

The impact of knowledge, attitude, consumption values and destination image on tourists' responsible environmental behaviour intention

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ABSTRACT

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The tourism sector has developed over the years as one of the main contributors to the nation's socio-economy. However, tourism has also said to be the cause of the depletion of the natural environment especially the marine ecosystem due to the irresponsible behavior of tourists. There is a growing interest in understanding the impact of tourism towards the sustainability of a particular ecotourism destination, thus this study aims to examine the drivers of tourists' intention to behave in an environmentally responsible manner specifically in marine parks. This study utilizes the responsible environmental behavior model with the addition of consumption values theory and destination image in hope to provide a more comprehensive explanation. A researcher-administered face-to-face survey was conducted among 103 tourists and analysed using partial least squares technique. The results empirically revealed that environmental knowledge and destination image significantly influenced the tourists' intention to behave in an environmentally responsible manner. Thus, in fostering a more responsible behavior among tourists, more emphasis can be placed on enhancing their knowledge while capitalizing on the destination's image.

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1. Introduction

Globally, there has been a growth in environmental concern over the years. Climate change have taken center-stage in raising awareness about environmental protection. In view of this, tourists have been seeking for more nature-based environmentally friendly activities. The nature-based tourism have become a critical strategy throughout the world as a method to mitigate the depletion of the environment and to overcome climate change issues. The central principle of sustainable tourism is to achieve a balance in the socio-economic and environmental development. Tourism, if managed sustainably, is an effective tool for conservation and social enhancement (Harrison, 2007). By 2020, the tourism industry is projected to be the third highest contributing sector in Malaysia by drawing in 36 million tourists with

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tourism receipts projected at RM168 billion (Economic Planning Unit Malaysia, 2016). Due to the increase in tourist numbers, many countries see tourism as a main contributor towards the social and economic growth of the nation (Bajpai & Lee, 2015). However, tourism often leads to critical environmental unfavorable impacts such as pollution, land clearing, wastage of natural resources, depletion of wildlife species and other damages to the flora and fauna (Dwyer & Spurr, 2010; Gössling, Hall, Peeters, & Scott, 2010). This trend have caused an increase in number of protected areas as Malaysian government continuously seek to establish national parks, wildlife centers and marine parks to conserve these natural areas as ecotourism destinations.

As part of Malaysia's effort to propagate ecotourism and boost sustainable tourism growth in the islands, marine parks were established in the 1980s after realising the need to protect the marine resources. These marine parks play a vital role in maintaining protected zones for the marine life to prevent the endangered species from extinction. Marine parks are not only important to protect the biodiversity of marine life but it is also an attractive nature-based tourism destination. Marine parks, in particular, are attracting an increasing number of visitors to experience pristine and unique natural environments. Unfortunately, not all tourists who would visit marine parks would behave in a responsible manner because they may be more attracted to consume the natural resources. Sustainability of the marine parks itself is vital, however the relationship between tourism and protected areas is an ambivalent one. It remains a challenge to promote sustainable tourism because of the prevalent irresponsible behaviors of tourists. The increase in the number of cases reported on tourists' irresponsible intentional or unintentional behaviors brings great concerns (Ballantyne & Packer, 2011). There is a large body of research that indicates that tourists tend to behave more irresponsibly especially when they are on holidays (Fairweather et al.s, 2005; Juvan & Dolnicar, 2014; Wearing et al. 2002). The irresponsible consumption patterns of tourists has been identified as a barrier towards the efforts that drive sustainable efforts (Crompton, 2009). The lack of documented data on such irresponsible behavior of visitors at the marine parks also highlight the needs to understand local and foreign visitors' habits. Subsequently, many protected areas have not developed effective strategies in managing the overcrowding of visitors and control the resulting negative impacts.

Responsible environmental behavior and behavioral intentions are important predecessors for sustainable tourism. Though the study of tourists' responsible environmental behavior is not something new, there still remains a large gap of knowledge in predicting their behavior. The review of existing literature on tourists' environmental behaviours highlights the emergence of environmentally-conscious tourists, yet the antecedents of their behaviours have not been fully established. Arguably, factors that influence tourists' environmental behavior can greatly impact the destination's sustainability and, are therefore, is an important topic for this study. Consequently, the objective of this study is to investigate the predictors of tourists' environmental knowledge, consumption values, attitude and destination image towards their responsible environmental behaviour intention.

2. Literature Review

2.1 Responsible Environmental Behaviour

Responsible environmental behavior intention is the reflection of individual's attention and commitment towards the likelihood to protect the environment (Cottrell, 1993). Overall, tourist behaviour is a fundamental field of study (Saito & Strehlau, 2018) and existing studies focuses on understanding tourists travel motivations, destination choices, satisfaction and visit intention (Hosany & Prayag, 2013; Hsu, Tsai, & Wu, 2009; Kil et al., 2014; Naidoo et al., 2011; Omar & Mahmmoud, 2013; Omar et al., 2017) Over the years particularly, responsible environmental behavior has also gain tractions among researchers (Cohen et al., 2013; Weeden, 2013). Several early models of responsible environmental behavior posited that there was linear relationship with knowledge, attitude and environmental behavior (Burgess, Harrison, & Filius, 1998). These models were said to be too simplistic in nature to explain tourists' complex behavior. More recent studies on nature-based tourism found that responsible environmental

