

Rural Tourism Sustainable Management and Destination Marketing Efforts: Key Factors from Communities' Perspective

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Received: May 24, 2016 Accepted: June 16, 2016 Online Published: July 30, 2016

doi:10.5539/jsd.v9n4p179

URL: <http://dx.doi.org/10.5539/jsd.v9n4p179>

Abstract

Rural tourism is seen as a potential sector in promoting country to the world and at the same time generates incomes to local communities. However, due to the lucrative economic benefits, tourism destination's sustainability and quality of services is often being ignored. Thus, this study highlights the importance of sustainable management and destination marketing efforts in rural tourism destinations with identified significant contributively factors from local communities' perspective. A total of 168 respondents comprising of local communities from *Kampung Telaga Air* and *Kampung Semadang*, Kuching, Sarawak took part voluntarily in this study. To assess the developed model, SmartPLS 2.0 (M3) is applied based on path modelling and bootstrapping. Interestingly, the findings revealed that local communities believed factors like climate change, carrying capacity of a destination, and environmental education are significantly affect both tourism destination sustainable management and destination marketing efforts. Furthermore, community support is also found to be important too for tourism destination marketing efforts. Surprisingly, community support was found no relations with destination sustainable management from local communities' point of view. This study further discussed on the implications of the findings, limitations, and direction for future research.

Keywords: rural tourism destination, sustainable management, destination marketing efforts, community's perspective, Malaysia

1. Introduction

In the modern era, tourism is recognized as a fast growing industry and significantly contributes to the country's economic growth (Kabote, 2015; Ramjit, 2015), apart from playing the role for the exchange of ideas, culture, and values throughout the world (Samantaray, 2016). Tourism industry has been progressively increased in the previous decades. This is proven by both positive statistical results and good projection for the year of 2016 by UNWTO (2016). Accordingly, the international tourist arrivals grew by 4.4% in 2015 (equivalent to 50 million more tourists travelled to international destinations in 2015 as compared to 2014), and in 2016, the international tourist arrivals is projected to grow for another 4% worldwide (UNWTO, 2016). Undeniably, the tourism industry has been long recognized as the service sector that can simultaneously meet the needs of tourists and also a community's intention to gain economic growth, improved quality of life, and sustainable environmental quality (Eagles, McCool, & Haynes, 2002; Sebele, 2010).

Tourism's positive impacts on a local community, proposed by Godfrey (1998), include economic benefits, employment opportunities, increased quality of life, and more tourism facilities and amenities is to be provided (Fredline & Faulkner, 2000; Gursoy & Rutherford, 2004). Moreover, the ownership of tourism products can help strengthen local economic resources for community development in terms of tourism facilities improvement and also increase quality of life (Aref, Redzuan, & Gill, 2010; Wang, Yang, Chen, Yang, & Li, 2010). In addition, as for the recent decline of traditional industries such as fishing, and aboriginal tribe industries forced rural community to seeks for alternative means to sustain their economic resources in the long run (Teh & Cabanban, 2007; Lee, 2013). In contrast, Jackson (2008) inferred negative impacts of tourism to a local community are degradation of the natural environment, traffic congestion, noise and air pollution, and over-crowding, which were supported by Vargas-Sanchez et al (2009) and Marzuki (2011). Hence, it is believed that tourism can bring

either positive or negative impacts to the destinations. Hence, a successful management of rural tourism destination is required in order to gain more pros than cons.

Malaysia's tourism industry has reported an increase in tourist arrivals from 22 million in 2008 to 23.6 million in 2010, and is expected to reach 25 million in 2015 with the contribution of 115 billion Ringgit Malaysia to the country's economic (Amin & Ibrahim, 2016). As mentioned by Ramdas and Mohamed (2014), the Malaysia's government is aiming for 36 million tourist arrival with 168 billion in income per year by 2020. Recently, the Malaysia's Tourism Ministry mentioned that the ministry is targeting a total of 30.5 million tourist arrivals in 2016 with possible economic contribution of RM 103 billion, which mark a slight increase from 25.7 million arrivals in 2015 (Rosli, 2016). Realising the potential economic contribution of tourism industry specifically rural tourism sectors to the country's economy as well as local incomes, various programmes were introduced to boost the rural economics. One of the popular programmes is Malaysian Homestay Programme. Through the community based homestay programme, local communities were able to generate some portion of incomes and subsequently the total contribution from over 3,000 homestay in Malaysia had have aid in increase of country's economy (Amin & Ibrahim, 2016; Hussin & Kunjuran, 2014). Additionally, Ministry of Tourism and Culture (MOTAC) (2012) also reported an increase in occupancy rate in Malaysia's homestays, specifically a 13.5% improved from 24.9 % in 2011 to 38.4% in 2012.

Sadly, numerous challenges have also arisen in the rural tourism industry, such as degradation of the natural assets, overcrowding, inappropriate infrastructure development and decreasing environmental quality (Lim & McAleer, 2005; Pipinos & Fokiali, 2009). All these adverse impacts affect the sustainability of rural tourism development. Moreover, as stated by Grigaliunaite, Pileliene, and Bakanauskas (2015), it is vital for tourism stakeholders to emphasize on the quality of services and marketing activities as tourists are more concern on the intangible benefits when comes to service sector (Osman & Sentosa, 2013; Tanasa, 2013). Past research has elucidated that the main challenge faced by Malaysia's tourism industry is image (Phang, Liew, Cheuk, & Razli, 2009). Hence, it is vital for local communities or tourism stakeholders to apply the concept of sustainable management during the development of a tourism destination through environmental protection practices and multiple environment management concepts, which include proper waste management, tourist arrival quotas control, and environmental-friendly behaviour practices among visitors (Choi & Sirakaya, 2006; Dolnicar & Leisch, 2008). Also, in promoting tourism destinations and gaining competitive advantage, it is important to emphasize image and marketing strategies to be used for the targeted areas. Thus, this study attempts to examine the impacts of community support, climate change, carrying capacity, and environmental education on rural tourism sustainable management and destination marketing efforts from the local communities' point of view.

