange

(2012) also mentions that other social media platforms, such as blogs, Facebook, Twitter, and YouTube, may be utilized in a variety of ways to raise environmental awareness. So, we have reason to think:

$H_1$: Social media might have a direct impact on creating environmental awareness among tourists.

**Social media (SM) and Place attachment (PA)**

Searching information lets travelers choose a destination and help them make transportation, destination, boarding, and accommodation (Perdue, 1985; Snepenger et al., 1990). Thus, searching for tourist information decreases travel confusion and improves the quality of trips (Fodness and Murray, 1997). Heretofore, visitor knowledge channels tended to look into previous memories, brochures, guides, travel agencies, journals and acquaintances, and associates (Blackwell et al., 2006; Raitz and Dakhil, 1989). However, social media has overtaken all conventional outlets as a source of tourist knowledge (Ho & Liu, 2005; Jacobsen and Munar, 2012). According to Chung and Han (2017), one of the communities is social media, and therefore people choose to adhere to particular communities for different reasons. They (Chung and Han, 2017) have shown that the emphasis should be more on collecting and exchanging their mutual interests in the groups (joint bridge group) or developing partnerships with others (common bond group). Many that belong to different communities will exchange views and create different kinds of material. Such mechanisms contribute to different and stronger relationships with others. In other terms, users of social media may look through the mechanism for a human attachment to reach a shared goal or create a connection with other users.

The convergence of interpersonal and media interaction and the strong interaction between them and local communities offers one cause to conclude that, even though in environmentally friendly behavior, some forms of connection occur between social media and place attachment. First, as defined by Castells (2011), cyberspace forms our view of space and time and reproduces local communities. In other terms, the Internet allows local communities to gather together, and the quality of communication is improved in social media. Secondly, Scannell and Gifford (2010) proposed a Place Attachment PPP (Person-Process-Place) paradigm that differs from the traditional Man-Land relationship. It suggests that place attachment is

a multi-level phenomenon with three basic human, psychological, and geographic structures. The mediating function of psychological processes allows social media to operate in a vast space. Social media can foster local people's connection and reinforce their attachment of place. Searching information lets travelers choose a destination and helps them make choices such as transportation, destination, and boarding & accommodation (Perdue, 1985; Snepenger et al., 1990). Thus, searching for tourist information decreases travel confusion and improves the quality of trips (Fodness and Murray, 1997). The research of Hollander and Page (2020) also revealed that real opportunities exist to better understand attitudes about place attachment through sentiment analysis of social media like Twitter and Flickr data combined with a robust community engagement process. Another quantitative research by Xu and Han (2019) revealed that social media alters the conventional link between location attachment and pro-environmental behavior. So, we have reason to speculate:

$H_2$: Tourists' usages of social media by tourists would significantly impact place attachment to the tourists.

**Environmental awareness (EA) and environmentally responsible behavior (ERB)**

Several studies have investigated the effects of environmental awareness on environmentally responsible behavior (Uehara et al., Lillemo, 2014; Ozaki and Sevastyanova, 2011; Sekhokoane et al., 2017; 2016). Arı and Yılmaz (2017) studies indicate that environmental awareness positively relates to people's motivation and behavioral intention to conduct itself pro-environmental. Studies (Chan, 2001; Mainieri et al., 1997) have forecasted that environmental awareness promotes environmentally friendly or responsible behavior, and several studies have shown that it has a considerable impact on environmentally friendly or responsible behavior (Pinto et al., 2011). Ellen et al. (1991), for example, indicated that environmental concerns have a significant impact on the diversity of environmental responsible behavior such as composting and environmentally sustainable green consumption. Ishaswini and Datta (2011) also mentioned a positive environmental impact on the Indian context about green buying behavior. Certain researchers, for instance, March (1991), argued that environmental awareness had been seen as a kind of positive

response to a crisis endangering a community or organization's survival or sustainable development. This response may involve more significant attempts and efforts to neutralize the threat.

A bulk of the research has focused on particular manifestations or chosen environmental awareness elements, while the others studied environmental awareness in full ( Zsóka, 2008). These two distinct methods of awareness have limits as only a portion of this construction can be captured. In this analysis, the researcher has worked on the most critical components of environmental awareness and the underlying logic of environmentally responsible behavior, which offers a holistic way to measure the effect of awareness on behavior. Given the inconsistencies in awareness mechanisms, researchers observed that the most commonly identified components of environmental awareness are environmental issues, knowledge about the environment, environmental competence, and behavioral intentions (Sekhokoane et al., 2017; Uehara et al., 2016). These elements are seen as interactive (Bamberg, 2003) since people with a high degree of environmental awareness seem to have more respect for the ecology, cultivate a constructive approach to environmental conservation, improve behavioral intent, and function in an environmentally friendly way (Fu et al., 2017). This concept leads to the following hypothesis.

$H_3$: Environmental awareness might have a significant direct effect on the environmentally responsible behavior of tourists.

**Place attachment (PA) and Environmentally Responsible Behavior (ERB)**

Prior studies concentrated on interactions between human attitudes of the community and familiar homes. Long-term site relationships and a connection to the local community have strengthened ERB attachments to sites of everyday living (Hines et al., 1987; Relph, 1976). Some research the ERB has been involved in tourism and leisure (Gosling and Williams, 2010; Hou et al., 2005; Huang & Yore, 2005; Kyle et al., 2004), and studies show that individuals are concerned about the ecosystem and environmental issues whether they are attached to particular tourist areas (Carr, 2002; Harrison et al., 1998). Scholars agreed that there is a substantial link between place attachment and ERB among travelers and that place attachment

has a considerable impact on ERB (Daryanto and Song, 2020; Scannell and Gifford, 2010).

According to researchers, place attachment is a significant predictor of the ERB (Halpenny, 2010; Pietilä and Fagerholm, 2016). Furthermore, place attachment is vital in tourist forecasting and natural resource management (Warzecha and Lime, 2001). Place attachment, from the perspective of individual beliefs, gives meaning to people's lives and increases social awareness and their capacity to protect their environment (Lewicka, 2011). Many studies centered on addressing the environmental activities of people in their previously familiar place of residence. In addition to establishing geopolitical interactions, individuals grow an attachment to the local environment and increasingly participate in ERB (Hines et al., 1987). Few surveys (Gosling and Williams, 2010; Schultz, 2000; Walker & Chapman, 2003) have used these two variables to boost tourism by showing that individuals who are attached to a specific destination express environmental problems and concern, and becoming more aware of contemporary environmental issues (Lee, 2011; Walker & Ryan, 2008). For instance, ERB includes voluntary litter recovery (Halpenny, 2006; Walker & Chapman, 2003), waste and water recycling (Vaske and Kobrin, 2001), avoiding illicit environmental degradation (Stedman, 2002), and supporting natural resource production and preservation (Gosling and Williams, 2010; Halpenny, 2010; Scannell and Gifford, 2010). Therefore, as tourists establish an important link to a destination, they recognize and depend on the vacation spot and demonstrate ERB.

In summary, it is rational for individuals to become more conscious of the natural environment and participate in the ERB. The following hypothesis has thus become formulated:

$H_4$: Place attachment might significantly affect to Environmentally responsible behavior of tourists.

**Social media (SM) and environmentally responsible behavior (ERB)**

Social media have built a modern virtual atmosphere, entirely interactive (Jafari, 2002; Sigala et al., 2012; Xiang et al., 2015). Technologically knowledgeable, skilled, and challenging travelers who have their aspirations and needs for personalized and sustainable experience could co-creaturized experiences and co-

manage tourism assets (Gretzel and Yoo, 2013; Neuhofer, 2014; Pearce, 2018). Few researchers (Wolf et al., 2018) studied social media, including technology, ideology, and functionality.

Warren et al. (2015) have reported that there is limited research on the position of social media because of its potential to disseminate social causes through digital media. Just a handful of studies explored its function as a communication tool that affects behavioral change (Grainger and Stewart, 2017; Young et al., 2017), and far fewer studies examined the impact on environmental conservation. Nevertheless, most scholars concentrated on "social" existence and characterized social media as sharing knowledge and interpersonal contact (Boyd & Ellison, 2007; Kane et al., 2014; Kaplan and Haenlein, 2010; Kapoor et al., 2018; Singer & Zalmanson, 2013). Recent surveys have shown that social media and essential sources for the growth of tourist attractions are increasingly important (Briciu and Briciu, 2020). Some research (Aldao and Mihalic, 2020) ) investigated motivating influences dependent on the impact of social networking. In this respect, social media users have had some impact on the behavior of prospective visitors. These central tourists are often called 'travel opinion leaders.' Although few, they control the attitude of tourists based on shared knowledge and the choice of destination (Vrana and Zafiropoulos, 2010; Yoo et al., 2011).

Previously, visitor information channels tended to look into previous memories, brochures, guides, travel agencies, journals, and relatives & family (Engel et al., 2006; Raitz and Dakhil, 1989). Moreover, presently social media also overshadowed all conventional outlets for tourist information queries (Ho & Liu, 2005; Jacobsen and Munar, 2012). Social media users are optimistic towards online interactions to produce mutual information rather than receiving messages passively from websites (Hvass and Munar, 2012). Travelers construct what Bach and Stark (2004) refer to as early knowledge communities, which may reorganize interdependencies and turn linkages with produced knowledge through sharing travel experiences, exchanging information online, and staying in touch with family and friends. The information created by social media users will persuade people to influence their beliefs and behavior, eventually (Buhalis and Licata, 2002; Lebe et al., 2014; Sparks et al., 2013).

We recommend that the degree to which tourists participate in environmentally friendly tourists generate social media content affects their environmental responsibility. The mood and behavior of visitors may also have shifted. In this way, it may rightly be assumed that:

$H_5$: Social media might significantly affect the environmentally responsible behavior of tourists.

## Conceptual framework

The proposed conceptual framework is adapted from several studies and modified by the researcher. First, it involves Mehrabian and Russell (1974)'s Stimulus-Organism-Response (S-O-R) framework, in which a stimulus (S) received by individual aid in the development of internal states as an organism (O) and, as a result, elicits subsequent reactions (R). The exterior components of the environment, in particular, offer the stimuli that are subsequently processed by the organism inside (Bagozzi, 1986). Specifically, "stimuli (e.g., object stimuli and social psychological stimuli) develop individuals' cognitive and emotional states, which in turn determine behavioral responses of approach or avoidance" (Lee, Ha, & Widdows, 2011).

The S-O-R framework's validity as a parsimonious and robust predictor of customer responses has been widely documented in a variety of settings, including online stores (Mazaheri et al., 2010; Mummalaneni, 2005), social media (Lim et al., 2012), restaurant service (Jang and Namkung, 2009), high-technology products (Lee et al., 2011), and tourism destination contexts (Su and Hsu, 2013; Su et al., 2014). Stimuli include social-psychological stimuli as well as to object stimuli (Slama and Tashchian, 1987).

"Word of mouth" communication has become a significant tool thanks to social media. Because social media allows customers to share their experiences and thoughts with others, it may have a beneficial or negative impact on consumers depending on whether there are pleased or dissatisfied customers (Trusov et al., 2009). Social media influence the buying decision-making process. According to Xiang and Gretzel (2010), social media sites primarily target those who use search engines to get travel information. During the search for information, social media has become one of the most important sources of internet travel information (O'connor,

2008; Xiang and Gretzel, 2010). In addition, social media has a significant impact on the behavior of prospective visitors. Travelers are frequently referred to be "travel thought leaders" because, despite their modest numbers, they have a significant impact on visitors' behavior based on the information they give and the destinations they choose (Vrana and Zafiropoulos, 2010; Yoo et al., 2011). According to particular research, social media influencers have a significant effect on millennials' behavioral intentions (Chatzigeorgiou, 2017).

According to studies, user-generated material on social media plays a vital stimulus function in S-O-R related tourist behavioral models since it has been shown to affect ecologically responsible tourist behavior (Buhalis and Licata, 2002; Lebe et al., 2014; Sparks et al., 2013). As a result, it's been shown that word-of-mouth influences tourist travel intentions and behavior (Abubakar and Ilkan, 2016; Jalilvand and Samiei, 2012; Yeoh et al., 2013). Thus, the importance of e-word-of-mouth (social media) is increasing day by day to develop tourism destinations (Briciu and Briciu, 2020).

Tourists' perceived destination's environmentally friendly image, social responsibility, and any additional impressions about the actual location that may be formed. Stimuli then contribute to tourists' environmental awareness and attach them to the destinations as emotional states as an organism, triggering a behavioral response. Previous research has demonstrated that the S-O-R paradigm helps predict consumer behavior, such as customer loyalty (Jang and Namkung, 2009; Mazaheri et al., 2010; Mummalaneni, 2005). Tourism academics have recently used the S-O-R framework to investigate the creation of tourist behaviors, demonstrating the framework's utility in revealing the significance of emotional experience in the production of tourist behaviors in diverse tourism settings (Su and Hsu, 2013; Su et al., 2020; Su et al., 2014). Building upon the S-O-R framework, this study's researcher constructed an integrated model to demonstrate the effect of using social media as a stimulus, environmental awareness, and place attachment as an organism; tourist environmentally responsible behavior (ERB) as the response.

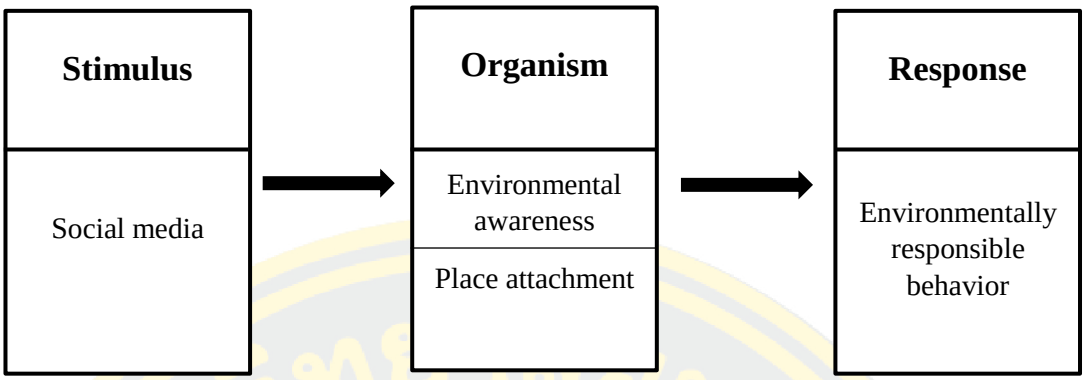


Figure 4 Research theory
Source: Mehrabian and Russell (1974).

This thesis tries to investigate the process of influence of social media on ERB tourism. Based on S-O-R frameworks and the principle of scripts, this study builds an integrated tourist ERB training system model utilizing social media as an external stimuli, environmental knowledge, and place attachment as an organism and ERB tourist as a response.

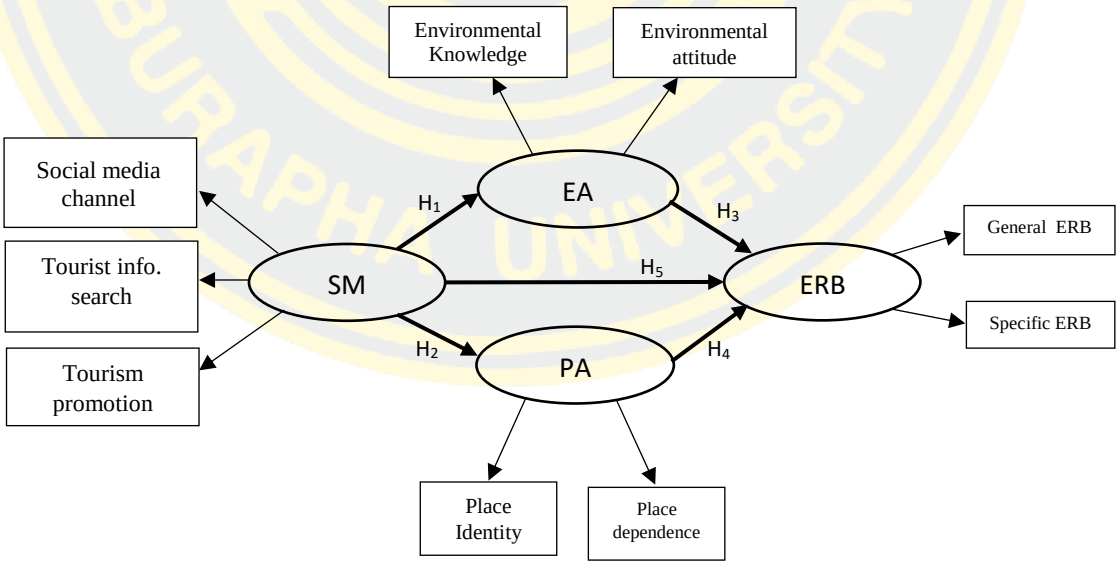


Figure 5 Research conceptual framework.

## Research Hypothesis

$H_1$: Social media might have a direct impact on creating environmental awareness among tourists.

$H_2$: Tourists' usages of social media would directly impact place attachment to the tourists.

$H_3$: Environmental awareness might have a significant direct effect on the environmentally responsible behavior of tourists.

$H_4$: Place attachment might significantly affect to Environmentally responsible behavior of tourists.

$H_5$: Social media might significantly affect the environmentally responsible behavior of tourists.

# CHAPTER III

# RESEARCH METHODOLOGY

This chapter explores the method used by the researcher for conducting the research. This study is conducted to find the factors and their indicators and develop the ERB model of tourists concerning Mehrabian and Russell (1974)'s S-O-R model. The study is a confirmatory study in which a quantitative approach is employed. This chapter covers the following sections:

- Introduction
- Research design
- Variable selection
- Target population and size of the sample
- Sampling techniques
- Reviewing and gathering theory and research study
- Research instrument development
- Data collection procedure
- Validity & Reliability, and
- Data analysis method.

By reading this chapter, the readers are expected to comprehend the design and suitability of the proposed research questions that are to be answered. The readers can also pretend the explained form of this research and understand the selected methodology of the study to support the research's goals are provided, the proposed population sampling's rationale and procedures, the method of data collection and its characteristics, the measuring process of data collection and the data analysis steps as well as a summary of the overall methodology and segues.

## Research design

Leedy and Ormrod (2005, p. 85) stated that "research design is a plan or strategy that provides an overall structure for procedures that a researcher follows in collecting and analyzing the data." The research is a vital component of the empirical study since it establishes the relevance of the data to the research topic. This research was conducted to explore the factors that affect tourists' ERB to an ecologically sensitive destination, investigate the influence of those factors on tourists' ERB to an ecologically sensitive destination, and develop the relationship model of ERB using Structure Equation Modeling (SEM). This study adopted a descriptive and explanatory research design involving quantitative approaches and conducted survey research to collect the required data and analyze. The descriptive data described the demographic information of the samples. And later, some explanatory method was followed to find out the influence and relationships between the variables and develop the research model.

Typically in descriptive research, a population is characterized with respective or significant variables. Rubin (2012) explained that the methodology used was quantitative; those quantitative methods are usually used to develop a reliable, precise, objective, and generalizable outcomes in the research. This thesis was focused on quantitative analysis; concerned numbers and statistics were discussed. The principal goal of quantitative research, as Dattalo (2008) explained, is to seek reasonable grounds to believe characteristics or a relationship to generalize abstained results from a sample to a population by using statistical inferences.

The statistical method was used, including descriptive statistics for the factors influencing ERB based on the model. The second analysis was the factor analysis precisely explanatory factor analysis to define a sequence of latent constructions underlying a battery considered variables by using a large number of samples. This study adopts a descriptive and explanatory research design that involves quantitative approaches and is done by conducting survey research to collect the required data and analyze the descriptive analysis to describe the respondents' demographic information. Later on, the explanatory method found the influence and relationships between the variables, impacting the developing ERB model.

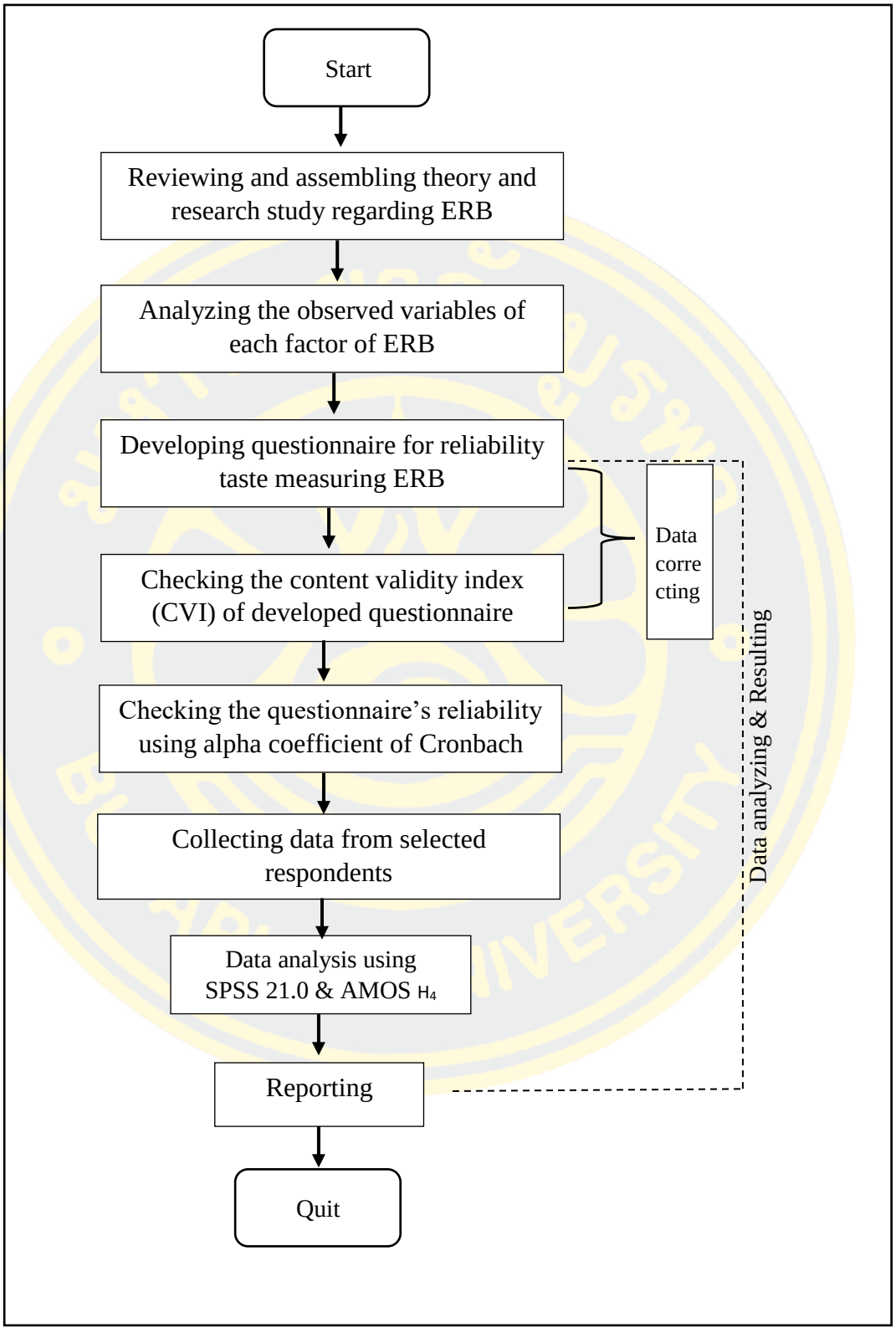


Figure 6 Research design diagram

Source: The researcher

## Variable selection

Dependent Variables

Tourists' Environmentally Responsible Behavior (ERB) was used as the dependent variable in this study. This study aimed to try to find out the impact of independent variables on the dependent variable. The researcher was inspired to get the dependent variable from a study by Su et al. (2020), which investigated of ERB of tourists using the environmental psychology (S-O-R theory) of Mehrabian and Russell (1974). The observable variable of ERB as general ERB was taken from Smith-Sebasto (1992), and the specific ERB was taken from Lee et al. (2013).

Independent Variable

Based on the literature review in chapter 2, there were three independent variables, namely 'Social Media,' 'Environmental awareness,' and 'Place attachment' in this study. Many researchers used social media as important variables in their studies, such as (Chung and Han, 2017; Javed et al., 2020; Öz, 2015; Shen et al., 2020; Xiang and Gretzel, 2010). This independent variable had sub-variables, namely, a) SM channels, b) Tourism promotion, and c) Tourist's information search. These observed variables were explored after an in-depth review of previous researches. By reviewing the previous researches, the researcher found that one of the most common influencers of ERB is social media.

Based on the literature review in chapter 2, two other independent variables in this research were generated from social media. And those are-

i. . Environmental awareness

ii. Place attachment

In the previous study, the researcher also found some observed variables of both of these latent variables. The environmental awareness consisted namely, a) Environmental awareness, and b) Environmental attitudes, and the place attachment consisted of a) place identity and b) place dependence. For adaptation, the researcher took the help from some previous research such as: for environmental awareness was taken from the study Yuxi and Linsheng (2017), which was dealt with the impact of environmental awareness of tourists' on their environmentally friendly behavior while visiting an ecological destination; for the place attachment, the researcher had

doorstepped to the study of Lee and Oh (2018) dealt with the important factors that could promote ERB of residents as well as tourists.

## Population and sampling

### Target population

This study focused on exploring the factors and their indicators that impact on environmentally responsible behavior of tourists to develop a model of responsible tourism behavior in an eco-sensitive destination. The population of this research is the travelers who visit the island as a tourist and use at least one social media. According to Nafi and Ahmed (2017), in the picking season of tourism in Bangladesh (November-March), around 3500 tourists visit the island every day. According to a couple of national daily newspapers of Bangladesh, at least 10,000-20,000 tourists visit the island every day in the peak season of tourism (1st November to 31st March) of every year (Independent, 2018; Prothomalo, 2018). The researcher found a massive difference in data from the different sources. According to Rubin (2012), a population is the entire universe of cases we seek to generalize from the sample data. In this sense, the population of this research consists of all the visitors who use social media and have the experience of visiting the massive and indefinite island.

### Sample size

Sampling is the process of picking a sufficient number of items from a population to ensure that the findings of the analysis are generalizable to the whole population. It is a subset of the population and comprises some members who also represent the entire population. The researcher conducted a survey online by the e-questionnaire applying purposive sampling of the population. In purposive sampling, the researcher depended on his discretion and selected the sample from the population to participate in the study.