behavior is multifaceted and determined by a range of causal factors (Stern, 2000). The influencing factors can be divided into cognitive and affective domains. In response to this, more alternative models were proposed to explain environmentally responsible behavior. In social behavioral studies, the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) were found to have excellent predictability of behavior intentions (Mishra et al., 2014; Poudel & Nyaupane, 2016; Shen & Chuang, 2010). However, TRA did not factor in certain restrictions of human behaviors such as time and effort. In comparison to its predecessor, Theory of Planned Behavior (TPB) was introduced with the extension of perceived behavioural control (PBC) to improve the robustness of the model. Now, TPB is one of the most widely applied model by Ajzen (Chen & Tung, 2014; Han et al., 2009; Paul et al., 2016). Based on TPB, attitudes do not influence behavior directly; instead, they influence behavioral intentions. Behavior intention can be defined as the expressed willingness to take action (Bamberg & Moser, 2007; Hines et al., 1986). As a general rule, intention is considered as precursor to and best predictor of behavior (Ajzen, 1991). This means that the higher the intention, the higher the chances for the individual to take action. Hines et al. (1986) developed the Responsible Environmental Behavior (REB) Model based on a meta-analysis of 128 pro-environmental studies. Based on the REB model, intention influences behavior whereas environmental knowledge, values, attitudes are the internal factors and situational factors that acts as the external influencers of behavior intention. They identified that even if an individual have the knowledge, ability, and intention to behave in a responsible manner, certain constraining factors such as money and social pressures could influence their behavior. The situational factors in their model resembles PBC from the TPB model. Although both the REB and TPB models have incorporated behavior controlling factors, it still did not take into consideration that tourists have different perceived environmental value towards the tourism destinations. Ultimately, the primary goal of tourists is the consumption of tourism experience (Mckercher, 1993), much different from the purchase and consumption of products. A tourism experience is value-laden and tourists' evaluation of these values are highly complex (Williams & Soutar, 2000b).

2.2 Consumption Values

Value is a prominent consideration in consumers' decision making process (Gallarza & Gil, 2008; Sweeney & Soutar, 2001). The perceived value is defined as the trade-off between total benefits versus the sacrifices in quality and costs that the customer receives during an exchange (Gallarza & Gil, 2008). While some consumers consider value as a low price, others may argue in favor of better quality or speed. Earlier studies on measuring product value have focused on the comparison between cost and benefits. However, due to the complex nature of service encounters and the intangibility of services, a more multidimensional perspective is applied to evaluate value (Sheth et al., 1991). Environmental consumption value is defined as the perceived utility that is derived as a result of making purchases for environmental conservation purpose (Haws et al., 2014). Thus far, consumption values has rarely been used to determine environmental behavior. Holbrook (1994) argued that important consideration should be given to the emotional and internal factors such as one's psychological condition whereas Petrick (2002) identified four dimensions for consideration including social, emotional, price, and performance. On the other hand, Sheth et al. (1991) introduced the consumption values theory that comprises of emotional, functional, epistemic, social, and conditional value dimensions to explain consumer's choice. These dimensions were said to be independent of each other, whereby different dimensions may contribute differently in the situation. While the consumption value theory developed by Sheth et al. (1991) have been tested in destination choice context, it has yet been applied to examine if higher perceived consumption values would influence tourists' intention to behave in a responsible manner. Sheth et al. (1991) defines functional value as the "perceived utility attained from the utilitarian or physical performance of the product or services". Sweeney and Soutar (2001) viewed functional value as a main predictor of decision making. In tourism context, tourists' value perception include the value added tour package or activities, excellent quality of services, and comfort of amenities (Williams & Soutar, 2009). In predicting behavior intention, the functional perspective was found to be one of the biggest influencing factor (Ma, Rau, & Guo, 2018). Conversely, social value refers to the "perceived utility acquired from an alternative's association

with one or more specific social groups” (Sheth et al., 1991). In tourism context, social value is derived from the opportunity to meet other tourist with similar interests, interaction among customers during the tour and visiting places that reflect one’s social image. Social values were found to be an important dimension that significantly influence tourists’ choice intention (Phau et al., 2014).

Besides, emotional value is related to a social-psychological aspect of how the service or destination can arouse an individual’s affective feelings such as excitement, pride and relaxation (Sheth et al., 1991). Khan and Mohsin (2017) empirically confirmed that emotional value has a significant effect on consumers’ choice towards green products. Epistemic value or also referred to as novelty value relates to the arousal of curiosity, and the feelings of newness (Sheth et al., 1991). This includes tourists’ perception that they are having intellectually enriching experiences which are different from their routine and discovering new ideas. Epistemic value emerged as a key contributor as tourists seek novel and different things in their quest for a more exciting tour (Williams & Soutar, 2000a). Sheth et al. (1991) described conditional value as the perceived utility acquired through a secondary way where the result of the unique situation that the consumer’s face. Results revealed that conditional value shows a positive effect in the tourists decision-making in the tourism context. These may include the friendliness of locals, good personal safety, easy access to tourist sites and provision of discounts (Phau et al., 2014). Past findings indicate that conditional value has a positive relationship towards consumption values (Tapachai & Waryszak, 2000). Overall, results from past studies revealed that the consumption values have significant positive relationship towards tourists’ behavior intentions (Wang, Yaoyuneyong, Sullivan, & Burgess, 2018). Therefore, we propose the below hypothesis:

Hypothesis 1 (H1): Environmental consumption values has positive and significant effect on responsible environmental behavior intention.