2. Literature Review

2.1 Rural Tourism

Rural tourism is defined as a combination of different forms of tourism such as cultural and heritage components, and at the same time contributes to the rural economy growth (Maksimovic, Urosevic, & Mihajlovic, 2015). Moreover, rural tourism in today's trend is not the only means of showing cultural and environment aspects to tourists and in return for economic benefits. It is believed that the final goal for a successful rural tourism destination is to achieve sustainability over time and gain competitive advantage over another rural tourism destination (Chigbu, 2014). Past studies have envisaged that rural tourism is significantly contributes to rural economic growth through increased in employment opportunities and reduced in poverty level among the local communities (Amir, Ghapar, Jamal, & Ahmad, 2015; Hoang, 2015; Pusiran & Xiao, 2013). In Malaysia, the rural tourism industry covered all activities including cultural features, environmental aspects, traditional activities, and even health tourism (Osman & Sentosa, 2013). Scholars (Streimikiene & Bilan, 2015; George, Mair, & Reid, 2009) stated that majority of local communities are motivated to involve in rural tourism activities is mainly due to economic benefits, however, some are attracted by numbers of supply and demand factors in a rural tourism destination. Among the imperative factors, the environment has become the focal element for success of rural tourism (Amir et al., 2015). Therefore, a sustainable management approach should be applied by tourism stakeholders to ensure the successful development of rural tourism destinations and gain competitiveness.

2.2 Community Support

Community support is defined as individuals residing in the tourism destination over a period of time frame and showing supportive attitudes toward tourism activities that are highly influencing visitors' satisfaction and intention to revisit in future (Spencer & Nsiah, 2013). One the other hand, a definition of community involvement was put forward by Lee (2013), who defined it as the extent to which residents are involved in

sharing issues about their lives with their communities, whereas community participation describes it as a concept that attempts to bring different stakeholders together for community problem-solving and decision-making (Talbot & Verrinder, 2005; Aref et al., 2010). Past studies on tourism research have repeatedly evidenced that gaining local community support for tourism development is more likely when positive impacts to the community generated from tourism activities exceed the negative impacts (Fredline & Faulkner, 2000; Sharma & Dyer, 2009; Goulding, Horan, & Tozzi, 2014), such as economic benefit (Saarinen, 2006; Liu, Vogt, Luo, He, & Frank, 2012) and as well as increased community quality of life (Godfrey, 1998; Simpson, 2008; Jaafar, Kayat, Tangit, & Yacob, 2013). Indeed, when the tourism industry is able to generate more employment opportunities (Frederick, 1992; Krannich & Petrzalka, 2003), and the local community can be the manpower (Mohhtar, Poo, & Salleh, 2012), household income will be increased (Simpson, 2008). Whether tourism generates positive or negative impacts on local residents (Jackson, 2008; Marzuki, 2011) local community support plays an important role on the effect of tourism on local residents (Liu et al., 2012; Jaafar et al., 2013).

2.3 Carrying Capacity

As stated by Nghi, Lan, Thai, Mai, and Thanh (2007) that carrying capacity is the highest bearing capacity of a natural, environment and socio-economic system which the maximum number of tourists will not harm sustainable development of tourism and tourists' satisfaction. Carrying capacity can be further categorised into three components: including ecological carrying capacity, social carrying capacity and economic carrying capacity. In simplified terms, ecological carrying capacity is the maximum number of tourists that may visit a tourism destination without reducing the quality of the natural environment. On the other hand, social carrying capacity is defined as the maximum number of tourists that do not disturb residents' daily lifestyles, and economical carrying capacity is the maximum number of visitors without effecting local economic performance (Nghi et al., 2007). Previously, carrying capacity issues were associated with the management of parks, outdoor recreation and protected areas (Manning, Wang, Valliere, Lawson, & Newman, 2002). However, there is an increasing focus of carrying capacity on rural tourism destination as more visitors are seeking for natural and cultural tourism (Faulkner & Tideswell, 2005; Manuel & Miguel, 2008; Wilde & Cox, 2008).

2.4 Climate Change

Climate change is referred to as the intrinsic components of the tourism experience that influenced tourist demand, comfort and satisfaction, as well as tourism operations and environmental resources critical to the tourism industry (Dawson & Scott, 2013). Issues of climate changes have been discussed for over a decade, and they are posited as major determinants in attracting tourist arrivals (Witt & Witt, 1995; Berrittella, Bigano, Roson, & Tol, 2006). In the same breath, Yazdi and Shakouri (2010) revealed that climate change as an important aspect that influences the service sector, particularly in rural tourism destination (Dawson & Scott, 2013). The remoteness of a rural tourism destination often lacking of proper transportation systems in connecting town to the rural area, and sometimes the only transportation mode is by boat. With the surge climate change, such as raining season or dry season, this would impact on the only mode of transportation for tourists to travel to a particular rural tourism destination. In fact, some scholars posited that climate change was caused by human activities (Viner & Nicholls, 2006; Keith, 2007). However, not much action has been taken to alleviate this issue. In short, climate change may determine whether a rural tourism destination succeeds or fails. Hence, it is vital to conserve the environment during tourism activities and at the same time reduce the effect of climate change.

