Influence analysis of community resident support for sustainable tourism development

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ABSTRACT

This study aims to assess the support of community residents for sustainable tourism development using the latent variables of community attachment, community involvement, perceived benefits, perceived costs, and support for sustainable tourism development and elemental data of the residents of the Cigu wetland, which is located in southwest Taiwan. The analytical results suggest that community attachment and community involvement are critical factors that affect the level of support for sustainable tourism development. The benefits perceived by host residents affect the relationship between community attachment and support for sustainable tourism development and between community involvement and support for sustainable tourism development. Several managerial implications of this study are introduced, and recommendations for future research are presented.

1. Introduction

Recently, with the decline of traditional industries (such as rural village industries, fishing village industries, and aboriginal tribe industries), some rural communities must explore alternative means through which they can strengthen their economic resources for community development (Lepp, 2007; Teh & Cabanban, 2007; Wang, Yang, Chen, Yang, & Li, 2010). Community-based tourism has become a viable option for developing traditional rural industries, because tourism can provide economic benefits to local residents (e.g., Bramwell & Lane, 1993; Mehmetoglu, 2001), promote host destinations (e.g., Boo & Busser, 2006; Mehmetoglu & Ellingsen, 2005), and provide visitors with high-quality experiences and greater environmental awareness (e.g., Lee, 2009a, 2011; Lepp, 2007; Shrestha, Stein, & Clark, 2007).

In Taiwan, community-based tourism is linked to both sustainable development and environmental conservation. Moreover, the development of community-based tourism, especially in rural villages, fishing villages, and aboriginal communities, is a national policy of Taiwan’s current government (Taiwan Tourism Bureau, 2011). The Cigu wetland is famous for its rich and diverse birdlife and its lagoons and sandbars, has been the focus of the development of sustainable tourism in the area. This region, located in the Southwest Coast National Scenic Area, has recently been developed into a nature-based tourism site. Recent studies have assessed the behavior of nature-based tourists visiting the Cigu wetland (e.g., Kerstetter, Hou, & Lin, 2004; Lee, 2009b, 2011).

The lifestyle of the community’s residents may influence the structural changes within the tourism industry occurring as a result of the ongoing development of tourism, such as changes in the local economics (e.g., Manyara & Jones, 2007; Simpson, 2008), social changes (e.g., Bull & Lovell, 2007; Simpson, 2008), cultural changes (e.g., Lee, Kang, Long, & Reisinger, 2010; Nyaupane, Morais, & Dowler, 2006; Simpson, 2008), and environmental changes (e.g., Dyer, Gursoy, Sharma, & Carter, 2007; Lee et al., 2010; Simpson, 2008; Yoon, Gursoy, & Chen, 2001). A community that plans and uses tourism as an alternative means of strengthening its economic development must develop sustainable tourism to meet the needs and demands of its residents (Paczkó & Rätz, 2000). The development of sustainable tourism is difficult without the support and participation of the community residents (Fallon & Kriwoken, 2003; Gursoy & Rutherford, 2004; Nicholas, Thapa, & Ko, 2009). Thus, the support of residents is a critical factor for ongoing community development.

Understanding the precedents of support by local residents for sustainable tourism development can help to promote sustainable tourism because communities can assess these precedents to predict the level of support by their residents. Factors that influence local community support for sustainable tourism development have been extensively studied by tourism scholars. These factors, such as attitudes (Lai & Nepal, 2006; Lepp, 2008), perceived effects (Dyer et al., 2007; Yoon et al., 2001), community attachment (Nicholas et al., 2009), and perceived benefits (Gursoy, Jurowski, & Uysal, 2002; Nunkoo & Ramkissoon, 2011), may affect residents’
support for sustainable tourism development. Moreover, prior research has systematically examined the relationship between support for sustainable tourism development and its perceived effects. However, relatively few studies have been conducted on community involvement and attachment among residents in Eastern nations.

To fill these research gaps, this study aims to develop a theoretical model to examine the structural relationships between residents’ support for sustainable tourism development and the precedent variables of community attachment, community involvement, perceived benefits, and perceived costs. Practical implications and further research are also discussed.

2. Literature review

In this section, I develop a theoretical model that discusses how community attachment, community involvement, perceived benefits, and perceived costs correlate with residents’ support for sustainable tourism development.

2.1. Residents' support for sustainable tourism development

Sustainable development has been extensively discussed in tourism sectors because such development can meet the needs of tourists, provide opportunities to enhance economic growth, protect physical locations, and improve the quality of life of residents while enhancing opportunities for the future through the coexistence of tourism development and environmental quality (Eagles, McCool, & Haynes, 2002). Thus, community-based tourism development has become an important tool for sustainable management (Sebele, 2010; Taylor, 1995).

