The Impacts of Multi-environmental Constructs on Tourism Destination Competitiveness: Local Residents' Perceptions

Chee-Hua Chin[1], May-Chiun Lo[1], Abang Azlan Mohamad[1] & Vikneswaran Nair[2]

[1] Faculty of Economics and Business, Universiti Malaysia Sarawak (UNIMAS), Malaysia

[2] School of Hospitality, Tourism & Culinary Arts, Taylor's University, Malaysia

Correspondence: Chee-Hua Chin, Faculty of Economics and Business, Universiti Malaysia Sarawak (UNIMAS), 94300, Kota Samarahan, Sarawak, Malaysia. Tel: 60-1-6899-8285. E-mail: cch.febunimas@hotmail.my

Abstract

In the rural tourism industry, the environment has emerged to be of most concern to the local communities, followed by social-cultural and economic issues. Stemming from the awareness, the environment has become one of the main pillars for sustainable tourism development, particularly, rural tourism destination. On the other note, in a competitive tourism market, it is important for rural tourism destinations to create competitive advantage in order to attract visitors. Therefore, competitiveness theory underpins the research framework proposed and attempts to examine the impacts of multi-environmental constructs towards the development of rural tourism destination competitiveness. A total of 278 respondents comprising of local communities from rural destinations in Sarawak, Malaysia took part voluntarily in this study. To assess the developed model, *SmartPLS 2.0 (M3)* is applied based on path modelling and bootstrapping. The findings showed that local residents are in their believed that for a rural tourism destination to enhance its competitiveness, environmental education is the key to increase environmental conservation that lead to better quality of environment. Tourism infrastructure is an added advantage to increase a tourism destination competitiveness. This study further discussed on the implications of the findings, limitations, and direction for future research.

Keywords: rural tourism, environmental components, destination competitiveness, local residents' perceptions, Sarawak, Malaysia

1. Introduction

Tourism industry is said to be always related to economic contribution. It is either tourism contributes in a larger scale such as country's economic growth or in a smaller scale likes contribute to local communities' welfare and increased their standard of living (Rahmani, Hajari, Karimian, & Hajilo, 2013). Past research has highlighted the positive impact of the tourism industry, and its contribution to economic and social development of local communities (Egbali, Nosrat, & Ali-pour, 2011; Moshabaki & Malek, 2004; Sirakaya, Jamal, & Choi, 2001). Nonetheless, tourism also brings negative outcomes to rural communities, such as crowding, destruction of the natural resources and environment, and increased cost of living (Vargas-Sánchez, Plaza-Mejía, & Porras-Bueno, 2009; Loumou, Giourga, Dimitrakopoulos, & Koukoulas, 2000; Perdue, Long, & Kang, 1999). Thus, this has led to the evolved of sustainable tourism, a proper development of tourism industry that benefited the tourism stakeholders as well as conserving the environment for sustainable use in the future.

The country, Malaysia, famous with its cultural heritage and natural environments has successfully brought in millions of international tourists over the decades. These resources are confirmed as the significant factors for the development of rural tourism. However, Harrill (2004) highlighted that it's important to involve local communities in preserving these resources because of the fact that the communities are the one staying at the rural touristic locations. Rural communities typically derive their livelihood from their local environment, so it is crucial to take their perspective of rural tourism development into perspective. It is important to overcome community concerns and to gain their support for sustainable rural tourism development. Important concerns in generating community support for rural tourism development focus on improvements to the standard of living and quality of life of the local communities. This study is able to identify destination competitiveness with the help of local communities and indirectly improve their standard of living through the creation of job opportunities without destroying the natural environment.

In a competitive tourism market, it is important for rural tourism destinations to create competitive advantage in order to attract visitors. As major environmental components are typically the key competitive features of rural tourism, sustaining improved quality of life and job opportunities in local communities are dependent on preserve these advantages. Hence, to ensure the success of rural tourism development, the perspectives of rural communities needs to be thoroughly investigated (Murphy, 1985). Few studies in Malaysia have considered the importance of environmental constructs on the development of destination competitiveness from the perspectives of local communities. Past research (e.g., Greaves & Skinner, 2010; Hanna & Rowley, 2008) has highlighted that creating unique identities to differentiate one tourism destination from another improves competitive advantage. Hence, multi-environmental constructs and community support for a rural tourism destination obviously increases competitiveness. Hence, this study contributes to the existing literature, and further extends existing knowledge.

2. Literature Review and Hypotheses Development

The notion of destination competitiveness has been developed (Kim, 2012; Lee & King, 2008; Enright & Newton, 2004; Ritchie & Crouch, 1993) and different definitions proposed. One of the earlier definitions is by Pearce (1997) who defined destination competitiveness as the techniques and methods that possibly apply to analyse and compare the diverse attributes of destinations in the context of planning (Mihalic, 2000). Enright and Newton (2004), in supporting Dwyer and Kim (2003), have developed a newer and more comprehensive model of tourism destination competitiveness. In their model, they integrated generic factors of competitiveness derived from the industry setting and destination attractiveness (Enright & Newton, 2004). Accordingly, to develop a fully competitive destination, natural resources and attractors (e.g., floral and faunal, cultural and heritage attractions) must exist to lure tourists' attention and be integrated with a well strategized marketing strategy to market a tourism destination. This model has received increasing attention from scholars, and consequently, additional components extended the existing model, which include tourism destination resources and attractors, tourism destination strategies, and tourism destination environments (Lee & King, 2008; Wilde & Cox, 2008). In short, competitiveness theory underpins this study and to explain the development of rural tourism destination competitiveness from both comparative advantage (natural resources) and competitive advantage (build resources) for rural tourism destinations.