2.5 Environmental Education

Environmental education is a well-accepted element of ecotourism, particularly targeted at tourists, local residents, travel agents and guides (Sirakaya, 1997). Pipinos and Fokiali (2009) considered environmental education as an effective strategy for managing tourists as well as local (passive or active forms). Clearly, the involvement of the local community in environmental education is critically important because of their long term residency at the destination (Walpole & Goodwin, 2000). Furthermore, environmental education is widely accepted as an integral part of tourism and it contributes to the sustainability of heritage sites and natural environment (Ham, 1992; Fennell, 1999; Newsome, Moore, & Dowling, 2002). From this, it can be implied that environmental education cultivates consciousness, create awareness, and changes public behaviour to conserve the environment (Anan, Thiengkamol, & Thiengkamol, 2012). Therefore, a better conserved environment ensures the sustainability of a tourism destination.

2.6 Sustainable Management

Researchers in the past have elucidated that, sustainable management as improving the quality of life of local communities while meeting the needs of tourists, and simultaneously ensuring the quality of environment achieves a satisfactory level (Bhuiyan, Siwar, Ismail, & Islam, 2011). A lot of researches exist on sustainable

management, outlining how various environmental protection and conservation strategies (e.g., waste management, environmental rules enforcement) protect a destination's prime resources, such as natural, cultural, and heritage resources (Lim & McAleer, 2005; Castellani & Sala, 2010). A widely understood element of protection strategy is waste management practice that includes advocates avoid, re-use, re-cycle and disposal of waste appropriately (Lim & McAleer, 2005). In addition, host communities or destination managers should implement ecologically sustainable practices to protect the natural resources of the destination (Dolnicar & Leisch, 2008). In short, to ensure the sustainability of a tourism destination and at the same time enhance local development, it is crucial to protect the natural environment to meet future needs. Hence, the sensible use of natural resources by local communities to promote tourism is needed to ensure the sustainability of the predominantly natural and cultural resources (Castellani & Sala, 2010; Logar 2010; Zhang & Lei, 2012).

2.7 Destination Marketing Efforts

Various studies have in fact provided evidence that the importance of marketing efforts in a tourism destination achieving competitiveness (Buhalis, 2000; Dwyer & Kim, 2003; Lee & King, 2008). Tourists travel to experience natural resources, without proper marketing strategy formulation and implementation, the needs of tourists might not be satisfied as they expect. It was also noted that when a tourist destination significantly depends on the availability of natural resources and cultural heritage attractions (Lobato, Solis-Radilla, Moliner-Tena, & Sanchez-Garcia, 2006; Coban, 2012), a strong strategic marketing strategy for tourism destinations is needed (Buhalis, 2000; Lee & King, 2008) in order to achieve competitive advantage. In fact, strategic marketing often links to the development and promoting of a destination image (Hosany, Ekinici, & Uysal, 2006; Prayag, 2008) and brand (Keller, 2003; Pike, 2009) and influences the formation of a tourism destination's image. The richness of a tourism destination (in term of scenery, history, and cultural resources) does not necessarily bring success in attracting tourist visits. Moreover, a number of authors have highlighted the importance of developing destination marketing efforts in promoting a sustainable tourist destination (Morgan, Pritchard, & Piggott, 2002; Blain, Levy, & Ritchie, 2005) in order to create differentiation and gain competitive advantage. Collectively, destination marketing efforts should be applied to promote and develop a more sustainable and competitive destination.

2.8 Community Support, Carrying Capacity, Climate Change, and Environmental Education on Sustainable Management and Destination Marketing Efforts

Past studies have evidenced that the support of the local community toward the development of rural tourism has been shown to be an imperative factor in successful and sustainable tourism development (Blackstock, 2005; Simpson, 2008; Jaafar et al., 2013). As community participation gets people engaged in discussion for solution, and it plays a vital role in increasing quality of life for local residents (Putnam, 2000). Researchers in the past (e.g., Kayat, 2014; Issac, 2012; Gursay & Rutherford, 2004) have elucidated that community support in term of participation and involvement in tourism development seem to be pre-requisites for achieving the goal of sustainable management. Similarly, Amin and Ibrahim (2016) also confirmed community participation as one of the fundamental factors for successful rural tourism development. On the other hand, the issues of carrying capacity are of increasing concern to the public and private sectors. Past studies have revealed that it is vital to control the maximum number of tourist arrivals at a destination in order to sustain their resources and enable of sustainable management for decades (Buhalis, 2000; Chandran, Bhaduri, & Swamy, 2012). One obvious example is a definition on rural tourism carrying capacity by Richards and Hall (2000) which emphasized on the quality of environment and quality of recreation experience. Thus, if a tourism destination is able to create a good environmental condition for relaxation, this will ensure tourists' satisfaction (Mahdavi, Parishan, & Hasar, 2013). Sustainability is also tightly connected with the issue of carrying capacity of the tourism destination. Hence, it is vital for tourism destination planners to control the quotas of tourists arriving at one time.