There are lots of formula which is used to find out the sample size from the research population. Some researchers used Cochran (1963:75) formula. Israel (1992) suggested Cochran (1963:75)'s formula for large populations, ideal for calculating a representative proportion of the sampling equation. Schumacker and Lomax (2016) provided an example of how to analyze data using Structural Equation Modeling (SEM) by referring to Bentler and Chou (1987). They stated that a ratio of as few as five

subjects per variable is adequate for normal and elliptical distributions whenever the latent variables have multiple measures. A ratio with at least ten subjects per parameter is sufficient for each distribution.

Schumacker and Lomax (2016) conclude that analyzing the data using Sampling Equation Modeling in a range between 250 to 500 indicates well. Considering this reference of Schumacker and Lomax (2016), the researcher targeted a sample size of 450. For fulfilling the target, the research assistants sent the questionnaire to 500 respondents. The researcher received 482 data in total, where 467 were found valid to analyze for generalization.

**Sampling design**

Sampling design is a process of choosing the experimental units from the entire population to decide on the population. In this study, probability sampling was used as known as the target population. The participants of the survey were more than 18 years old and used any platform of social media. The researcher conducted the survey online by the e-questionnaire applying purposive sampling technique to choose the respondent considering the experience of respondents to visit the site, the active social media users, and the age more than 18. The purposive sampling technique ensured the screening questions of a study. The benefit of the purposive sampling technique is that it guarantees that the sample chosen in this study represents the population, which also ensures the validity of the statistical conclusion.

Four volunteer university students were chosen as research assistants and trained as survey investigators for the survey data collecting program. All research assistants were trained and briefed on the study's objectives and data collection process; provided background information of the research and vice versa. The research assistants distributed the questionnaire using social media such as Facebook, messenger, what’s app, line as a google form to the sample directly. In the first section of the questionnaire, there was basic information related to the basic requirements of this research.

In this Sampling approach, the research assistants randomly selected the participants by knocking them individually and from the social media group like Facebook’s closed group named Travelers of Bangladesh-ToB (1.1 million members),

Tour Group BD (811,000 members), Travellers of Bangladesh (411,000 members), Bitto Travel and Tourism (50,000 members) which are more active travelers' groups within the country. As every member had an equal chance of being selected, randomly selected members do not affect the quality of the sample. The researcher will follow the steps below for sampling-

Step 1: The researcher used simple random sampling (SRS) from the four online travelers' groups, namely Travelers of Bangladesh-ToB (1.1 million members), Tour Group BD (811,000 members), Travellers of Bangladesh (411,000 members), Bitto Travel and Tourism (50,000 members).

Step 2: The research assistant followed the purposive sampling technique for selecting 500 respondents from chosen four online social groups. The questionnaire had to send to 500 respondents aimed to collect the 450 responses. Finally, the research assistants collected 482 respondents within 500 respondents, of which 467 were valid for data analysis.

Step 3: The research assistants followed the following required conditions to collect the data from participants.

1. Participants had to have the experience of visiting the island.
2. Participants had to use social media.
3. Participants' age was 18 years or more.
4. Participants might be of any nationalities.
5. The researcher assistant ensured the freedom of participants to decide about participating in the survey and answering the questionnaire.

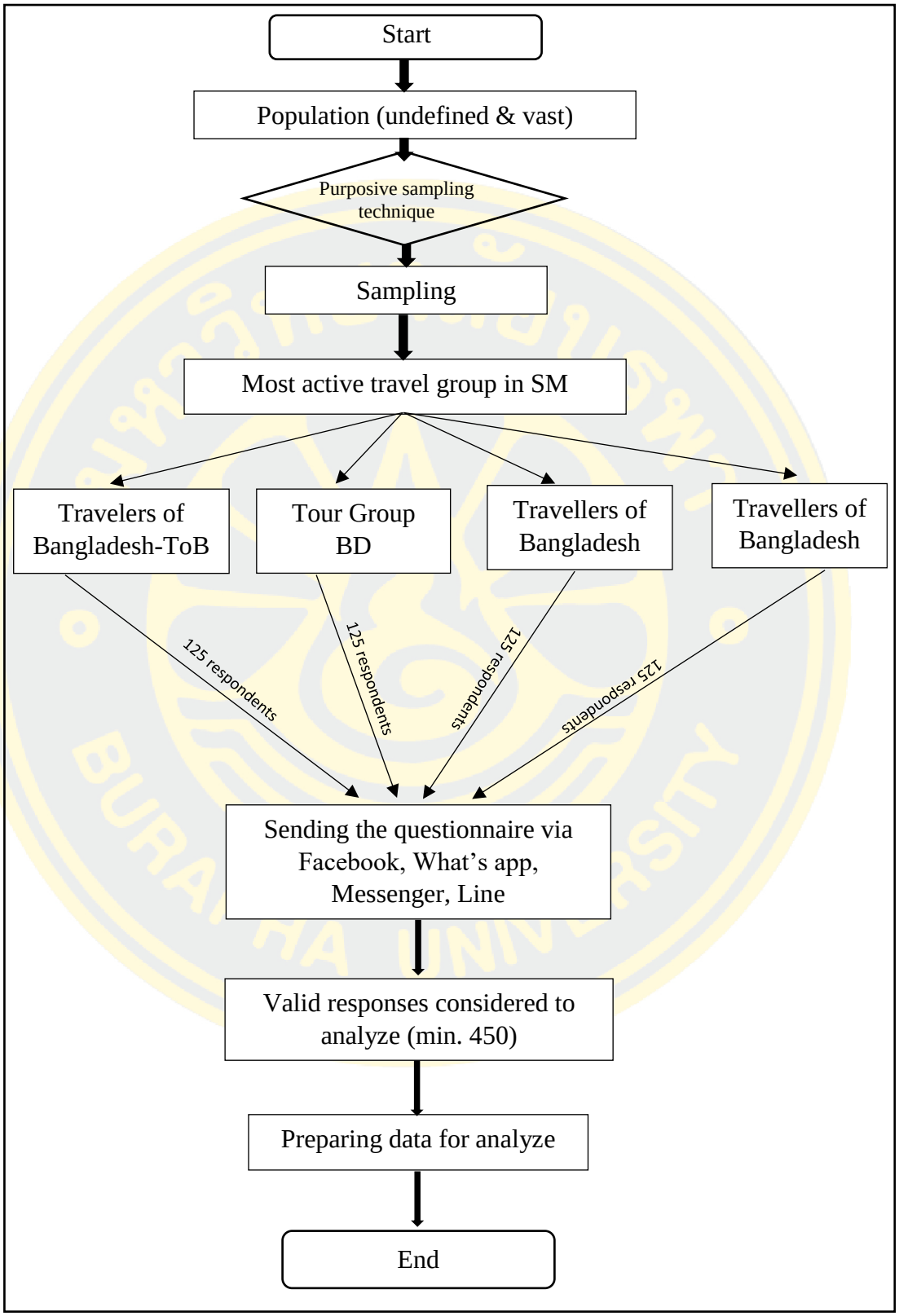


Figure 7 Sampling designing & data collection procedure
Source: The researcher

## Reviewing and gathering theory and research study

The researcher adopted the S-O-R theory of Mehrabian and Russell (1974). This study was synthesized from the previous and related theory on Environmentally responsible behavior. The indicators of each variable were adapted depending on its definitions. The researcher had taken the variables from different previous researchers. A study by Javed et al. (2020) has explored social media's role on the behavior of tourists for analyzing social media as a latent independent variable. The researchers of that study involved three critical dimensions of social media such as social media channel, Tourism promotion, and Tourist information search, which the researcher took. This variable has a significant impact on environmental awareness, place attachment, and ERB. Some researchers also found the considerable influence of social media on ERB (Chatzigeorgiou, 2017; Javed et al., 2020; Lebe et al., 2014; Yoo et al., 2011), environmental awareness (Idumange, 2012; Lively, 2011; Yuxi and Linsheng, 2017), place attachment (Chung and Han, 2017; Jacobsen and Munar, 2012; Lee & Oh, 2018).

Thus, the researcher has gathered the variables, including every indicator's keyword, to conduct the research instrument for collecting data.

## Research instrument development

The research instrument was developed to use in the research from synthesizing the manipulated variables, concept, and theory regarding ERB. The operational definition of each variable was built to develop the questionnaire (first chapter). The aspect of the questionnaire was exhibited as follows-

Segment 1: Personal information of the participants focus on gender, age, education level, marital status, occupation, annual income, social media using status, social media using the platform, accessing device of using social media, time duration, and experience of using social media, tourism experience. This part of the questionnaire was consisted of 11 questions and expressed a 2 to 8 optioning scale.

Segment 2: Showing the assessment criteria of observing variables of all variables used in the research. This part of the questionnaire consisted of 36 questions and an expressing 5 rating scale.

1. Social media regarding traveling contained 09 questions and divided into three observed variables as follows-
   1.1 Social media channel – 3 questions
   1.2 Tourism promotion – 3 questions
   1.3 Tourist information search – 3 questions
2. Environmental awareness regarding using social media contained 08 questions and divided into two observed variables as follows-
   2.1 Environmental knowledge – 3 questions
   2.2 Environmental attitude – 5 questions
3. Place attachment regarding traveling contained 08 questions and divided into two observed variables as follows-
   3.1 Place identity – 4 questions
   3.2 Place dependence – 4 questions
4. Environmentally responsible behavior regarding traveling contained 11 questions and divided into 2 observed variables as follows-
   4.1 General behavior – 5 questions
   4.2 Specific behavior – 6 questions

Table 5 The questionnaire structure

| Scale | No of questions | No. of items | Applicable Statistics |
|---|---|---|---|
| Part I: Personal Information | 11 | - | |
| 1. Gender | 1 | 1 | Basic statistics |
| 2. Age | 1 | 2 | |
| 3. Marital status | 1 | 3 | |
| 4. Occupation | 1 | 4 | |
| 5. Educations | 1 | 5 | |
| 6. Income | 1 | 6 | |
| 7. Using social media platform | 1 | 7 | |
| 8. Social media using | 1 | 8 | |
| experience | 1 | 9 | |

| | | | |
|---|---|---|---|
| 9. Accessing device of SM | 1 | 10 | |
| 10. Duration of using SM | 1 | 11 | |
| 11. Tourism experience | | | |
| **Part II: SEM modeling assessment criteria of ERB regarding SM** | 36 | 12-47 | Applicable Statistics |
| **Social media regarding travel** | 9 | 12-20 | Advanced Statistics SEM (CFA & SEM Modeling) |
| Social media channel | 3 | 12-14 | |
| Tourism promotion | 3 | 15-17 | |
| Tourist information search | 3 | 18-20 | |
| **Environmental awareness** | 8 | 21-28 | |
| Environmental knowledge | 3 | 21-23 | |
| Environmental attitude | 5 | 24-28 | |
| **Place attachment** | 8 | 29-36 | |
| Place identity | 4 | 29-32 | |
| Place dependence | 4 | 33-36 | |
| **ERB** | 11 | 37-47 | |
| General behavior | 5 | 37-41 | |
| Specific behavior | 6 | 42-47 | |
| **Total** | 36 | | |

Rating scale

| **Measuring type** | **Rating Scale of the questions** |
|---|---|
| **Rating scale** | Score 5 indicates ‘strongly agree.’ |
| | Score 4 indicates ‘agree.’ |
| | Score 3 indicates ‘neutral.’ |
| | Score 2 indicates ‘disagree.’ |
| | Score 1 indicates ‘strongly disagree.’ |

In the case of interpreting the result, the average score was used by determining the importance agreement attitude of the score using the interpretation principle of class interval suggested by Correia et al. (2011), which was used the following formula:

Class interval range $= \frac{The\ maximum\ value - The\ minimum\ value}{Number\ of\ levels}$

$= \frac{5-1}{5}$

$= 0.80$

Then, to determine the maximum of this cell, the researcher added the number one, which was the lowest value on the scale. Finally, the cell's length was calculated in the following table by the researcher:

Table 6 The summary criteria for interpretation of scores in the questionnaire

| **Scale** | **Rank score** | **Level of agreement** | **Interpretation** |
|---|---|---|---|
| 5 | 4.21 to 5.00 | Strongly agree | Very high |
| 4 | 3.41 to 4.20 | Agree | High |
| 3 | 2.61 to 3.40 | Neutral | Average |
| 2 | 1.81 to 2.60 | Disagree | Low |
| 1 | 1.00 to 1.80 | Strongly disagree | Very low |

Source: Calculated by researcher following Correia et al. (2011)

Table 7 Measurement of variables

| Variable | Sub variable | Meaning | Items | Source |
|---|---|---|---|---|
| **SM** | Social media channel | The platforms where people and tourists share different types of content in competitive and irremissible ways to fulfill their different demands such as keeping in touch and seeking attention to friends and family, showing the social status, and being psychologically satisfied during their travel. | Actively users of social media channels and updates of social status during travel –<br>Actively upload content during travel –<br>Impacts of social media while traveling to show the mobility by effective approaches – | Javed et al. (2020) |
| | Tourism promotion | Promoting a destination using social media platforms creates the temptation for travelers to explore a destination through user-generated commercial and noncommercially contents. | Promoting/advertising tourism through social media attach more travelers to destination –<br>Social media and internet-based SM technologies led to promoting tourism –<br>Public Relations or news or announcement invite the travelers to concern about Environment | Javed et al. (2020) |

| | | | |
|---|---|---|---|
| | | protection – | |
| Tourist information search | Refers to searching travel-related reliable information which helps the tourist to make a rational decision to destinations. | SM is important for searching for information and making a decision to tourists –<br>For deciding by searching authentic and reliable information, SM helps to tourists –<br>Searching external information is generally helpful for new destination searchers – | Javed et al. (2020) |
| Environmental knowledge | Refers to the type of knowledge of individuals related to complex ecological skills, far-flung effects, environmental problems, and environmental action strategy. | Knowledgeable to the maintenance of ecological balance will enhance the sustainable development of islands –<br>For the next generation, the natural resources of islands should protect –<br>Carefulness about the impact of activities on the natural environments of the island – | Kim et al. (2018)<br>Cheng and Wu (2015)<br>Cheng and Wu (2015) |

| | | | | |
|---|---|---|---|---|
| **EA** | Environmental attitude | Individuals' direct and indirect interest, activities, or behavior about environmental issues, environmental protection, environmental catastrophe, and knowing how to save nature. | Usual media activities on environmental issues such as watching a video/photo/text – | Severo et al. (2019) |
| | | | After media activities on environmental issues, the feelings of motivation for adopting improved environmental attitudes of the island – | Severo et al. (2019) |
| | | | Raising environmental protection awareness is important among the tourists of the island – | Fu et al. (2020) |
| | | | When humans interfere with nature, it often produces disastrous consequences- | Lee and Jan (2015) |
| | | | Humans will eventually learn enough about how nature works to be able to control it – | Lee and Jan (2015) |
| | | | Touring in the destination has a deep meaning for visitors – | Cheng and Wu (2015) |

| | | | | |
|---|---|---|---|---|
| **PA** | Place identity | Place identity means the psychological feeling of individuals created through experience by making repeat visits, a person's identification, personal feelings with the place. | Feelings to learn more about the destination by revisiting –<br>Individual identification (sense of belonging) regarding the island –<br>Personal feeling about the island and other tourists who visit the island – | Zhou et al. (2020)<br>Cheng and Wu (2015)<br>Lee (2011) |
| | Place dependence | It indicates how effectively a location/destination facilitates its users and the importance of a place for full feeling the functional goals of individuals than other places, which helps to elicit the actual actions or behaviors from individuals. | Intend to spend more time in the destination –<br>Enjoyment in traveling to the island more than other tourism destinations –<br>Satisfaction of visiting island than visiting any other place –<br>Finding a substitute for recreation for what is on the island – | Zhou et al. (2020)<br>Cheng and Wu (2015)<br>Lee (2011)<br>Lee (2011) |
| | | | Willingness to learn for solving the environmental problems in St. Martin's island – | Li et al. (2020)<br>Cheng and Wu (2015) |

| | | | | |
|---|---|---|---|---|
| **ERB** | General ERB | General ERB of tourists' constructs of environmental behaviors including civic action, educational action, financial action, legal action, physical, and persuasive of tourists. | Reading the reports, advertising, and books related to the environments of Saint Martin – | Su et al. (2020) |
| | | | Status of convincing to travel companions to protect natural environments of St. Martin's island – | Lee (2011) |
| | | | Buying environmentally sound products– | Zgolli and Zaiem (2018) |
| | | | Intentions to spend more time and effort to learn more about the local environment – | Lee et al. (2013) |
| | | | Efforts to learn more about the culture of St. Martin's island - | Li et al. (2020) |
| | | | Activities to reduce the interference the natural environment of St. Martin's island – | He et al. (2018) |
| | Specific ERB | It indicates the totality of tourists the sustainable behavior, pro-environmental behavior, and environmentally friendly behavior. | Following the legal ways for stopping the destruction of the island's environment – | Cheng and Wu (2015) |
| | | | | He et al. (2018) |

| | | |
|---|---|---|
| | Garbage related action while visiting Saint Martin's island – | |
| | Voluntary willingness to lessen/stop visiting saint martin's island if it needed to recover from environmental damage - | Zgolli and Zaiem (2018) |
| | Measuring the damaging environmental activity while traveling saint martin's island – | Zgolli and Zaiem (2018) |

## Content Validity

Content validity contains the appropriate and significant aspects of the concepts it wished to measure (Rothman et al., 2009). Content Validity Index (CVI) is a level of understanding of the overlapping between the capacity to operate with a described job efficiency domain and efficiency of the test under research (Lawshe, 1975). The content validity index is the quality of the experts proving each item a relevance rating of 3 or 4 (Polit and Beck, 2006; Polit et al., 2007). According to Davis (1992), content validity has four levels, as follows-

1 = Non relevant

2 = Somewhat relevant

3 = Quite relevant

4 = High relevant

The content validity index is divided into two main parts 1) Item-level content validity (I-CVI) and 2) Scale-level content validity index (S-CVI). Davis (1992) stated that Item-level Content Validity (I-CVI) might measure by given points of expertise between 3 or 4, divided by the number of experts.

Item-level content validity

$$\text{Item-level content validity index (I-CVI)} = \frac{The\ score\ of\ 3\ or\ 4\ that\ given\ by\ the\ experts}{Number\ of\ experts}$$

Items rated by three or more experts with an I-CVI of .78 and above will have to be regarded as good content validity stability (Polit et al., 2007).

Scale-level content validity

There are two important parts of the Scale-level Content Validity Index (S-CVI); Scale-level Content Validity Index Universal (S-CVI/UA) and Scale-level Content Validity Index Average (S-CVI/Ave). S-CVI/UA is the percentage of the items on a scale with a relevance rating of 3 or 4 by all experts. S-CVI/Ave indicates the mean value of the I-CVIs for all items on the scale (Polit and Beck, 2006). The S-CVI/UA should be greater than 0.80, and S-CVI/Ave should be from 0.90 to up. Polit and Beck (2006) and Polit et al. (2007) showed more about calculating the score of S-CVI/Ave by averaging the I-CVIs.

$$\text{S-CVI/Ave} = \frac{\Sigma\ (CVI)}{Amount\ of\ question}$$

The I-CVI of all questions equaled 1.00, and S-CVI/Ave equaled 0.97, which indicated the quality of each item was excellent content validity.

## Reliability

Reliability is a measurement degree that is free from consequent error, and it consequently yields efficient results in all contexts. The research testing instruments consistently grantees reliability of the same score to individuals or objects with equal principles with granted reliability while using a measurement device or process (Thanasegaran, 2009). The data for the pilot test were collected from 30 samples that were not part of the research samples but had similar characteristics to real samples to find the discriminant index of each item and reliability index (Cronbach alpha).

Ebel and Frisbie (1991, p. 232) puts their comments using rule of thumb in the terms of discrimination index in the following ways-

.40 ≥ are quite good items

.30 to .39 = reasonably good but like to change for improvement

.20 to .29 = marginal but functionable items and need some improvement

≤ .19 = not deemed as good items and major revision is needed or should be eliminated.

Excellent reliability should be from .90 or more; good reliability should be from .80 to .89; suitable reliability should be from .70 to .89 (George and Mallery, 2016).

The discrimant index of inter items in the questionnaire in the research are from 0.23 to 0.68 which indicates good Ebel and Frisbie (1991, p. 232). The Cronbach Alpha of the research instrument contained in each variable is shown in the table below. The environmental awareness had coefficient values of reliability $\alpha = .69$, which indicated as suitable reliability. Moreover, all other items in the model contained values of Cronbach Alpha in the range of .76 to .91, which indicated good reliability.

Table 8 Summary steps of research instrument development

| Items development | No. of questions | Reliability |
|---|---|---|
| **1. Demographic items** | 11 | - |
| **2. Social media** | 09 | .76 |
| **3. Environmental awareness** | 08 | .69 |
| **4. Place attachment** | 08 | .91 |
| **5. Environmentally responsible behavior** | 11 | .87 |
| **Total items & reliability** | 47 | 0.91 |

## Data Collection Procedure

The researcher planned to collect the data from both primary and secondary sources. The primary data was newly collected basic information using the online survey method from 467 respondents for this research. The secondary data of this research was collected from reliable secondary sources that were correlated with the study.

**Primary Data**

The survey method using e-questionnaire was used for collecting primary data to explore the impact of components used in this research on tourists' ERB. Surveys use large samples and enable the inexpensive and efficient collection of vast volumes of data. Numerous benefits exist for the survey method (Birks and Malhotra, 2006, p. 225). First, the questionnaire is easy to manage. Second, the collected data are consistent. Finally, data coding, processing, and interpretation are somewhat uncomplicated. The significant disadvantage is that participants may be unable or uninterested in supplying the information requested.

To collect the primary data, the researcher requested the ethical latter for collecting data from the Ethics committee for the research of Burapha University. After getting the ethical letter, the researcher formally took permission from Bangladesh's research authority to collect data from the samples. Then, the researcher briefed the research assistants before starting data collection. The research instrument was an online questionnaire which was fit for this research context. The instrument was also translated to the native language (Bengali) of Bangladesh so that the respondents could comprehend it better. To keep the questionnaires' metaphrase

impartial, the research instrument was interpreted by a professional and licensed body in Bangladesh.

Four volunteer university students were chosen as research assistants and trained as survey investigators for the survey data collecting program. All research assistants were trained and briefed on the study's objectives and data collection process; provided background information of the research and vice versa. Targeted respondents were given instructions on how to ask them to participate in the online survey politely. Each data collector was assigned to a specific online social media travel group.

The designation of the online questionnaire was constructed for quantitative data collection. The questionnaire was prepared in the form of a URL and QR code which link to a google form. The data will be collected randomly select the participants by knocking them individually from the social media closed or open group like Facebook's closed group by the research assistants. After knocking them individually to attend the survey. After agreeing, the research assistant conveniently sent the URL or QR code of the questionnaire to respondents (e.g., FB messenger, what's app, line) to complete the questionnaire carefully. After two weeks of sending the questionnaire to them, the researcher followed up with the research assistants about the respondents. The participants failed to reply in three weeks, and the excess of the targeted participants they retrenched from the sample list by the researcher. To complete the questionnaire, it took not more than 10 minutes. The time and place for filling the data were not restricted. The collecting time of data was from 15$^{th}$ May – 14$^{th}$ June 2021.

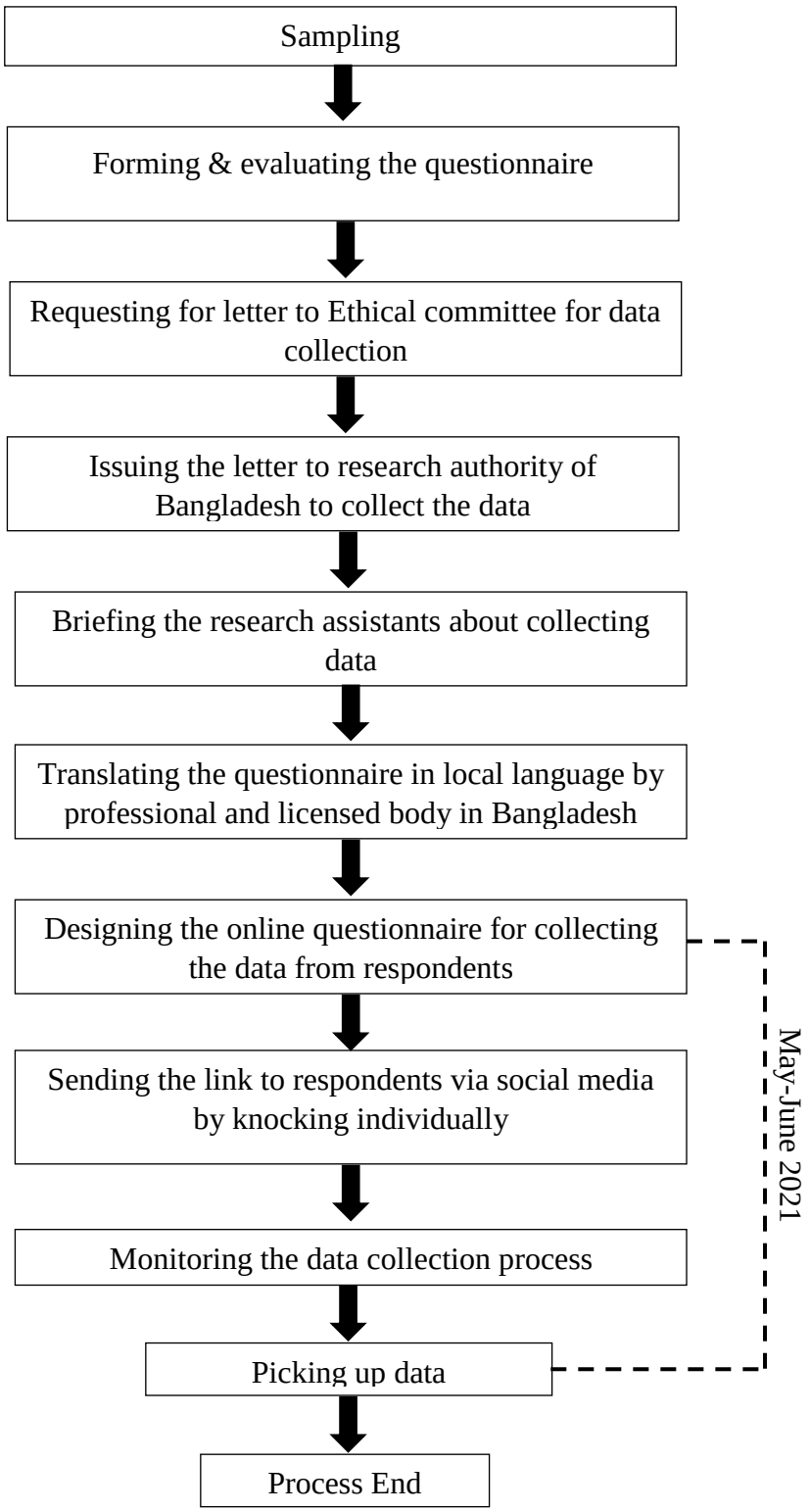


Figure 8 Data collection steps

**Secondary Data**

The secondary data was conducted from other different sources as follows:

- Textbooks
- Review books
- Different types of journals
- Different academic articles
- Previous researches
- Burapha university's library e-database
- Annual reports of various organizations
- Conference papers
- Brochure, pamphlets, booklets
- National and international newspapers
- Electronic medias
- National and international websites.