Of the many studies on environmental constructs and rural tourism destination competitiveness, the majority were about environmental conservation and environmental education of destination competitiveness or carrying capacity of a rural tourism destination and development of tourism destination competitiveness, from the perspective of tourists. There is, however, limited research on the impact of multi-environmental constructs on destination competitiveness from the perspective of local communities. Hence, the present study used multi-environmental constructs (e.g., environmental conservation, environmental education, cultural heritage attraction, tourism infrastructure, carrying capacity, relaxation, quality of environment, and natural resources) as the independent variables and destination competitiveness as the dependent variable.

According to past researchers (e.g., Tribe, Font, Griffiths, Vickery, & Yale, 2000), environmental conservation is defined as a policy or a long-established approach to protection the environment, which involves the designation of protected status for landscapes, habitats or individual species. Past studies have revealed that both tourists and community are increasingly aware of the importance of preserving and conserving the environment, it is vital to promote and cultivate environmental knowledge among them. Preserving a tourism product, in this case a natural amenity, also means sustainability of profits (Reimer & Walter, 2013). One specific issue in tourism development is conserving fauna and flora (Lokuhetty, Jayawardena, & Mudadeniya, 2013) as often they are the main resources that attract tourists. Moreover, multiple environmental management strategies such as environmentally friendly practices, visitor number management, and specific spatial or time zoning have been introduced overtime to minimize the environmental pressures (Pipinos & Fokiali, 2009; Lim & McAleer, 2005), and subsequently increase the competitiveness of the tourism destinations. Hence, the following hypothesis is developed:

    H1:   Environmental conservation is positively related to destination competitiveness.

Environmental education is widely accepted as an integral part of tourism and it contributes to the sustainability of heritage sites and natural environment (Newsome, Moore, & Dowling, 2002; Fennell, 1999). In a case study of Costa Rica, a number of activities were adopted to promote environmental learning (Blum, 2008), and a study by Luck (2003) concluded that nature education increases ecological awareness. A better conserved environment ensures the sustainability of a tourism destination. However, without the cooperation and participation of both local communities and tourists, environmental education in tourism industry does succeed (Sukserm,

Thiengkamol, & Thiengkamol, 2012; Thiengkamol, 2008). Hence, it is therefore concluded that environmental education served as a fundamental rule for the development of sustainable tourism destination and also contributed to the competitiveness of the destinations. As such, the following hypothesis is proposed:

H2:   Environmental education is positively related to destination competitiveness.

On the other hand, the importance of cultural heritage is that it plays a pivotal role in tourism destinations and is a prominent resource in society, especially for rural communities (Park, 2014; Liu, 2013). As millions of people have already travelled across the globe to experience different types of heritage and personal nature (Dallen, 2006), the number of visitors willing to travel to tourism destinations with the intention to experience a different cultural heritage is increasing. It is therefore important for a rural destination to conserve its existing cultural heritage attractions in order to maintain its attraction value and develop its cultural resources to increase destination competitiveness and sustainability over time (Taylor, Daye, Kneafsey, & Barrett, 2014; Bowitz & Ibenholt, 2009). In particular, cultural heritage not only attracts tourists, but it also helps to enrich people's lives by providing a deep sense of connection to the past and by building the local community's identity (Chu & Uebegang, 2002). Therefore, the following hypothesis is framed:

H3:   Cultural heritage attraction is positively related to destination competitiveness.

As defined by Inskeep (1991), tourism infrastructure is the physical elements created or made for visitors. The obvious remoteness of rural tourism destinations means that transportation infrastructure supply is limited. Therefore, accessibility has become the utmost concerned by tourists who plan for a visit to the rural tourism destination. Prideaux (2000) has revealed that the availability of good transportation system is important, because tourists can enjoy the journey in a comfortable way. Thus, the availability of quality transportation infrastructure plays a significant role for the development of rural tourism destination competitiveness. This is because of the facts that tourists are able to travel from one destination to a rural tourism destination with minimum travelling costs and experiencing maximum travel comfort. Hence, the following hypothesis is developed:

H4:   Tourism infrastructure is positively related to destination competitiveness.

The earlier definition of carrying capacity by World Tourism Organization (1999), and is defined as the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, or socio-cultural environment. Past studies (Mathew, 2009; Dwyer, 2001; Mihalic, 2000) have revealed that carrying capacity plays a significant role for the development of rural tourism destination competitiveness. In fact, controlling the maximum numbers of tourists visiting a rural touristic destination at a specific time frame is a must to maintain its resources for competitiveness over time. The concept of mass tourism is not acceptable in rural tourism destinations due to the fact that the increasing numbers of tourists visiting at a time would lead to the degradation of part of the natural resources. Therefore, the following hypothesis is proposed:

H5:   Carrying capacity is positively related to destination competitiveness.

Having support from tourists is important to the future successful development of rural tourism destinations as the tourists will contribute to the destinations' economic development. The term relaxation is defined as a person taking the time to pursue tourism activities of interest with the intention to getting away from the everyday routine, to gain good experiences (Crompton, 1979). Tourists are motivated to pay for a visit to rural tourism destinations due to its natural and relaxation environment which totally a different experience to gain as compare to any urban tourism. Yu (2014) stated that most tourists are motivated by the peace and natural environment of a destination for relaxation. Past studies have documented that relaxation was a central distinguishing motivational theme offered by a particular rural tourism destination to attract more tourists' visits (Mazilu & Stancioiu, 2009; Park & Yoon, 2009). As such the following hypothesis is proposed:

H6:   Relaxation is positively related to destination competitiveness.