While environmental education playing a vital role in the planning and management process of ecotourism development (Zhang & Lei, 2012), both local community and tourists need to be exposed to all types of environmental education and awareness activities in order to ensure the sustainability of ecotourism cycles. It is undeniable that local community participation in environmental education activities is important for the development of sustainable rural tourism destinations (Wang et al., 2010), and since the impact of environmental education on ecotourism or rural tourism developments has been recognized for decades, without the participation of local community, this relationship cannot be successful. In addition, local community participation in environmental education activities exposes the community to environmental knowledge and encourages conservation efforts (Scales, 2014). Studies in the past pointed that the changes of climate is highly correlated to the business of a rural tourism destination (Arabska & Terziev, 2015; Muller, Weber, & Volken, 2007). In addition to that, past researchers have highlighted that the unpredicted climatic change will threaten the

sustainability of rural tourism destination's natural or environmental resources (Dodds, 2010; Skanavis & Sakellari, 2011). As stated by Yazdi and Shakouri (2010), climate change is ascertained to be one of the biggest contemporary threats to the tourism industry and could alter tourists' choices on selecting a destination. Hence, this will lead to the issue of sustainable management and subsequently shifts international tourism flows to another location.

Within the tourism literature, there has been a growing interest in the notion of marketing efforts on rural tourism development (Lee, 2009; Firth, 2010). As stated by Buhalis (2000), the tourism industry is getting competitive and only the most successful managed destinations are likely to gain competitive advantage. The main function of a marketing strategy is to create awareness and promote a destination to visitors. Therefore, local communities should actively involve and support in various marketing efforts to promote the tourism destination to tourists. Researchers in the past (e.g., Akin, Shaw, & Spartz, 2015; Wilson, Fesenmaier, Fesenmaier, & VanEs, 2001) have elucidated that successful destination marketing efforts are met when communities are actively support for tourism development. In rural tourism destination, the marketing efforts are difficult to achieve if without the support and participation from the local residents as they are the most knowledgeable about the resources and attractive points on the location. The fundamental rule of carrying capacity is the use of tourism natural resources to produce maximum tourists' satisfaction and without damaging the resources for future use. It is believed that the importance for a tourism destination is to apply the concept of carrying capacity on destination marketing efforts. Accordingly, an acceptable level of tourists' number in a tourism destination would create an even better and favorable destination image. Additionally, it was found that carrying capacity play an imperative role for successful sustainable tourism management and marketing (Ramdas & Mohamed, 2014).

On the other hand, past studies have revealed that climatic conditions of a destination highly influence the image of a tourism destination and further lead to creation of a favorable or an unfavorable market position (Stankovic & Dukic, 2009; Muller et al., 2007). In addition, climate change such as temperature, fog, wind and humidity is likely to influence tourists' choice of tourism destination as most of the tourists love good weather (UNWTO, 2007). Past studies have envisaged that climate change has shape the conditions at a holiday destination and reduce the uniqueness of the selling point for a tourism destination (Mullet et al., 2007; Arabska & Terziev, 2015). Thus, the changes of climate are predicted to bring impacts on the successful of destination marketing efforts. Environmental education is confirmed as a critical tool to sustain the quality of the environment and main the unique selling proposition for marketing purposes. In order to mitigate environmental degradation, it is necessary that a local community be exposed to environmental education, enabling them to balance the development and preservation of their environment (Wearing & McDonald, 2002). In this regard, the better preserve environment will ensure a better quality of a destination image (Lee, 2009; Ramdas & Mohamed, 2014). Hence, it is believed that environmental education is influencing on destination marketing efforts. Based on the above discussion, the hypotheses developed as following:

- H1 : Community support is positively related to sustainable management in rural tourism destination in Sarawak.
- H2 : Carrying capacity is positively related to sustainable management in rural tourism destination in Sarawak.
- H3 : Climate change is positively related to sustainable management in rural tourism destination in Sarawak.
- H4 : Environmental education is positively related to sustainable management in rural tourism destination in Sarawak.
- H5 : Community support is positively related to destination marketing efforts in rural tourism destination in Sarawak.
- H6 : Carrying capacity is positively related to destination marketing efforts in rural tourism destination in Sarawak.
- H7 : Climate change is positively related to destination marketing efforts in rural tourism destination in Sarawak.
- H8 : Environmental education is positively related to destination marketing efforts in rural tourism destination in Sarawak.

2.9 Social Exchange Theory and Rural Tourism Management

Social exchange theory reveals stakeholder perceptions and attitudes towards the development of tourism

industry in their community (Andereck, Valentine, Knopf, & Vogt, 2005). In other words, this theory investigated the evaluations of residents on the exchanges based on costs and benefits incurred in tourism developments. In simplified terms, social exchange theory postulates that individuals (community) willingly support tourism development only when they gain more benefits than the costs incurred. It suggests that communities fully support the condition that tourism development activities must bring major positive impacts to the community, such as create job opportunities and increase local income, and simultaneously force to community to absorb high costs in supporting tourism development activities (McGehee & Andereck, 2004; Fotiadis, 2009; Knollenberg, 2011). In this study, social exchange theory is applied in the research framework by relating factors (independent variables) towards the development of rural tourism sustainable management and destination marketing efforts (dependent variable). In the present study, local communities' perception on factors affecting the sustainable management and destination marketing efforts of rural destinations are tested. Local communities believe and support for each of the influencing factors (such as community support, carrying capacity, climate change, and environmental education) will contribute to the development of rural tourism sustainable management and destination marketing efforts, and subsequently lead to better development of a rural tourism destination and economic generation.