All of those relevant concepts, ideas, theories supported the researcher to complete of research.

## Data analysis

Completing the data with the questionnaire, the researcher determined to process and analyze the data using the copyright version of IMB's Statistical Package for the Social Sciences (SPSS) version 21.0. The analysis result of the survey data was divided into three parts.

Descriptive analysis

In this part of the analysis, the researcher tried to generate a demographic profile including mean, frequency, standard deviation, and the percentage of the respondents. The demographic data of the questionnaire was included the respondents' age, gender, education, occupations, income, Educations, Social media usages status, using the platform of SM, devices of using SM, duration of using SM, Tourism experience, SM using expertise.

Normality tasting

The normality of data included the basic assumptions for data analysis as the next steps. The skewness and the kurtosis values were the indicator index for checking the normality of data (Hair et al., 1998).

Correlation, Construct reliability and Construct validity

The correlation of the observed variables of social media, environmental awareness, place attachment, and environmentally responsible behavior of tourists was analyzed before testing the SEM. For finding the correlation of inter-items of the measurement model, Chi-square statistic ($\chi 2$), goodness-of-fit indices (GFI), the comparative fit index (CFI), the normed fit index (NFI); root mean square error of approximation (RMSEA), root mean square (RMR), and the $\chi 2$ re-estimate test (CMIN/DF) values were considered to evaluate the goodness-of-fit indices (Abubakar and Ilkan, 2016).

Construct reliability and validity were tested to show the inter items consistency and relations of inter-items of latent variables of the model. Composite reliability assesses the internal consistency of observable variables or items, similar to Cronbach's alpha (Netemeyer et al., 2003). It's a metric of the visible variables' shared variance used to find a latent construct (Fornell and Larcker, 1981). According to Tseng et al. (2006), in the case of composite reliability, a reasonable threshold can be anywhere from .60 and up.

In construct validity, there are two parts, namely: convergent validity and discriminant validity. Convergent validity refers to how well it correlates with other variables and measures of the same concept. It is a measure of constructs that theoretically should be related to each other are. On the other hand, discriminant validity is a measure of constructs that theoretically should not be related to each other are. The value of convergent validity should be equal to .50 or more; on the other hand, if AVEs were greater than the squared correlations between any pair of constructs, it indicates discriminant validity is satisfied (Fornell and Larcker, 1981).

Structural equation modeling (SEM)

The primary purpose of using SEM in this study was to identify the fitness of empirical data to the theoretical model (Schumacker and Lomax, 2016). According to Mulaik and Millsap (2000), there are four steps as follows to test the SEM model-

Step 1: Determining the unregulated measurement model, conducting an exploratory common factors analysis to determine how many factors, including latent variables, fit with observed variables' variance and covariance matrix.

Step 2: Determining the confirmatory factor model that checks the hypothesis of certain relationships between the indicators and latent variables. Generally, certain factor loadings are set at zero to ensure that each indicator variable of latent variable has only one non-zero factor load.

Step 3: Specifying the relationship among the latent variables in the structural model. Certain relationships among the latent variables were fixed to zero not to be related to each other

Step 4: Determining the acceptable fit of the structural model, if it is GFI>.95 and RMSEA < .05

After developing the measurement model by confirmatory factor analysis (CFA), the inter-variable relationship of reliability and validity was checked (Anderson and Gerbing, 1988). Then the researcher determined the acceptable fit of the model following the model fit criteria of Schumacker and Lomax (2016, p. 112).

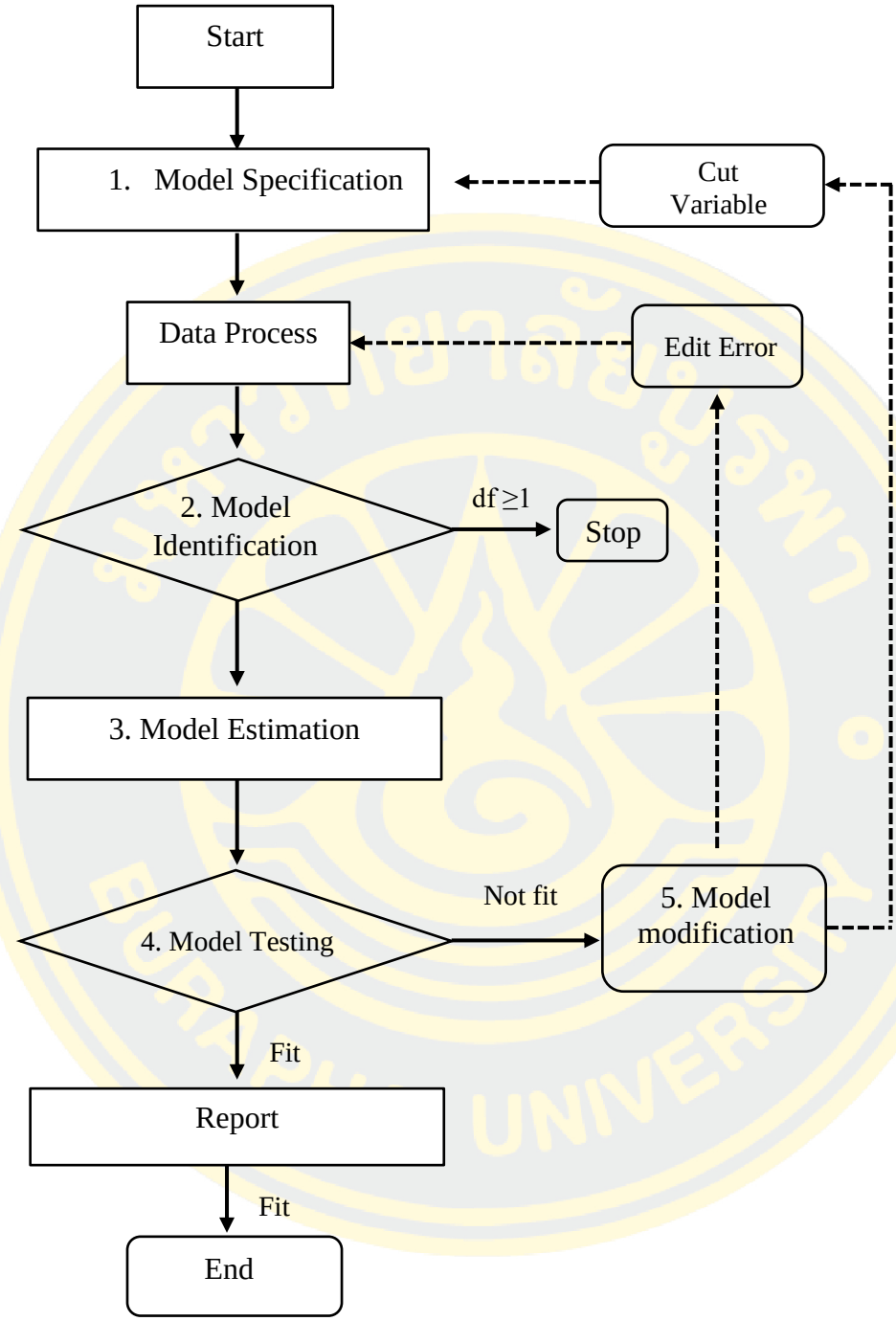


Figure 9 The structural equation modeling analysis

Table 9 Model fit criteria and acceptable fit interpretation

| Criterion of Model-fit | Level of Acceptance | Interpretation |
|---|---|---|
| **Chi-squire ($\chi^2$)** | Chi-squire ($\chi^2$) value | Compares obtained $\chi^2$ value with the given *df's* value |
| **Goodness-of-fit index (GFI)** | 0 (unfit) to 1 (perfect fit) | Value close .90 or .95 reflects very good fit |
| **Adjusted GFI (AGFI)** | 0 (unfit) to 1 (perfect fit) | Value adjusted for *df* with .90 or .95 a perfect model fit |
| **Root Mean square Residual (RMR)** | The researcher defines the level | Indication of the closeness of Σ to *S* matrices |
| **Standardized RMR (SRMR)** | <.05 | Less than .05 value indicates good model fit |
| **RMSEA** | .05 to .08 | A value of .05 to .08 indicates close fit |
| **Tucker-Lewis Index (TLI)** | 0 (no fit) to 1 (perfect fit) | A value close to .90 or .95 reflects a good model fit |
| **Normed fit index (NFI)** | 0 (no fit) to 1 (perfect fit) | A value close to .90 or .95 reflects a good model fit |

Source: Schumacker and Lomax (2016, p. 112)

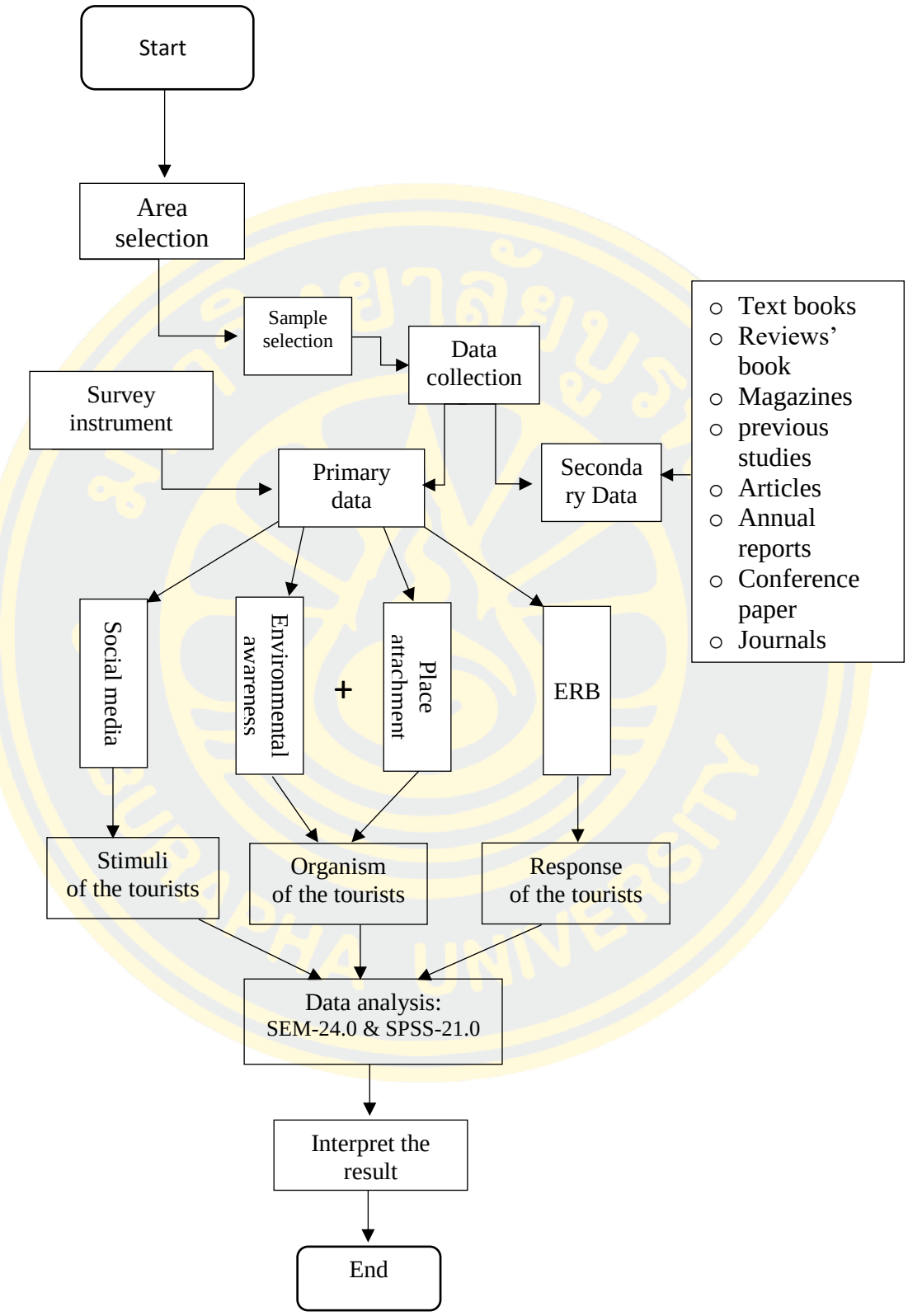


Figure 10 Strategy for data collection & analysis

# CHAPTER IV

# RESULT OF DATA ANALYSIS

## Introduction

This study explores data from 467 travelers who visited Bangladesh's St. Martin's Island and used social media. This study used descriptive statistics and cluster analysis to conduct a social research study using statistical software (SPSS; version 21.0).

The quantitative method consisted of research questions a) What factors impact tourists' ERB to an eco-sensitive tourism destination? b) What indicators are found on these factors that impact tourists' ERB to an eco-sensitive tourism destination? c) How do these factors affect tourists' ERB to an eco-sensitive tourism destination? The study proposes three research objectives: 1) To explore the factors that affect tourists' ERB to an ecologically sensitive tourism destination. 2)To investigate those factors' influence on tourists' ERB to an ecologically sensitive tourism destination. 3) To develop the relationship model of ERB using Structure Equation Modeling (SEM).

The pilot test was carried out with 30 Bangladeshi travelers who were visited St. Martin's Island & used social media (Reliability test result in appendix C). A descriptive analysis was performed using the statistical program for social research (SPSS; version 21.0) to understand the sample profile further. Before evaluating the conceptual model and predicted connections, the measuring scales were validated for reliability and validity. Then, AMOS; version-24.0 was used to analyze the Structural Equation Modeling (SEM), which was used to determine the overall fit of the proposed model with the data, including the relationships between major variables measured, explore the Confirm factor analysis (CFA) of the tourists' ERB, and describe how to develop the SEM model on ERB. The following are the points of the data analysis presented in this chapter:

1. Participant's demographic profile analysis.
2. Descriptive statistic and normality of data.
3. The result of measurement model analysis (research objective one).

4. The result of structural equation modeling of ERB (research objective two).

Symbols using in data analysis-

*M* = Arithmetic Mean

*SD* =Standard Deviation

*r* =Pearson Product Moment Correlation Coefficient

*CV* = Coefficient of Variation

*SK* = Skewness

*KU* = Kurtosis

*b* = Unstandardized Factor loading

$\beta$ = Standardized Factor Loading

SE = Standard Error of b

t = t-value

$R^2$ = Coefficient of Determination

$\chi^2$ = Chi-square

$\chi^2$ = Relative Chi-square

p = P-value

df = Degree of Freedom

CFI = Comparative Fit index

*RMSEA* = Root Mean Squared Error of Approximation

*SRMR* = Standardized Root Mean Squared Residual

*GFI* = Goodness-of-fit index

*AGFI* = Adjusted Goodness-of-fit Index

*NFI* = Normed Fit Index

SMC1= Actively users of social media channels

SMC2= Actively upload content in social media

SMC3= Impacts of social media while traveling

TP1= Promoting/advertising tourism activities

TP2= Assessment of social media to lead promoting tourism

TP3= Environment protection by the announcement in SM

TIS1= Importance of SM for searching information and making decision

TIS2= SM helps search authentic and reliable information

TIS3= Searching external information for new destination

EKN1= Knowledgeable to the maintenance of ecological balance

EKN2= Natural resources of islands should protect for future

EKN3= The impact of activities on the natural environments

EA1= Usual activities on environmental issues

EA2= Feelings of motivation for adopting improved environmental attitudes

EA3= Raising environmental protection awareness

EA4= Humans interfere with nature produces disastrous consequences

EA5= Humans will eventually learn about how nature works

PI1= Feelings of touring in the destination

PI2= Feelings to learn about the destination by revisiting

PI3= Sense of belonging regarding the island

PI4= Personal feeling about the island

PD1= Intend to spend more time in the destination

PD2= Enjoyment in traveling to the island more than other destinations

PD3= Satisfaction of visiting island than another place

PD4= Finding a substitute for this destination

GB1= Willingness to solve the environmental problems of the island

GB2= Reading about the environments of the island

GB3= Status of convincing the travel companions to the island

GB4= Buying environmentally sound product

GB5= Intentions to learn more about the local environment

SB1= Efforts to learn more about the culture of the island

SB2= Activities to reduce the interference the nature of the island

SB3= Following the legal ways for stopping the destruction of the island

SB4= Garbage related action while visiting the island

SB5= Willingness to lessen/stop visiting the island if it is needed

SB6= Measuring the damaging environmental activity while traveling

## Data analysis result

### 1. Demographic profile of respondents

Table 10 The number and percentage of participants

| Characteristics | | Frequency | Percent |
|---|---|---|---|
| Gender | Female | 96 | 20.56 |
| | Male | 371 | 79.44 |
| Age | 25 years or less | 212 | 45.40 |
| | 26 – 35 Years | 192 | 41.11 |
| | 36 – 45 Years | 50 | 10.71 |
| | 46 – 55 Years | 13 | 2.78 |
| Marital Status | Single | 297 | 63.60 |
| | Married | 167 | 35.76 |
| | Others | 3 | 0.64 |
| Education | Secondary School Certificate | 18 | 3.85 |
| | Higher Secondary school Certificate | 181 | 38.80 |
| | Bachelor Degree | 93 | 19.85 |
| | Master Degree | 164 | 35.10 |
| | Above Master Degree | 11 | 2.40 |
| Occupation | Student | 233 | 49.89 |
| | Non-govt. service | 72 | 15.42 |
| | Government service | 69 | 14.78 |
| | Businessman | 31 | 6.64 |
| | Retired | 2 | 0.43 |
| | Housewife | 26 | 5.57 |
| | Not employed | 22 | 4.71 |
| | Others | 12 | 2.56 |
| | ≤ 2000 USD | 92 | 19.71 |

| | | | |
|---|---|---|---|
| Income | USD 2101– USD 3000 | 25 | 5.35 |
| | USD3001–USD4000 | 41 | 8.78 |
| | USD4001 – USD5000 | 25 | 5.35 |
| | USD5001– USD6000 | 12 | 2.57 |
| | Above USD 6001 | 27 | 5.78 |
| | No income | 245 | 52.46 |
| Type of using SM | Facebook | 396 | 84.80 |
| | You Tube | 47 | 10.06 |
| | Instagram | 12 | 2.57 |
| | What's app | 11 | 2.36 |
| | LinkedIn | 1 | 0.21 |
| Years of using SM | Less than 1 years | 24 | 5.14 |
| | 1 – 3 years | 49 | 10.49 |
| | 3 – 5 years | 86 | 18.42 |
| | More than 5 years | 308 | 65.95 |
| Devices for using SM | Smartphone | 437 | 93.58 |
| | Desktop/Laptop | 27 | 5.78 |
| | Tablet | 1 | 0.21 |
| | Others | 2 | 0.43 |
| Daily hours for SM | Less than 2 hours | 165 | 35.33 |
| | 2 – 4 hours | 189 | 40.47 |
| | 4 – 6 hours | 72 | 15.42 |
| | 6 – 8 hours | 24 | 5.14 |
| | More than 8 hours | 17 | 3.64 |
| Tourism Experience | Less than 10 destinations | 391 | 83.75 |
| | 11 – 20 destinations | 61 | 13.03 |
| | 21 – 30 destinations | 9 | 1.93 |
| | More than 30 destinations | 6 | 1.29 |

| | | | |
|---|---|---|---|
| | Total participants | 467 | 100.00 |

According to Table 10, the characteristics of participants in this research showed the female participants n=96 equal to 20.56%, which were less than male participants n=371 equal to 79.44%.

Most of the participants were young in the age of 25 Years or less years old (n=212; 45.40%) following by 26 to 35 years old (n=192; 41.11%), and 36 to 45 years old (n=50;10.71%) & 46 to 55 years old is least (n=13; 2.78%) respectively.

Most of the participants were single (n=297; 63.60%) in this survey where Married participants were in the following position in number (n=167; 35.76%), and there was the least number of other status participants (n=3; 0.64%).

Higher secondary certificate (HSC) or equivalent educational qualification holders were outnumbered (n=181; 38.80%) following by master degree (n=164; 35.1%), bachelor degree (n=93; 19.85%), Secondary school certificate (SSC) or equivalent (n=18; 3.85%) and, the above master's degree (n=11; 2.4%) respectively.

Among several occupations, students were outnumbered among the participants in this research (n=233; 49.89%) following by non-government service (n=72; 15.42%), government service (n=69; 14.78%), businessman (n=31;6.64%), housewife (n=26; 5.57%), unemployed (n=22; 4.71%), retired from job (n=2, 0.43%) and, other jobs (n=12, 2.56%).

The classification of income among participants displayed the interval revenue less than 2000USD contained the 2$^{nd}$ biggest number of participants in this research (n=92; 19.71%) and the highest number of the participants were no income (n=245; 52.46%). Then, it was followed by the income between USD 2101– USD 3000 (n=25;5.35%), USD3001–USD4000 (n=41; 8.78%), USD4001 – USD5000 (n=25;5.35%), USD5001– USD6000 (n=12;2.57%), and Above USD 6001 (n=27;5.78%).

Looking at the most using social media platforms that users used showing as follows: Facebook (n=396; 84.80%), YouTube (n=47; 10.06%), Instagram (n=12; 2.57%), WhatsApp (n=11, 2.36%), LinkedIn (n=1; 0.21%) respectively.

In the statistics of Participants' experience of using social media showed that more than 5 years users are leading (n=308; 65.95%), following by 3 – 5 years (n=86;

18.42%), 1 – 3 years (n=49; 10.49%), and Less than 1 years (n=24; 5.14%) respectively.

The accessed devices for social media operation showed smartphone as outnumbered (n=437; 93.58%), Desktop/Laptop (n=27; 5.78%), Tablet (n=1; 0.21%), and Others (n=2; 0.43%) respectively.

Participants spent time on social media between 2 and 4 hours per day which showed as (n=189; 40.47%) was the highest frequency, following by less than 2 hours (n=165; 35.33%), 4 to 6 hours (n=72; 15.42%), 6 to 8 hours (n=24; 5.14%), and more than 8 hours (n=17; 3.64%) respectively.

In the statistics of Participants' experience of travelling to recognized tourism destinations in past two years outnumbered participants traveled less than 10 destinations (n=391; 83.75%), following by 11 – 20 destinations (n=61; 13.03%), 21 – 30 destinations (n=9; 1.93%), and more than 30 destinations (n=6; 1.29%) respectively.

**2. Descriptive Statistics and Normality of data**

To start the following analysis, data had to be tested the normality through skewness and kurtosis followed by Mean, Standard deviation, and Coefficient of Variances.

Table 11 Descriptive statistics

| Variable | M | SD | SK | CV(%) | KU |
|---|---|---|---|---|---|
| Social media channel | | | | | |
| SMC1 | 3.49 | 0.94 | -0.53 | 26.93 | 0.31 |
| SMC2 | 3.73 | 0.88 | -0.96 | 23.59 | 1.16 |
| SMC3 | 3.14 | 1.06 | -0.30 | 33.76 | -0.72 |
| Tourism promotion | | | | | |
| TP1 | 3.92 | 0.77 | -1.15 | 19.64 | 2.75 |
| TP2 | 4.06 | 0.81 | -1.48 | 19.95 | 3.99 |
| TP3 | 4.01 | 0.78 | -1.37 | 19.45 | 3.69 |
| Tourist information search | | | | | |
| TIS1 | 4.10 | 0.80 | -1.45 | 19.51 | 3.62 |
| TIS2 | 3.81 | 0.82 | -1.04 | 21.52 | 1.70 |
| TIS3 | 3.84 | 0.80 | -1.19 | 20.83 | 2.37 |
| Environmental knowledge | | | | | |

| Variable | M | SD | SK | CV(%) | KU |
|---|---|---|---|---|---|
| EKN1 | 4.02 | 0.81 | -1.22 | 20.15 | 2.80 |
| EKN2 | 4.42 | 0.85 | -2.15 | 19.23 | 5.80 |
| EKN3 | 3.92 | 0.88 | -1.08 | 22.45 | 1.85 |
| Environmental attitude | | | | | |
| EA1 | 3.91 | 0.78 | -1.26 | 19.95 | 3.09 |
| EA2 | 4.06 | 0.73 | -1.45 | 17.98 | 4.72 |
| EA3 | 4.37 | 0.76 | -1.77 | 17.39 | 5.22 |
| EA4 | 4.21 | 0.85 | -1.41 | 20.19 | 2.87 |
| EA5 | 4.32 | 0.82 | -1.84 | 18.98 | 4.91 |
| Place identity | | | | | |
| PI1 | 4.05 | 0.84 | -1.01 | 20.74 | 1.54 |
| PI2 | 4.15 | 0.83 | -1.31 | 20.00 | 2.76 |
| PI3 | 3.79 | 0.86 | -0.65 | 22.69 | 0.76 |
| PI4 | 3.75 | 0.91 | -0.51 | 24.27 | 0.05 |
| Place dependence | | | | | |
| PD1 | 3.72 | 0.89 | -0.63 | 23.92 | 0.60 |
| PD2 | 3.75 | 0.90 | -0.46 | 24.00 | 0.10 |
| PD3 | 3.73 | 0.85 | -0.59 | 22.79 | 0.60 |
| PD4 | 3.47 | 0.95 | -0.43 | 27.38 | -0.11 |
| General behavior | | | | | |
| GB1 | 3.87 | 0.82 | -0.86 | 21.19 | 1.48 |
| GB2 | 3.57 | 0.83 | -0.66 | 23.25 | 0.51 |
| GB3 | 3.84 | 0.80 | -0.78 | 20.83 | 1.26 |
| GB4 | 3.91 | 0.79 | -1.14 | 20.20 | 2.74 |
| GB5 | 3.91 | 0.76 | -1.09 | 19.44 | 2.63 |
| Specific behavior | | | | | |
| SB1 | 3.82 | 0.78 | -0.97 | 20.42 | 2.11 |
| SB2 | 3.85 | 0.81 | -1.05 | 21.04 | 2.14 |
| SB3 | 3.81 | 0.81 | -0.74 | 21.26 | 1.36 |
| SB4 | 3.81 | 0.87 | -0.89 | 22.83 | 1.39 |
| SB5 | 3.75 | 0.88 | -0.89 | 23.47 | 1.17 |
| SB6 | 4.18 | 0.83 | -1.47 | 19.86 | 3.53 |

According to Table 11, the descriptive statistics of 36 indicators are based on observed variables, namely by social media channel, Tourists' information, Tourism promotion, Environment knowledge, Environment awareness, Place identity, Place dependence, General behavior, and Specific behavior.