Quality of environment is understood to be one of the important contributors to the development of destination competitiveness (Kayar & Kozak, 2008; Kulcsar, 2009). A definition of quality of environment, developed by Mihalic (2000), is defined as the quality of the natural features, such as beautiful scenery, natural hydrologic structures, clean water, fresh air and species diversity, of the destination that can deteriorate as a result of human activities. In fact, achieving quality requires both tourists and local community to actively participate in improving the environment and not further decrease the environmental conditions. Thus, in a rural tourism destination, to maintain a quality environment, community participation is required to aid in the protection of environmental resources and to ensure sustainability of natural ecology (Wang, Yang, Chen, Yang, & Li, 2010),

and subsequently increase the destination's competitiveness. Based on these grounds, the following hypothesis is developed:

H7:   Quality of environment is positively related to destination competitiveness.

Over the past, flora and fauna species are included as the components of natural resources (Crouch & Ritchie, 1999). Accordingly, because natural resources of a tourism destination, in particular a rural tourism destination, act as a critical attribute that attract visitors and as the basis of destination competitiveness (Lane, 2009; Crouch & Ritchie, 1999), one of the basic criteria for tourists in making travel decision choices is the quality of natural resources of a particular tourism destination. Therefore, for a tourism destination to achieve market growth and vitality (Ross, 1994), it must ensure the sustainability of natural resources (Lee & King, 2008) and maintain the quality of tourism resources (Yoon, 2002; Go & Govers, 2000). Hence, the following hypothesis is developed:

H8:   Natural resources are positively related to destination competitiveness.

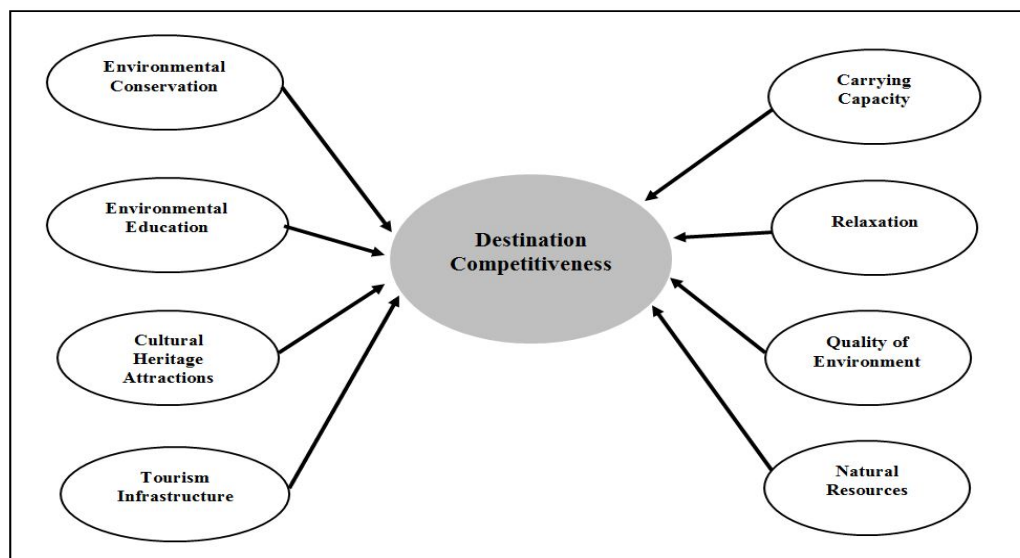Overall, based on the hypotheses developed and the research framework is proposed as in Figure 1.

Figure 1. Research framework

3. Methodology

Data were collected from local communities in three rural tourism destinations in Sarawak, namely Bario Kelabit Highland, Annah Rais Bidayuh Longhouse and Bako National Park in Sarawak, Malaysia. In present research, the exploratory approach includes the distribution of questionnaires. Data were collected through questionnaires administered by face-to-face interview in the local communities of three rural tourism destinations in Sarawak, Malaysia. In the present study, the minimum sample size (n = 140) was calculated using the formula as below taken from Hair, Black, Babin, Anderson and Tatham (2010). Overall, a total of 278 respondents comprising of local communities from *Kampung Annah Rais* and *Kampung Bako*, and Bario Kelabit Highlands, Sarawak took part voluntarily in this study.

The questionnaire comprised two sections. Section I measured the communities' perceptions on the importance of multi-environmental constructs toward destination competitiveness, and also their support. Section II gathered background information of the respective respondents. The items on the questionnaire were based on the works of researchers in the field (Gebhard, Meyer, & Roth, 2007; Dwyer & Kim, 2003; Mihalic, 2000; Yoon, Gursoy, & Chen, 2000; Jurowski, 1994; Perdue, Long, & Allen, 1990), which, developed for research in western countries, were slightly modified to adapt to the Malaysian context. The respondents (local communities) were asked to indicate their perception on the importance of multi-environmental constructs towards the development of tourism destination competitiveness. Pre-testing was conducted at Annah Rais Bidayuh Longhouse with 20 respondents selected randomly from the local community. From this pre-test, 3 respondents were invited to further refine the questionnaire through a personal discussion session. Some of the questions were revised and finalized versions of questionnaires were used to proceed for final data collection. This ensured the questionnaire created was clear, not too hard to understand, reliable and the data collected can be meaningfully analysed. The

current study employs a quantitative approach in testing the hypotheses developed via the analysis of data collected from the self-administered questionnaires. Statistical Package for Social Sciences (SPSS) version 21.0 for Microsoft Windows and *SmartPLS 2.0 (M3)* were used to analyze the data.