2.3 Environmental Knowledge and Environmental Attitude

Past studies found that environmental knowledge influences green behavior and participation in pro-environmental activities (Angelovska et al., 2012; Pan et al., 2018; Sivek & Hungerford, 1990). It is contended that tourists with higher levels of environmental knowledge elevates consumers’ intention to behave in an eco-friendly manner. Kaiser et al., (1999) concluded that environmental knowledge, environmental values, and feelings of responsibility altogether explained 45% of the variance in environmental behavior intention and subsequently predicted 76% of the variance in the behaviour itself. Quite generally, attitude is enduring habits that are learnt and formed through emotional and cognitive process that would influence one’s behavior (Schwarz & Bohner, 2001). Ajzen and Fishbien (1980) defined attitude as “a person's general feeling of favorableness or unfavorableness for that concept”. Attitude also epitomize a learned tendency towards a specific attitudinal object (Eagly & Chaiken, 2007).

Environmental attitude is often described as the favorable or unfavorable feelings that an individual holds toward some specific aspects of one's environment that could be seen as the general concerning level of environmental issues (Hayward, 1990; Kim & Choi, 2005). The attitude-behavior relationship has received much attention over the years and past studies have suggested that attitude is an important predictor of the individual’s environmental behavior (Baker et al., 2013; Han et al., 2009; Hines et al., 1986; Imran, Alam, & Beaumont, 2014; Kil et al., 2014; Lita et al., 2014). It is argued that in order to be able to behave in a responsible manner, tourists should possess a positive attitude towards sustainability. There are many past studies which asserted that environmental attitudes are good predictors of environmentally responsible behaviour intention (Chen & Tung, 2014; Paul et al., 2016; Rahman & Reynolds, 2016). Based on the above, the following hypotheses are proposed:

Hypothesis 2 (H₂): Environmental knowledge has positive and significant effect on responsible environmental behavior intention.

Hypothesis 3 (H₃): Environmental attitude has positive and significant effect on responsible environmental behavior intention.

2.5 Destination Image

Destination image is defined as an individual's overall mental image and impression of a place (Fakeye & Crompton, 1991). The particular image is often a subjective perception of tourist's reality that is formed from several sources of information such as peers and through marketing communication efforts (Chen & Tsai, 2007). As such, the image of a destination can be reflected in their thoughts although they have not yet visited the place (Sergio & Lopes, 2011). As individuals develop positive images of the local destination, their environmental concern for the place increases. Destination images consist of mainly cognitive and affective perspectives, whereby cognitive components include the structural and physical elements of the destination whereas affective components are made up of relaxing atmosphere, pleasant and safe surroundings (Baloglu & McCleary, 1999). In comparison to local attraction sites and infrastructure, destination image was the strongest predictor of visit intention (Jamaludin, Mokhtar, & Aziz, 2018). Past studies confirmed stated that a positive destinations image contributes to the tourists' visit intention and played an important role in tourists' decision making (Chen & Tsai, 2007; Siti-Nabiha et al., 2008). Moreover, positive image perceptions towards natural tourism destinations would impact a subsequent change in conservational behavior (Salvatierra & Walters, 2015). Thus, destination image appropriately predicts future responsible environmental behavioral intentions (Lee & Gross, 2010; Luo & Deng, 2007). The hypothesis that is developed is:

Hypothesis 4 (H₄): There is a positive relationship between the destination image and responsible environmental behavior intention.