Social media channel was measured by three indicators which were ordered from highest to lowest mean scores as following Actively upload contents in social media (SMC2), Actively users of social media channels (SMC1), Impacts of social media while traveling (SMC3). The mean scores were 3.73, 3.49, and 3.14, respectively. The standard deviation values were 0.88, 0.94, and 1.06.

Tourism promotion was measured by three indicators which Assessment of social media to lead promoting tourism (TP2), following Environment protection by the announcement in SM (TP3), and promoting/advertising tourism activities (TP1). The mean (M) scores were 4.06, 4.01, and 3.92. The standard deviation (SD) values were 0.81, 0.78, and 0.77.

Three indicators measured tourist information search, the highest mean score was Importance of SM for searching information and making a decision (TIS1), followed by Searching external information for new destination (TIS3), and SM helps search authentic and reliable information (TIS2). The mean (M) scores were 4.10, 3.84, and 3.81, respectively, where the standard deviation (SD) values of both TIS1 and TIS3 had 0.80 and TIS 2 had 0.82, respectively.

Environmental knowledge was measured by three indicators which the highest mean score being that Natural resources of islands should protect for the future (EKN2) following by Knowledgeable of the maintenance of ecological balance (EKN1) and the impact of activities on the natural environments (EKN3). The mean scores were 4.42, 4.02, and 3.92, respectively. The standard deviation values were 0.85, 0.81, and 0.88.

The environmental attitude was measured by five indicators such as Raising environmental protection awareness (EA3) had the highest mean score; followed by Humans will eventually learn about how nature works (EA5), Humans interfere to nature produces disastrous consequences (EA4), Feelings for adopting improved environmental attitudes (EA2), and Usual activities on environmental issues (EA1) respectively. The mean scores were 4.37, 4.32, 4.21, 4.06, and 3.91. The standard deviation values were 0.76, 0.82, 0.85, 0.73, and 0.78.

Place identity was measured by four indicators which the highest mean score was Feelings to learn about the destination by revisiting (PI2) followed by Feelings of touring in the destination (PI1), Sense of belonging regarding the island (PI3), and

Personal feeling about the island (PI4). The mean scores were 4.15, 4.05, 3.79, and 3.75, respectively. The standard deviation values were 0.83,0.84, 0.86, and 0.91.

Place dependence was measured by four indicators which the highest mean score was Enjoyment in traveling to the island more than other destinations (PD2) following by Satisfaction of visiting island than another place (PD3), Intend to spend more time in the destination (PD1), and Finding substitute of this destination (PD4) respectively. The mean scores were presented as 3.75, 3.73, 3.72, and 3.47, respectively. The standard deviation values were displayed as 0.90, 0.85, 0.89, and 0.95 respectively.

General behavior was measured by five indicators which the highest mean score of Buying environmentally sound products (GB4) & Intentions to learn more about the local environment (GB5) was highest equal value together followed by Willingness to solve the environmental problems of the island (GB1), Status of convincing the travel companions to the island (GB3) and Reading about the environments of the island (GB2) respectively. The mean scores were 3.91 (GB4 & GB5), 3.87, 3.84, and 3.57 respectively. The standard deviation values were 0.79, 0.76, 0.82, 0.80, and 0.83.

Six indicators measured specific behavior. The highest mean score was Measuring the damaging environmental activity (SB6) following by Activities to reduce the interference the nature of the island (SB2), Efforts to learn more about the culture of the island (SB1), Following the legal ways for stopping the destruction of the island (SB3), Garbage related action while visiting the island (SB4), and Willingness to lessen/stop visiting the island if it is needed (SB5) respectively. The mean scores were 4.18, 3.85, 3.82, 3.81, 3.81, and 3.75, respectively. The standard deviation values were 0.83, 0.81, 0.78, 0.81, 0.87, and 0.88 respectively.

The result of data normality distribution of observed variables and indicators

According to Table 11, the coefficients of variation were entirely closed to each other which the values were located between 17.39 to 33.76. These values are indicated as an average level of data distribution. It indicated that the data was suitable for analyzing the structural equation modeling.

The critical importance of Skewness was in the range of ±2.15, and Kurtosis was in the range of ±5.22 in each item. These values indicated that this sample data was located in a normal distribution with a .01 significant level. Therefore, descriptive statistical analysis of all indicators was suitable for Confirmatory Factor analysis and Structural Equation Modeling (Hair, 2009).

**3. CFA result of the measurement model**

**3.1 Result of each variable in the measurement model individually**

The measurement of each variable was analyzed, which showed the result of confirmatory factor analysis in the following tables:

Table 12 The result of confirmatory factor analysis of social media

| **Latent Variables** | **Observe Variables** | **Indicators** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| | | | ***β*** | ***b*** | ***S.E.*** | ***t*** | ***R²*** |
| Social media | Social Media Channel | SMC | .64 | .76 | .66 | 10.83** | .36 |
| | | SMC1 | .76 | .99 | .07 | 14.18** | .57 |
| | | SMC2 | .82 | 1.00 | - | - | .66 |
| | | SMC3 | .62 | .91 | .07 | 12.11** | .38 |
| | Tourism promotion | TP | .94 | 1.00 | .68 | 13.84** | .94 |
| | | TP1 | .83 | 1.00 | - | - | .69 |
| | | TP2 | .74 | .93 | .06 | 16.34** | .55 |
| | | TP3 | .73 | .89 | .05 | 16.11** | .54 |
| | Tourist information search | TIS | .90 | 1.00 | - | - | .90 |
| | | TIS1 | .82 | 1.00 | - | - | .68 |
| | | TIS2 | .78 | .96 | .06 | 15.91** | .60 |
| | | TIS3 | .68 | .81 | .06 | 13.67** | .46 |

$\chi^2$ =30.00, *df* = 21, $\chi^2/df$= 1.42, *p* = .09, *GFI* = .986, *AGFI*=.97, *RMSEA* =.03

**$p$< .01

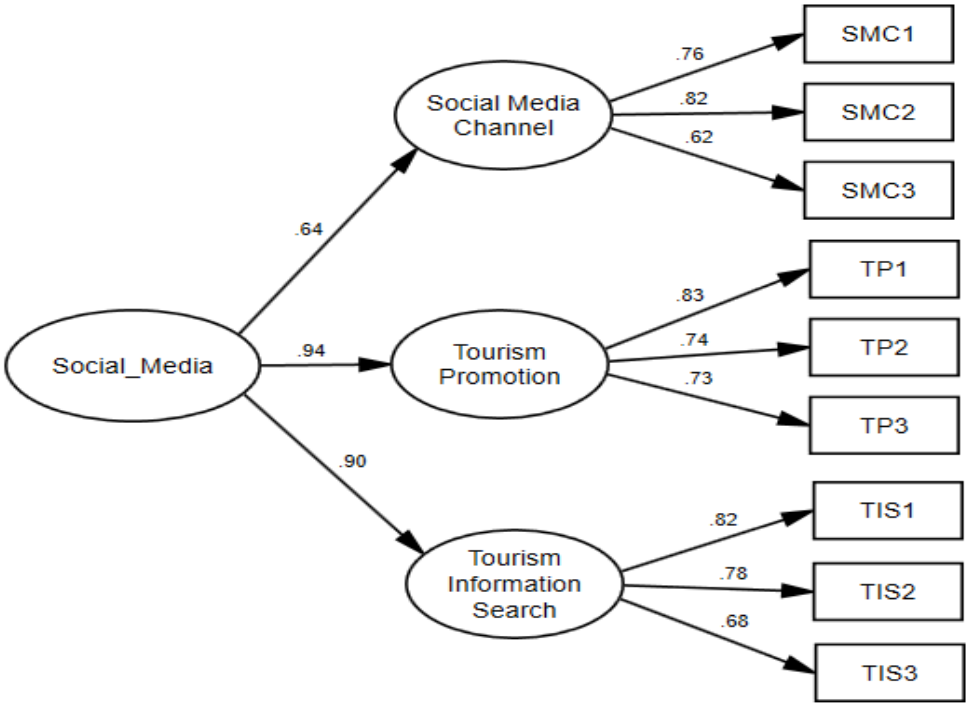


Figure 11 The result of the measurement model of Social media

As reported by Table 12, confirmatory factor analysis of the Social media measurement model showed standardized factor loading of indicators were positively significant at statistical level p<01. The factor loading values were from .62 to .83. When the coefficient prediction ($R^2$) values of the indicators were from 38% to 69 %. The highest factor within all indicators loading was the Promoting/advertising tourism activities-TP1 ($\beta$= *.83*) followed by the searching information and making decision-TIS1 ($\beta$ =*.82*), the Actively upload contents in social media-SMC2 ($\beta$ =*.82*) the SM helps to search authentic and reliable information-TIS2 ($\beta$ =*.78*), Actively users of social media channels-SMC1 ($\beta$ =*.76*), the assessment of social media to led promoting tourism-TP2 ($\beta$ =*.74*), the environment protection by the announcement in SM-TP3($\beta$ =*.73*), the external searching information for new destination-TIS3 ($\beta$ =*.68*) and Impacts of social media while travelling-SMC3 ($\beta$ =*.62*). The Squared Multiple Correlations were .69, .68, .66, .60, .57, .55, .54, .46 and .38 respectively.

Table 13 Result of confirmatory factor analysis of Environmental Awareness

| **Latent Variables** | **Observe Variables** | **Indic-ators** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| | | | ***β*** | ***b*** | ***S.E.*** | ***t*** | ***$R^2$*** |
| Environmental Awareness | Environmental Knowledge | ENK | 1.00 | 1.00 | - | - | .97 |
| | | ENK1 | .73 | .88 | .05 | 15.91** | .73 |
| | | ENK2 | .79 | 1.00 | - | - | .79 |
| | | ENK3 | .67 | .87 | .06 | 14.02** | .66 |
| | Environmental Attitude | EA | .99 | .95 | .05 | 17.02** | .96 |
| | | EA1 | .60 | .72 | .06 | 12.24** | .36 |
| | | EA2 | .76 | .86 | .05 | 16.35** | .58 |
| | | EA3 | .74 | .86 | .05 | 18.47** | .55 |
| | | EA4 | .62 | .81 | .05 | 15.13** | .38 |
| | | EA5 | .78 | 1.00 | - | - | .61 |
| $\chi^2$ =6.92, *df = 11*, $\chi^2/df$= 0.63, *p* = .81, *GFI* = .99, *AGFI*=.99, *RMSEA* =.00 | | | | | | | |

**$p$< .01

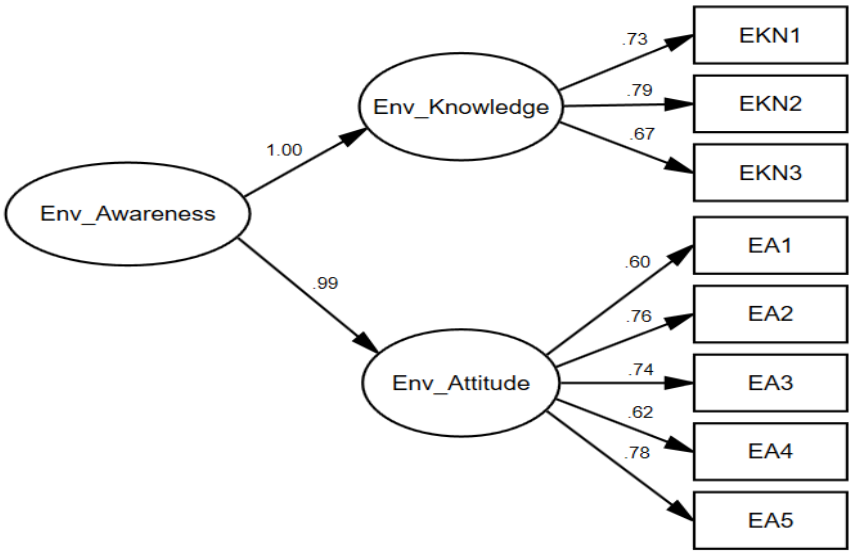


Figure 12 The result of the measurement model of Environmental awareness

As stated in Table 13, the confirmatory factor analysis of the Environmental awareness measurement model showed that standardized factor loading of indicators was positively significant at statistical level $p < .01$. The standardized factor loading values were .60 to .79 when the indicators' Squared Multiple Correlations (R2) values were 36 % to 79 %. The highest factor loading was Natural resources of islands should protect for future-EKN2 *(β=.79)* following by Humans will eventually learn about how nature works -EA5 *(β=.78)*, Feelings for adopting improved environmental attitudes-EA2 *(β=.76)*, Raising environmental protection awareness-EA3 *(β=.74)*, Knowledgeable to the maintenance of ecological balance-EKN1 *(β=.73)*, The impact of activities on the natural environments-EKN3 *(β=.67)*, Humans interfere to nature produces disastrous consequences-EA4 *(β=.62)*, and Usual activities on environmental issues-EA1 *(β=.60)* respectively. The Squared Multiple Correlations ($R^2$) were respectively .79, .61, .58, .55, .73, .66, .38 and .36.

Table 14 Result of confirmatory factor analysis of Place Attachment

| **Latent Variables** | **Observe Variables** | **Indicators** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| | | | ***β*** | ***b*** | ***S.E*** | ***t*** | ***$R^2$*** |
| Place Attachment | Place Identity | PI | 1.00 | 1.03 | .06 | 15.28** | .88 |
| | | PI1 | .57 | .60 | .05 | 12.81** | .55 |
| | | PI2 | .56 | .57 | .05 | 12.36** | .81 |
| | | PI3 | .60 | .65 | 05 | 13.76** | .81 |
| | | PI4 | .87 | 1.00 | - | - | .58 |
| | Place dependence | PD | .95 | 1.00 | - | - | .66 |
| | | PD1 | .74 | .81 | .04 | 19.93** | .32 |
| | | PD2 | .90 | 1.00 | - | - | .31 |
| | | PD3 | .90 | .95 | .03 | 28.85** | .36 |
| | | PD4 | .76 | .89 | .04 | 20.86** | .76 |

$\chi^2$ =18.46, *df = 14*, $\chi^2/df$= 1.32, *p* = .19, *GFI* = .99, *AGFI*=.97, *RMSEA* =.02

**$p < .01$

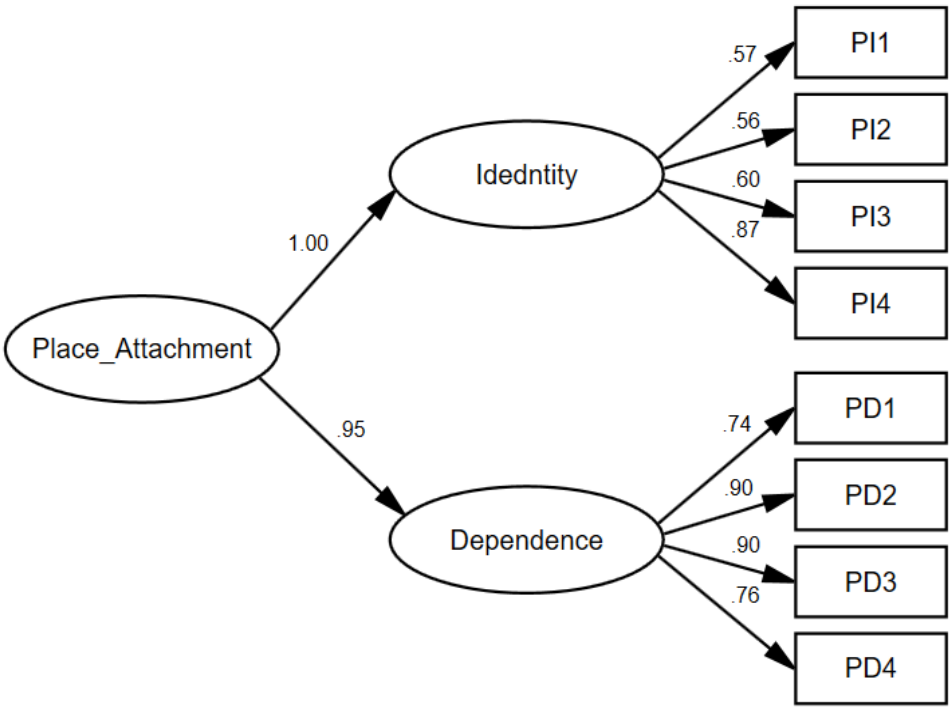


Figure 13 The result of the measurement model of Place Attachment

As reported by Table 14, the confirmatory factor analysis of the Place Attachment measurement model showed standardized factor loading of indicators was positively significant at statistical level $p < .01$. The standardized factor loading values were from .56 to .90 when the indicators' Squared Multiple Correlations (R2) values were from 31% to 81 %. The highest factor loading was both Satisfaction of visiting island than another place-PD3 & Enjoyment in traveling to the island more than other destinations-PD2 *(β=.90)* following by Personal feeling about the island-PI4 *(β=.87)*, Finding substitute of this destination-PD4 *(β=.76)*, Intend to spend more time in the destination-PD1 *(β=.74)*, Sense of belonging regarding the island-PI3 *(β=.60)*, Feelings of touring in the destination-PI1 *(β=.57)*, and Feelings to learn about the destination by revisiting-PI2 *(β=.56)* respectively. The Squared Multiple Correlations ($R^2$) were respectively .36, .31, .58, .76, .32, .81, .55 and .81.

Table 15 Result of confirmatory factor analysis of ERB

| Latent Variables | Observe Variables | Indicators | Result | | | | |
|---|---|---|---|---|---|---|---|
| | | | *β* | *b* | *S.E.* | *t* | $R^2$ |
| Environmentally responsible behavior | General Behavior | GB | 1.00 | 1.00 | - | - | .96 |
| | | GB1 | .82 | 1.00 | - | - | .66 |
| | | GB2 | .65 | .81 | .05 | 14.79** | .42 |
| | | GB3 | .77 | .92 | .05 | 18.40** | .60 |
| | | GB4 | .75 | .87 | .05 | 17.57** | .56 |
| | | GB5 | .76 | .89 | .05 | 15.81** | .61 |
| | Specific Behavior | SB | .94 | .90 | .05 | 18.11** | .97 |
| | | SB1 | .80 | .97 | .05 | 18.51** | .63 |
| | | SB2 | .79 | 1.00 | - | - | .62 |
| | | SB3 | .77 | .97 | .06 | 17.46** | .59 |
| | | SB4 | .73 | .98 | .06 | 16.67** | .53 |
| | | SB5 | .48 | .65 | .06 | 10.03** | .23 |
| | | SB6 | .72 | .93 | .06 | 15.87** | .51 |
| $\chi^2$ =39.52, *df* = 29, $\chi^2/df$= 1.36, *p* = .09, *GFI* = .98, *AGFI*=.97, *RMSEA* =.03 | | | | | | | |

**p<.01

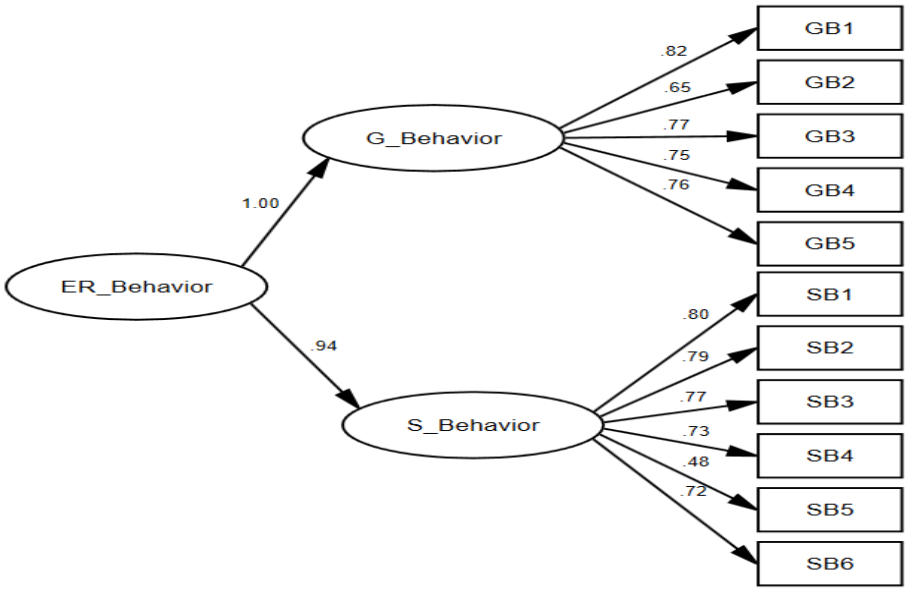


Figure 14 Result of confirmatory factor analysis of ERB.

Based on Table 15, the confirmatory factor analysis of the measurement model of the ERB showed standardized factor loading of indicators were positively significant at statistical level $p < .01$. The standardized factor loading values were from .48 to .82 when the indicators' Squared Multiple Correlations (R2) values were 23% to 66 %. The highest factor loading was both Willingness to solve the environmental problems of the island-GB1 *(β=.82)* followed by Efforts to learn more about the culture of island-SB1 *(β=.80),* Activities to reduce the interference the nature of island-SB2 *(β=.79),* Status of convincing the travel companions to the island-GB3 *(β=.77),* Following the legal ways for stopping the destruction of the island-SB3 *(β=.77),* Intentions to learn more about the local environment-GB5 *(β=.76),* Buying environmentally sound product-GB4 *(β=.75),* Garbage related action while visiting the island-SB4 *(β=.73),* Measuring the damaging environmental activity-SB6 *(β=.72),* Reading about the environments of the island-GB2 *(β=.65)*and Willingness to lessen/stop visiting the island if it is needed SB5 *(β=.48)* respectively. The Squared Multiple Correlations ($R^2$) were respectively .66, .63, .62, .60, .59, .61, .56, .53, .51, .42 and .23.

### 3.2 Result of the measurement model by all variables

Table 16 CFA measurement model by all variables

| **Latent Variables** | **Observe Variables** | **Indic-ators** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| | | | ***β*** | ***b*** | ***S.E.*** | ***t*** | ***$R^2$*** |
| Social media | Social Media | SMC | 0.60 | 0.71 | 0.06 | 10.83** | 0.36 |
| | Channel | SMC1 | 0.74 | 0.94 | 0.07 | 14.33** | 0.55 |
| | | SMC2 | 0.84 | 1.00 | - | - | 0.70 |
| | | SMC3 | 0.61 | 0.87 | 0.07 | 12.62** | 0.37 |
| | Tourism | TP | 0.97 | 0.94 | 0.06 | 17.02** | 0.94 |
| | promotion | TP1 | 0.78 | 0.98 | 0.06 | 16.65** | 0.60 |
| | | TP2 | 0.76 | 1.00 | - | - | 0.57 |

| Latent Variables | Observe Variables | Indic-ators | Result | | | | |
|---|---|---|---|---|---|---|---|
| | | | $\beta$ | *b* | *S.E.* | *t* | $R^2$ |
| | | TP3 | 0.75 | 0.96 | 0.06 | 15.96** | 0.56 |
| | Tourist information search | TIS | 0.95 | 1.00 | - | - | 0.90 |
| | | TIS1 | 0.81 | .99 | 0.06 | 17.63** | 0.65 |
| | | TIS2 | 0.79 | 1.00 | - | - | 0.63 |
| | | TIS3 | 0.68 | .82 | 0.05 | 16.03** | 0.46 |
| Environmental awareness | Environmental knowledge | ENK | 0.98 | 1.00 | - | - | 0.97 |
| | | ENK1 | 0.75 | 1.00 | - | - | 0.57 |
| | | ENK2 | 0.72 | .97 | 0.06 | 15.48** | 0.52 |
| | | ENK3 | 0.71 | 1.02 | 0.07 | 14.47** | 0.51 |
| | Environmental attitude | EA | 0.98 | 0.96 | 0.05 | 17.02** | 0.96 |
| | | EA1 | 0.70 | 0.92 | 0.05 | 18.58** | 0.49 |
| | | EA2 | 0.82 | 1.00 | - | - | 0.67 |
| | | EA3 | 0.69 | .85 | 0.05 | 15.99** | 0.47 |
| | | EA4 | 0.59 | .81 | 0.06 | 13.23** | 0.34 |
| | | EA5 | 0.72 | .96 | 0.06 | 16.93** | 0.51 |
| Place attachment | Place identity | PI | 0.94 | .99 | 0.06 | 15.28** | 0.88 |
| | | PI1 | 0.75 | .91 | 0.05 | 17.28** | 0.57 |
| | | PI2 | 0.83 | 1.00 | - | - | 0.70 |
| | | PI3 | 0.78 | .98 | 0.06 | 16.88** | 0.61 |
| | | PI4 | 0.70 | .89 | 0.07 | 13.47** | 0.49 |
| | Place dependency | PD | 0.81 | 1.00 | - | - | 0.66 |
| | | PD1 | 0.75 | .82 | 0.04 | 20.37** | 0.80 |
| | | PD2 | 0.89 | 1.00 | - | - | 0.56 |
| | | PD3 | 0.91 | .96 | 0.03 | 28.50** | 0.82 |
| | | PD4 | 0.75 | .88 | 0.04 | 20.53** | 0.56 |
| ERB | General behavior | GB | 0.98 | 1.00 | - | - | 0.96 |
| | | GB1 | 0.82 | 1.00 | - | - | 0.67 |
| | | GB2 | 0.67 | .83 | 0.05 | 15.80** | 0.45 |
| | | GB3 | 0.76 | .90 | 0.05 | 18.52** | 0.58 |

| **Latent Variables** | **Observe Variables** | **Indic-ators** | **Result** | | | | |
|---|---|---|---|---|---|---|---|
| | | | ***β*** | ***b*** | ***S.E.*** | ***t*** | ***R²*** |
| | | GB4 | 0.73 | .85 | 0.05 | 17.66** | 0.53 |
| | | GB5 | 0.81 | .92 | 0.06 | 16.82** | 0.65 |
| | Specific | SB | 0.98 | .96 | 0.05 | 18.11** | 0.97 |
| | behavior | SB1 | 0.81 | .97 | 0.05 | 19.51** | 0.63 |
| | | SB2 | 0.80 | 1.00 | - | - | 0.65 |
| | | SB3 | 0.74 | .92 | 0.05 | 17.35** | 0.54 |
| | | SB4 | 0.70 | .93 | 0.06 | 16.35** | 0.49 |
| | | SB5 | 0.52 | .70 | 0.06 | 11.03** | 0.27 |
| | | SB6 | 0.72 | .92 | 0.06 | 17.03** | 0.52 |
| $\chi^2$ =427.26, *df* =397, $\chi^2/df$=1.078, *p* =.142, *GFI* =.952, *AGFI*=.92, *RMSEA* =.013, NFI=.98, CFI=.99, RMR= .02 | | | | | | | |