3. Methodology

In this study, two of the rural tourism destinations, namely *Kampung Telaga Air* and *Kampung Semadang* in Sarawak were selected for data collection. Currently the Malaysian government concerned about the development and operation of tourism industry. The focus of this study was on East Malaysia rural tourism sites because a number of government initiatives promote eco-tourism destinations in this region, particularly in Sarawak (Borneo Post Online, 2014). The reason this study selected the two rural tourism destinations in Sarawak is because of the locations are categorized as Community-Based Tourism (CBT). Community Based Tourism is referred as tourism that involves the participation of the local communities in tourism activities by allowing tourists to visit these areas and learn about their local culture and environment which will benefit local communities as a consequence (Lucchetti & Font, 2013). The current study employs a quantitative approach in testing the hypotheses developed via the analysis of data collected from the self-administered questionnaires. The questionnaires were completed through face-to-face interview asking the survey questions. Some of the questions were translated and explained to the local community members. This was done to ensure a better understanding by the locals and better answering of the questionnaires. G*Power software was employed to calculate the minimum sample size with a significant level of 0.05 and the power of 0.95. Thus, by running a priori power analysis using medium effect size, the minimum sample size for this study is 111. Hence, a total of 250 questionnaires were distributed personally to the local communities from two selected rural tourism destinations. The large number of questionnaires were given out was to ensure a sufficient number of returned questionnaires. Out of the 250 sets distributed, only 168 sets were returned and used for analysis. Table 1 shows the demographic profile of the respondents.

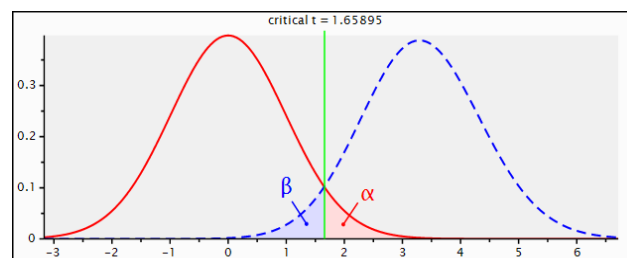


Figure 1. Results of G*Power Analysis

Table 1. Demographic profile of respondents

			Respondents (N = 168)	
Demographic Variable	Category		Frequency (n)	Percentage (%)
Gender	Male		90	53.6
	Female		78	46.4
Ethnicity (Destination)	Bidayuh (<i>Kampung Semadang</i>)		82	48.8
	Malays (<i>Kampung Telaga Air</i>)		86	51.2
Education Level	High school or below		150	89.3
	Diploma		13	7.7
	Degree or professional qualification		4	2.4
	Postgraduate		1	0.6
Monthly Income (in RM)	Less than RM500		103	61.3
	Between RM501 and RM1,000		30	17.9
	Between RM1,001 and RM1,500		15	8.9
	Between RM1,501 and RM2,000		9	5.4
	Between RM2,001 and RM2,500		3	1.7
	Between RM2,501 and RM3,000		4	2.4
	RM3,001 and above		4	2.4
Respondent's profile (N=168)	Mean	SD	Minimum	Maximum
Age (in years)	31.7	10.0	17	60

The questionnaires comprised two sections. Section I measured the communities' perceptions on the influencing factors toward sustainable management and destination marketing efforts for a rural tourism destination. Section II gathered background information of the respective respondents. The items on the questionnaire were based on the works of researchers in the field (Perdue, Long, & Allen, 1990; Gebhard, Meyer, & Roth, 2007; Hamele, 1988; Mihalic, 2000; Health, 2003; Jurowski, 1994; Crouch & Ritchie, 1999; Hassan, 2000; Mihalic, 2000; Dwyer & Kim, 2003; Enright & Newton, 2005), which, developed for research in western countries, were slightly modified to adapt to the Malaysian context. Respondents were asked to respond to each statement using a seven-point Likert scale (ranging from 1 = strongly disagree to 7 = strongly agree) for each statement. Researchers (e.g., Maddox, 1985; Ko & Stewart, 2002) recommended that the use of Likert type scale in tourism research to get a better validity.

SmartPLS 2.0 (M3) is the software that employed and Partial Least Square-Structural Equation Modelling (PLS-SEM) was used to analyze the data collected. The main benefits of PLS is to solve a complex set of research models in which the indicators are large, and the relationships between the indicators and latent variable have to be modeled in different models (Chin & Newsted, 1999). PLS also analyses the measurement model such as the outer model with their corresponding indicators and also the relationship among independent variables toward dependent variables (inner model) (Fornell & Bookstein, 1982; Chin, 1998; Ringle, Wende, & Will, 2005). The outer model includes individual items reliability, internal consistency, and discriminant validity (Gil-Garcia, 2008). Using PLS, the research model is measured and analyzed through two stages. As noted by Hulland (1999), PLS analyses the outer layer by performing validity and reliability analyses of the measurement constructs (Westerlund & Rajala, 2010). Next, bootstrapping will be performed to analyze the inner layer to get the t-values for hypotheses testing.