2.6 Research Framework and Hypotheses

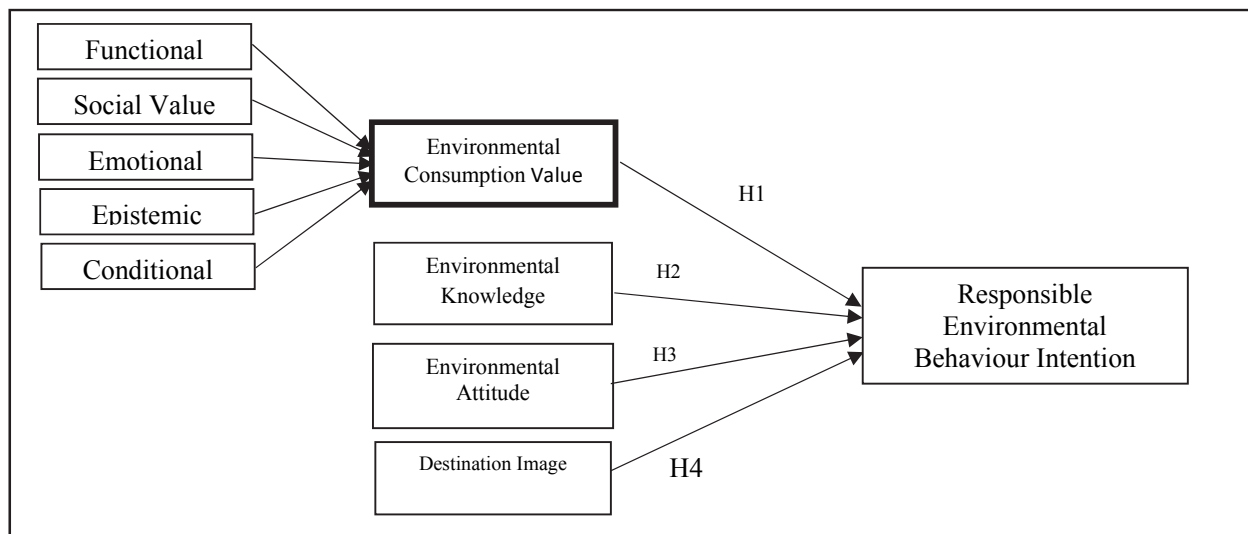


Fig. 1. Conceptual Framework

3. Research Methods

3.1 Sampling Technique and Data Collection

The population or sampling unit in this study are tourists in Malaysia. The targeted sampling frame in this study encompasses both domestic and foreign tourists that are aged 18 and above with at least one local tourism experience. Quantitative data is collected through face-to-face method that is administered by the researchers. This is to avoid social desirability biasness and also to provide immediate responses to the respondents while achieving a higher response rate. A total of 120 questionnaires are distributed

using convenience sampling whereby the questionnaires are distributed to tourists arriving at the Langkawi jetty. Convenience sampling was deemed to be appropriate, in view of the insufficient population data (Zikmund et al., 2009). Only 103 usable questionnaires were returned, giving a return rate of 85.8%. A post-hoc power analysis was conducted with medium effect size ($f^2=0.15$) using G*power calculator. It shows a power (0.855), which is greater than 0.80, thus considered sufficient given the typical α level of 0.05 (Cunningham & McCrum-Gardner, 2007).

3.2 Survey Design

Essentially, the questionnaire was drafted based on previous studies and was pretested among four experts and modified before the final survey was conducted. The final questionnaire consisted three parts; the first part on environmental knowledge (9 items), attitude (5 items), consumption values (26 items) and destination image (9 items), followed by statements measuring behavior intention (8 items) and lastly demographic questions including their age, gender, income and some basic information on their traveling patterns. In the questionnaire, all the dependent and independent constructs were measured on a response scale of 1 to 5 whereby 1 = Strongly disagree, 2= Disagree, 3= Slightly agree, 4= Agree, 5= Strongly Agree. These constructs were coded respectively and data were analyzed using partial least squares structural equation modeling (PLS-SEM) method.

3.3 Data Analysis

Structural Equation Modeling (SEM) is a second-generation statistical technique that is applied to test the conceptual model in this study. SEM has recently grown very popular in marketing (Henseler, Ringle, & Sinkovics, 2009) and also in hospitality and tourism research (do Valle & Assaker, 2016). Partial least square (PLS) can control complexity with the correction of various models and produce high levels of statistical indicators with small sample sizes. The PLS method follows a two-stage approach (Anderson & Gerbing, 1991) that begins with analyzing the first level of the measurement model by examining the reliability and discriminate validity of constructs. Thereafter the structural model is examined by referring to the significance level of path coefficients of the inner model to test the relevant hypotheses (Vinzi, Trinchera, & Amato, 2010). Due to the multidimensional characteristics of environmental consumption values, the higher order construct model was used (Mackenzie, Podsakoff, & Podsakoff, 2011) by using Smart PLS Version 3.0 software. Following the recommendations by other researchers (Hair, Matthews, Matthews, & Sarstedt, 2017), the bootstrapping method (5000 resample) was used to ascertain the significance levels of loadings, weights, and path coefficients. The results are presented in the following section.

4. Data Findings

4.1 Demographic Data of Respondents

The survey respondents encompasses a total of 43.7% male and 56.3% female tourists. Most of the tourists who completed the survey were local tourists (77.7%) compared to international tourists. They are mainly comprising those who are single/widowed/divorced (81.6%) that are aged between 18 to 22 years old (72.8%). The reason for having more young local tourists could be due to the timing of data collection which was conducted during the semester break of most major universities in Malaysia. This is aligned with the findings that 79.6% of the respondents are full time students, with 60.2% of them having a diploma. Thus, the average monthly income of the respondents also reflected that majority (71.8%) of them have low income levels of up to RM1,500. The data shows 96.1% of them are travelling for personal reasons 42.7% of them would stay for the duration of less than one week. However, a majority of 66% of the respondents claimed that they have not visited any marine parks before.

Table 1
Profile Summary of Respondents

Demographic Profile	Groups	Frequency	Percentage
Gender	Male	45	43.7
	Female	58	56.3
Nationality	Malaysian	80	77.7
	International	23	22.3
Marital Status	Married	19	18.4
	Single/Widowed/Divorced	84	81.6
Age	18-22	75	72.8
	23-27	6	5.8
	28-32	10	9.7
	33-37	3	2.9
	Above 38	9	8.8
Occupation	Student (Full time)	82	79.6
	Employed (Gov)	1	1
	Employed (Private)	15	14.6
	Self-employed	5	4.8
Education level	Secondary/High school	6	5.8
	Diploma	62	60.2
	Degree	29	28.2
	Master	5	4.8
	Doctorate	1	1
Average Monthly Income	RM 0-1500	74	71.8
	RM 1501 - 3000	9	8.7
	RM 3001 - 4500	4	3.9
	RM 4501 - 6000	4	3.9
	Above RM 6000	12	11.7
Purpose of travel	Personal	99	96.1
	Business	4	3.9
Length of stay	Less than 1 week	44	42.7
	1 week	31	30.1
	Between 1-2 weeks	16	15.5
	Between 2-4 weeks	2	2
	More than 1 month	10	9.7
Visited marine park	Yes	35	34
	No	68	66