**$p$< .01

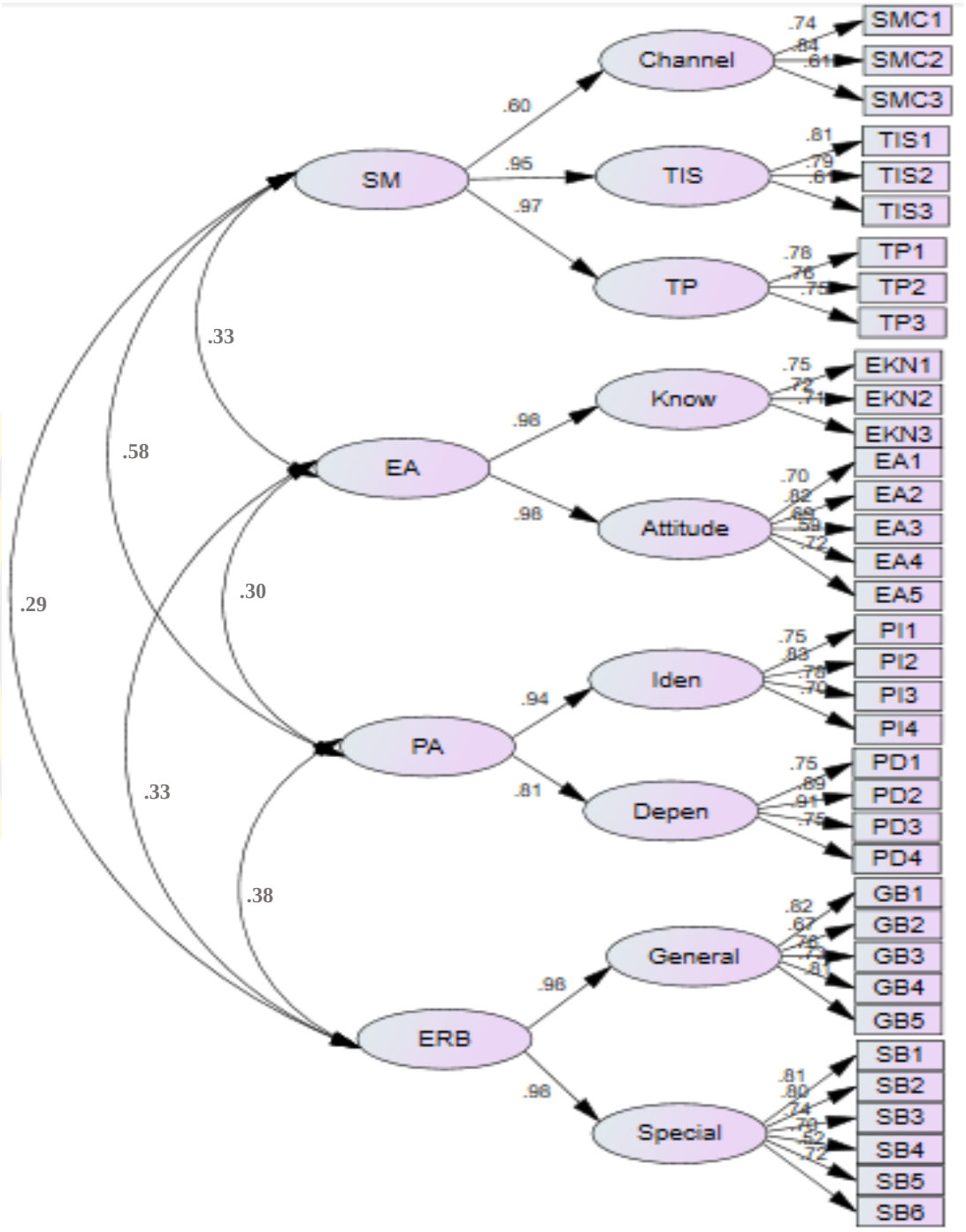


Figure 15 CFA measurement model by all variables

In table 16, four latent variables were obtained from the CFA measurement model: social media, environmental awareness, Place attachment, and ERB. To identify the ERB model among the tourists, a statistically significant confirmatory

factor analysis (CFA) measurement (AGFI = 0.92, chi-square = 427.26, $p \leq 0.01$) model by all variables was developed as detailed in Appendix F. The CFA measurement model of all variables' result showed (in table 16) that standardized factor loading of all parameters was positively significant at statistical level $p < .01$. Each variable reflects the dominant contributing factors to this model using the standardized regressing weight value in the CFA model. The standardized factor loading values were from .52 to .91 when the indicators' Squared Multiple Correlations (R2) values were 27% to 82%. Results for this CFA measurement model of all variables indicated an adequate model fit (Table 08).

Table 17 The result of construct reliability and construct validity

| Construct | composite reliability | Convergent validity (AVE) | Discriminant validity (√AVE) | Alpha |
|---|---|---|---|---|
| **SM** | 0.92 | 0.57 | 0.75 | 0.87 |
| **EA** | 0.89 | 0.71 | 0.84 | 0.89 |
| **PA** | 0.93 | 0.79 | 0.89 | 0.91 |
| **ERB** | 0.93 | 0.73 | 0.86 | 0.92 |

In table 17, the internal consistency of the items of each variable is shown. The measuring reliability was assessed using Cronbach's alpha coefficient and composite construct reliability. According to table 17, Cronbach's alpha of constructions ranges from 0.87 to 0.92. The higher value was ERB (0.92) following by place attachment (0.91), environmental awareness (0.89), and social media (0.87). In the table, construct composite reliability ranges are from 0.75 to 0.89. The higher value of composite reliability contains ERB and place attachment (0.93) following by social media (0.92), environmental awareness (0.89).

According to table 17, the AVE value, which represents the convergent validity of social media, is 0.57; environmental awareness is 0.71; place attachment is 0.79, and environmentally responsible behavior is 0.73. The squire root of AVE, which represents social media's discriminant reliability, is 0.75; environmental awareness is 0.84; place attachment is 0.89, and environmentally responsible behavior is 0.86.

**4. The result of structural equation modeling of ERB model**

**The correlation coefficients and discriminant validity of the variables in the ERB model**

Table 18 The correlation between Observed Variable of the model

| Variable | SM Channel | Tourism Promotion | Information Search | Env. Knowledge | Env. Attitude | Place Identity | Place Dependence | General Behavior | Specific Behavior |
|---|---|---|---|---|---|---|---|---|---|
| SM Channel | 1.00 | | | | | | | | |
| Tourism Promotion | .46** | 1.00 | | | | | | | |
| Information Search | .44** | .69** | 1.00 | | | | | | |
| Env. Knowledge | .38** | .68** | .64** | 1.00 | | | | | |
| Env. Attitude | .34** | .70** | .62** | .77** | 1.00 | | | | |
| Place Identity | .41** | .52** | .55** | .62** | .64** | 1.00 | | | |
| Place Dependence | .36** | .41** | .46** | .47** | .43** | .74** | 1.00 | | |
| General Behavior | .39** | .55** | .54** | .66** | .64** | .70** | .64** | 1.00 | |
| Specific Behavior | .39** | .56** | .54** | .66** | .70** | .70** | .57** | .81** | 1.00 |

**$p < .01$

The coefficient values of the observed variables of the Environmentally responsible behavior (ERB) had a significant correlation at .01 level. According to Table 18, the correlation coefficient between observed variables for measuring the Environmentally responsible behavior (ERB), the lowest value was equal to .34 (Environment attitude and social media channel), and the highest value was .81 (Specific behavior and General behavior). These coefficient correlations indicated that the variables had enough correlations for doing statistical analysis.

Table 19 The correlation between Latent Variable and discriminant validation assessment of the model

| Variable | SM | EA | PA | ERB |
|---|---|---|---|---|
| **SM** | **0.75*** | | | |
| **EA** | .707** | **0.84*** | | |
| **PA** | .582** | .610** | **0.89*** | |
| **ERB** | .622** | .741** | .735** | **0.86*** |

**$p$< .01; *discriminant validity

Following Table 19, the correlation of all variables in SEM was significant at the statistical level p<.01. The lowest correlation was between Social media (SM) and Place attachment (PA), equal to .58. The highest correlation was between Environmental awareness (EA) and environmentally responsible behavior (ERB), equal to .74. According to Schober et al. (2018), <0.1 indicates a negligible correlation, and >0.9 indicates a very strong correlation. These correlation coefficients indicated that the data are good enough for analyzing with the structural equation modeling. The discriminant validity is not less than 0.75. The discriminant validity is substantial if the AVE squire root between two constructs is higher than the correlation (Fornell and Larcker, 1981). There are no correlation coefficients more than 0.58 and no square roots of AVEs less than 0.75 (table 19), suggesting that the scales in this research are discriminately valid.

Table 20 The standardized Factor Loading of variables in the model

| **Variables** | **SM** | **EA** | **PA** | **ERB** | $r^2$ |
|---|---|---|---|---|---|
| SM_Channel | .56** | - | - | - | .31 |
| SM_TIS | .80** | - | - | - | .63 |
| SM_TP | .85** | - | - | - | .72 |
| EKN | - | .88** | - | - | .78 |
| E_Att | - | .87** | - | - | .76 |
| Place_Iden | - | - | .95** | - | .91 |
| Place_Depen | - | - | .77** | - | .60 |
| G_Behavior | - | - | - | .90** | .81 |
| S_Behavior | - | - | - | .90** | .81 |

**$p$<.01

Depending on table 20, the standardized Factor Loading of variables in the model can be described. Factor loading value shows that the observed variable can describe latent variable and show how suitable it is for analysis by SEM. According to Gefen et al. (2000), factor loading should be equal to or greater than .70 for good convergent validity. According to Anderson and Gerbing (1988), the factor loading value is higher than or equal to 0.52 and significant at the 0.01 significance level. The social media (SM) had three observed variables carrying the social media channel (.56), the social media tourists' information search (.80), and Social media tourism promotion (.85). The environment awareness had two observed variables carrying out environment knowledge (.88) and Environmental attitude (.87). The Place attachment (PA) had two observed variables carrying out place identity (.95) and Place dependence (.77). The ERB also had two observed variables: general behavior (.90) and specific behavior (.90). In table 19, the factor loading value of all observed variables showed significance to an analysis by structural equation modeling (Anderson and Gerbing, 1988).

Table 21 The standardized coefficients of the structural equation model

| VARIABLES | SM | | | EA | | | PA | | | ERB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TE | DE | IE | TE | DE | IE | TE | DE | IE | TE | DE | IE |
| **SM** | - | - | - | .92 | .92 | - | .70 | .70 | - | .75 | -.43 | 1.17 |
| | | | | (0.05) | (0.05) | | (0.05) | (0.05) | | (0.17) | (0.17) | (0.17) |
| | | | | 19.68** | 19.68** | | 15.41** | 15.41** | | 2.52* | 2.52* | 2.52* |
| **EA** | - | - | - | - | - | - | - | - | - | .84 | .84 | - |
| | | | | | | | | | | (0.15) | (0.15) | |
| | | | | | | | | | | 5.30** | 5.30** | |
| **PA** | - | - | - | - | - | - | - | - | - | .58 | .58 | - |
| | | | | | | | | | | (0.05) | (0.05) | |
| | | | | | | | | | | 9.82** | 9.82** | |
| **R-Square** | .90 | | | .84 | | | .49 | | | .84 | | |

$\chi^2$=22.84, *df* = 16, $\chi^2$ /*df*=1.43, *p* = .12, *RMSEA* = .03, *GFI* = .99, *CFI* = .99, NFI= .99, RMR= .01

*$p$< .05, **$p$< .01; (TE= Total Effect, DE= Direct Effect, IE= Indirect Effect)

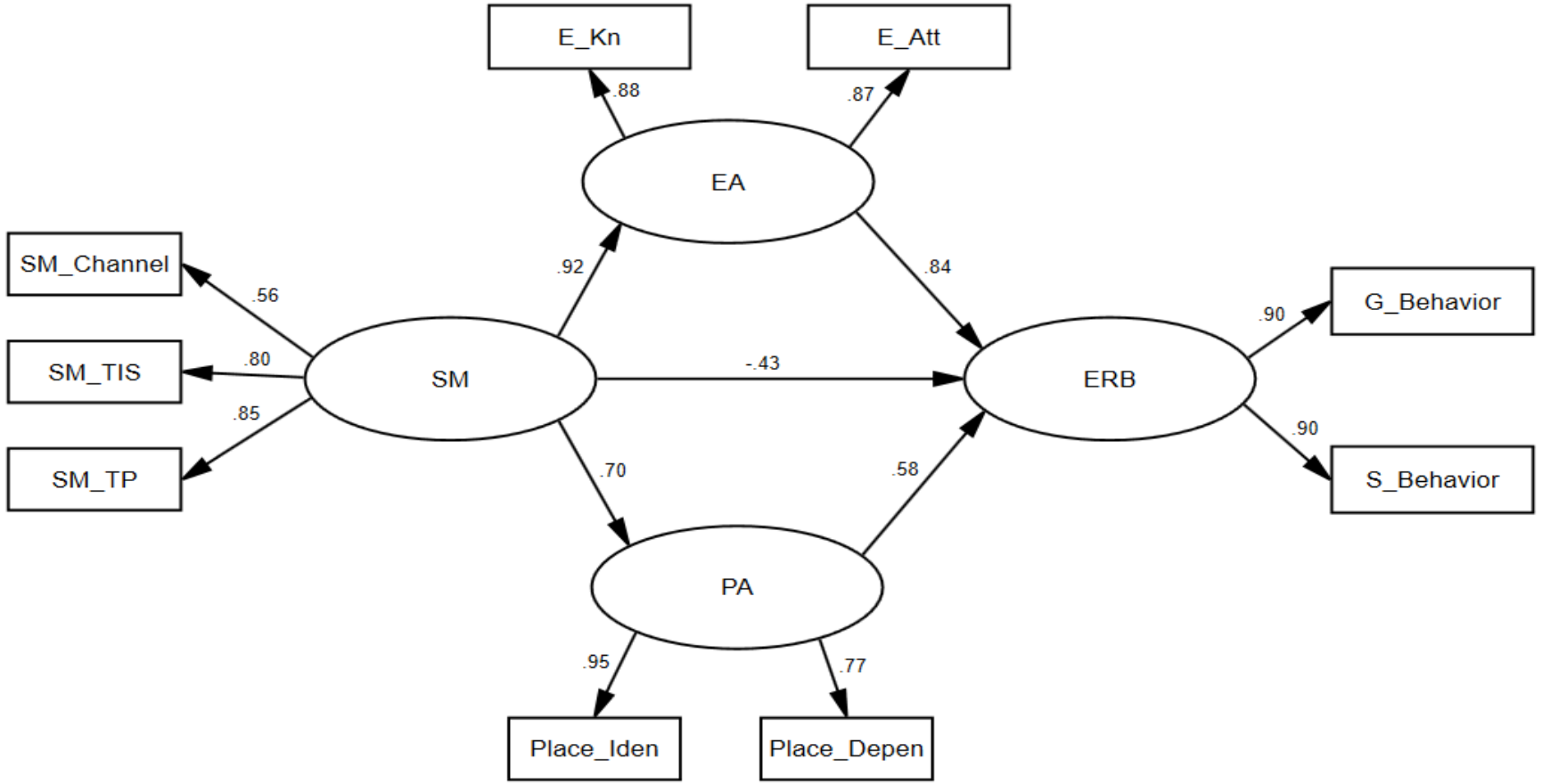


Figure 16 The path diagram of the ERB model

Table 22 The model fit indices of ERB model

| Criteria Index | Model fit criteria | Scores | Results |
|---|---|---|---|
| ***Chi-Square (χ2 )*** | *p >.05* | *χ2* =22.84 (*p*=.08) | Passed |
| ***χ2/df*** | <2 | 1.43 | Passed |
| ***RMSEA*** | <.05 | .03 | Passed |
| ***SRMR*** | <.05 | .01 | Passed |
| ***GFI*** | >.95 | .98 | Passed |
| ***CFI*** | >.95 | .99 | Passed |
| ***NFI*** | >.95 | .99 | Passed |

According to Table 22, the result of structural equation modeling shows the model fit of Environmentally responsible behavior model of the tourists of St. Martin's island who used social media showed the goodness of fit indices as follows: Chi-Square equal to 22.84, degree of freedom (*df*) equal to 16, Relative Square *(χ2/df)* equal to 1.43, Root Mean Squared Residual (RMSEA) equal to .03, Comparative Fit Index (CFI) equal to .99, Goodness of fit indices (GFI) equal to 0.98, Standardized Root Mean Squared Residual (SRMR) equal to .01, Norm Fit Index (NFI) .99. The relative Chi-square was less than 2; RMSEA and SRMR were less than .05; CFI and NFI were more than .95. These criteria indicated that the model had a good model fit to empirical data (Schumacker and Lomax, 2016).

## Hypothesis testing

In quantitative research, the testing hypothesis is necessary to check the proposed hypotheses in this study. In this study, there were six hypotheses proposed based on the literature reviews. The Environmentally responsible behavior (ERB) model, which consisted of social media (SM), environmental awareness (EA), and place attachment (PA), could describe the environmentally responsible behavior (ERB) of the tourists of St. martin's island with R-Square ($R^2$) = 84 percent. The standardized effect of all variables was described as follows:

Hypothesis one ($H_1$) represented the impact of using social media to create environmental awareness to the tourists to the eco-friendly destination. In our data analysis, we also found in path coefficient that the social media (SM) had a direct effect on Environmental awareness (EA) at $\beta = .92$ significantly at p-value <.01. So, the statistical result supports the theoretical found.

Hypothesis two ($H_2$) assumed that the tourists' use of social media positively impacts attaching a place to the tourists. In the path diagram of our statistical analysis, it is found that social media (SM) had a direct effect on Place attachment (PA) at $\beta = .70$ significantly at p-value <.01. So, it was shown that the statistical findings support the theoretical assumption.

In hypothesis three (H3), it was assumed that tourists' environmental awareness (EA) directly affects their ERB. The statistical data analysis explored that Environmental awareness (EA) had a direct effect on Environmentally responsible behavior (ERB) at $\beta = .84$ significantly at p-value <.01, which was supported the theoretical assumption of the researcher.

According to hypothesis four ($H_4$), the assumption was that place attachment grown by using social media affects tourists ERB. In the path diagram of the statistical data analysis, it was found that Place attachment (PA) had a direct effect on Environmentally responsible behavior (ERB) at $\beta = .58$ significantly at p-value <.01, which supported the theoretical assumption of hypothesis four ($H_4$).

In the final hypothesis ($H_5$), the theoretical support was the social media significantly affects tourists' ERB. According to the path analysis (table 20) of statistical data analysis, it was found that the direct effects of social media (SM) on tourists' Environmentally responsible behavior (ERB) at $\beta = -.43$, whereas total effects $\beta = .75$ and indirect effects $\beta = 1.17$ at value $p<.01$. The results of data analysis showed that social media significantly affect tourists' ERB, which also supported the theoretical assumption of the researcher.

Table 23 The conclusion of data analysis following the hypothesis

| SL. | Hypothesis | Std. Path loading | Conclusion |
|---|---|---|---|
| $H_1$ | Social media might have a direct impact on creating environmental awareness among tourists. | 0.92* | Supported |
| $H_2$ | The usages of social media by tourists would significantly impact place attachment to the tourists. | 0.70* | Supported |
| $H_3$ | Environmental awareness might have a significant direct effect on the ERB of tourists. | 0.84* | Supported |
| $H_4$ | Place attachment might significantly affect to ERB of tourists. | 0.58* | Supported |
| $H_5$ | Social media might significantly affect the ERB of tourists. | -0.43* | Supported |

*$p$< .01

## Conclusion

In conclusion, all suggested factors are strongly associated with environmentally responsible behavior. However, only four factors such as social media, environmental awareness, place attachment, and environmentally responsible behavior can predict environmentally responsible behavior. Generally, the result shows that social media, environmental awareness, and place attachment can expect the tourists' ERB.

# CHAPTER V

# CONCLUSION, DISCUSSION, AND RECOMMENDATION

The study followed different stages to arrive at acceptable criteria for assessing each environmentally responsible behavior (ERB) model variable. The study's aims and objectives were to investigate the tourists' environmentally responsible behavior (ERB) to an ecologically sensitive tourism destination using confirm factor analysis (CFA) and to develop an ERB relationship model using Structure Equation Model (SEM) on tourists using social media in St. Martin's Island, Bangladesh. The researchers gathered 467 samples from visitors who visited the island and used social media to achieve these goals. The casual relations of all latent variables were discovered using the confirmatory factor analysis approach, and the findings were investigated using structural equation modeling. In the quantitative approach, the research instrument was created to ensure high quality before data collection. The research tool was a survey questionnaire with a 5-point Likert scale. The quantitative data was disseminated through an online survey to a particular demographic of social media visitors. The data were analyzed using the licensed SPSS (version 21.0) software for descriptive statistics and correlation and the licensed AMOS (version 24.0) tool for structural equation modeling (SEM).

The conclusions of the quantitative data of the study are summarized in this chapter. Furthermore, the study goals were addressed, and the practical implications, debate, suggestions for future research, and the ultimate conclusion. Following is a list of those sections:

1. Conclusion of the research findings
2. Discussion about findings
3. The implication of the research
4. Limitation & Recommendation
5. The conclusion of the research

## Conclusion of the findings

The conclusion of the study's results is presented in this section. The main areas include the respondents' demographic profile, SEM analysis, including CFA of variables that influence visitors' environmentally responsible behavior, hypothesis testing, and SEM modeling of ERB. The researcher submitted the questionnaire to 500 respondents, with a target sample of 450, and received 467 answers through an online survey from visitors visiting St. Martin's Island, Bangladesh, with a response rate of 93.4 percent.

### Findings of Objective II

#### CFA measurement model

The acceptable $\chi 2/df$ value of a measurement model is $\leq 3$ (Johnson et al., 1995). The found $\chi 2/df$ value was 1.078, which does not exceed the allowed threshold value of 3. The found RMSEA value was 0.013<0.05; GFI=0.95, NFI=90, CFI=0.99, TLI=0.99, and AGFI=0.92 all of which were greater than the 0.90 cutoff. According to the suggestion of Schumacker and Lomax (2016), all the indices are acceptable for evaluating the measurement model. As a result, the measurement model may be regarded to be well-fitting to the data.

#### Construct reliability & validity

The reliability measurement value was assessed using Cronbach's alpha coefficient and composite construct reliability. The Cronbach's alpha of constructions ranges from 0.87 to 0.92 (table 15), much higher than the recommended threshold of 0.70. In the table, construct composite reliability ranges are from 0.75 to 0.89, higher than the threshold recommended by Fornell and Larcker (1981). According to Tseng et al. (2006), this value ensures that the sufficient internal consistency of the items for each construct is maintained.

The contribution of measuring items to constructs was used to determine convergent validity, which was satisfactory since all item factor loadings are $\geq 0.52$ at the 0.01 significance level (Anderson and Gerbing, 1988). Furthermore, the range of constructs' average variance extracted (AVE) was from 0.57 to 0.79, higher than the minimum requirement of 0.50 suggested by Fornell and Larcker (1981). All of this indicates that measures have sufficient convergent validity.

The square root of AVE was compared to the correlation coefficient among the components to determine discriminant validity. If the AVEs between any two constructs were higher than the squared correlations, discriminant validity is significant (Fornell and Larcker, 1981). The correlation coefficients (Table 19) are less than or equal to 0.74, and all square roots of AVEs are greater than or equal to 0.75, showing that all correlation coefficients are less than or equal to the square roots of their corresponding AVEs. As a consequence, the scales examined in this research meet the requirement of discriminant validity.

**Findings of objective I & III**

**Summary of SEM model**

The results of the data analysis can be summarized in two stages: stage I describes objective I of the study, which explores the factors that affect tourists' ERB, and stage II shows the developed SEM model of tourists' ERB while traveling to eco-sensitive tourist destinations.

Stage I:

1) Environmentally responsible behavior (ERB) is composed of two different variables: general behavior and specific behavior. The factor loading score for both variables was.90. Other factors in the model include the following indications in the findings

- Social media (SM) has three indications, ranging from the highest to the lowest factor loading. The most significant factor loading is Social media tourist promotion, followed by Social media tourism information search, and the lowest factor loading is Social media channel. .85,.80, and.58 were the factor loading indicators.
- Environmental awareness (EA) had two indicators: Environmental knowledge had the most significant factor loading with a score of.88, and Environmental attitude had the lowest factor loading with a score of.87.
- There were two indicators for Place attachment (PA): Place identity and Place dependency. Place identity had the most significant factor loading, with a score of.95, and Place dependency had the lowest, with a value of.77.

2) The significance of the path analysis at the statistical level of p.05. was identified in the model of tourists' ERB. The model also supports the null hypotheses. Environmentally responsible behavior (ERB) model of social media users of visitors on St. Martin's Island may explain 84% of tourists ERB.