4. Findings

4.1 Assessment of the Measurement Model

First, confirmatory factor analysis (CFA) was conducted to test the item reliability, convergent validity, and discriminant validity of the measurements scales. As shown in Table 2, all the items loading (showed in final iteration) exceeded the minimum cut off point of 0.50 (Gefen, Straub, & Boudreau, 2000; Bagozzi, Yi & Philipps, 1991), thus, the internal consistency was achieved. In terms of convergent validity, all the composite reliability (CR) values were above the minimum cut off point of 0.7 (Chin, 2010; Riquelme & Rios, 2010) and the average variance extracted (AVE) values meet the minimum criteria of 0.50 (Fornell & Larcker, 1981). For discriminant validity (see Table 3), the value of AVE will be square rooted and testify against the intercorrelations of the construct with other constructs in the research model (Chin, 2010) and all the values noted as greater than each of the constructs correlations (Chin, 2010; Fornell & Bookstein, 1982). Hence, the measurement model was satisfactory and provided sufficient evidences in term of reliability, convergent validity, and discriminant validity.

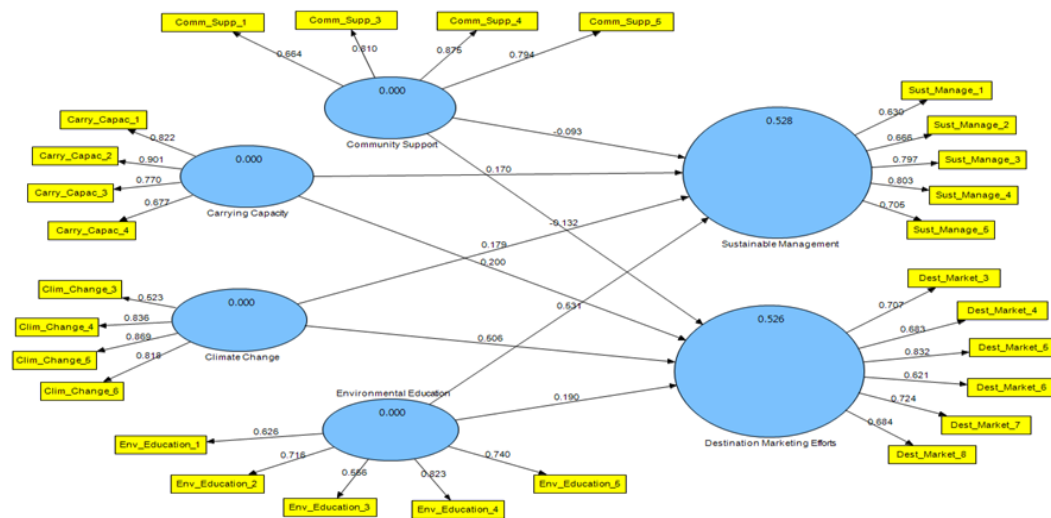


Figure 2. Results of the path analysis

Table 2. Results of measurement model

Model Construct	Measurement Item	Loading	CR ^a	AVE ^b	Loading	CR ^a	AVE ^b
		<u>First iteration</u>			<u>Final iteration</u>		
Carrying Capacity	Carry_Capac_1	0.822	0.873	0.635	0.822	0.873	0.635
	Carry_Capac_2	0.901			0.901		
	Carry_Capac_3	0.771			0.770		
	Carry_Capac_4	0.676			0.677		
Climate Change	Clim_Change_1	0.490	0.815	0.432	Omitted	0.853	0.599
	Clim_Change_2	0.472			Omitted		
	Clim_Change_3	0.638			0.523		
	Clim_Change_4	0.762			0.836		
	Clim_Change_5	0.765			0.869		
	Clim_Change_6	0.748			0.818		
Community Support	Comm_Supp_1	0.689	0.847	0.534	0.664	0.868	0.623
	Comm_Supp_2	0.478			Omitted		
	Comm_Supp_3	0.799			0.810		
	Comm_Supp_4	0.849			0.875		
	Comm_Supp_5	0.780			0.794		
Destination Marketing Efforts	Dest_Market_1	-0.056	0.790	0.383	Omitted	0.859	0.506
	Dest_Market_2	0.114			Omitted		
	Dest_Market_3	0.715			0.707		
	Dest_Market_4	0.694			0.683		
	Dest_Market_5	0.835			0.832		
	Dest_Market_6	0.626			0.621		
	Dest_Market_7	0.718			0.724		
	Dest_Market_8	0.667			0.684		
Environmental Education	Env_Education_1	0.626	0.824	0.488	0.626	0.824	0.500
	Env_Education_2	0.716			0.716		
	Env_Education_3	0.556			0.556		
	Env_Education_4	0.823			0.823		
	Env_Education_5	0.740			0.740		
Sustainable Management	Sust_Manage_1	0.630	0.845	0.523	0.630	0.845	0.523
	Sust_Manage_2	0.664			0.666		
	Sust_Manage_3	0.795			0.797		
	Sust_Manage_4	0.804			0.803		
	Sust_Manage_5	0.707			0.705		

Note:

^a Composite Reliability (**CR**) = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) + (square of the summation of the error variances)}

^b Average Variance Extracted (**AVE**) = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings) + (summation of the error variances)}

*Clim_Change_1, Clim_Change_2, Comm_Supp_2, Dest_Market_1, & Dest_Market_2 were deleted due to low loading.

Table 3. Discriminant validity of constructs

	Carrying Capacity	Climate Change	Community Support	Destination Marketing Efforts	Environmental Education	Sustainable Management
Carrying Capacity	0.797					
Climate Change	0.238	0.774				
Community Support	-0.005	-0.020	0.789			
Destination Marketing Efforts	0.393	0.254	-0.133	0.711		
Environmental Education	0.378	0.311	0.050	0.218	0.707	
Sustainable Management	0.414	0.401	-0.071	0.308	0.182	0.723

Note: Diagonals represent the square root of the average variance extracted (AVE) while the other entries represent the correlations.