As suggested by Hair et al. (2017), the multivariate skewness and kurtosis were tested using the Webpower Multivariate Kurtosis software available at: <https://webpower.psychstat.org/models/kurtosis/results.php?url=bd7c71ca1a8c21c1fd95b5684c82ceae>. The results revealed Mardia's multivariate skewness ($\beta = 33.148$, $p < 0.01$) and Mardia's multivariate kurtosis ($\beta = 166.459$, $p < 0.01$), thus indicating that data collected was not normal and therefore Smart PLS was the chosen software for further analysis as it is appropriate for non-parametric data.

4.2 Measurement Model

4.2.1 Higher Order Construct Assessments

In this study, a second-order reflective-formative hierarchical model, type II which is a reflective-formative hierarchical component models (HCM) type is applied (Chin, 1998). For the second order formative constructs, a repeated indicator approach in the PLS analysis is used (Anderson & Gerbing, 1991). Figure 2 shows an exogenous latent variable called environmental consumption values, which is also the second-order latent variable that is integrated by five first-order reflective variables (Functional, Social, Emotional, Epistemic and Conditional Value) that forms the formative construct. This exogenous latent variable labelled as Environmental Consumption Value (ECons Value) then functions as one of the predictors of responsible environmental behavior intention.

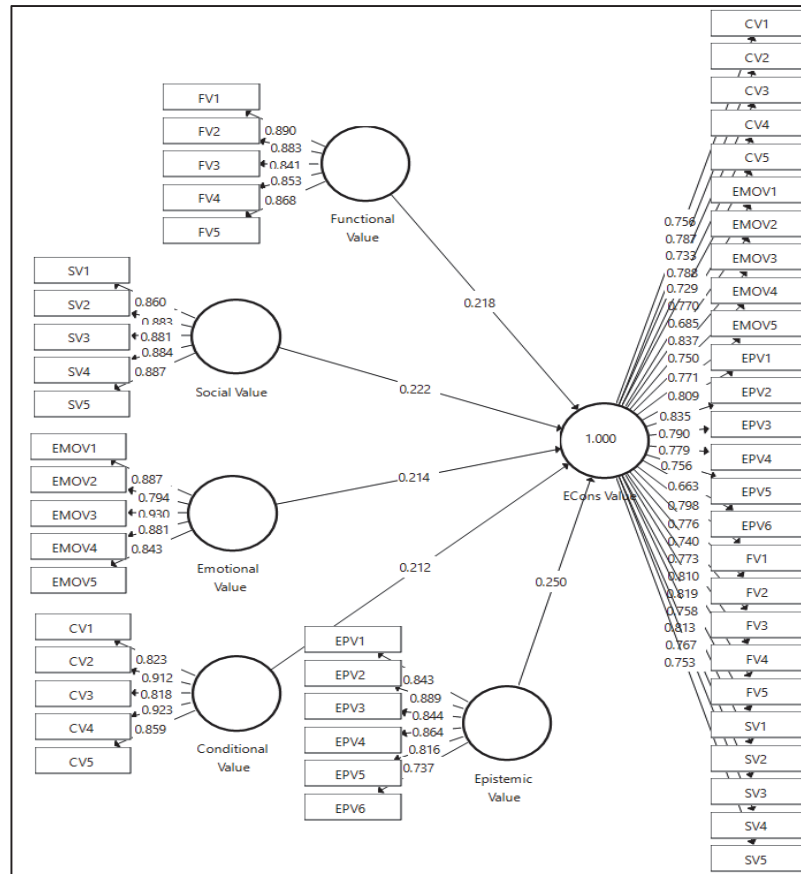


Fig. 2. Assessment of First-Order Construct's Measurement Model

Convergent Validity

The measurement model consists of convergent and discriminant validity analysis. Firstly, the measurement model's convergent validity is examined using the factor loadings, composite reliability (CR), and average variance extracted (AVE) (Hair et al., 2017). The measurement items would be acceptable if the outer loadings are > 0.50 (Byrne, 2016); AVE for each construct is > 0.50 (Hair, 2017); and CR is > 0.70 (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Composite reliability signifies the variance shared among a set of observed variables that measures the construct (Fornell & Larcker, 1981). Besides, convergent validity reveals whether a particular item used to measure a latent variable is measuring what it is supposed to measure (Urbach & Ahlemann, 2010), while the AVE determines the variance that a construct captures from the indicators in comparison to the value due to measurement error.

Table 2 shows the measurement model results with reflective indicators that was evaluated through the reliability of each items, construct reliability, discriminant reliability and average variance extracted analysis (Richter, Sinkovics, Ringle, & Schlägel, 2016). In Table 2, the results of loadings, Average Variance Extracted (AVE) and Composite Reliability (CR) measures of all items for the first order constructs are reported. In this case, all items are loaded highly on their own latent variable, and all CR values are well above 0.70 and AVE measurements are also above 0.50, thus suggesting that the recommended levels of reliability and validity is achieved.