Stage II:

The following is the conclusion for developing the evaluation criteria for visitors' ERB model of social media users:

1. The primary component in the ERB model is environmentally responsible behavior (ERB), which is made up of two observable variables:

1.1 General behavior

1.2 Specific behavior

1.1 General behavior forms by five indicators as follows:

- Willingness to solve environmental problems
- Reading about the environments
- Convincing the travel companions
- Buying an environmentally sound product
- Intentions of learning the environment

1.2 Specific behavior forms by six indicators as follows

efforts of learning the local culture

- Reducing the interference to the nature
- Following the legal ways
- Garbage related action
- Willingness to lessen/stop visiting
- Measuring the damaging environmental activity

2. Social media (SM) forms by three observed variables:

2.1 Social media channel

2.2 Social media tourism promotion

2.3 Social media tourist information search

2.1 Social media channel consists of 3 indicators, namely-

- using of SM channels
- uploading contents in SM

- Impacts of SM while traveling

2.2 Social media tourism promotion consists of 3 indicators, namely-

- Promoting tourism activities
- Assessing SM as leading tourism promotion
- Environment protection promotion by SM

2.3 Social media tourist information search consists of 3 indicators, namely-

- Importance of SM for searching information and making decision
- Searching authentic and reliable information in SM
- Searching external information in SM

3. Environmental awareness (EA) forms by two observed variables:

3.1 Environmental knowledge

3.2 Environmental attitude

3.1 Environmental knowledge consists of 3 indicators, namely-

- Knowledgeable of ecological balance
- Protection of natural resources for future
- The impact of activities on the natural environments

3.2 Environmental attitude consists of 5 indicators, namely-

- Usual activities on environmental issues
- Feelings for adopting environmental attitudes
- Raising environmental protection awareness
- Humans interfere of disastrous consequences
- Humans' learning about natural works

4. Place attachment (PA) consists of 2 observe variables:

4.1 Place identity

4.2 Place dependence

4.1 Place identity consists of 4 indicators, namely-

- Feelings of touring in the destination
- Feelings of learning the destination
- Sense of belonging destination
- Personal feeling about the destination

3.2 Place dependence consists of 4 indicators, namely-

- Spending more time in the destination

- Comparing the enjoyment of traveling
- Comparing the satisfaction of visiting
- Finding a substitute for the destination

## Discussion about findings

The main aim of the study was 1) exploring the factors that affect tourists' ERB to an ecologically sensitive tourism destination, 2) investigating the influence of those factors on tourists' ERB to an ecologically sensitive tourism destination and, 3) developing the relationship model of ERB using Structure Equation Model (SEM). The empirical data revealed that the ERB model of social media users had excellent goodness of fit (Schumacker and Lomax, 2016).

Social media evaluation parameters were Social Media Channel, Tourism Promotion, and Tourist Information Search. Social media revealed nine indicators of these three observable variables that were statistically significant. According to the findings, each variable's criteria contain three variables. Social media findings revealed substantial beneficial impacts in environmental awareness and place attachment, with a p-value <.01.

The research results showed that social media mainstreaming environmental awareness (EA) might lead to environmentally responsible behavior among visitors. Jussila et al. (2011) and Lee and Ma (2012) found that content generation and distribution (media and text) allows social network users to share, interact, and cooperate. Idumange (2012) suggested that various social media platforms, such as blogs, Facebook, Twitter, and YouTube, may be utilized in a variety of ways to raise environmental awareness. According to the findings of this study's structural path analysis, environmental awareness (EA) produced through social media has a significant capacity to interpret tourist ecologically responsible conduct. The researchers had already discovered evidence to back up their findings (Idumange, 2012; Kaur, 2015). Depending on the S-O-R framework, this model proved to be better.

Social media plays an essential role since it has a significant impact on place attachment and, as a result, tourist ERB. Visitors who utilize social media at an acceptable rate while traveling are more likely to develop a positive picture of the

location and then take action to promote the area's environment. With a significant p-value of.01, the results of this quantitative research investigated the substantial impacts of social media on place attachment. This study corroborated Xu and Han (2019)'s quantitative study, which found that social media alters the conventional connection between location attachment and pro-environmental behavior. Another study by Hollander and Page (2020) backs up the findings of this study, revealing that sentiment analysis of social media data like Twitter and Flickr, coupled with a comprehensive community interaction approach, may help to understand views regarding place attachment better.

Environmental awareness is made up of two factors that have been observed: environmental knowledge and environmental attitudes. Eight indicators describe the observed variables. The connection between environmental consciousness and tourist ERB, with a p-value < .01, shows that environmental awareness positively affects tourist ERB. The study's empirical findings indicate (based on the path analysis) that environmental awareness and place attachment substantially impact social media and ERB. According to Arı and Yılmaz (2017), environmental awareness positively correlates with people's motivation and behavioral intention to behave themselves in a pro-environmental way. Another research by Song et al. (2019) found that environmental knowledge has a mediating impact on behavior labels such as buying green goods. The findings of this research corroborate the Cheng and Wu (2015) findings which were tourists visiting Taiwan's Penghu Islands from an environmental knowledge perspective, which identified tourists' behavior to facilitate sustainable tourism development and developed a model for sustainable island tourism development by integrating environmental knowledge, environmental sensitivity, and place at risk. Some other researchers (He et al., 2018; Lee and Oh, 2018; Su et al., 2020) found results comparable to this study. Through a quantitative approach, the findings of this study further support the direct impact of environmental awareness on ERB.

Place identity and place dependence were used as evaluation criteria for place attachment in this research. Eight indications were verified and described in the Place attachment. This research also found that place attachment has a direct impact

on visitors' ERB. According to the findings, each variable's criteria, namely place identity, had four indications, and place dependency had four as well. The findings of Place attachment, using these indicators, revealed substantial beneficial impacts in environmentally responsible conduct among visitors on St. Martin's Island who use social media, by p-value <.01.

The study's empirical findings confirmed that social media-generated place attachment (PA) could significantly influence tourists' environmentally responsible behavior (ERB). Individuals who are attached to a specific destination express environmental problems and are becoming more aware of current environmental issues, according to Lee (2011). The quantitative research of Pietilä and Fagerholm (2016) found that attachment to place is an important predictor of the ERB in their quantitative study. Cheng et al. (2013) conducted a quantitative study on a Taiwanese island and discovered that island tourists are more likely to exhibit ERB when attracted to and attached to the destination. Some previous studies (Oh et al., 2012; Williams and Vaske, 2003) found emotional attachment to a destination to significantly motivate functionally attached residents to act responsibly toward the environment.

It is further emphasized by the direct impact analysis of models, which demonstrate the value of adding environmental awareness and place attachment by the social media to comprehending tourist ERB.

In this research, the ERB evaluation criteria were general behavior and specific behavior as indicated by quantitative method design. The ERB found 11 indications that were substantially verified and described. The findings revealed that each variable's criteria, namely General behavior, had five indications, and Specific behavior had six. The findings of the ERB model, using these indicators, revealed substantial beneficial impacts in environmentally responsible behavior among visitors on St. Martin's Island who use social media, by p-value <.01.

In tourism consumption, the present research developed an integrated model integrating script theory into the S-O-R framework in a tourists' environmentally responsible behavior model. Based on the well-known S-O-R theory, the integrated tourist behavior model received empirical support in this research. With the growth of tourism destinations, DMOs are increasingly confronted with severe environmental

issues (Cheng and Wu, 2015; Han, 2015) with tourists' behaviors due to their knowledge or ignorance (Chang, 2010). Tourism consumption arising from virtual experiences, such as social media, has significant implications for visitor motivation and behavior (Javed et al., 2020), modified visitor recycling behavior (Sujata et al., 2019), reconstructed consciousness of responsible consumption (Nalewajek and Macik, 2013), and developed environmental behavior (Robelia et al., 2011).

This research found that although social media has a negative direct effect on visitors' environmentally responsible behavior, it does have a substantial indirect impact on tourists' ERB through promoting place attachment and environmental knowledge. This research is backed up Javed et al. (2020)'s findings on the effects of visitors' responsible behavior by using social media. However, this research discovered that social media had a negative direct impact on environmentally responsible tourist behavior. The study of Goh et al. (2013) found that marketer-generated material is not as powerful as user-generated content regarding customer behavior. A quantitative study by Taha et al. (2021)on social media and its effect on purchasing behavior in the pandemic showed substantial variations in social media usage during the COVID-19. Abbas et al. (2019) found that the negative impact is stronger than the positive impact of using social media on student learning behavior in Pakistan.

In conclusion, the study's first objective was to explore the factors that affect tourists' ERB to an ecologically sensitive tourism destination. The findings of the study were the statistical significance which was determined based on prior studies. In the script theory of this study, the researcher found that social media, environmental awareness, and place attachment had a significant impact on tourists' ERB. The empirical finding also supported the script theory. The second objective of the study was to investigate the influence of those factors on tourists' ERB. According to table 22 of this study, it was found that all the factors had a significant influence on tourists' ERB, which was supported by different scholars (previously discussed). The final and third objective was to develop the relationship model of ERB using the Structure Equation Model (SEM). Followed by the suggestion Mulaik and Millsap (2000), the researcher first analyzed the standard experimental factors to determine how many factors, including latent variables, fit with observed variables' variance and

covariance matrix. Then, the researcher determined the confirmatory factor model to check the relationship between the indicator and latent variables. After that, the researcher specified the relationship among the latent variables in the structural model. And finally, the researcher determined the acceptable fit of the structural SEM model, which is statistically significant (GFI>.95 and RMSEA < .05).

## The implication of the study

By establishing themselves around the essential advantages to their visitors, tourism locations acquire a strategic advantage. A digital platform such as social media recognizes the eco-friendly destination as a significant driver in building connection and awareness to its environment, leading to its ERB. This result suggests that destination marketers should closely monitor and carefully maintain the location's ecological environment and image. It also showed that the growth of user-generated data on social media (e.g., Facebook, YouTube, and Instagram) has opened up new possibilities for brand management and environmental preservation in the destination. A visible mistake (e.g., socially irresponsible activities, environmental degradation) may be rapidly transmitted to the mass tourists and can substantially harm a destination's environment and connection to the area, fueled by user-generated social media material.

### Theoretical Contribution

The results supported the researcher's paradigm, which may be used in Bangladesh and other contexts. The findings were in line with previous research. According to the S-O-R theory, this study discovered several variables associated with social media and its impact on environmental awareness and place attachment, affecting visitors' behavioral intention and actual behavior at a particular destination. This study contributes to the expanding body of information in the field of social media research and usages. Because of the increased frequency of social media use, this research focused on young visitors (mainly from Bangladesh) and helped them understand the issue better. This research provides information about eco-friendly locations.

Our research supports the increasing significance of social media in the search for travel information. Secondly, the several valuable insights into social media. Social media is of unavoidable importance as a source of destination

information and environmental attitudes among visitors when purchasing tourism goods. Finally, this research found that social media-generated environmental awareness and place attachment may significantly contribute to visitors' ERB. Ultimately, the S-O-R framework may be defined by tourists' consumption, which is prompted by social media and results in environmental awareness and place attachment, with the visitors' ERB as the output.

However, the assessment items for each construct in this research must be changed for a more significant effect. The findings significantly contribute to our understanding of consumer behavior in underdeveloped nations, particularly in Bangladesh. As a result, the suggested approach may be applied to various developing-country contexts or destinations.

**Application Contribution**

This research has a lot of practical applications. Because the study utilized random techniques with multiple steps, the sample turned out to be very representative of travelers. In the sample, the visitors were less experienced, had a middling level of education (38 percent), and had no or little money (52.49 percent) for traveling. Consequently, the study's findings may be used to develop successful promotions for marketing the destination and raising knowledge about the location to enhance and standardize mass tourism's environmentally responsible behavior. According to demographic data, young people dominated the domestic travel industry of Bangladesh, particularly visitors under the age of 25. According to the study's demographic findings, Bangladeshi visitors use social media, and they like sharing their travel experiences and information about locations through social media platforms. As the age of social media has progressed, visitors have grown more educated and skilled in trip planning, sharing their experiences, and searching for attractions anywhere, anytime (Jin et al., 2014).

The statical data showed that social media negatively impacts tourists’ ERB, where most of the respondents (18-35 years old) were young. So, the Government and a policymaker can educate the mass tourists to be aware of the environment to change the adverse effect to positive effect to ERB of the tourists. Destination management organizations (DMOs) and destination marketers could use digital platforms such as

social media to promote destinations, raise environmental awareness, and new locations for all kinds of visitors, particularly young generations.

The results on social media and its effect on tourist behavior have significant implications for both DMOs and tourism business management. The substantial impact of social media channels on tourist behavior, as shown in the case of young visitors, emphasizes the need for DMOs and policymakers to carefully examine social media to improve the sustainability of tourism destinations and the tourism industry.

Social media has a significant influence on behavioral intention when it refers to tourist information searches, making it vital to keep current in available to the general public when it comes to such tourist information searches. Notably, tourism promotion has a significant impact on tourist behavior; as a result, tourism promotion on social media has become a critical tool for attracting tourist attention, and DMOs and tourism business managers should develop an appropriate tourism promotion strategy for their businesses to attract more young generation and earn a share of the market in a competitive business environment.

Destination management organizations and policymakers should carefully examine social media to improve the sustainability of tourism destinations and the tourism industry (e.g., eco-friendly practices and activities promotion, exploring eco-logical complexity of the destination through social media). It's also crucial to define particular brand management goals and use marketing and advertising to strategically convey stakeholders with a collection of environmentally sound conserving techniques, with social media serving as an excellent platform for connecting mass visitors. The DMOs can design an effective plan to nurture and attract passionate tourists by marketing through social media focusing on tourist behaviors that are adequately acknowledged.

Destination management should develop different eco-actions (e.g., repeated postings on environmental awareness, the destination's ecological imbalance, and visitor duties) linked to environmental responsibility. A specific page for environmental concerns may be included on the destination's website, and other types of social media verified sites. This activity, which may convey environmental

knowledge, will be beneficial in raising awareness among the destination's mass visitors. Such websites may allow destination administrators to address delicate topics such as using recycled and environmentally friendly materials. The DMOs can maintain their competitive advantage by engaging a portion of tourists concerned about environmental issues and reassuring all stakeholders about their conservation efforts, attracting (e.g., social media travel communities) and reassuring visitors about what the location has done to preserve the environment via online communication. The recommended activities, far from being basic and conventional marketing ideas, show the significance of environmental problems for the destination's sustainability and the tourist industry. Tourism customers would have grown extremely suspicious of stated environmental measures as a result of this. The destination should initiate sustainable initiatives and then convey them openly and honestly. It will pique the attention of key stakeholders and enhance the company's eco-friendly image both offline and online.

Tourists should be encouraged to become more emotionally connected to destinations by DMOs. Engaging tourists in the first stages of their functional attachment is also vital to encourage visitors who are functionally linked to developing a stronger emotional attachment. Individuals' emotions and perceptions are formed based on their unique experiences; giving memorable experiences that help people remember the good sensations from the location may enhance their emotional connection to it (Ujang and Zakariya, 2015). The findings of this research support this. As a result, giving a unique experience to visitors (e.g., enhancing beach settings and quality, offering a variety of recreational activities, and engaging civic actions) may make the location more appealing to mass tourists. Tourists' emotional connection may also be enhanced by increasing civic awareness and participation. , According to Lokocz et al. (2011), place attachment may be formed via place features and inhabitants' social engagement and personal commitment to the site. Increased visitors' proprietary rights and environmental liabilities may further improve their emotional connection to the destination by integrating tourists as significant elements of preserving the destination's environment, contributing to sustainable tourism development plans.

Finally, visitors should see showplace attachment toward the destination after strengthening emotional ideas about the location, and if tourists are connected to the particular place, they will engage themself in more responsible behavior. The destination will profit from these procedures, which will concentrate and excite its DMOs and business management. Moreover, visitors concerned about the environment are more inclined to practice environmental protection, which motivates them to engage in collective activities to protect the destination's ecosystem. Local environmental and tourism development agencies will be able to build more effective sustainable development strategies by including the concerns of residents (Shandas and Messer, 2008).

Furthermore, DMOs should actively reinforce visitors' connection to tourism destinations and support their ERB by offering signboards, interpretive programs, guided tours, environmental education activities, and printed and online materials targeted at ushering in a new age of tourism.

## Limitation and recommendation

By understanding the antecedent factors of visitors' ERB, tourism locations may develop strategies for long-term tourism. Theoretically, this research contributes to fresh perspectives in comprehending visitors' ERBs caused by social media. In general, no studies are identified without limitation. This research has several shortcomings.

The way the ERB is conceived is a significant drawback since the ERB question items in this study may have overlooked additional important aspects that may be investigated in future research. Future ERB conceptualizations may strive for universal behavior or classify various ERB components. Similarly, in this research, the direct impacts of social media on ERB are negative (-.43), while the indirect effects of social media on ERB are significantly favorable (1.17). According to this study, social media has both a negative direct and a favorable indirect impact on ERB. In retrospect, it seems that utilizing social media to ERB has a positive correlation. We believe that future research should delve further into this topic. Future research should look at the effect of social media on ERB.

Reviewing moderating effects associated with sociodemographic factors is one noteworthy approach to enhance the argument provided in this article and build a better grasp of the influence of the model variables. It is expected to open up new avenues for future study and development of the work presented here. We urge researchers to look into the effect of sociodemographic factors on this model and the process it describes.

Furthermore, the respondents in the research were mainly from Bangladesh. Notably, the study's sample cannot be directly matched to the population of all site users. Additionally, visitor profiles are likely to vary with travel seasonality since visitors may anticipate seeing various things in their surroundings. Consequently, it is impossible to compare the characteristics of this convenience sample to those of a defined population. Most responders have some restrictions (e.g., young aged, no incomes, moderate educated, domestic tourists). The results' generalizability may also be limited. The researcher recommended that future research investigate the extent to which the statistically significant relationships discovered in this study can be replicated across cultures, tourism destination types, and countries to gain a better understanding of the robustness of the research model proposed here (e.g., highly or moderate-income tourist, domestic tourists vs. foreign tourists, including tourism-related scholars and people in business).

Future research may gather long-term data to review the integrated model, which would offer more chances to investigate how the other variables in the model affect social media and ERB. Longitudinal data would allow researchers to examine how time affects people's social media and ERB and determine if the benefits of visiting environmentally friendly tourism sites are long-lasting.

ERB may be assessed before and after an experimental research design encounter to record changes while visitors visit an eco-friendly site. This kind of data gathering may be used to evaluate further the model presented here and make a better argument for causality between the variables' connections. When it comes to expanding the horizons of sustainable and eco-friendly tourism research, we urge tourism researchers to explore these study possibilities. This study only looks at the perspectives of mass tourists on social media usage and its impact. It may be meaningful for future researchers to include tourism business managers and conduct

semi-structured interviews to obtain their perspectives on the increasing use of social media and the changing nature of tourist destinations and attractions resulting from tourist behavior.

The connection between four factors was shown in this study's research model. To investigate the causal connection of ERB, future researchers should concentrate on additional factors such as destination ecological reputations, tourists' emotions, tourists' perceptions, attitude toward sustainable tourism development, and support for sustainable tourism development.

## Final conclusion

Bangladesh is a third-world nation with inadequate infrastructure and one of the most populated countries in the world. Although tourism provides a tremendous potential to improve the economy, the industry's revenue contributes very little to GDP due to inadequate infrastructure, lousy marketing tactics, unprepared touristic products, widespread security concerns, and a lack of information about tourism products among other factors. Despite these inadequacies, the situation is constantly improving, with a low rate of international tourists and a growing number of local tourists.

This research aimed to find a model of visitors' ERB that showed links between social media, environmental awareness, and place attachment. To achieve this goal, the researcher set two goals for the study: 1. exploring the confirm factor analysis (CFA) of tourists' environmentally responsible behavior (ERB) toward an ecologically sensitive tourism destination, and 2. developing an ERB relationship model using Structure Equation Model (SEM).

The study's initial intention was to determine the impact of social media on visitor behavior. The researcher uses Mehrabian and Russell (1974)'s S-O-R framework to figure out this role. Analyzing human behavior by combining digital platforms such as social media was not an easy assignment. There have been a few studies on the effect of social media on tourist behavior. As a result, it is a modern technique for researching and generalizing Bangladeshi visitor behavior, mainly responsible behavior. The study's findings reveal a substantial difference (direct effect) on social media and the ERB of Bangladeshi visitors. From the standpoint of DMOs, an awareness of consumer behavior based on social media sites can

effectively offer vital information about the manner of today's Bangladeshi mass visitors.

According to the findings of this study, the DMOs and business managers should carefully consider social media to improve the sustainability of tourism destinations and maintain the tourism industry by raising the ERB of mass visitors. DMOs may want to use social media platforms to brand locations to increase visitors' emotional attachment to destinations. It is critical to use social media to engage visitors in forming a functional connection to the location and urge those already functionally connected to become more emotionally attached. DMOs and tourism business management may develop different eco-actions (e.g., repeated postings relating to environmental awareness, the destination's ecological misbalancing issues, and visitor duties) to educate tourists about their environmental responsibilities. The destination's digital channels, such as its social media verified web pages, may include a specific page for environmental concerns. This activity may raise environmental consciousness, which will be beneficial in raising awareness among the destination's mass visitors.

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# APPENDICES

# Appendix-A The results of CVI for questionnaire item evaluation

The researcher tested the accuracy of the content (content validity) of the query with 3 experts as following-

1. Dr. Chavana Angkanurakbun — Faculty of Management & Tourism, Burapha University
2. Dr. Sarunya Sanglimsuwan — Faculty of Management & Tourism, Burapha University
3. Dr. Chitlada Pinthong — Faculty of Management & Tourism, Burapha University

## Part I- Screening Question

| Question | Experts' opinion | | |
|---|---|---|---|
| | **A** | **B** | **C** |
| Do you use any social media like Facebook, YouTube, Instagram, Linked In, what's app, We Chat, Line, Blog, Vlog or any others? | | | |
| □ **Yes** (If yes, please continue) □ **No** | ✓ | ✓ | ✓ |
| Have you visited to Saint Martin's island ? | | | |
| □ **Yes** (If yes, please continue) □ **No** | ✓ | ✓ | ✓ |

## Part II: Demographic information

| No | Questions | Experts' opinion | | |
|---|---|---|---|---|
| | | **A** | **B** | **C** |
| **1** | Gender | | | |
| | Male | ✓ | ✓ | ✓ |
| | Female | | | |

| No | Questions | Experts' opinion | | |
|---|---|---|---|---|
| | | A | B | C |
| 2 | Age<br>18 – 25 Years<br>26 – 35 Years<br>36 – 45 Years<br>45 – 55 Years<br>56 to above | ✓ | ✓ | ✓ |
| 3 | Marital status<br>Single<br>Married<br>Others (Specify.....) | ✓ | ✓ | ✓ |
| 4 | Occupation<br>1. Student<br>2. Non-government service<br>3. Government/state enterprise office service<br>4. Businessman (management/executive)<br>5. Retired<br>6. Housewife<br>7. Not employed<br>8. Others (specify.....) | ✓ | ✓ | ✓ |
| 5 | Highest education level<br>1. Secondary School Certificate (SSC)<br>2. Higher Secondary Certificate (H S C)<br>3. Bachelor Degree<br>4. Master Degree<br>5. Above Master Degree | ✓ | ✓ | ✓ |
| 6 | Yearly income<br>1. Equal to or lower than 180,000 BDT (≤ 2000 USD)<br>2. From 180,001 – 270,000 BDT (2,101 – 3,000 USD)<br>3. From 270,001 – 360,000 BDT (3,001 – 4,000 USD) | ✓ | ✓ | ✓ |

| No | Questions | Experts' opinion | | |
|---|---|---|---|---|
| | | A | B | C |
| | 4. From 360,001 – 450,000 BDT (4,001 – 5,000 USD)<br>5. From 450,001 – 540,000 BDT (5,001 – 6,000 USD)<br>6. More than BDT 540,001 (Above 6,001 USD)<br>7. No income | | | |

## Part III

## Regarding using social media & tourism experience

| No | Questions | Experts' opinion | | |
|---|---|---|---|---|
| | | A | B | C |
| **7** | What kinds of social media platform that you use most frequently?<br>1. Facebook<br>2. You Tube<br>3. Instagram<br>4. What's app<br>5. Linked In<br>6. Twitter<br>7. Others (Please specify) ..... | ✓ | ✓ | ✓ |
| **8** | How long have you been using social media?<br>1. Less than 1 years<br>2. 1 – 3 years<br>3. 3 – 5 years<br>4. More than 5 years | ✓ | ✓ | ✓ |
| **9** | Which type of device do you use for surfing social media?<br>1. Smart phone<br>2. Desktop/Laptop | ✓ | ✓ | ✓ |

| No | Questions | Experts' opinion | | |
|---|---|---|---|---|
| | | **A** | **B** | **C** |
| | 3. Tablet<br>4. Others (Specify.....) | | | |
| **10** | Approximately how long do you spend on surfing social media sites per day?<br>1. Less than 2 hours<br>2. 2 – 4 hours<br>3. 4 – 6 hours<br>4. 6 – 8 hours<br>5. More than 8 hours | ✓ | ✓ | ✓ |
| **11** | How many recognized tourism destinations have you visited in last couple of years?<br>1. Less than 10 destinations<br>2. 11 – 20 destinations<br>3. 21 – 30 destinations<br>4. More than 30 destinations | ✓ | ✓ | ✓ |