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 1, all the items loading (showed in final iteration) exceeded the minimum cut off point of 0.50 (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) and majority of the average variance extracted (AVE) values meet the minimum criteria of 0.50 (Fornell & Larcker, 1981). On the other note, Fornell and Larcker (1981) also suggested that AVE values below 0.5 but larger than 0.4 still acceptable with the conditions that the CR values were larger than 0.6. For discriminant validity (see Table 2), the value of AVE will be square rooted and testify against the intercorrelations of the construct with other constructs in the research model and all the values noted as greater than each of the constructs correlations (Chin, 2010). The model comes with a 0.627 R-Square value. Hence, the measurement model was satisfactory and provided sufficient evidences in term of reliability, convergent validity, and discriminant validity.

Table 1. Results of measurement model

Model Construct	Measurement Item	Loading	CR[a]	AVE[b]	Loading	CR[a]	AVE[b]
		First iteration			Final iteration		
Carrying Capacity	Carry_Capac01	0.775	0.680	0.359	0.798	0.725	0.472
	Carry_Capac02	0.487			0.583		
	Carry_Capac03	0.426			Omitted		
	Carry_Capac04	0.646			0.663		
Cultural Heritage Attraction	Cul_Herit01	0.675	0.815	0.525	0.657	0.816	0.528
	Cul_Herit02	0.686			0.691		
	Cul_Herit03	0.747			0.758		
	Cul_Herit04	0.786			0.792		
Destination Competitiveness	Dest_Marke01	-0.045	0.801	0.301	Omitted	0.888	0.500
	Dest_Marke02	0.720			0.746		
	Dest_Marke03	0.678			0.689		
	Dest_Marke04	0.778			0.793		
	Dest_Marke05	0.169			Omitted		
	Qual_Servic01	-0.088			Omitted		
	Qual_Servic02	0.610			0.627		
	Qual_Servic03	0.665			0.677		
	Qual_Servic04	0.114			Omitted		
	Sust_Manage01	0.042			Omitted		
	Sust_Manage02	0.474			Omitted		
	Sust_Manage03	0.710			0.706		
	Sust_Manage04	0.736			0.713		
	Sust_Manage05	0.707			0.691		

Environmental Conservation	Env_Conserv01	0.824	0.873	0.635	0.824	0.873	0.635
	Env_Conserv02	0.901			0.900		
	Env_Conserv03	0.779			0.780		
	Env_Conserv04	0.665			0.666		
Environmental Education	Env_Educ01	0.806	0.849	0.652	0.812	0.847	0.650
	Env_Educ02	0.764			0.745		
	Env_Educ03	0.851			0.857		
Natural Resources	Natur_Resou01	0.871	0.910	0.771	0.870	0.910	0.771
	Natur_Resou02	0.892			0.890		
	Natur_Resou03	0.871			0.873		
Quality of Environment	Qual_Env01	0.715	0.705	0.460	0.714	0.822	0.607
	Qual_Env02	0.859			0.858		
	Qual_Env03	0.756			0.759		
	Qual_Env04	-0.051			Omitted		
Relaxation	Relax01	-0.826	0.806	0.520	0.828	0.824	0.546
	Relax02	-0.870			0.869		
	Relax03	-0.604			0.637		
	Relax04	-0.526			0.581		
Tourism Infrastructure	Tou_Infras01	0.606	0.825	0.489	0.625	0.823	0.487
	Tou_Infras02	0.708			0.715		
	Tou_Infras03	0.583			0. 550		
	Tou_Infras04	0.819			0.825		
	Tou_Infras05	0.753			0.742		

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)}

 * Carry_Capac03, Dest_Marke01, Dest_Marke05, Qual_Servic01, Qual_Servic04, Sust_Manage01, Sust_Manage02, & Qual_Env04 were deleted due to low loading.

Table 2. Discriminant validity of constructs

	Carrying Capac	Cultural Herit Attrac	Destination Competitiveness	Env. Conserv	Env Educ	Natural Resou	Quality of Env	Relax	Tourism Infras
Carrying Capacity	**0.687**								
Cultural Heritage Attraction	-0.067	**0.727**							
Destination Competitiveness	-0.135	0.426	**0.707**						

Environmental Conservation	-0.123	0.463	0.443	**0.797**				
Environmental Education	-0.091	0.547	0.465	0.492	**0.806**			
Natural Resource	0.009	0.297	0.474	0.149	0.203	**0.878**		
Quality of Environment	-0.070	0.303	0.628	0.290	0.330	0.586	**0.779**	
Relaxation	0.051	-0.103	-0.083	-0.044	-0.082	-0.059	-0.093	**0.739**
Tourism Infrastructure	0.015	0.464	0.651	0.378	0.406	0.454	0.394	0.036	**0.698**

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, Table 3 presents the results of the hypotheses testing. Interestingly, the statistical results showed that four out of eight hypotheses tested were supported. The results revealed that environmental conservation, environmental education, tourism infrastructure, and quality of environment were positive significantly related to destination competitiveness. Surprisingly, cultural heritage attraction, carrying capacity, relaxation, and natural resources were found no relationship with destination competitiveness. Hence, H1, H2, H4, and H7, were supported, whereas H3, H5, H6, and H8 were rejected.

