Highlands Sustainable Development and Tourist's Satisfaction: A Grounded Model Study

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Abstract

This study investigated the factors affecting tourist's satisfaction visiting highland tourism destination based on the grounded model study. The district officers, environmental officers, non-government organization, as well as local residents and farmers were approached via semi-structured interviews to gather information. Five core themes emerged from the qualitative data analysis, namely tourism development impact, sustainable development impact, environmental impact, educational factor, and tourist's satisfaction. The model was further validated with quantitative survey study involving 420 Cameron Highlands, Malaysia tourists. Partial least squares structural equation modeling (PLS-SEM) analysis was conducted to validate the instruments and analyse the hypothesised relationship. This study confirmed that tourism development, environmental impact, and education factor are important factors affecting highland tourist's satisfaction. This study developed the highland tourist's satisfaction model, which can be used as a reference for investigating tourist's preferences and satisfaction specifically in highland tourism destination.

Keywords:

Sustainable development; tourist satisfaction; semi-structured interviews; grounded model; PLS-SEM

1 Introduction

Tourism activities become vital to the development of economic, politic, and socialcultural in Malaysia. This industry had been reported as the most significant economic contributors to the country (Mohsen, 2015), and is believed would contribute about MYR103.6 billion in gross national income (GNI) by 2020 (PEMANDU, 2013). According to the Ministry of Tourism and Culture on tourism report in 2016, tourist's arrival is recorded at 26.76 million with the total receipt of MYR82.1 billion; which increase 1.73 million of tourist's arrival and MYR21.54 billion in total receipt from the past five years (Tourism Malaysia, 2016). Regarding this matter, the promotion board or otherwise known as Tourism Malaysia, has proved that the campaign of 'Malaysia Truly Asia' has been a success in promoting the country's tourism activities.

Tourism can be defined as leisure and tourism business which include the subsectors of accommodation, shopping, tourism products (such as ecotourism, cruise tourism, and other activities like spa and wellness), food and beverage, as well as inbound and domestic transportation (PEMANDU, 2013). According to Department of Statistics Malaysia (2015), the internal survey report shows that the main travel purposes were to visit friends and family (44.0%), followed by shopping (30.1%), relaxation (14.1%), entertainment or special events (3.1%) as well as medical and personal care (2.8%). Meanwhile, the domestic tourism trips show urban area increase 20.3% to result as 184.1 million people, and rural area decrease by 20.8% to result as 51.1 million people in 2014. The result also revealed thaT the top five states visited by tourists are Kuala Lumpur, Penang, Johor, Pahang, and Kedah (Department of Statistics Malaysia, 2015). Various factors have positively increased the healthy growth of the tourism industry, which includes policies by the government, development of infrastructure and facilities, transportation and tourism marketing and promotion.

Malaysia is rich with flora and fauna, such as Mulu Cave National Park (Sarawak), Penang National Park and Teluk Bahang (Penang), Forest Research Institute Malaysia (FRIM) (Selangor), Royal Belum State Park (Perak), Taman Negara and Cameron Highland (Pahang), and Pulau Perhentian (Terengganu) (Star Online Portal, 2014). The country is also famous with the white sandy beaches, crystal-clear underwater visibility and abundance of marine life (Thirumoorthi et al., 2013) which appropriate for scuba diving activities at Redang, Perhentian, Tioman, Tenggol, and Langkawi (Ong and Musa, 2012). These activities are also known as deep dives, coral blocks, drift dives, and sloping reefs (Tourism Malaysia, 2014). Nature environment provides an opportunity for tourists to engage in various activities. Hence, this matter increases the development at a particular area in providing facilities and services to enhance tourism purposes. Indirectly, uncontrolled rapid development would bring the negative impact of destruction to the environment. So, promoting awareness and protection of biodiversity are important to ensure the sustainability of tourism activities in Malaysia.

1.1 Highland Tourism in Malaysia

Generally, the highland destination is popular with the cold climate and scenic settings. Currently, Cameron Highland, Fraser's Hill and Genting Highland are the examples of highland tourism destinations in Malaysia. In fact, these three destinations are competing among each other in attracting tourist's arrival. Fraser's Hill is popularly recognized as an ecotourism destination, while Cameron Highland is a famous agriecotourism destination. Both highland destinations were developed into a hill station during British colonial in the 19th century, which mainly for vacation and leisure spot purposes. Today, these areas have been transformed into a modern and flourishing destination as tourist's attraction (Azima et al., 2012; Othman, 2011), mountaineering tourism activities (Aziz & Zainol, 2009), with scenic beauty preferences (Othman, 2011). The tourism activities and development brought positive economic and social benefits to the local residents (Jun, 2005).