**Part IV: Environmentally responsible behavior related questionnaire**

| Items | Expert opinion | | | Total scores | Item CVI |
|---|---|---|---|---|---|
| | **A** | **B** | **C** | | |
| Social media: Social media channel | | | | | |

| Items | | Expert opinion | | | Total scores | Item CVI |
|---|---|---|---|---|---|---|
| | | **A** | **B** | **C** | | |
| 12 | I actively use social media (Facebook, Twitter, YouTube, Instagram, what's app, linked In, blogs etc.) during travel and updates my social status. | +1 | +1 | +1 | 3 | 1.00 |
| 13 | I actively share pictures and videos during travel and tourism for my mental pleasure. | +1 | +1 | +1 | 3 | 1.00 |
| 14 | I use, social media during travel to show my mobility in competitive ways. | +1 | +1 | 0 | 2 | .67 |
| Social media: Tourism promotion | | | | | | |
| 15 | Tourism promotion/advertisement via social media entices me to travel towards a destination. | +1 | +1 | +1 | 3 | 1.00 |
| 16 | Social media sites and Internet-based social media technologies helped to promote tourism. | +1 | +1 | +1 | 3 | 1.00 |
| 17 | The presence of Social medias through Web 2.0 (creating and sharing of user-generated content) play important role in the case of promoting tourism destinations. | +1 | +1 | 0 | 2 | .67 |
| 18 | Public relation (PR) or news or announcement in social media encourage me to concern about environment protection. | +1 | +1 | +1 | 3 | 1.00 |
| Social media: Tourist information search | | | | | | |
| 19 | I search information on social media before making decision to travel destination. | +1 | +1 | +1 | 3 | 1.00 |
| 20 | Social media sites provide credible, and reliable travel related information. | +1 | +1 | +1 | 3 | 1.00 |

| Items | | Expert opinion | | | Total scores | Item CVI |
|---|---|---|---|---|---|---|
| | | **A** | **B** | **C** | | |
| 21 | Social media helps me to search external information of a travel destination. | +1 | +1 | +1 | 3 | 1.00 |
| Environmental awareness: Environmental knowledge | | | | | | |
| 22 | I am knowledgeable in the maintenance of ecological balance that enhance the sustainable development of St. Martin's islands. | +1 | +1 | +1 | 3 | 1.00 |
| 23 | I know that for the next generation, we should protect the natural resources of St. Martin's islands. | +1 | +1 | +1 | 3 | 1.00 |
| 24 | I know that excessive tourism activities will damage natural environments of St. Martin's islands. | +1 | +1 | +1 | 3 | 1.00 |
| 25 | I care about the impact of my activities on the natural environments of St. Martin's islands. | +1 | +1 | +1 | 3 | 1.00 |
| Environmental awareness: Environmental attitude | | | | | | |
| 26 | I usually watch/see a video/photo/text on environmental issues. | +1 | +1 | +1 | 3 | 1.00 |
| 27 | After watching/seeing a video/photo/text on environmental issues I feel motivated to adopt attitudes to improve environment. | +1 | +1 | +1 | 3 | 1.00 |
| 28 | Raising environmental protection awareness is important among tourists of the St. Martin's islands. | +1 | +1 | +1 | 3 | 1.00 |
| 29 | When humans interfere with nature, it often produces disastrous consequences. | +1 | +1 | +1 | 3 | 1.00 |
| 30 | Humans will eventually learn enough about how nature works to be able to control it. | +1 | +1 | +1 | 3 | 1.00 |

| Items | | Expert opinion | | | Total scores | Item CVI |
|---|---|---|---|---|---|---|
| | | **A** | **B** | **C** | | |
| Place attachment: Place identity | | | | | | |
| 31 | Touring in St. Martin's island is very meaningful to me. | +1 | +1 | 0 | 2 | .67 |
| 32 | I would like to accumulate more experience about the destination by revisiting. | +1 | +1 | +1 | 3 | 1.00 |
| 33 | I have a strong sense of belonging in regard to St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 34 | Visiting Saint martin's island was more important to me than visiting any other places. | +1 | +1 | +1 | 3 | 1.00 |
| Place attachment: Place dependence | | | | | | |
| 35 | I would like to spend more time in St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 36 | I enjoyed traveling St. Martin's island more than other tourism destinations. | +1 | +1 | +1 | 3 | 1.00 |
| 37 | I am satisfied with visiting Saint martin's island comparing to other places. | +1 | +1 | +1 | 3 | 1.00 |
| 38 | I would not substitute of St. Martin island's recreation with elsewhere. | +1 | +1 | +1 | 3 | 1.00 |
| Environmentally responsible behavior: General behavior | | | | | | |
| 39 | I try to solve the environmental problems in Saint Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 40 | I read the reports, advertising, and books related to the environment of St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 41 | I try to convince my companions to protect natural environments of St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |

| Items | | Expert opinion | | | Total scores | Item CVI |
|---|---|---|---|---|---|---|
| | | **A** | **B** | **C** | | |
| 42 | I tend to buy environmentally sound products. | +1 | +1 | +1 | 3 | 1.00 |
| 43 | I want to spend time to learn more about the St. Martin's island's environment. | +1 | +1 | +1 | 3 | 1.00 |
| Environmentally responsible behavior: Specific behavior | | | | | | |
| 44 | I take efforts to learn more about culture of St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 45 | I try to reduce the interference the natural environment of St. Martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 46 | I follow the legal ways to stop the destruction of the environment of Saint martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| 47 | I collect beach trash to make the St. Martin's island nicer place. | +1 | +1 | +1 | 3 | 1.00 |
| 48 | I voluntarily lessen even stop visiting saint martin's island if it needed to recover from environmental damage. | +1 | +1 | +1 | 3 | 1.00 |
| 49 | I try to abstain myself from environmental damaging activity while travelling saint martin's island. | +1 | +1 | +1 | 3 | 1.00 |
| | | | | | S-CVI/Ave | 0.97 |
| **Total selected items are 38.** | | | | | | |

# Appendix- B Research instrument

Burapha Business School (BBS)
Faculty of Management & Tourism, Burapha University

169 Long Had Bangsaen Rd, Saen Suk, Chonburi District, Chonburi 20131, Thailand.

Dear respondents,

I am an apprentice of Master of Management program majoring in international tourism management at Burapha University, Thailand. Currently, I am researching my master's degree, considering it as a mandatory part of my degree. Your cordial cooperation is highly appreciable to accomplish this research. My research title is, 'THE IMPACT OF SOCIAL MEDIA, ENVIRONMENTAL AWARENESS, AND PLACE ATTACHMENT ON ENVIRONMETALLY RESPONSIBLE BEHAVIOR OF TOURISTS AT SAINT MARTIN'S ISLAND, BANGLADESH.' This research's potential population are those who use social media such as Facebook, YouTube, what's app, Instagram, LinkedIn etc. and has to visit the saint martin's island for travelling purpose.

A fruitful questionnaire has been developed to complete this research, which will represent you as a respondent. This questionnaire is a vital part of the research. Therefore, you are requested humbly to spend around 10 minutes filling the questionnaire from your perspective. All of your answers will be treated as confidential and will be used for research purposes only. All of the statements of this research are approved by Burapha University. Please read all the instructions and statements carefully to answer the questions that reflect your own opinion.

I am thanking you for your kind assistance.

Regards,
Enamul Haque
Masters in International Tourism Management
Burapha University
Chonburi, Thailand.

# Part I

## Screening question

This questionnaire is related to social media and the participants are those who use social media frequently. You are warmly welcomed to participate the survey. Please read the component below carefully and tick (✓) in the box (□) that match the best according to your own opinion.

**Do you use any social media like Facebook, YouTube, Instagram, Linked In, what's app, We Chat, Line, Blog, Vlog or any others?**

**□ 1) Yes** **□ 2) No**

**(If yes, please continue)**

**Have you visited Saint Martin's Island?**

**□ 1) Yes** **□ 2) No**

**(If yes, please continue)**

# Part II

## Demographic information

Please read all the components below carefully and tick (✓) in the box (□) that match the best according to your own opinion and you can answer only one for each question.

1. Gender

   □ 1) Male □ 2) Female

2. Age

   □ 1) 18 – 25 Years □ 2) 26 – 35 Years □ 3) 36 – 45 Years

   □ 4) 46 – 55 Years □ 5) 56 years or above

3. Marital status

   □ 1) Single □ 2) Married □ 3) Others (Specify.....)

4. Occupation

□ 1) Student □ 2) Non-government service

□ 3) Government/state enterprise office service □ 4) Businessman

□ 5) Retired □ 6) Housewife

□ 7) Not employed □ 8) Others (specify.....)

5. Highest education level

□ 1) Secondary School Certificate □ 2) Higher Secondary Certificate

□ 3) Bachelor Degree □ 4) Master Degree □ 5) Above Master Degree

6. Yearly income

□ 1) Equal to or lower than 180,000 BDT (≤ 2000 USD)

□ 2) From 180,001 – 270,000 BDT (2,101 – 3,000 USD)

□ 3) From 270,001 – 360,000 BDT (3,001 – 4,000 USD)

□ 4) From 360,001 – 450,000 BDT (4,001 – 5,000 USD)

□ 5) From 450,001 – 540,000 BDT (5,001 – 6,000 USD)

□ 6) More than BDT 540,001 (Above 6,001 USD)

□ 7) No income

## Part III

## Regarding using social media & tourism experience

This part is related to using social media and tourism experiences. Please read all the components below carefully and tick (✓) in the box (□) that match the best according to your own opinion and you can answer only one for each question.

7. What kinds of social media platform that you use most frequently?

□ 1) Facebook □ 2) You Tube □ 3) Instagram

□ 4) What's app □ 5) LinkedIn □ 6) Twitter

□ 7) Others (Please specify) .....

8. How long have you been using social media?

□ 1) Less than 1 years □ 2) 1 – 3 years

□ 3) 3 – 5 years □ 4) More than 5 years

9. Which type of device do you use mostly for surfing social media?

□ 1) Smart phone □ 2) Desktop/Laptop

□ 3) Tablet □ 4) Others (Specify.....)

10. Approximately how many hours do you spend on surfing social media sites per day?

□ 1) Less than 2 hours □ 2) 2 – 4 hours □3) 4 – 6 hours

□ 4) 6 – 8 hours □ 5) More than 8 hours

11. How many recognized tourism destinations have you visited in last couple of years?

□ 1) Less than 10 destinations □ 2) 11 – 20 destinations

□ 3) 21 – 30 destinations □ 4) More than 30 destinations

## Part IV

## Environmentally responsible behavior regarding using social media

Saint martin's island is one of the complex bio-diversified islands of the world which is going to be destroyed by environmentally unfriendly behavior of the tourist's day by day. According to environmentalists, only environmentally responsible behavior can protect this unique bio-diversified system of the saint martin's island. Honorable tourists, you are asked to evaluate (✓) the level of understanding about the impact of social media, place attachment, and environmental awareness on environmentally responsible behavior.

Rating scale

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

| | Items | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|---|
| Social media: Social media channel | | | | | | |
| 12 | I actively use social media (Facebook, Twitter, YouTube, Instagram, what's app, linked In, blogs etc.) during travel and updates my social status. | +1 | +1 | +1 | | |
| 13 | I actively share pictures and videos during travel and tourism for my mental pleasure. | +1 | +1 | +1 | | |
| 14 | I use, social media during travel to show my mobility in competitive ways. | +1 | +1 | 0 | | |
| Social media: Tourism promotion | | | | | | |
| 15 | Tourism promotion/advertisement via social media entices me to travel towards a destination. | +1 | +1 | +1 | | |
| 16 | Social media sites and Internet-based social media technologies helped to promote tourism. | +1 | +1 | +1 | | |
| 17 | Public relation (PR) or news or announcement in social media encourage me to concern about environment protection. | +1 | +1 | +1 | | |
| Social media: Tourist information search | | | | | | |
| 18 | I search information on social media before making decision to travel destination. | +1 | +1 | +1 | | |
| 19 | Social media sites provide credible, and reliable travel related information. | +1 | +1 | +1 | | |
| 20 | Social media helps me to search external information of a travel destination. | +1 | +1 | +1 | | |

| | Items | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|---|
| Environmental awareness: Environmental knowledge | | | | | | |
| 21 | I am knowledgeable in the maintenance of ecological balance that enhance the sustainable development of St. Martin's island. | +1 | +1 | +1 | | |
| 22 | I know that for the next generation, we should protect the natural resources of St. Martin's island. | +1 | +1 | +1 | | |
| 23 | I care about the impact of my activities on the natural environments of St. Martin's island. | +1 | +1 | +1 | | |
| Environmental awareness: Environmental attitude | | | | | | |
| 24 | I usually watch/see a video/photo/text on environmental issues. | +1 | +1 | +1 | | |
| 25 | After watching/seeing a video/photo/text on environmental issues I feel motivated to adopt attitudes to improve environment. | | | | | |
| 26 | Raising environmental protection awareness is important among tourists of the St. Martin's island. | | | | | |
| 27 | When humans interfere with nature, it often produces disastrous consequences. | | | | | |
| 28 | Humans will eventually learn enough about how nature works to be able to control it. | | | | | |
| Place attachment: Place identity | | | | | | |
| 29 | Touring in St. Martin's island is very meaningful to me. | | | | | |

| Items | | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|---|
| 30 | I would like to accumulate more experience about the destination by revisiting. | | | | | |
| 31 | I have a strong sense of belonging in regard to St. Martin's island. | | | | | |
| 32 | Visiting Saint martin's island was more important to me than visiting any other places. | | | | | |
| Place attachment: Place dependence | | | | | | |
| 33 | I would like to spend more time in St. Martin's island. | | | | | |
| 34 | I enjoyed traveling St. Martin's island more than other tourism destinations. | | | | | |
| 35 | I am satisfied with visiting Saint martin's island comparing to other places. | | | | | |
| 36 | I would not substitute of St. Martin island's recreation with elsewhere. | | | | | |
| Environmentally responsible behavior: General behavior | | | | | | |
| 37 | I try to solve the environmental problems in Saint Martin's island. | | | | | |
| 38 | I read the reports, advertising, and books related to the environment of St. Martin's island. | | | | | |
| 39 | I try to convince my companions to protect natural environments of St. Martin's island. | | | | | |
| 40 | I tend to buy environmentally sound products. | | | | | |
| 41 | I want to spend time to learn more about the St. Martin's island's environment. | | | | | |

| | Items | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|---|
| Environmentally responsible behavior: Specific behavior | | | | | | |
| 42 | I take efforts to learn more about culture of St. Martin's island. | | | | | |
| 43 | I try to reduce the interference the natural environment of St. Martin's island. | | | | | |
| 44 | I follow the legal ways to stop the destruction of the environment of Saint martin's island. | | | | | |
| 45 | I collect beach trash to make the St. Martin's island nicer place. | | | | | |
| 46 | I voluntarily lessen even stop visiting saint martin's island if it needed to recover from environmental damage. | | | | | |
| 47 | I try to abstain myself from environmental damaging activity while travelling saint martin's island. | | | | | |

Your opinion/Comment.....

.....

.....

***** Cordial thanks for your cooperation*****

# Appendix-C Result of pilot test

# Result of Pilot test

**Case Processing Summary**

| | N | % |
|---|---|---|
| Valid | 30 | 100.0 |
| Excluded | 0 | .0 |
| Total | 30 | 100.0 |

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .902 | 38 |

**Summary Item Statistics**

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 3.700 | 3.133 | 4.167 | 1.033 | 1.330 | .076 | 38 |
| Inter-Item Correlations | .194 | -.428 | .842 | 1.270 | -1.967 | .048 | 38 |

**Item-Total Statistics**

| Items | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| Q_12 | 136.7667 | 189.082 | .491 | .899 |
| Q_13 | 136.9333 | 190.892 | .415 | .900 |
| Q_14 | 137.1000 | 188.783 | .561 | .898 |
| Q_15 | 136.7000 | 193.183 | .499 | .899 |
| Q_16 | 136.4333 | 199.909 | .174 | .903 |

| | | | | |
|---|---|---|---|---|
| Q_17 | 136.6667 | 203.402 | -.055 | .906 |
| Q_18 | 136.8333 | 197.178 | .216 | .903 |
| Q_19 | 136.4333 | 192.116 | .432 | .900 |
| Q_20 | 136.9667 | 195.757 | .302 | .902 |
| Q_21 | 136.4667 | 195.775 | .377 | .901 |
| Q_22 | 137.2333 | 189.013 | .531 | .898 |
| Q_23 | 136.5333 | 194.671 | .367 | .901 |
| Q_24 | 136.7000 | 200.079 | .066 | .906 |
| Q_25 | 136.7333 | 197.926 | .253 | .902 |
| Q_26 | 136.8000 | 188.924 | .512 | .899 |
| Q_27 | 136.6667 | 192.161 | .411 | .900 |
| Q_28 | 136.4667 | 196.464 | .337 | .901 |
| Q_29 | 136.6333 | 193.895 | .327 | .902 |
| Q_30 | 136.8333 | 188.144 | .515 | .899 |
| Q_31 | 136.7333 | 185.099 | .690 | .896 |
| Q_32 | 136.7333 | 190.547 | .581 | .898 |
| Q_33 | 136.8667 | 187.706 | .673 | .896 |
| Q_34 | 137.1667 | 190.282 | .451 | .900 |
| Q_35 | 136.9000 | 193.472 | .491 | .899 |
| Q_36 | 137.2333 | 196.392 | .318 | .901 |
| Q_37 | 137.2000 | 188.648 | .604 | .897 |
| Q_38 | 137.3333 | 194.782 | .338 | .901 |
| Q_39 | 137.2000 | 190.717 | .578 | .898 |

| | | | | |
|---|---|---|---|---|
| Q_40 | 137.4667 | 188.947 | .554 | .898 |
| Q_41 | 137.1333 | 188.878 | .557 | .898 |
| Q_42 | 137.3667 | 191.482 | .386 | .901 |
| Q_43 | 136.8333 | 198.144 | .242 | .902 |
| Q_44 | 136.9333 | 191.720 | .470 | .899 |
| Q_45 | 137.0333 | 191.689 | .491 | .899 |
| Q_46 | 136.9667 | 195.551 | .335 | .901 |
| Q_47 | 137.2667 | 187.375 | .530 | .898 |
| Q_48 | 136.9667 | 193.068 | .462 | .900 |
| Q_49 | 136.9667 | 193.551 | .437 | .900 |

The questionnaire was taken for pilot testing to the tourists who has visited the St. Martin's island within last couple of years and use at least one type of popular social media. The total participants in this piloting were 30 respondents with 38 items. The internal consistency reliability for the 38 items is judged based on the average inter-item correlation (AIC) analysis, calculating Cronbach's alpha and the discriminant index level. The AIC for all the items is 0.19 (-.43 to .842) and Cronbach's alpha 0.90. Clark and Watson (1990) recommended the desired AIC range to be 0.15 to 0.20 for measuring a board higher-order construct. George & Mallery (2016) agreed with the notion that a Cronbach's alpha value above 0.90 are excellent. Both the obtained AIC and alpha value prove the adequate internal consistency for the 38-item of all variables. The discriminant index displayed a level of reliability with the result from -0.55 to .690. According to Ebel & Frisbie (1991, P 232), discrimination index value should be more than 0.20. For this, the researcher cut off the items no 17 & 24 from the questionnaire to get acceptable reliability value of the questionnaire.

## Results after excluding two lower discrimination index items

**Case Processing Summary**

| | N | % |
|---|---|---|
| Valid | 30 | 100.0 |
| Excluded | 0 | .0 |
| Total | 30 | 100.0 |

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .910 | 36 |

**Summary Item Statistics**

| | Mean | Minimum | Maximum | Range | Maximum / Minimum | Variance | N of Items |
|---|---|---|---|---|---|---|---|
| Item Means | 3.688 | 3.133 | 4.167 | 1.033 | 1.330 | .077 | 36 |
| Inter-Item Correlations | .215 | -.333 | .842 | 1.174 | -2.531 | .044 | 36 |

**Item-Total Statistics**

| Items | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Q_12 | 128.9333 | 187.168 | .482 | .907 |
| Q_13 | 129.1000 | 188.576 | .422 | .908 |
| Q_14 | 129.2667 | 186.409 | .572 | .905 |
| Q_15 | 128.8667 | 191.085 | .496 | .907 |
| Q_16 | 128.6000 | 197.766 | .231 | .910 |
| Q_18 | 129.0000 | 195.655 | .227 | .911 |
| Q_19 | 128.6000 | 189.559 | .451 | .907 |
| Q_20 | 129.1333 | 193.775 | .293 | .909 |
| Q_21 | 128.6333 | 193.551 | .380 | .908 |
| Q_22 | 129.4000 | 186.662 | .541 | .906 |
| Q_23 | 128.7000 | 192.838 | .351 | .908 |
| Q_25 | 128.9000 | 195.955 | .241 | .910 |
| Q_26 | 128.9667 | 186.447 | .527 | .906 |
| Q_27 | 128.8333 | 189.730 | .423 | .908 |
| Q_28 | 128.6333 | 194.792 | .308 | .909 |
| Q_29 | 128.8000 | 192.097 | .313 | .909 |
| Q_30 | 129.0000 | 186.069 | .513 | .906 |
| Q_31 | 128.9000 | 183.266 | .678 | .904 |
| Q_32 | 128.9000 | 187.955 | .605 | .905 |
| Q_33 | 129.0333 | 185.413 | .682 | .904 |
| Q_34 | 129.3333 | 188.368 | .442 | .907 |
| Q_35 | 129.0667 | 191.444 | .484 | .907 |
| Q_36 | 129.4000 | 194.317 | .313 | .909 |

| | | | | |
|---|---|---|---|---|
| Q_37 | 129.3667 | 186.723 | .594 | .905 |
| Q_38 | 129.5000 | 192.741 | .332 | .909 |
| Q_39 | 129.3667 | 188.171 | .599 | .905 |
| Q_40 | 129.6333 | 186.240 | .580 | .905 |
| Q_41 | 129.3000 | 186.010 | .590 | .905 |
| Q_42 | 129.5333 | 189.085 | .396 | .908 |
| Q_43 | 129.0000 | 195.448 | .272 | .909 |
| Q_44 | 129.1000 | 189.541 | .471 | .907 |
| Q_45 | 129.2000 | 189.752 | .481 | .907 |
| Q_46 | 129.1333 | 193.085 | .350 | .908 |
| Q_47 | 129.4333 | 184.875 | .545 | .906 |
| Q_48 | 129.1333 | 191.223 | .446 | .907 |
| Q_49 | 129.1333 | 191.775 | .418 | .908 |

After cutting off the 2 lower discrimination index valued items the following results are shown-

| **Score type** | **Value** | **Result type** | **Comments** |
|---|---|---|---|
| Cronbach's alpha | 0.91 | acceptable | George and Mallery (2016) |
| AIC | 0.215 (From -.33 to .842) | acceptable | Clark and Watson (2016) |
| Discriminant index | From 0.23 to 0.68 | acceptable | Ebel and Frisbie (1991) |

# Appendix-D Research Instrument in Bengali language

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প্রিয় উত্তরদাতা,

আমি বুরাফা বিশ্ববিদ্যালয়, থাইল্যান্ডের আর্ন্তজাতিক পর্যটন ব্যবস্থাপনা বিষয়ের স্নাতকোত্তর শ্রেণির একজন শিক্ষার্থী। আমার স্নাতকোত্তর শিক্ষার গুরুত্বপূর্ণ একটি অংশ হচ্ছে গবেষণা। আমি বর্তমানে গবেষণার কাজ করছি। আমার এ গবেষণার শিরোনাম, "THE IMPACT OF SOCIAL MEDIA, ENVIRONMENTAL AWARENESS, AND PLACE ATTACHMENT ON ENVIRONMETALLY RESPONSIBLE BEHAVIOR OF TOURISTS AT SAINT MARTIN'S ISLAND, BANGLADESH" (বাংলাদেশের সেন্টমার্টিন দ্বীপে আগত পর্যটকদের পরিবেশগত দায়িত্বশীল আচরণে সোশ্যাল মিডিয়া, পরিবেশ সচেতনতা ও ভ্রমণ গন্তব্যের ভূমিকা)। এই গবেষণায় অংশগ্রহণকারী নমুনা হচ্ছেন সেসকল মানুষ যাঁরা সোশ্যাল মিডিয়া যেমন- ফেসবুক, ইউটিউব, হোয়াটস এ্যাপ, ইনস্টাগ্রাম, লিংকড-ইন ইত্যাদি ব্যবহার করেন এবং ভ্রমণের উদ্দেশ্যে সেন্টমার্টিন দ্বীপে গিয়েছেন।

আমার এ গবেষণাকর্মটি সম্পাদন করতে একটি ফলপ্রসূ প্রশ্নমালা তৈরী করা হয়েছে যা আপনাকে একজন উত্তরদাতা হিসেবে প্রতিনিধিত্ব করবে। এ প্রশ্নমালা গবেষণার একটি অতীব গুরুত্বপূর্ণ বিষয়। এজন্য ৮-১০ মিনিট সময় নিয়ে আপনার নিজেস্ব দৃষ্টিভঙ্গির মাধ্যমে এ প্রশ্নমালাটি পূরণ করতে বিনীতভাবে অনুরোধ করছি।

আমি নিশ্চিত করছি যে, আপনার প্রদেয় উত্তরসমূহ গোপন রাখা হবে এবং তা শুধুমাত্র গবেষনাকার্যেই ব্যবহার করা হবে। এ প্রশ্নমালায় ব্যবহৃত সকল বিষয়ই বুরাফা বিশ্ববিদ্যালয় কর্তৃপক্ষ কর্তৃক অনুমোদিত। দয়া করে প্রশ্নমালায় ব্যবহৃত সকল নির্দেশাবলী, বিবরণসমূহ পড়ুন এবং প্রশ্নসমূহের উত্তর এমনভাবে প্রদান করুন যেন তা আপনার নিজেস্ব মতামতকে প্রতিফলিত করে।

সদয় সহযোগিতার জন্য আপনাকে আন্তরিকভাবে মোবারকবাদ জানাচ্ছি।

বিনীত,

এনামুল হক
মাস্টার্স অব ইন্টারন্যাশনাল ট্যুরিজম ম্যানেজমেন্ট
ম্যানেজমেন্ট ও ট্যুরিজম অনুষদ
বুরাফা বিশ্ববিদ্যালয়, চনবুড়ি প্রদেশ, থাইল্যান্ড।

## প্রথম অংশ: স্ক্রিনিং তথ্য

১. আপনি কি কোন সোশ্যাল মিডিয়া (যেমন- ফেসবুক, ইউটিউব, ইনস্টাগ্রাম, লিংকড-ইন, হোয়াটস এ্যাপ ইত্যাদির অন্তত পক্ষে যেকোন একটি) ব্যবহার করেন-

□ ১) হ্যাঁ □ ২) না

২. আপনি কি সেন্ট মর্টিন দ্বীপ ভ্রমণ করেছেন?

□ ১) হ্যাঁ □ ২) না

(উপরোক্ত প্রশ্নদুটির উত্তরই 'হ্যাঁ' হলে উত্তরপ্রদান প্রক্রিয়া চলমান রাখুন)

## দ্বিতীয় অংশ: জনমিতিক তথ্যসমূহ

অনুগ্রহ করে নিচের বিবরণসমূহ সর্তকতার সাথে পড়ুন এবং যে উত্তরটি আপনার নিকট সবচেয়ে বেশি গ্রহণযোগ মনে হয় সেই বক্সের উপর টিকচিহ্ন (✓) প্রদান করুন। দয়া করে কেবলমাত্র একটি ঘরকে উত্তর দেওয়ার জন্য বেছে নিন।

১. আমি একজন-

□ ১) পুরুষ □ ২) মহিলা

২. আমার বয়স-

□ ১) ১৮ থেকে ২৫ বছরের মধ্যে □ ২) ২৬ থেকে ৩৫ বছরের মধ্যে
□ ৩) ৩৬ থেকে ৪৫ বছরের মধ্যে □ ৪) ৪৬ থেকে ৫৫ এর মধ্যে
□ ৫৬ বছর বা তার বেশি

৩.আমি বর্তমানে-

□ ১) অবিবাহিত □ ২) বিবাহিত □ ৩) অন্যান্য (উল্লেখ্য করুন.....)

৪) আমার পেশা-

□ ১) ছাত্র □ ২) বেসরকারি চাকুরীজীবী □ ৩) সরকারি/রাষ্ট্রায়ত্ব প্রতিষ্ঠানে চাকুরীজীবী
□ ৪) ব্যবসায়ী□ ৫) কর্ম হতে অবসরপ্রাপ্ত □ ৬) গৃহিনী
□ ৭) বেকার □ ৮) অন্যান্য (উল্লেখ্য করুন.....)