Table 3. Path coefficients and hypothesis testing

Hypothesis	**Relationship**	**Coefficient**	**t-value**	**Supported**
H1	Environmental conservation → Destination competitiveness	0.114	2.603**	**YES**
H2	Environmental Education → Destination competitiveness	0.106	1.955*	**YES**
H3	Cultural Heritage Attraction → Destination competitiveness	-0.007	0.147	NO
H4	Tourism Infrastructure → Destination competitiveness	0.410	6.455**	**YES**
H5	Carrying Capacity → Destination competitiveness	-0.090	1.903*	NO
H6	Relaxation → Destination competitiveness	-0.044	0.798	NO
H7	Quality of Environment → Destination competitiveness	0.371	6.064**	**YES**
H8	Natural Resources → Destination competitiveness	0.033	0.616	NO

*p<0.05, **p<0.01

5. Discussion

Past studies indicate that there is substantial literature documenting the importance of environmental components towards the development of rural tourism destination competitiveness (e.g., Fons, Fierro, & Patino, 2011; Tsaur, Lin, & Lin, 2006; Mihalic, 2000) Therefore, effective heritage conservation management and environmental education among communities are crucial in sustaining the competitiveness of a country tourism industry

(Reimer & Walter, 2013). No known empirical research on multi-environmental constructs and destination competitiveness was found that examines a set of environmental components and its impact on destination competitiveness 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. Further, environmental components are crucial in determining the sustainability and competitiveness of a rural tourism destination (Kim, 2012; Chandralal, 2010). Informed by this extant research, this study is the first to test the effect of multi-environmental constructs and destination competitiveness from rural tourism destinations in the Malaysian context.

The resulting analysis for hypothesis 1 showed that environmental conservation had a significant positive impact on destination competitiveness from the local communities' point of view. The finding of this study is congruent with the studies by Diaz and Rodriguez (2008), and Zhang and Lei (2012). They highlighted that conservation as the focal point for successful development of destination competitiveness. This study revealed that communities are aware of the importance of environmental resources which act as the unique selling proposition for rural tourism. Thus, communities are in their opinions that conserving the environmental resources would lead to a better development of rural tourism destination competitiveness. Hence, this study has provided compelling evidence that environmental conservation is to be an added advantage for the development of rural destinations competitiveness in Sarawak.

In addition to that, it was found that environmental education had a significant positive impact on destination competitiveness, and hypothesis 2 was supported. Environmental education plays a vital role in sustaining environmental resources; it is impossible to succeed in tourism development without taking the environment into account (Fons et al, 2011). Environmental education refers to increased understanding of environmental issues, awareness and skill development (Blum, 2008), which lead to the sustainable management of natural environments (Bhuiyan, Siwar, Ismail, & Islam, 2010). Hence, sustainability is the key to maintain the destinations' competitiveness.

The results of the statistical analysis show that hypothesis 4 was supported; tourism infrastructure was found to have significant positive impact on destination competitiveness. The finding is congruent and further support the earlier findings that infrastructure has a strong linkage with tourism destination competitiveness (Crouch, 2007; Khadaroo & Seetanah, 2008; Hsueh & Yeh, 2014). The safety issues of touristic areas always come into concerned by tourists in making decision to visit. In this regard, communities agreed that a quality tourism infrastructure plays a crucial role in affecting tourists' intention to visit a rural tourism destination.

Consistent with previous studies, the findings of this study revealed that quality of environment had a significant impact on destination competitiveness, and thus hypothesis 7 was supported. The findings of the present study supports the works from previous studies (e.g., Kayar & Kozak, 2008; Williams & Cary, 2002), whereby it was found that the quality of environment is a strong determinant in development of destination competitiveness. One of the main reasons to support this finding is that almost all of the tourists visiting a rural touristic area due its natural environment. Hence, the quality of environment is an important contributor for promising tourists' travel experience.

Surprisingly, four of the environmental constructs (e.g., cultural heritage attraction, carrying capacity, relaxation, & natural resources) were found no significant relationship with tourism destination competitiveness. The statistical finding of hypothesis 3 has indicated that cultural heritage attraction has no significant impact on destination competitiveness. This unexpected result may be explained by the fact that the local communities have limited knowledge and capacities to employ their cultural resources in an effective way (Dugulan, Balaure, Popescu, & Veghes, 2010). Furthermore, Kulscar (2009) highlighted that the most important factor contributing to the attractiveness and competitiveness of rural tourism destinations is the natural environment (e.g., clean natural environment, fresh air, quiet, and the rural lifestyle) other than cultural heritage. On the other hand, the findings show that carrying capacity had a significant negative relationship on destination competitiveness, and thus hypothesis 5 was rejected. The findings of this study is contradicted with the findings by Richards and Hall (2000) and Wilde and Cox (2008). It is justifiable by the fact that the current volume of tourists visiting the study sites are still in a managerial level. Local residents believed that more tourists should come in order to generate more income to the community.

Moreover, relaxation and natural resources also found no significant relationship with destination competitiveness, and thus, H6 and H8 were rejected. The reason could be due to the fact that local communities deem the relaxation condition cannot be achieved without their involvement and support, as they have the best knowledge of the rural destination, and being constantly exposed to that rural natural environment means they

understand which locations provide the best environmental conditions and natural resources for relaxation. On the other hand, communities who are constantly exposed to the natural resources are unaware of the important of natural resources as an attraction point for tourists. Thus, communities do not think that the natural resources would provide an advantage for the development of destination competitiveness.