4.2 Assessment of the Structural Model

Next, Figure 2 and Table 4 present the results of the hypotheses testing. Interestingly, the statistical results showed that seven of the hypotheses were supported. The results revealed that carrying capacity, climate change, and environmental education were positive significantly related to sustainable management of a rural tourism destination. On the other hand, community support, carrying capacity, climate change, and environmental education were also found positive significantly related to destination marketing efforts of a rural tourism destination. Surprisingly, community support was found no positive significant relationship with sustainable management. Hence, H2, H3, H4, H5, H6, H7, and H8 were supported, whereas H1 was rejected.

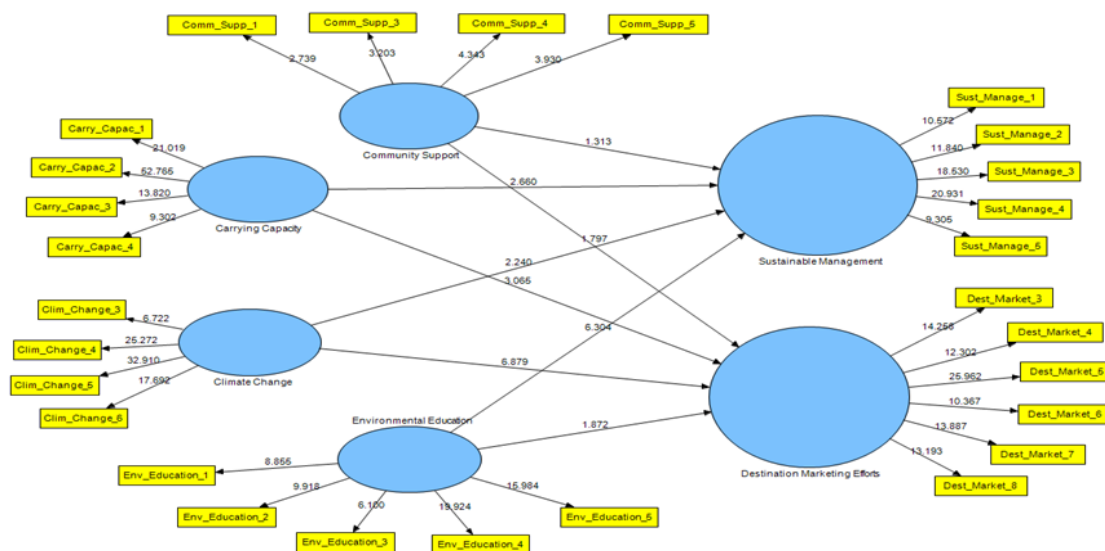


Figure 3. Research model with t-value

Table 4. Path coefficients and hypothesis testing

Hypothesis	Relationship	Coefficient	t-value	Supported
H1	Community Support → Sustainable Management	-0.093	1.313	No
H2	Carrying Capacity → Sustainable Management	0.170	2.660**	Yes
H3	Climate Change → Sustainable Management	0.179	2.240*	Yes
H4	Environmental Education → Sustainable Management	0.531	6.304**	Yes
H5	Community Support → Destination Marketing Efforts	-0.132	1.797*	Yes
H6	Carrying Capacity → Destination Marketing Efforts	0.200	3.065**	Yes
H7	Climate Change → Destination Marketing Efforts	0.506	6.879**	Yes
H8	Environmental Education → Destination Marketing Efforts	0.199	1.872*	Yes

*p<0.05, **p<0.01

5. Discussion

No known empirical research was found that examines factors such as community support, carrying capacity, climate change, and environmental education and its impact on tourism sustainable management and destination marketing efforts in a rural setting. It is however, recognized that local community attitudes and perceptions toward tourism development highly influence the success and failure of tourism development. Furthermore, the influencing factors (e.g., climate change, carrying capacity, and environmental education) are crucial in determining the sustainability of a rural tourism destination (Kim, 2012) and the support from local communities eventually leads to better development and marketing of rural tourism destination (Spencer & Nsiah, 2013). Informed by this extant research, this study is the first to test the impact of community support, carrying capacity, climate change, and environmental education on tourism sustainable management and destination marketing efforts. To this extent, the results of this study add to the growing body of research on the impact of multiple influencing components on rural tourism sustainable management and marketing efforts. In sum, out of the eight hypotheses were tested, seven hypotheses were supported, and one was found no significant relationship with sustainable management.

As expected, the empirical results showed that carrying capacity had a significant impact on rural tourism sustainable management, and H2 was supported. The results of this analysis are congruent with past findings where carrying capacity was found to have significantly impact tourism sustainable management (Buhalis, 2000; Chandran et al., 2012). This is justifiable that local communities believed of successful control the number of visitors to a place at a time is able to keep the environment to the best condition for relaxation. Additionally, a minimum number of tourists visiting a tourism destination at a time will also ensure the effectiveness and efficiency of environmental management practice for sustainability of tourism resources. In addition, the results of this study have indicated that climate change has had a significant positive impact on rural tourism sustainable management from local communities' perspective, and H3 was supported. As stated by Dodds (2010) that climate changes of a tourism destination highly influence the sustainability of a rural tourism destination. This can be further explained that the unpredicted changes of climate will decrease the efficiency of environmental management. This is because of the fact that local communities are unable to manage the natural resources in a sustainable way due to bad climatic conditions.