৫) আমার শিক্ষাগত যোগ্যতা-

□ ১) এস এস সি বা সমমান □ ২) এইচ এস সি বা সমমান

□ ৩) স্নাতক/সম্মান ডিগ্রী বা সমমান □ ৪) মাস্টার্স ডিগ্রী বা সমমান

□ ৫) মাস্টার্স ডিগ্রী এর উচ্চতর পর্যায়ে (পিএইচডি, এমফিল ইত্যাদি)

৬) আমার বাৎসরিক আয়-

□ ১) ১,৮০,০০০.০০ টাকা বা এর কম

□ ২) ১,৮০,০০১.০০ টাকা হতে ২,৭০,০০০.০০ টাকার মধ্যে

□ ৩) ২,৭০,০০১.০০ টাকা হতে ৩,৬০,০০০.০০ টাকার মধ্যে

□ ৪) ৩,৬০,০০১.০০ টাকা হতে ৪,৫০,০০০.০০ টাকার মধ্যে

□ ৫) ৪,৫০,০০১.০০ টাকা হতে ৫,৪০,০০০ টাকার মধ্যে

□ ৬) ৫,৪০,০০১.০০ টাকার বেশি

□ ৭) উপার্জনহীন

**তৃতীয় অংশ: স্যোশাল মিডিয়া ও পর্যটন অভিজ্ঞতা সম্পর্কিত**

অনুগ্রহ করে নিচের বিবরণসমূহ সর্তকতার সাথে পড়ুন এবং যে উত্তরটি আপনার নিকট সবচেয়ে বেশি গ্রহণযোগ মনে হয় সেই বক্সের উপর টিকচিহ্ন (✓) প্রদান করুন। দয়া করে কেবলমাত্র একটি ঘরকে উত্তর দেওয়ার জন্য বেছে নিন।

৭) সকল স্যোশাল মিডিয়ার মধ্যে আমি সবচেয়ে বেশি ব্যবহার করি-

□ ১) ফেসবুক □ ২) ইউটিউব □ ৩) ইনস্টাগ্রাম

□ ৪) হোয়াটস এ্যাপ □ ৫) লিংকড ইন □ ৬) টুইটার

□ ৭) অন্যান্য (উল্লেখ্য করুন .....)

৮) উক্ত সোশ্যাল মিডিয়া আমি ব্যবহার করছি-

□ ১) এক বছর বা তার কম সময় ধরে □ ২) ০১ হতে ০৩ বছর ধরে

□ ৩) ০৩ হতে ০৫ বছর ধরে □ ৪) ০৫ বছর বা তার বেশি সময় ধরে

৯) সোশ্যাল মিডিয়া ব্যবহারের ক্ষেত্রে আমি সবচেয়ে বেশি ব্যবহার করি-

□ ১) মোবাইল ফোন □ ২) ডেস্কটপ/ল্যাপটপ কম্পিউটার

□ ৩) ট্যাবলেট ডিভাইস □ ৪) অন্যান্য (উল্লেখ্য করুন.....)

১০) আমি সোশ্যাল মিডিয়াতে আনুমানিক সময় কাটাই-

□ ১) দৈনিক ০২ ঘন্টার কম সময় □ ২) দৈনিক ০২ থেকে ০৪ ঘন্টা

□ ৩) দৈনিক ০৪ থেকে ০৬ ঘন্টা □ ৪) দৈনিক ০৬ থেকে ০৮ ঘন্টা

□ ৫) দৈনিক ০৮ ঘন্টার বেশি সময়

১১) বিগত দুই বছরে আমি বহুল পরিচিত -

□ ১) ১০ বা তার কম পর্যটন আকর্ষনীয় স্থানে গিয়েছি

□ ২) ১১ হতে ২০ টি পর্যটন আকর্ষনীয় স্থানে গিয়েছি

□ ৩) ২১ হতে ৩০ টি পর্যটন আকর্ষনীয় স্থানে গিয়েছি

□ ৪) ৩০ টিরও অধিক পর্যটন আকর্ষনীয় স্থানে গিয়েছি

## চতুর্থ অংশ: পরিবেশগত দায়িত্বশীল পর্যটন সম্পর্কিত

সেন্টমার্টিন হচ্ছে বিশ্বের অন্যতম জটিল জীব-বৈচিত্রসমৃদ্ধ দ্বীপ যা পর্যটকদের পরিবেশগত দ্বায়িত্বহীন আচরণের কারনে দিন দিন ধ্বংসের মুখে পতিত হচ্ছে। পরিবেশবিদগণের মতে, শুধুমাত্র পরিবেশগত দ্বায়িত্বশীল আচরণই পারে সেন্ট মার্টিন দ্বীপের অনন্য এ জীব-বৈচিত্রকে রক্ষা করতে।

সম্মানিত পর্যটক, পরিবেশগত দায়িত্বশীল পর্যটন-এ স্যোশাল মিডিয়া (Social Media), পরিবেশগত সচেতনতা (Environmental Awareness) ও পর্যটন স্থানের সম্পৃক্ততার (Place attchment) প্রভাব সম্পর্কে আপনার নিজেস্ব মতামত (টিক ✔ প্রদানের মাধ্যমে) প্রদান করতে অনুরোধ করা হলো। দয়া করে কেবলমাত্র একটি ঘরকে উত্তর দেওয়ার জন্য বেছে নিন।

উত্তর প্রদানের মাপকাঠি-

১= জোড়ালোভাবে অসম্মত, ২= অসম্মত, ৩= নিরপেক্ষ (সম্মত বা অসম্মত কোনটাই নয়), ৪= সম্মত, ৫= জোড়ালোভাবে সম্মত

| প্রশ্নসমূহ | জোড়ালোভাবে অসম্মত (১) | অসম্মত (২) | নিরপেক্ষ (৩) | সম্মত (৪) | জোড়ালোভাবে সম্মত (৫) |
|---|---|---|---|---|---|
| **স্যোশাল মিডিয়া: স্যোশাল মিডিয়া চ্যানেলসমূহ** | | | | | |

| প্রশ্নসমূহ | | জোড়ালোভাবে অসম্মত (১) | অসম্মত (২) | নিরপেক্ষ (৩) | সম্মত (৪) | জোড়ালোভাবে সম্মত (৫) |
|---|---|---|---|---|---|---|
| ১২ | আমি ভ্রমণের সময় স্যোশাল মিডিয়া (যেমন: ফেসবুক, ইউটিউব, টুইটার, ইনস্টাগ্রাম, হোয়াটস এ্যাপ, ব্লগ ইত্যাদি) সক্রিয়ভাবে (actively) ব্যবহার করি এবং স্যোশাল মিডিয়াতে আমার অবস্থান/মতামতের (social status) আপডেট দেই। | | | | | |
| ১৩ | ভ্রমণের সময় মানসিক আনন্দ লাভের জন্য আমি ধারণকৃত ছবি/ভিডিও/তথ্য সক্রিয়ভাবে (actively) স্যোশাল মিডিয়ায় শেয়ার করি। | | | | | |
| ১৪ | ভ্রমণের সময় আমার ভ্রমণ তৎপরতা (mobility) প্রমানের জন্য আমি অপেক্ষাকৃত বেশি স্যোশাল মিডিয়া ব্যবহার করি। | | | | | |
| **স্যোশাল মিডিয়া: ট্যুরিজম প্রমোশন** | | | | | | |
| ১৫ | স্যোশাল মিডিয়ার মাধ্যমে কোন একটি পর্যটন গন্তব্য সংক্রান্ত প্রচারণা/বিজ্ঞাপন, আমাকে ঐ পর্যটন গন্তব্যে ভ্রমণ করতে উদ্বদ্ধ করে। | | | | | |
| ১৬ | স্যোশাল মিডিয়াসমূহ ও স্যোশাল মিডিয়াকেন্দ্রিক প্রযুক্তিসমূহ পর্যটনের প্রচারণায় সহায়তা করে। | | | | | |
| ১৭ | স্যোশাল মিডিয়ার মাধ্যমে প্রচারিত জনসংযোগ কার্যক্রম বা খবর বা কোন ঘোষণা আমাকে পরিবেশ রক্ষায় সম্পৃক্ত হতে উৎসাহিত করে। | | | | | |
| **স্যোশাল মিডিয়া: টুরিস্ট ইনফরমেশন সার্চ** | | | | | | |
| ১৮ | কোন ভ্রমণ গন্তব্যে যাওয়ার সিদ্ধান্ত নেওয়ার আগে আমি স্যোশাল মিডিয়ায় ঐ ভ্রমণ গন্তব্য সম্পর্কে খোঁজ-খবর নেই। | | | | | |
| ১৯ | স্যোশাল মিডিয়া সাইটগুলো আমাকে ভ্রমণ সংক্রান্ত বিশ্বাসযোগ্য ও নির্ভরযোগ্য তথ্য সরবরাহ করে থাকে। | | | | | |
| ২০ | স্যোশাল মিডিয়া আমাকে ভ্রমণ গন্তব্যের বাইরের তথ্যও সরবরাহে সহায়তা করে থাকে। | | | | | |
| **পরিবেশ সচেতনতা: পরিবেশগত জ্ঞান** | | | | | | |

| প্রশ্নসমূহ | | জোড়ালোভাবে অসম্মত (১) | অসম্মত (২) | নিরপেক্ষ (৩) | সম্মত (৪) | জোড়ালোভাবে সম্মত (৫) |
|---|---|---|---|---|---|---|
| ২১ | পরিবেশগত ভারসাম্য রক্ষার ব্যাপারে আমি অবগত এবং এই জ্ঞান সেন্ট মার্টিন দ্বীপের পরিবেশগত টেকসই উন্নয়নকে বৃদ্ধি/ত্বরান্বিত করবে। | | | | | |
| ২২ | আমি জানি যে, পরবর্তী প্রজন্মের জন্য আমাদেরকে সেন্ট মার্টিন দ্বীপের প্রাকৃতিক সম্পদকে রক্ষা করা উচিত। | | | | | |
| ২৩ | সেন্টমার্টিন দ্বীপে আমার সকল কার্যক্রমের পরিবেশগত প্রভাব সম্পর্কে আমি অবগত। | | | | | |
| **পরিবেশ সচেতনতা: পরিবেশগত আচরণ** | | | | | | |
| ২৪ | আমি সাধারনত পরিবেশগত বিষয় সম্পর্কিত ভিডিও/ছবি/প্রবন্ধ পড়ি বা দেখে থাকি। | | | | | |
| ২৫ | পরিবেশগত বিষয় সম্পর্কিত ভিডিও/ছবি/প্রবন্ধ দেখার পর পরিবেশের উন্নয়নসাধনে আমি আরো বেশি পরিবেশবান্ধব আচরণ করতে অনুপ্রাণিত হই। | | | | | |
| ২৬ | সেন্ট মার্টিনদ্বীপের পর্যটকগণের মধ্যে পরিবেশসংরক্ষণ সচেতনতা বৃদ্ধি গুরুত্বপূর্ণ। | | | | | |
| ২৭ | যখন মানুষেরা পরিবেশের স্বাভাবিক কার্যক্রমে হস্তক্ষেপ করে তখন এটি ধ্বংসাত্নক পরিস্থিতির সৃষ্টি করে। | | | | | |
| ২৮ | প্রকৃতির স্বাভাবিক কার্যক্রম কিভাবে রক্ষা করতে প্রকৃতপক্ষে মানবজাতির সে সম্পর্কে পর্যাপ্ত জানা উচিত। | | | | | |
| **ভ্রমণগন্তব্য আত্নীকরণ: ভ্রমণগন্তব্যের পরিচিতি** | | | | | | |
| ২৯ | সেন্ট মার্টিন দ্বীপ ভ্রমণ আমার কাছে গভীরভাবে অর্থবহ (deeply meaningful) | | | | | |
| ৩০ | সেন্ট মার্টিন দ্বীপ পুনরায় ভ্রমণ করে আমি আরো বেশি অভিজ্ঞতা অর্জন করতে চাই। | | | | | |
| ৩১ | সেন্ট মার্টিন দ্বীপের বিষয়ে আমি নিজেকে গভীরভাবে সম্পৃক্ত মনে করি | | | | | |
| ৩২ | অন্য কোন জায়গায় ভ্রমণের চেয়ে সেন্ট মার্টিন দ্বীপ ভ্রমণ আমার কাছে অধিক গুরুত্বপূর্ণ। | | | | | |
| **ভ্রমণগন্তব্য আত্নীকরণ: ভ্রমণগন্তব্যের নির্ভরশীলতা** | | | | | | |

| প্রশ্নসমূহ | | জোড়ালোভাবে অসম্মত (১) | অসম্মত (২) | নিরপেক্ষ (৩) | সম্মত (৪) | জোড়ালোভাবে সম্মত (৫) |
|---|---|---|---|---|---|---|
| ৩৩ | আমি সেন্ট মার্টিন দ্বীপে অধিক সময় ব্যয় করতে পছন্দ করি। | | | | | |
| ৩৪ | অন্য যেকোন ভ্রমণ গন্তব্যের চেয়ে সেন্ট মার্টিন দ্বীপে ভ্রমণ আমি বেশি এনজয় বা উপভোগ করি। | | | | | |
| ৩৫ | অন্য জায়গা ভ্রমণের তুলনায় সেন্ট মার্টিন দ্বীপ ভ্রমণে আমি বেশি সন্তুষ্টি অনুভব করি। | | | | | |
| ৩৬ | সেন্ট মার্টিন দ্বীপে ভ্রমণে যে আনন্দ বা বিনেদন এর বিকল্প আমি অন্যকোন জায়গায় পাই না। | | | | | |
| **পরিবেশগত দায়িত্বশীল আচরণ: সাধারণ আচরণ** | | | | | | |
| ৩৭ | সেন্ট মার্টিন দ্বীপের পরিবেশগত সমস্যা কিভাবে সমাধান করা যায় সে বিষয়ে আমি সচেষ্ট। | | | | | |
| ৩৮ | আমি সেন্ট মার্টিন দ্বীপের পরিবেশ সংক্রান্ত বিভিন্ন রিপোর্ট, বিজ্ঞাপন, বই ইত্যাদি পড়ি। | | | | | |
| ৩৯ | আমি আমার সঙ্গীদের সেন্ট মার্টিন দ্বীপের প্রাকৃতিক পরিবেশ রক্ষা বিষয়ে প্রভাবিত করাতে চেষ্টা করি। | | | | | |
| ৪০ | আমি সাধারণত পরিবেশবান্ধব পণ্য কিনতে সচেষ্ট থাকি। | | | | | |
| ৪১ | আমি সেন্ট মার্টিন দ্বীপের পরিবেশ রক্ষা সংক্রান্ত বিষয়ে আরো বেশি জানতে সময় ও শ্রম ব্যয় করতে আগ্রহী। | | | | | |
| **পরিবেশগত দায়িত্বশীল আচরণ: নির্দিষ্ট আচরন** | | | | | | |
| ৪২ | আমি সেন্ট মার্টিন দ্বীপের স্থানীয় সংস্কৃতি সম্পর্কে অধিক জানতে চেষ্টা করি। | | | | | |
| ৪৩ | আমি সেন্ট মার্টিন দ্বীপের প্রাকৃতিক পরিবেশের উপর হস্তক্ষেপ কমাতে চেষ্টা করি। | | | | | |
| ৪৪ | সেন্ট মার্টিন দ্বীপের প্রাকৃতিক পরিবেশ ধ্বংস রুখতে আমি আইনগতভাবে বৈধ পন্থা অনুসরণ করি। | | | | | |
| ৪৫ | সেন্ট মার্টিন দ্বীপকে অধিকতর সুন্দর জায়গায় রূপান্তর করতে আমি দ্বীপের সৈকতের আবর্জনা থাকলে তা পরিস্কারের নিমিত্ত সংগ্রহ করি (collecting beach trash) | | | | | |

| প্রশ্নসমূহ | | জোড়ালোভাবে অসম্মত (১) | অসম্মত (২) | নিরপেক্ষ (৩) | সম্মত (৪) | জোড়ালোভাবে সম্মত (৫) |
|---|---|---|---|---|---|---|
| ৪৬ | পরিবেশ  সেন্ট মার্টিন দ্বীপের প্রাকৃতিক পরিবেশের বিপর্যয় পুনরুদ্ধারে আমি স্ব-প্রনোদিত হয়ে দ্বীপে ভ্রমণ কমাতে এমনকি বন্ধ করতেও সম্মত। | | | | | |
| ৪৭ | আমি সেন্ট মার্টিন দ্বীপে ভ্রমণের সময় দ্বীপের প্রাকৃতিক পরিবেশ নষ্ট করে এমন কাজ হতে নিজেকে বিরত রাখতে চেষ্ট করি। | | | | | |

আপনার মন্তব্য .....

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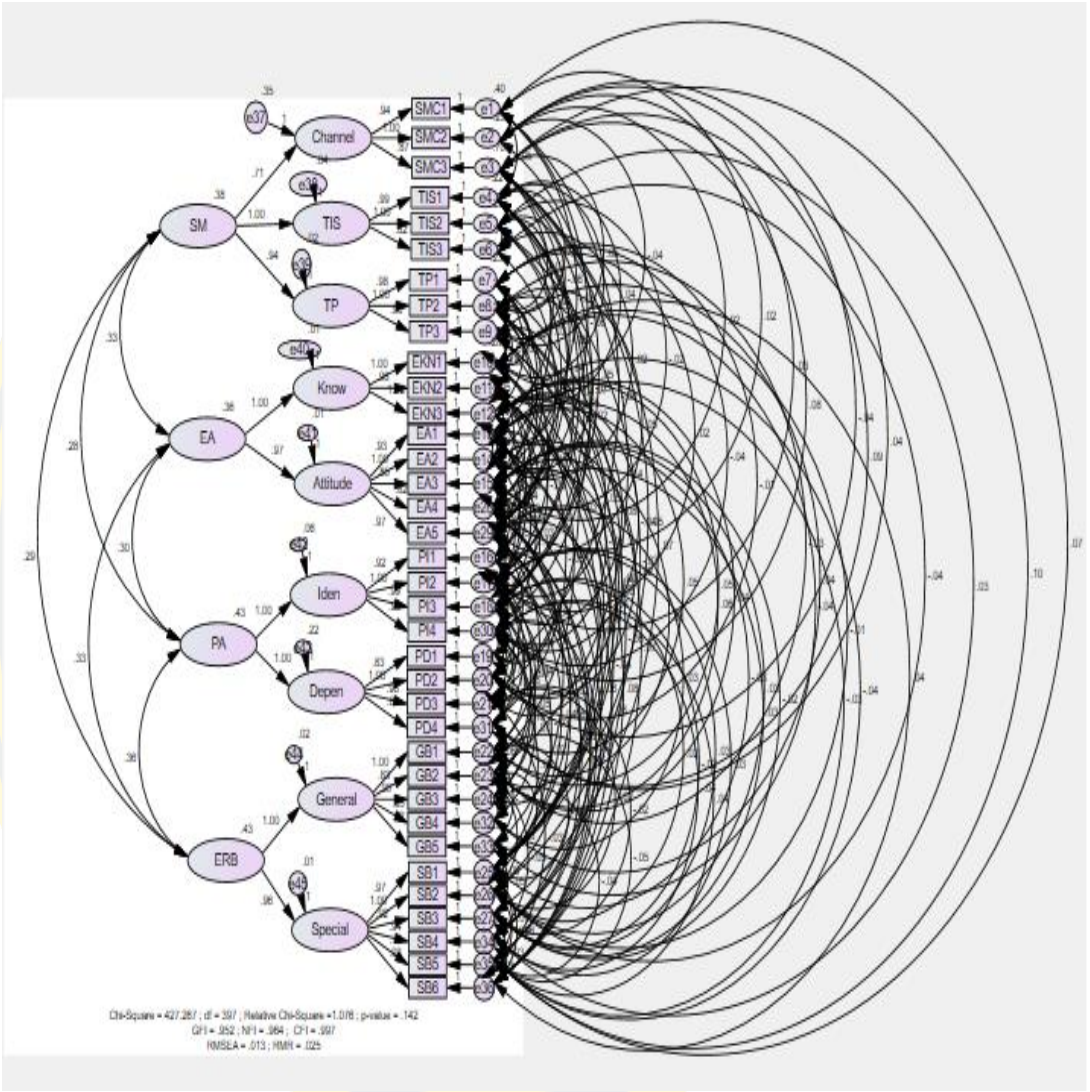
***** সার্বিক সহযোগিতার জন্য আপনাকে আন্তরিক ধন্যবাদ *****

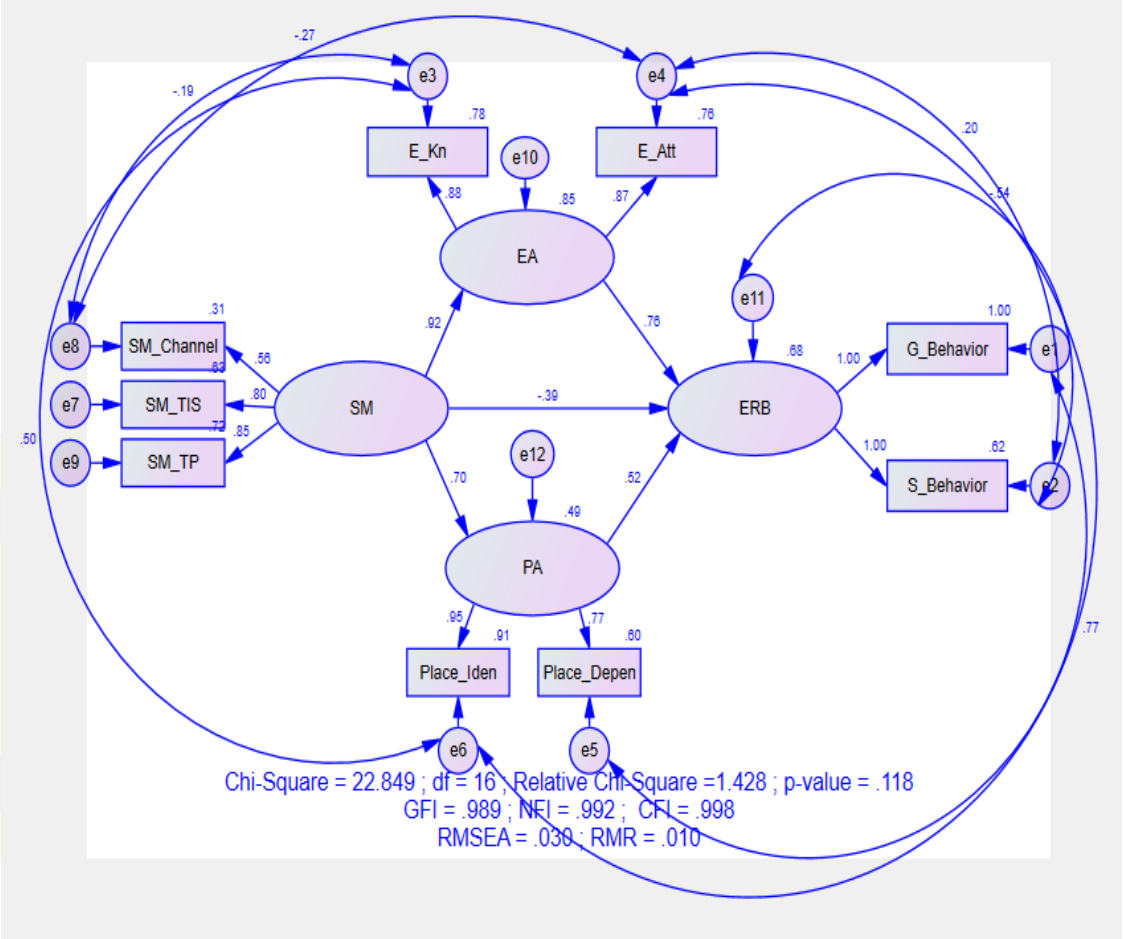
Appendix-E The correlation between Observe Variable of the model

| Variable | SM Channel | Tourism Promotion | Information Search | Env. Knowledge | Env. Attitude | Place Identity | Place Dependence | General Behavior | Specific Behavior |
|---|---|---|---|---|---|---|---|---|---|
| SM Channel | 1.00 | | | | | | | | |
| Tourism Promotion | .46** | 1.00 | | | | | | | |
| Information Search | .44** | .69** | 1.00 | | | | | | |
| Env. Knowledge | .38** | .68** | .64** | 1.00 | | | | | |
| Env. Attitude | .34** | .70** | .62** | .77** | 1.00 | | | | |
| Place Identity | .41** | .52** | .55** | .62** | .64** | 1.00 | | | |
| Place Dependence | .36** | .41** | .46** | .47** | .43** | .74** | 1.00 | | |
| General Behavior | .39** | .55** | .54** | .66** | .64** | .70** | .64** | 1.00 | |
| Specific Behavior | .39** | .56** | .54** | .66** | .70** | .70** | .57** | .81** | 1.00 |

Appendix-F Raw CFA measurement model of all variables



# Appendix-G Raw SEM model of ERB



# Appendix-H Certificate from the research ethical committee of BUU

Certificate Number IRB4-145

## Certificate of Human Research Approval
## Burapha University

BUU Ethics Committee for Human Research has considered the following research protoco

**Protocol Code :** G-HU 087/2564

**Protocol Title :** THE IMPACT OF SOCIAL MEDIA, ENVIRONMENTAL AWARENESS, AND PLACE ATTACH ON ENVIRONMETALLY RESPONSIBLE BEHAVIOR OF TOURISTS AT SAINT MARTIN'S IS BANGLADESH

**Principal Investigator :** MR.ENAMUL HAQUE

**Affiliation :** Graduate Program of Faculty of Tourism and Management

BUU Ethics Committee for Human Research has considered the following research pro according to the ethical principles of human research in which the researchers respect human's righ honor, do not violate right and safety, and do no harms to the research participants.

Therefore, the research protocol is approved (See attached)

| | |
|---|---|
| 1. Form of Human Research Protocol Submission | Version 1 : 27 May 2021 |
| 2. Research Protocol | Version 1 : 27 May 2021 |
| 3. Participant Information Sheet | Version 1 : 27 May 2021 |
| 4. Informed Consent Form | Version 1 : 27 May 2021 |
| 5. Research Instruments | Version 1 : 27 May 2021 |
| 6. Others (if any) | Version - : - |

Approval Date : 27 May

Valid Date : 27 May

Sign

(Pimonpan Lertlam)

Chair of The Burapha University Institutional Review Board

Panel 4 (Humanities and Social Sciences)