6. Conclusions, Implications and Recommendations

In sum, the competitiveness of a rural tourism destination is very much dependent on the availability of environmental and natural resources to lure tourists (Lokuhetty et al., 2013). The majority of international tourists as well as locals visit rural destination to escape stressful working environments. However, the increasing number of tourists may lead to decreased environmental resources for a tourism destination if not properly managed. Both natural and man-made resources need to be at high standard of quality if a rural tourism destination is to maintain it comparative and competitive advantages over other tourism destinations (Angelkova, Koteski, Jakovlev, & Mitrevska, 2012). Therefore, the findings of this study has revealed and confirmed that local communities believed tourism infrastructure is the main determinant for the development of rural tourism destination competitiveness. On the other note, the quality of environment also plays a significant role in creating a comparative advantage for a touristic destination. This is because of the fact that tourists are mostly attracted by the good quality of natural environment PLS and resources available at a destination to maximise their satisfaction. Finally, local communities also believed that both environmental conservation practices and environmental education highly determined the development of rural tourism destination competitiveness.

To this extent, the results of this study add to the growing body of research on the influence of environmental components on rural tourism destination competitiveness. Furthermore, this study attempts to further understand local community attitudes and perspectives towards the influence of multi-environmental constructs on destination competitiveness from three rural tourism destinations. These findings can be valuable to local planners, policy makers, and business operators on the effective implementation of rural tourism development. Hence, destination competitiveness is increasingly important in current competitive market, particularly in the context of rural tourism. The fundamental attractors for a rural tourism destination are heavily dependent on the availability of natural resources and tourism amenities. Thus, the sustainability and competitive stance of a rural tourism destination is influenced by the variety of environmental constructs. As such, further investigation into environmental constructs and destination competitiveness is strongly recommended.

Acknowledgments

References

Angelkova, T., Koteski, C., Jakovlev, Z., & Mitrevska, E. (2012). Sustainability and competitiveness of tourism. *Procedia – Social and Behavioral Sciences, 44*, 221-227. https://doi.org/10.1016/j.sbspro.2012.05.023

Bagozzi, R. R., Yi, Y., & Philipps, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, *36*, 421-458. https://doi.org/10.2307/2393203

Bhuiyan, M. A. H., Siwar, C., Ismail, S. M., & Islam, R. (2011). Ecotourism development in recreational forest areas. *American Journal of Applied Sciences, 8*(11), 1116-1121. https://doi.org/10.3844/ajassp.2011.1116.1121

Blum, N. (2008). Environmental Education in Costa Rica: Building A Framework For Sustainable Development? *International Journal of Educational Development, 28*(3), 348-358. https://doi.org/10.1016/j.ijedudev.2007.05.008

Bowitz, E., & Ibenholt, K. (2009). Economic impacts of cultural heritage - Research and Perspectives. *Journal of Cultural Heritage, 10*, 1-8. https://doi.org/10.1016/j.culher.2008.09.002

Chandralal, K. P. L. (2010). Impacts of tourism and community attitude towards tourism: A case study in Sri Lanka. *South Asian Journal of Tourism and Heritage, 3*(2), 41-49.

Chin, W. W. (2010). How to write up and report PLS analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and application* (pp. 645-689). New York: Springer. https://doi.org/10.1007/978-3-540-32827-8_29

Chu, C., & Uebegang, K. (2002). *Saving Hong Kong's Cultural Heritage*. Civic Exchange's "Creating Opportunities: Saving Hong Kong's Natural Heritage". Retrived from http://www.civic-exchange.org

Crompton, J. (1979). Motivation for pleasure travel. *Annals of Tourism Research, 4*, 408–424. https://doi.org/10.1016/0160-7383(79)90004-5

Crouch, G. I., & Ritchie, J. R. B. (1999). Tourism, Competitiveness, and Societal Prosperity. *Journal of Business Research, 44*, 137-152. https://doi.org/10.1016/S0148-2963(97)00196-3

Dallen, J. T. (2006). Relationships between tourism and international boundaries. In H. Wachowiak (Ed.), *Tourism and Borders: Contemporary issues, policies, and international research* (pp. 9-18). Burlington: Ashgate.

Diaz, M. R., & Rodriguez, T. F. E. (2008). A model of strategic evaluation of a tourism destination based on internal and relational capabilities. *Journal of Travel Research, 46*, 368-380. https://doi.org/10.1177/0047287507308324

Dugulan, D., Balaure, V., Popescu, I. C., & Veghes, C. (2010). Cultural heritage, natural resources and competitiveness of the travel and tourism industry in central and eastern European Countries. *Annales Universitatis Apulensis Series Oeconoica, 12*(2), 742-748.

Dwyer, L. (2001). *Destination Competitiveness: Determinants and Indicators*. Unpublished Report.

Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism, 6*(5), 369-414. https://doi.org/10.1080/13683500308667962

Egbali, N., Nosrat, A. B., & Ali-pour, S. K. S. (2011). Effects of positive and negative rural tourism (case study: Rural Semnan Province). *Journal of Geography and Regional Planning, 4*(2), 63-76.

Enright, M. J., & Newton, J. (2004). Tourism Destination Competitiveness: a Quantitative Approach. *Tourism Management, 25*(6), 777-788. https://doi.org/10.1016/j.tourman.2004.06.008

Fennell, D. A. (1999). *Ecotourism: an introduction*. London New York: Routledge.