Specifically, Cameron Highland provides cold, lush mountain peaks, nature trails, and waterfalls, which are essential to support the biodiversity species. Meanwhile, the land development of highland through tea plantations, terraces of vegetable, fruit and flower gardens for tourism purposes has increased the employment opportunities to the local residents. Cameron Highland development is three times bigger than the Fraser's Hill, as the beautiful scenery of forest is replaced with condominium and resort construction, as well as agriculture activities (REACH, 2009). Indirectly, these developments have caused various environmental issues, such as pollution (Aminu et al., 2015; Khalik et al., 2013; Saadati et al., 2012), flood (Loh and Leen, 2014; JPS, 2004), and land slide (Feng, 2016; Sagaran, 2014). In other words, environmental degradation has a negative impact to the local resident's quality life (Ishak et al., 2018).

2 Methods and Materials

2.1 Establishing a Grounded Model of Highland Tourists Satisfaction

The interpretative research method is applied to achieve first objective, which collect data from various sources from a small number of participants in details and depth (Ishak et al., 2018; Chua, 2016). In other words, the model is created directly from the respondent feedbacks (Conrad, 1995). The grounded theory research design is appropriate in this study because it considers the theoretical and the interpretative method (Glaser & Strauss, 1967). By using the grounded theory design, the interview data were analyzed and interpreted to generate a model based on the researched phenomenon (Strauss & Corbin, 1990). Generally, grounded theory research shows that the outputs provided can be adapted, implemented, and reassessed according to researcher's need (Creswell, 2005). Nevertheless, the validity of the outputs can only be determined by the ability of the theory; whether it can be adapted for application in various contexts (Strauss & Corbin, 1990).

This study used the original interview data and categorized it into several main themes, which then used to trace the relationships between themes (Creswell, 2005).

To establish a grounded model of highland tourists' satisfaction in Cameron Highlands, first, a semi-structured interview with a group of residents was carried out, involving 16 respondents including Cameron Highlands district officers, environmental officers, non-government organization, and farmers. Next, a quantitative survey involving 400 local and international tourists was executed.

2.2 Participants of the Study

Sampling in grounded theory research is used to select respondents with the potential to provide information required to generate model implicit in the data. Cameron Highlands district officers (n=5), Environmental officers (n=5), non-government organization (n=1), and Cameron Highlands farmers (n=5) were selected as the main respondents. These respondents were chosen as they were directly involved in the sustainable development of Cameron Highlands as a tourism destination. There are interview instruments constructed from in-depth qualitative interview specifically focusing on; (i) the respondent's commitment and satisfaction with sustainable tourism development, and (ii) their involvement in sustainable tourism development.

2.3 Data Collection and Analysis

Qualitative analysis process involves transcribing interview data using Atlas.ti software (Ringmayr, 2012), by recording and coding the data (Chenitz & Swanson, 1986). The data was analysed by; (i) open coding; and (ii) axial coding the (Chua & Chua, 2017).

3 Results of Qualitative Approach

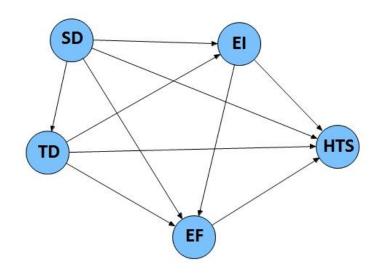
From the domain analysis, five core themes emerged from the data analysis, namely tourism development, sustainable development, environmental impact, educational factor, and highland tourist's satisfaction. The story line and analytic story for the grounded model were stated by taking highland tourist's satisfaction as a central theme and tracing its relationship to the other themes.

3.1 Story Line

The research data show that highland tourist's satisfaction is needed to sustain the tourist's arrival. Moreover, the development of tourism activities correlates positively with environmental impact, including the sustainable development and education factor. For example, tourism development affects the environments, especially increasing the temperature at places as well as high usage of pesticides and fertilizers that caused environmental pollution. Meanwhile, sustainable development policy such as public awareness, gazette protected areas for highland forests, better law and legislation, local authorities' enforcement, and participatory community approach were also important toward tourist satisfaction.

3.2 Analytic Story

The output generated from axial coding shows that highland tourist's satisfaction is necessary to maintain their continuous arrivals. Sustainable development and education factor will ensure highland tourist's satisfaction and constant tourist's arrival. The relationships among the variables from qualitative data are shown in the grounded model of highland tourist's satisfaction (Figure 1).