Social exchange theory has been used to assess the support of residents for tourism development. The residents of a community decide whether to become dependent on the benefits and costs of tourism by weighting economic, social, cultural, and environmental concerns (Ap, 1992; Gursoy, Chi, & Dyer, 2010; Gursoy & Rutherford, 2004; Nunoo & Ramkissoon, 2011; Yoon et al., 2001). Based on this theory, if the host residents perceive that they are likely to benefit from such exchanges without incurring intolerable costs, then these residents are likely to support and participate in exchanges with visitors and to support additional community-based tourism development. However, if the host residents perceive that community-based tourism development would incur more costs than benefits, they are likely to oppose this development (Ap, 1992; Gursoy et al., 2002; Juroski, Uysal, & Williams, 1997).

Recently, many empirical studies have used structural equation modeling (SEM) to examine the precedent variables of support for tourism development, such as the perceived economic, cultural, social, and environmental effects (Choi & Murray, 2010; Dyer et al., 2007; Ko & Stewart, 2002; Nunoo & Ramkissoon, 2011; Oviedo-Garcia, Castellano-Verdugo, & Martin-Ruiz, 2008; Yoon et al., 2001) and the perceived benefits and costs (Dyer et al., 2007; Gursoy, Chi, & Dyer, 2009; Gursoy & Rutherford, 2004; Nunoo & Ramkissoon, 2011; Vargas-Sánchez, Plaza-Mejía, & Porras-Bueno, 2009). Based on social exchange theory, studies have found that the perceived benefits significantly and positively affect support for tourism development (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Kaltenborn, Andersen, Nelleman, Bjerke, & Thrane, 2008; Nicholas et al., 2009), whereas the perceived costs significantly and negatively influence support for tourism development (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009; Nunoo & Ramkissoon, 2011). Clearly, the perceived benefits and costs are the precedent variables of residents’ support for tourism development.

Understanding the host residents’ support for sustainable tourism development is a critical factor in the successful management and marketing of community-based tourism. Support for sustainable tourism development related to nature-based tourism, ecotourism, rural tourism, and heritage sites has been examined in Western nations but remains an intensely debated subject in Eastern nations (Gursoy et al., 2002, 2009; Lai & Nepal, 2006; Nicholas et al., 2009; Tosun, 2006; Yoon et al., 2001). To fill these research gaps, this study presents the following research hypotheses:

H1. The perceived benefits of sustainable tourism directly and positively affect residents’ support for sustainable tourism development.

H2. The perceived costs of sustainable tourism directly and negatively affect residents’ support for sustainable tourism development.

2.2. Community attachment

Attachment reflects a psychological connection between people and meaningful or specific objects (Funk & James, 2006; Thomson, MacInnis, & Park, 2005). Attachment-related concepts have been developed and used to provide a general understanding of human behavior. Such concepts include attachments to parents (e.g., Seskin et al., 2010), religion (e.g., Peiner, Anderson, Hall, & Hall, 2010), pets (e.g., Williams, Muldoon, & Lawrence, 2010), jobs (Stevens, Oddou, Furuoya, Bird, & Mendenhall, 2006), places (e.g., Smith, Siderelis, & Moore, 2010), brands (e.g., Park, MacInnis, Priester, Eisengerich, & Iacobucci, 2010), and communities (e.g., Nicholas et al., 2009). We can better understand human behavior by evaluating these attachments.

Community attachment can be regarded as an individual’s social participation and integration into community life and reflects an affective bond or emotional link between an individual and a specific community (McCool & Martin, 1994). Thus, community attachment reflects an individual’s rootedness and sense of belonging to a community (Kasarda & Janowitz, 1974).

The literature indicates that community attachment is a multifaceted psychological process that reflects the affective, cognitive, and conative (i.e., behavioral) domains of a person’s attitude (Kyle, Mowen, & Tarrant, 2004). Community attachment is a complex construct for assessing the attitudes of the host residents toward their communities. Based on research by Kyle et al. (2004), this study indicates that residents’ attachment to their community is demonstrated through the concepts of community identity, community dependence, social bonding within a community, and affective responses to feelings regarding a community.

The literature has provided diverse perspectives on the relationship between the community attachment of host residents and their support for tourism development (McCool & Martin, 1994; Pennington-Gray, 2005). For example, some authors have indicated that community attachment directly and significantly affects support for tourism development (Gursoy & Rutherford, 2004; Nicholas et al., 2009), whereas other authors have not found a significant link between community attachment and support for tourism development (Choi & Murray, 2010; Gursoy et al., 2002). Thus, previous studies lack consensus regarding the specific ways in which residents’ community influences their support for tourism development.

Recently, many scholars have used perceived benefits and perceived costs as the mediating variables in examining the role of community attachment in the accurate forecasting of support for tourism development (Choi & Murray, 2010; Gursoy et al., 2002, 2010; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009). Some scholars have reported that community attachment positively directly, and significantly affects perceived benefits and therefore indirectly affects the support of the host residents for tourism development (Gursoy & Kendall, 2006; Nicholas et al., 2009). Inversely, other scholars have reported that
Community attachment significantly affects perceived economic benefits and social benefits but insignificantly affects perceived social costs, perceived cultural benefits, and cultural costs (Gursoy & Rutherford, 2004). Moreover, several scholars have indicated that community attachment does not significantly affect the support of the host residents for tourism development (Gursoy et al., 2002). Consequently, the notion that community attachment affects perceived benefits and costs remains an intensely debated subject.