Fons, M. V. S., Fierro, J. A. M., & Patino, M. G. Y. (2011). Rural tourism: A sustainable alternative. *Applied Energy, 88*, 551-557. https://doi.org/10.1016/j.apenergy.2010.08.031

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*, 39 –50. https://doi.org/10.2307/3151312

Gebhard, K., Meyer, M., & Roth, S. (2007). *Criteria for sustainable tourism for the three Biosphere Reserves*. Ecological Tourism in Europe and UNESCO MaB.

Go, F. M., & Govers, R. (2000). Integrated quality management for tourist destinations: A European perspective on achieving competitiveness. *Tourism Management, 21*, 79-88. https://doi.org/10.1016/S0261-5177(99)00098-9

Greaves, N., & Skinner, H. (2010). The importance of destination image analysis to UK rural tourism. *Marketing Intelligence & Planning, 28*(4), 486-507. https://doi.org/10.1108/02634501011053586

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate Data Analysis* (6th ed.). Upper Saddle River: NJ: Prentice Hall.

Hanna, S., & Rowley, J. (2008). An analysis of terminology use in place branding. *Place Branding and Public Diplomacy, 4*(1), 61-75. https://doi.org/10.1057/palgrave.pb.6000084

Harrill, R. (2004). Residents' Attitudes toward Tourism Development: A Literature Review with Implication for Tourism Planning. *Journal of Planning Literature, 18*(3), 251−66. https://doi.org/10.1177/0885412203260306

Hsueh, Y. H., & Yeh, H. M. (2014). Mapping spatial relationships among travel nodes for tourism development. *International Journal of Current Research and Academic Review, 2*(2), 199-211.

Inskeep, E. (1991). *Tourism planning: An integrated and sustainable development approach*. New York: Van Nostrand Reinhold.

Jurowski, C. (1994). *The Interplay of elements Affecting Host Community Resident Attitudes toward Tourism: A Path Analytic Approach*. PhD dissertation. Virginia Polytechnic Institute and State University.

Kayar, C. H., & Kozak, N. (2008). *Measuring destination competitiveness: An application of Travel and Tourism Competitiveness Index*. The 4th World Conference for Graduate Research in Tourism, Hospitality and Leisure.

Khadaroo, J., & Seetanah, B. (2008). The role of transport infrastructure in international tourism development: A

gravity model approach. *Tourism Management, 29*, 831-840. https://doi.org/10.1016/j.tourman.2007.09.005

Kim, N. (2012). *Tourism destination competitiveness, globalization, and strategic development from a development economics perspective*. Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Recreation, Sport and Tourism in the Graduate College of the University of Illinois at Urbana-Champaign.

Kulcsar, N. (2009). *Rural tourism in Hungary: The key of competitiveness*. Proceedings of FIKUSZ '09 Symposium for Young Researchers, 121-127.

Lane, B. (2009). Rural tourism: An Overview. In Robinson, M., & Jamal, T. (Eds.), *The SAGE Handbook of Tourism Studies* (pp. 354‑370). Sage Publications, London. https://doi.org/10.4135/9780857021076.n20

Lee, C. F., & King, B. (2008). Assessing destination competitiveness: An application to the hot springs tourism sector. *International Journal of Tourism Research, 10*(4), 341-352. https://doi.org/10.1002/jtr.661

Lim, C., & McAleer, M. (2005). Ecologically sustainable tourism management. *Environmental Modeling & Software, 20*(11), 1431–1438. https://doi.org/10.1016/j.envsoft.2004.09.023

Liu, R. J. (2013). *Laiwu, tourism cooperatives create profits based on the specialty of each village*. Farmers Daily, August 20th. Retrieved December 20, 2013, from http://theory.gmw.cn/2013-08/20/content_8653344.htm

Lokuhetty, A., Jayawardena, C., & Mudadeniya, D. (2013). Developing a shared vision for tourism in post-ward Sri Lanka. *Worldwide Hospitality and Tourism Themes, 5*(5), 486-494. https://doi.org/10.1108/WHATT-05-2013-0030

Loumou, A., Giourga, C., Dimitrakopoulos, P., & Koukoulas, S. (2000). Tourism Contribution to Agro-Ecosystems Conservation: The Case of Lesbos Island, Greece. *Environmental Management, 26*(3), 363-370. https://doi.org/10.1007/s002670010093

Luck, M. (2003). Education on marine mammal tours as agent for conservation but do tourists want to be educated? *Ocean and Coastal Management, 46*(9), 943-956. https://doi.org/10.1016/S0964-5691(03)00071-1

Mathew, V. (2009). Sustainable tourism: A case of destination competitiveness in South Asia. *South Asian Journal of Tourism and Heritage, 2*(1), 83-89.

Mazilu, M., & Stancioiu, F. (2009). Tourist destination competitiveness: Between desirable and imperative. *Geography Series, 12*, 176-188.

Mcelroy, J. (2003). Tourism development in small islands across the world. Geografiska Annaler, p. 85. https://doi.org/10.1111/j.0435-3684.2003.00145.x

Mihalic, T. (2000). Environmental management of a tourist destination: A factor of tourism competitiveness. *Tourism Management, 21*, 65-78. https://doi.org/10.1016/S0261-5177(99)00096-5

Moshabaki, A., & Malek, E. (2004). Designing the policy in order to tourism marketing in Iran. *Bimonthal Scientific Magazine*.