*SD=Sustainable Development; TD=Tourism Development; EF=Education Factor; EI=Environmental Impact; HTS=Highland Tourists Satisfaction

3.3 Validating the Grounded Model

3.3.1 Participants

Quantitative survey data were collected from 420 tourists (including local and international) in Cameron Highlands. In other words, local tourists (n=250, 59.52%) and foreign tourists (n=170, 40.48%) were participants of the survey. Among them, 149 are males (35.48%), and 271 are females (64.52%). The participant's average age is between 40 years old and more. Meanwhile, the ethnicity indicates that majority are Malaysian; with 165 (39.28%) are Malays, 60 are Chinese (14.29%), and the remaining balance of 37 are Indian (8.81%). 158 international tourists (37.62%) have participated in this survey. Majority of the respondents (n=123, 29.29%) visited Cameron Highlands more than five times. In term of education, 12% of the respondents possess master degree, 23% of them with a bachelor degree, and others with primary and secondary education level.

3.3.2 Survey Questionnaire

The survey questionnaire used in this study are divided into two sections: (i) demographic profile; and (ii) five main variables based on highland tourist's satisfaction model generated from the qualitative data analysis with 20 items (Hua, 2016a; 2016b).

3.3.3 Data Analysis

To test the validity and reliability of the model, Smart PLS-SEM analysis was performed in two stages, namely (i) validity (construct validity and discriminant validity); and (ii) reliability (composite reliability and Cronbach's alpha internal consistency reliability) of the variables. Next, the relationship between the variables was tested and reported via path analysis.

4 Results of Quantitative Analysis

4.1 Preliminary Analysis of Data: Validity and Reliability of the Variable

Partial Least Square-Structural Equation Modeling (PLS-SEM) is a non-parametric model testing analysis. This technique is used to ensure the five variables are valid and reliable to represent their indicators. The convergent validity of a variable is achieved when the loadings of the items for each variable are significant if (i) the outer loading of each item being greater than 0.5; and (ii) the average extracted (AVE) for the variable are greater than 0.5 (Hair et al., 2016). Meanwhile, the reliability of a variable is archived when the value of Cronbach's alpha and composite reliabilities are greater than 0.70 (Hair et al., 2016). The result of five variables for validity and reliability analysis are presented in Table 1.

Latent Variables	Indicator	Converge Validity	ent	Reliability		R	Redundancy
		Loading	AVE	Composite Reliability	Cronbach's Alpha	Square	,
EF	C7	0.7538					
	C8	0.7447	0.6062	0.8010	0.7700	0.5080	0.0541
	C9	0.7814					
	C10	0.5398					
EI	C3	0.6343					
	C4	0.7733	0.6288	0.8170	0.7997	0.6183	0.0215
	C5	0.7660					
	C6	0.7267					
HTS	C1	0.867					
	C27	0.897	0.6693	0.8650	0.7941	0.6464	0.0709
	C28	0.741					

Table 1: Validit	y and Reliability	of Variables in Model
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	C29	0.768					
SD	C13	0.6674					
	C14	0.8841	0.7136	0.7570	0.7899	-	-
	C15	0.7278					
	C17	0.7443					
TD	C2	0.829					
	C16	0.724	0.6458	0.8820	0.7963	0.5191	0.0191
	C22	0.701					
	C23	0.750					

The discriminant variability of the construct is confirmed when the intercorrelations among the variable in the model is smaller than 0.9; especially when the independent variable is not overlapping between one another. However, multicollinearity can cause overlapping variable in a model, which can happen due to the strong inter-correlation ($r \ge 0.9$) between variables in the model (Byrne, 2010).

Table 2: Inter-correlation among the Variables in Model

Latent Variables Correlation	1	2	3	4	5
Education Factors	1.0000				
Environmental Impact	0.3440	1.0000			
Highland Tourist Satisfaction	0.2663	-0.0749	1.0000		
Sustainable Development	0.3143	0.2059	0.1321	1.0000	
Tourism Development	0.2813	0.3014	0.2229	0.1382	1.0000

Table 2 indicates that the inter-correlation coefficients among all variables are less than 0.9; which shows that the variables are free from multi-collinearity problems, and the discriminant validity of variable for the model is achieved.

4.2 Final Model

SmartPLS 3.0 software was opted as it enables researchers to produce the model accurately and effectively as well as to analyze the inter-relationship among the latent variables that have multiple indicators (Hair et al., 2016). The final model was shown in Figure 2 consists of highland tourist's satisfaction variable with four core factors. Highland tourist's satisfaction was influenced by tourism development and environmental impact and indirectly influenced by education factor and sustainable development.