Table 2
Measurement Model Convergent Validity Results

First-order constructs	Second-order construct	Item	Scale	Loadings/ Weights	CR/ t-values	AVE/ VIF
Functional Value		FV1	Reflective	0.886	0.938	0.752
		FV2		0.880		
		FV3		0.834		
		FV4		0.863		
		FV5		0.870		
Social Value		SV1	Reflective	0.869	0.944	0.772
		SV2		0.882		
		SV3		0.879		
		SV4		0.882		
		SV5		0.880		
Emotional Value		EMOV1	Reflective	0.894	0.938	0.754
		EMOV2		0.786		
		EMOV3		0.931		
		EMOV4		0.882		
		EMOV5		0.841		
Conditional Value		CV1	Reflective	0.809	0.938	0.753
		CV2		0.921		
		CV3		0.803		
		CV4		0.923		
		CV5		0.875		
Epistemic Value		EPV1	Reflective	0.839	0.931	0.694
		EPV2		0.887		
		EPV3		0.846		
		EPV4		0.860		
		EPV5		0.826		
		EPV6		0.732		
Destination Image		DI1	Reflective	0.772	0.945	0.632
		DI10		0.843		
		DI2		0.733		
		DI3		0.804		
		DI4		0.810		
		DI5		0.832		
		DI6		0.755		
		DI7		0.726		
		DI8		0.842		
Environmental Attitude		EAtt1	Reflective	0.635	0.884	0.606
		EAtt2		0.826		
		EAtt3		0.813		
		EAtt4		0.801		
		EAtt5		0.801		
EConsV		SIM	SIM	N/A	N/A	N/A
Environmental Knowledge		EK1	Reflective	0.735	0.89	0.504
		EK2		0.642		
		EK3		0.678		
		EK5		0.758		
		EK6		0.727		
		EK7		0.705		
		EK8		0.743		
		EK9		0.687		
		Behaviour Intention Behav-				
REBI2	0.666					
REBI3	0.694					
REBI4	0.763					
REBI5	0.738					
REBI6	0.760					
REBI7	0.786					
REBI8	0.746					
Consumption Values		Functional	Formative	0.216	15.210*	3.456
		Social Value		0.210		
		Emotional		0.215		
		Epistemic		0.252		
		Conditional		0.223		

Note: EK4 was deleted due to low loading. AVE= Average Variance Extracted; CR = Composite Reliability; SIM = Single Item Construct; Consumption Values = second order factor; t-values > 1.96*.

Discriminant Validity

Next, we moved on to evaluate the discriminant validity. Discriminant validity refers to the extent to which the items discriminate among constructs (Henseler et al., 2014). Discriminant validity is the degree in which items are differentiated among constructs or measures distinct concepts. In order to assess discriminant validity, we will apply the Heterotrait-Monotrait (HTMT) ratio of 0.90 as suggested by (Henseler, 2015). Referring to Table 3, the analysis of discriminate validity shows that HTMT value is < 0.90 . Here we can conclude that satisfactory discriminant validity has been established and that the measures used in this study are distinct as the values indicated are within the threshold of less than the value of 1 (Henseler, 2015).

Table 3
Discriminant Validity (HTMT Ratio)

	1	2	3	4	5	6	7	8	9	10
1. Conditional Value										
2. Destination Image	0.743									
3. Emotional Value	0.769	0.756								
4. Environmental Attitude	0.675	0.681	0.632							
5. Environmental Consumption Values	0.817	0.692	0.753	0.584						
6. Environmental Knowledge	0.700	0.799	0.685	0.775	0.620					
7. Epistemic Value	0.826	0.732	0.861	0.676	0.808	0.792				
8. Functional Value	0.792	0.741	0.814	0.605	0.748	0.712	0.871			
9. Responsible Environmental Behaviour Intention	0.648	0.797	0.551	0.662	0.536	0.805	0.643	0.693		
10. Social Value	0.801	0.670	0.761	0.625	0.684	0.672	0.856	0.817	0.591	

4.2.2 Assessment of Reflective-Formative Measurement Model

Convergent Validity

According to Hair et al. (2017), one of the approach to evaluate the convergent validity of the formative construct is to look into the correlation between the formative latent variable and the reflective items. The path coefficient's value should be more than 0.70 for the two constructs and R^2 value should meet the minimum requirement of 0.50 for endogenous construct (Hair et al., 2017). To assess convergent validity of reflective-formative construct, a redundancy analysis was conducted by using a global indicator as suggested by Hair et al., (2017). The global item of environmental consumption values was representative of the construct's overall essence and it was pre-tested among experts. A new path model was created separately and the analysis resulted in the magnitude of 0.820 for the path coefficients between the constructs whereas the R^2 value is 0.673 for the endogenous construct (see Figure 3). The path coefficient of 0.820 is more than the suggested value of 0.80, hence it can be concluded that the formative construct satisfies the convergent validity requirements (Chin, 1998). The collinearity between the formative items of the construct were determined by inspecting the value of Variance Inflation Factor (VIF). As this study applies reflective-formative type of second-order construct, we refer to inner VIF values to determine if any collinearity issues exists. Table 2 shows that the VIF values for functional value, social value, emotional value, epistemic value and conditional value are all below the threshold of 5.0 (Sarstedt, Ringle, & Hair, 2017). The variation inflation factor (VIF) values in the range of 2.887 and 4.404, which is all less than 5. Therefore, the results therefore did not indicate any multi-collinearity problem between the formative indicators (Hair et al., 2014). A bootstrapping procedure of 5000 resamples was used (Chin, 2010) to assess the significance of weights of the formative indicators and the loading values that represents the absolute importance. Lohmöller (1989) recommended >0.1 weight for an indicator. Table 2 results revealed that the indicators' weights were between 0.21 and 0.252, all are above the recommended value of 0.1. Additionally, all weights of formative indicators had significant t-values and thus provided an empirical support to maintain all the indicators for further analyses.