Murphy, P. E. (1985). *Tourism: A Community Approach*. New York: Methuen.

Newsome, D., Moore, S. A., & Dowling, R. K. (2002). *Natural area tourism*. Clevedon: Channel View Publications.

Park, D. B., & Yoon, Y. S. (2009). Segmentation by motivation in rural tourism: A Korean case study. *Tourism Management, 30*, 99-108. https://doi.org/10.1016/j.tourman.2008.03.011

Park, H. (2014). *Heritage Tourism*. London: Routledge.

Pearce, D. (1997). Competitive destination analysis in Southeast Asia. *Journal of Travel Research, 35*(4), 16-24.

Perdue, R. R., Long, P. T., & Kang, Y. S. (1999). Boomtown tourism and resident quality of life: The marketing of gaming to host community residents. *Journal of Business Research, 44*(3), 165-177. https://doi.org/10.1016/S0148-2963(97)00198-7

Perdue, R. R., Long. P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of Tourism Research, 17*, 586-599. https://doi.org/10.1016/0160-7383(90)90029-Q

Pipinos, G., & Fokiali, P. (2009). An assessment of the attitudes of the inhabitants of Northern Karpathos, Greece: Towards a framework for ecotourism development in environmentally sensitive areas. An ecotourism

framework in environmentally sensitive areas. *Environmental Development Sustainability, 11*, 655-675. https://doi.org/10.1007/s10668-007-9135-y

Prideaux, B. (2000). The role of the transport system in destination development. *Tourism Management, 21*, 53–63. https://doi.org/10.1016/S0261-5177(99)00079-5

Rahmani, S. M., Hajari, B., Karimian, T., & Hajilo, M. (2013). Rural tourism development strategies using SWOT analysis: Case study. *Life Science Journal, 10*(4s), 395-403.

Reimer, J. K., & Walter, P. (2013). How do you know it when you see it? Community-based ecotourism in the Cardamom Mountains of Southwestern Cambodia. *Tourism Management, 34*, 122-132. https://doi.org/10.1016/j.tourman.2012.04.002

Richards, G., & Hall, D. (2000). *Tourism and sustainable community development*. Routledge, New York. https://doi.org/10.4324/9780203464915

Ritchie, B. J. R., & Crouch, G. I. (1993). Competitiveness in international tourism – A framework for understanding and analysis. *Reports on 43rd Congress, 35*, 23–71.

Sedmak, G., & Mihalic, T. (2008). Authenticity in mature seaside resorts. *Ann Tourism Res., 35*(4), 1007–1031. https://doi.org/10.1016/j.annals.2008.07.004

Sirakaya, E., Jamal, T., & Choi, H. S. (2001). Developing tourism indicators for destination sustainability. In D. B. Weaver (Ed.), *The Encyclopedia of Ecotourism* (pp. 411-432). New York, NY: CAB International.

Sukserm, T., Thiengkamol, N., & Thiengkamol, T. (2012). Development of the Ecotourism Management Model for Forest Park. *The Social Sciences, 7*(1), 95-99. https://doi.org/10.3923/sscience.2012.95.99

Taylor, E., Daye, M., Kneafsey, M., & Barrett, H. (2014). Exploring cultural connectedness in the sustainability of rural community tourism development in Jamaica. *Revista de Turismo y Patrimonio Cultural, 12*(3), 525-538.

Thiengkamol, N. (2008). *Globalization administration*. Saengchai Publishing, Bangkok, Thailand.

Tribe, J., Font, X., Griffiths, N., Vickery, R., & Yale, K. (2000). *Environmental management for rural tourism and recreation.* Cassell, London.

Tsaur, S. H., Lin, Y. C., & Lin, J. H. (2006). Evaluating ecotourism sustainability from the integrated perspective of resource, community and tourism. *Tourism Management, 27*(4), 640-653. https://doi.org/10.1016/j.tourman.2005.02.006

Vargas-Sánchez, A., Plaza-Mejía, M. Á., & Porras-Bueno, N. (2009). Understanding residents' attitudes toward the development of industrial tourism in a former mining community. *Journal of Travel Research, 47*(3), 373-387. https://doi.org/10.1177/0047287508322783

Wang, H., Yang, Z., Chen, L., Yang, J., & Li, R. (2010). Minority community participation in tourism: a case of Kanas Tuva villages in Xinjiang, China. *Tourism Management, 31*(6), 759-764. https://doi.org/10.1016/j.tourman.2009.08.002

Wilde, S. J. & Cox, C. (2008). *Linking destination competitiveness and destination development: Findings from a mature Australian tourism destination*. Proceedings of the Travel and Tourism Research Association (TTRA) European Chapter Conference – Competition in Tourism: Business and Destination Perspectives, Helsinki, Finland, 467-478.

World Tourism Organization. (1999). *Guide for Local Authorities on Developing Sustainable Tourism*. World Tourism Organization, Madrid.

Yoon, Y. (2002). *Development of a structural model for tourism destination competitiveness from stakeholders' perspectives*. Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Hospitality and Tourism Management.

Yoon, Y., Gursoy, D., & Chen, J. (2000). Validating a tourism development theory with structural equation modelling. *Tourism Management, 22*(4), 363-372. https://doi.org/10.1016/S0261-5177(00)00062-5

Zhang, H., & Lei, S. L. (2012). A structural model of residents' intention to participate in ecotourism, the Case of a wetland community. *Tourism Management, 33*, 916 –925. https://doi.org/10.1016/j.tourman.2011.09.012

Copyrights