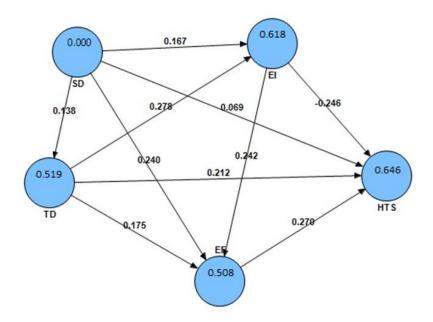


Figure 2: The Model of Highland Tourist's Satisfaction

Hypothesis	Relationships	T- Statistics value	Standardized	Supported
	(IV -> DV)		Regression Weight (β)	
H1	EF -> HTS	5.0904****	0.2697	Supported
H2	EI -> HTS	6.1394****	-0.1804	Supported
H3	SD -> HTS	1.4370	0.1321	Not Supported
H4	TD -> HTS	4.8438****	0.2087	Supported
H5	EI -> EF	5.8132****	0.2418	Supported
H6	SD -> EF	4.9007****	0.3143	Supported
H7	TD -> EF	3.0808***	0.2425	Supported
H8	SD -> EI	3.9337****	0.2059	Supported
H9	TD ->EI	5.5702****	0.2783	Supported
H10	SD -> TD	2.8820***	0.1382	Supported

Table 3: T-statistic and Standardized Regression Weight (β) of the Relationship Among Variables in Model

*Significant at p<0.1; **Significant at p<0.5; ***Significant at p<0.01; ****Significant at p<0.001

According to Table 3, the key factor that influenced highland tourist's satisfaction is education factor (β =0.270, p<0.5), followed by the tourism development (β =0.209, p<0.5), and environmental impact (β =-0.180, p<0.5). These factors explain 64.64% (R^2 =0.6464) of the variance in highland tourist's satisfaction. Meanwhile, the main factor influencing the education factor is the sustainable development (β =0.314, p<0.5), followed by tourism development (β =0.243, p<0.5), and environmental impact (β =0.242, p<0.5). Next, environmental impact is influenced by tourism development (β =0.278, p<0.5) and sustainable development (β =0.206, p<0.5). Lastly, tourism

development is influenced by sustainable development (β =0.138, p<0.5). The sub models of the highland tourist's satisfaction model are shown in Table 4.

Sub-model Regression Model			Effect
1.	HTS = 0.270EF – 0.180EI + 0.209TD	0.791	Strong
2.	EF = 0.242EI + 0.314SD + 0.243TD	0.689	Strong
3.	EI = 0.206SD + 0.278TD	0.763	Strong
4.	TD = 0.138SD	0.626	Strong

Table 4: Sub-models of the Highland Tourists Satisfaction Model

5 Conclusion

Results provided from qualitative data analysis in this study leads to the formation of highland tourist's satisfaction model, which can be used as a reference for investigating tourist's arrival to Cameron Highlands. This study confirmed that tourism development, environmental impact, and education factor are important factors affecting highland tourist's satisfaction. Any development for tourism activities will cause a negative impact on the nature of environmental. Therefore, education factor plays an important role to conserve and preserve the environment through public awareness program and community's participation in protecting the forest from illegal land clearing for agriculture activities and construct a building, maintaining the cleanliness by collecting the trash, increasing the facilities such as toilets and dustbins as well as replanting the trees.

Moreover, the tourist's satisfaction will increase if they are aware of the natural and cultural heritage in the Cameron Highlands. Concurrently, tourists will be more engaged with Orang Asli (indigenous people) culture. The mass development and mass agricultural activities increase the temperature, environmental pollution (include air, water, and noise pollution) as well as a flash flood with land slide disaster. Therefore, proper sustainable development through the educational center will be able to provide pre-trip information for the tourists, educating them to avoid harmful activities that may affect the environment. On the other hands, the educational center could also provide information to the local residents and farmers about the importance of agro-ecotourism in preservation and conservation activities. Environmental authorities should also take part in sustainable development program by declaring the forest as protected areas, the enforcement of law and legislation, and also in the public awareness of environment program to the local residents.

6 About the author

Ang Kean Hua is a Ph.D. holder (2018) from the Universiti Putra Malaysia. His area of research is on Environmental System and Modeling, focus to evaluating the water quality by using pattern recognition technique. He graduated from the University of

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