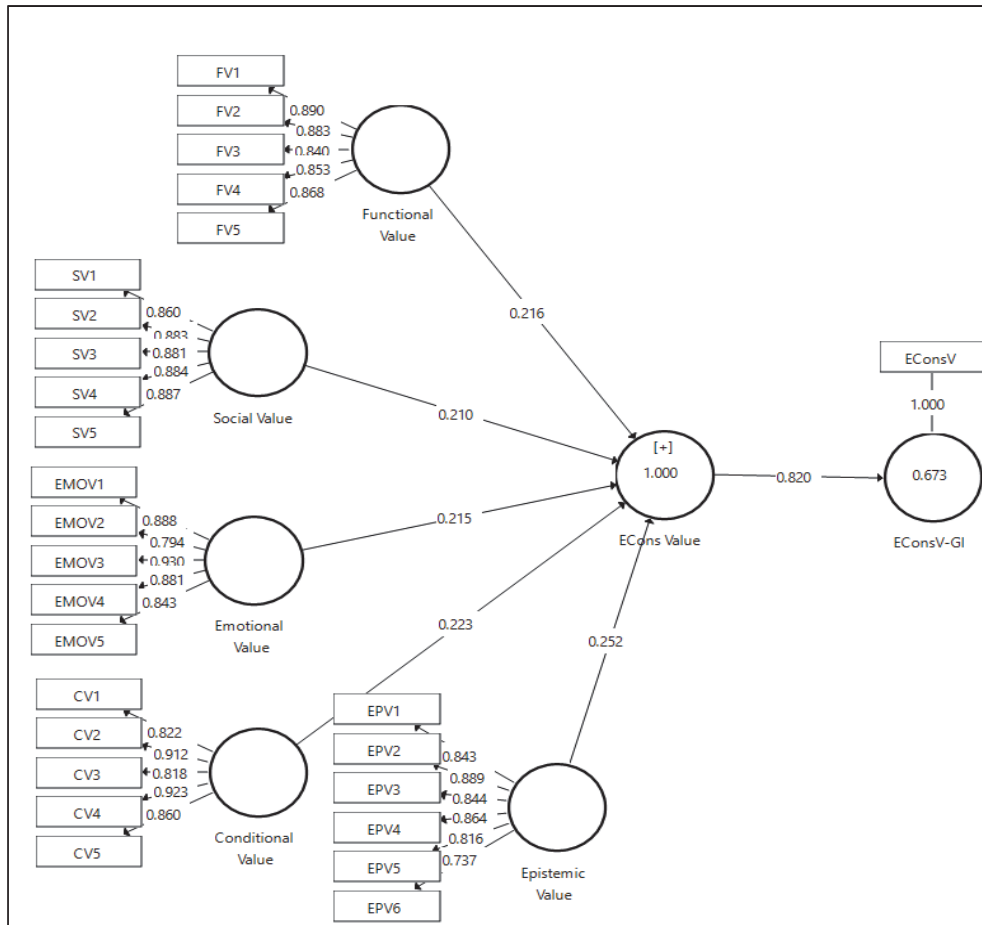


Fig. 3. Assessment of Second-Order Construct Measurement Model

4.3 Structural Model

In the last stage, we proceeded to examine the structural model’s path analysis to test the respective hypotheses put forth in this study. It was estimated via the bootstrapping (5000 resamples), in which the estimated standardised coefficients (β) is examined to determine the strength of the hypothesised relationship and R^2 value is used to ascertain the predictive power of the model.

Table 4
Results of Hypotheses Tests

Hypothesis	Std Beta (β)	Std Error	t-value	p-value	LL	UL	f ²	Decision
H1 Environmental Consumption Values → REB Intention	-0.047	0.105	0.447	0.327	-0.218	0.13	0.003	Not supported
H2 Environmental Knowledge → REB Intention	0.347	0.118	2.944	0.002	0.146	0.536	0.127	Supported**
H3 Environmental Attitude → REB Intention	0.131	0.092	1.427	0.077	-0.028	0.275	0.023	Not supported
H4 Destination Image → REB Intention	0.439	0.119	3.682	0.000	0.231	0.622	0.193	Supported**

Note: **p < 0.01

The structural model path coefficients (β) and portions of variance explained (R^2), and the results of hypothesis testing are summarized in Table 4. The results of the structural model whereby R^2 indicates the amount of variance explained by the exogenous variables (Hair et al., 2014). The R^2 value of 0.633 is well above Cohen’s (1988) threshold of 0.26 which indicates that it is a substantial model. The path estimates and t-statistics were determined for the hypothesized relationships. It is evident that strong and statistically significant impact was found in support of hypothesis H4 (DI → REBI, $\beta = 0.439$, $p < 0.01$)

and followed by H2 (EK→REBI, $\beta = 0.347$, $p < 0.01$). Next, the effect sizes are also assessed using Cohen (1988) guidelines whereby 0.02 and 0.15 represents small and medium effects respectively. From Table 4, the result shows that environmental knowledge ($f^2 = 0.127$) has close to medium effect whereas destination image ($f^2 = 0.193$) have a medium effect size to R^2 (Cohen, 1992).