Moreover, the present study has also revealed and confirmed that environmental education has positively impact rural tourism sustainable management from local communities' perspective, and hence, H4 was supported. Past studies have postulated that environmental education plays a vital role in cultivating environmental knowledge and creating awareness among local communities for conservation efforts (e.g., Scales, 2014; Wang et al., 2010).

It is believed that local communities with better environmental knowledge ranging from environmental issues, potential impacts, and preventive or environmental management knowledge are able to better manage a tourism destination in a sustainable way. On the other hand, the results showed that community support has had a significant positive impact on rural tourism destination marketing efforts, and H5 was supported. It is justifiable that local communities are the most ideal marketers for their respective rural tourism destination. The local communities are equipped with the fundamental knowledge about the location and potential unique selling point. Hence, the support from local communities in promoting the destination tends to lead to better destination marketing efforts.

Interestingly, the findings have revealed that carrying capacity has had a significant positive impact on rural tourism destination marketing efforts, and H6 was supported. In fact, the fundamental unique selling proposition of a rural tourism destination is its natural and environmental resources. However, all the natural resources might be potentially destroyed slowly if a destination is unable to protect these resources from mass number of visitors. Thus, it is believed that by controlling the maximum number of tourists to a destination will lead to better manage of tourism resources, and subsequently maintain the unique selling proposition in a sustainable way for marketing efforts purposes (Ramdas & Mohamed, 2014). Furthermore, the finding of this study also confirms that climate change has had a significant positive impact on rural tourism destination marketing efforts, and thus, H7 was supported. Scholars (e.g., Mullet et al., 2007; Arabska & Terziev, 2015) have elucidated that change in climatic conditions tends to decrease the attractiveness of a tourism destination, and subsequently bring detrimental effect to the marketing efforts.

The results of this study revealed that environmental education has had a significant positive impact on rural tourism destination marketing efforts, and H8 was supported. It was documented by past studies that local communities with environmental knowledges are able to better preserve and manage the environment for maintaining a good destination image (Lee, 2009; Ramdas & Mohamed, 2014). Hence, the possible explanation is that local communities believed environmental education always stand as the starting point that leads to sustainable management for destination image, and further develop successful destination marketing efforts of a rural tourism destination.

Surprisingly, the resulting analysis for H1 indicates that community support has no significant relationship with sustainable management. Previous studies showed local community involvement and participation in tourism development significantly contributes to the sustainability and competitiveness of development (Muganda, Sirima, & Ezra, 2013). This contradictory finding may seem possible due to the fact that local communities' limited environmental conservation knowledge, have resulted in unsuccessful conservation efforts in their areas. Furthermore, local communities are not motivated to be involved when they have limited knowledge and understanding on the correct way of implementing environmental conservation for sustainable management of the destinations (Forstner, 2004; Ertuna & Kirbas, 2012). To overcome this, it is important to develop community knowledge and skills, especially at the initial stage of tourism development, which influences community support for environmental conservation and leads to sustainable management of a rural tourism destination.

6. Implications

The findings of this research have a number of important theoretical and practical implications both scholars and practitioners, especially in the domain of rural tourism sustainable management and destination marketing efforts. In term of theoretical implications, this study provides an in-depth investigation into whether, and how, each of the dimensions (e.g., community support, carrying capacity, climate change, & environmental education) impact rural tourism sustainable management and destination marketing efforts from local communities' perspective. In addition, this study has also confirmed the links between the examined constructs (e.g., community support, carrying capacity, climate change, & environmental education) and rural tourism sustainable management and destination marketing efforts. Moreover, it markedly contributes to the literature in rural tourism areas and enriches the existing knowledge of influencing factors and their effects on the development of rural tourism sustainable management and destination marketing efforts from local communities' perspective.

From a practical point of view, the findings of the study provide valuable information to tourism stakeholders and policy planners about the importance of influencing factors (community support, carrying capacity, climate change, & environmental education) in the development of rural tourism sustainable management and destination marketing efforts. Furthermore, these findings are from a local community perspective, which is a dominant factor in the success or failure of rural tourism development (Nunkoo & Ramkissoon, 2010). In addition to that, the findings of this study can be valuable to local planners, policy makers, and business

operators on the effective implementation of rural tourism development with better sustainable management and destination marketing. Since, local community attitudes are important in successfully developing rural tourism, tourism planners should be concerned about the community perspective on the important factors in contributing to sustainable management and marketing efforts for a rural tourism destination. From this, rural planners and stakeholders can infer that they need to do more that understand local perceptions; such as creating opportunities for locals to be involved and to gain their support in the planning and development phases are also important. With community support during all stages of the development, eventually leads to more sustainable developments and competitive rural tourism destinations.

7. Conclusion

In conclusion, this study provides empirical evidence for the impact of influencing factors (e.g., community support, climate change, carrying capacity, & environmental education) on rural tourism sustainable management and destination marketing efforts from local communities' perspective. This study claims to demonstrate the important of community support, climate change, carrying capacity, and environmental education on sustainable management and destination marketing efforts of rural tourism destinations in Sarawak, Malaysia. As such, further investigation on rural tourism sustainable management and destination marketing efforts should be conducted from different perspectives, such as tourist and other tourism players. Future research may investigate the current model in others rural settings with different demographic profiles.

Acknowledgments

The funding for this project was made possible through the research grant obtained from the Ministry of Higher Education, Malaysia, and Universiti Malaysia Sarawak under the NRGs 2013 Grant Scheme [NRGS/1091/2013 (05) JPT.S(BPKI)2000/04/07/03].

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