Contrary to the prediction, H1 and H3 were not supported as results show that environmental consumption values and environmental attitude did not have a significant impact towards behavior intention. Environmental consumption values were found to have no significant impact on the tourists' intention to behave in an eco-friendly manner. Customer perceived value outcomes from an evaluation of the related sacrifices and rewards related with the offerings and in this study, tourists were unwilling to behave in a more environmentally responsible manner to achieve maximum value. Becken (2004) argued that holidays are often perceived by tourists as a personal benefit and self-rewarding time and thus tourists actually release themselves from any burden or responsibilities during those trips. Additionally, sometimes even though tourists are concerned with the environment, they do not practice their usual routines when they are in a new place (Wearing et al., 2002). Thus, this study confirmed that though there is an increasing number of tourists who are environmentally concerned, they not necessarily have the intention to take care of the environment as they feel that they are on vacation. Their ultimate goal as tourists is to consume the travel experience and enjoy the services at the destination without being burdened by any responsibilities to take care of the environment. In this study, it was found that environmental attitude is another variable that did not lead to environmentally-friendly intentions among tourists. This findings are consistent with some of the previous studies that investigated general green behavior (Fransson & Gärling, 1999; Schultz et al., 2005; Tartaglia & Grosbois, 2009).

5. Discussions and Conclusion

This study made several theoretical contributions to the field of responsible environmental behaviour research by contributing to the body of work in improving the understanding of REB intentions among tourists. This was achieved by extending the current model of REB by incorporating destination image and consumption values for a better explanation. Although the proposed addition of environmental consumption values construct in the model have been empirically concluded to have no significant influence on tourists' responsible behavior intention, the outer model loadings are highly significant and all of the t-values are larger than 1.96, thus establishing relationships of conditional value, epistemic value, social value, emotional value and functional value towards environmental consumption values. Nonetheless, the results of the study provide information to tourism marketers who should consider these reasons, as they could be the major factors for increasing responsible behavior among visitors. The studied factors when put into action can foster behaviour changes with a positive impact to successfully narrow the 'knowledge-behaviour gaps'. A number of recommendations for improving REB intentions can be considered for tourism marketers. The results of this study found that destination image (DI) have the strongest significant relationship towards tourists' intention to behave in an environmentally responsible way; followed by environmental knowledge (EK) thus, H2 and H4 were supported. Marine parks management could communicate the value propositions through the usage of pictures or electronic images showing the natural setting and cleanliness of the islands. In view of this, tourists would hopefully want to keep this image and would therefore behave in a more responsible manner when visiting. Besides, crafting a suitable service environment by creating the right ambience can help to create distinctive picturesque image of the destination thus making it unforgettable. The significant relationship between environmental knowledge and behavior intention shows that tourists who are more knowledgeable about climate change issues and plastic polluting the marine ecosystem would have a higher intention to behave more responsibly. Environmental knowledge through educational programmes has been found to significantly increase pro-environmental behaviours (Orams, 1997). Many companies are still unaware of the positive educational impact they could make on tourists that participate in their services (Gaede, Strickert, & Jurin, 2010). Perhaps to be accounted for is the vast information that is readily available and distributed via mass media and social media channels that could have contributed to the increase in their knowledge

levels of the current environmental issues. As majority of the respondents are made out of university students who have the technological know-how, this propels the access and dissemination of such information. As such, the implementation of pro-environmental education programs in schools and universities should be carried out to enhance this further. It is inferred that marine parks and other nature parks could encourage tourists' to behave responsibly by providing clear signages that reinforces behavioral rules while educating them. By using brochures or videos at the protected areas can also increase the awareness of inappropriate behaviors among the visitors and this could ultimately minimize human's negative impact towards the ecosystem. Essentially, ecotour operators and nature tour guides play critical roles by providing more information on eco-friendly tour packages and high quality interpretation experience. In view of this, nature guides have the high potential to educate their customers on the importance of marine conservation and also discourage tourists from behaving in a manner that could harm the environment.

5.1 Limitations and Future Research

There are some limitations of this study. Firstly, the sample size was relatively small, and the survey was distributed only in English causing some language barriers. There were a few international tourists from China who did not fully understood the questionnaire. In this situation, since there is a presence of the researchers, the participants were able to ask the researcher if they had any doubts. Furthermore, the timing of the data collection could be extended or arranged during the year-end holidays to facilitate more international tourists to participate. Environmentally responsible behaviors and behavioral intentions is a critical step towards sustainable tourism development, as such further studies can be considered to look into the outcome of the behavior intention by testing the tourists' visit intention towards the nature-based destination. The studies can include a larger scope to give a more expansive result by drawing data from tourists located a different entry points in Malaysia.

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