To compensate for this research gap, this study presents the following research hypotheses:

H3. Community attachment directly and positively affects perceived benefits and indirectly and positively affects the support of the host residents for sustainable tourism development.

H4. Community attachment directly and negatively affects perceived costs and indirectly and positively affects the support of the host residents for sustainable tourism development.

2.3. Community involvement

Community involvement describes the extent to which residents are involved in sharing issues about their lives with their assessment. Several tourism scholars have attempted to determine the support of host residents for tourism development with a focus on the extent to which these residents are involved in tourism (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Kaltenborn et al., 2008; Nicholas et al., 2009). Community involvement can be regarded as a critical factor in the development of community-based tourism (Jones, 2005; Lepp, 2007).

Community participation plays a significant role in the sustainable development of community-based tourism because community participation can increase the value of a community by enhancing the positive effects of tourism and reducing its negative effects (Jamal & Getz, 1995). Based on the notion that citizen participation must be accompanied by power redistribution, Arnstein (1969) developed a ladder of citizen participation as a model to explain the inherent evolutionary steps of this process. According to this model, three levels of gradual evolution, consisting of non-participation, degrees of tokenism, and degrees of citizen power, are used to assess various levels of community involvement and participation in community-based tourism (Okazaki, 2008; Selin & Chavez, 1995).

Tourism studies indicate that engaging the local community in management and decision-making can convince the community of the need to integrate tourism into the local economy (Aas, Ladkin, & Fletcher, 2005; Simmons, 1994; Wager, 1995). Sebele (2010) indicated that the involvement of the community in tourism provides more opportunities for the host residents to benefit from tourism development.

Several tourism scholars have used perceived benefits and costs as the mediating variables between the support for tourism development and community attachment (Nicholas et al., 2009) and environmental attitude (Gursoy et al., 2002; Nicholas et al., 2009) and as a means of assessing their theoretical models. Unfortunately, the mediating effects of perceived benefits and costs on community involvement and support for tourism development have rarely been observed. Therefore, it is worthwhile to examine this linear relationship.

Although the extent to which the host residents are involved in their communities has been repeatedly addressed as a means of assessing support for tourism development (Simmons, 1994; Tosun, 1998), few studies have examined the linear relationship between community involvement and support for sustainable tourism development. Nicholas et al. (2009) used two concepts (management and decision-making processes) to examine the precedent of support for tourism development. However, these authors reported that community involvement did not have significant effect on the level of support for sustainable tourism development. Based on their descriptive analysis, Nicholas et al. found that most of the host residents were not involved in the decision-making or management processes of tourism development.

Few studies have applied the construct of the three levels of community involvement to examine the relationships among perceived benefits, perceived costs, and support for tourism development. To compensate for this research gap, this study presents the following two research hypotheses:

H5. Community involvement directly and positively affects perceived benefits and indirectly and positively affects residents’ support for sustainable tourism development.

H6. Community involvement directly and negatively affects perceived costs and indirectly and positively affects residents’ support for sustainable tourism development.

3. Research methodology

3.1. Research instrument

On the basis of a review of the literature pertaining to community-based tourism, a survey instrument was developed for this study. This questionnaire included items that measured community attachment, community involvement, perceived benefits of sustainable tourism, perceived costs of sustainable tourism, and support for sustainable tourism development. Key background information from the respondents was also included. Four doctoral students who had completed a course titled Seminar in Sustainable Management of Leisure Industry were invited to discuss and assess this survey instrument.

Prior to the data collection, a pilot study was conducted on April 7 and April 11, 2010. In total, 98 usable questionnaires were collected. The questionnaire items and Likert scales were assessed by examining the Cronbach’s alpha, percentage of missing data, mean, standard deviation, item discrimination, skewness, kurtosis, correlation coefficients, and factor loadings. The questionnaires were further assessed for content validity based on feedback from a scholar who specializes in nature-based tourism and eight local host residents, who offered comments concerning item comprehensibility. Four items were deleted in response to the expert’s comments. The remaining items on the questionnaire were used because they met the criteria for the item analysis. However, I made minor changes to the wording of some of the items to improve comprehensibility. The final questionnaire consisted of five sections, described as follows.

An 11-item scale was developed to measure the community attachment of the host residents. The items included in this scale were based on the findings of Kyle et al. (2004) and Yüksel, Yüksel, and Bilim (2010). Community attachment was composed of place dependence (measured by three items), place identity (three items), affection attachment (three items), and social bonding (two items). The responses for the community attachment variables were scored on a seven-point Likert scale.

The community involvement items were based on the findings of Nicholas et al. (2009) and Tosun (2006). Three items, which were designed to measure the means and planning of involving local community, were adapted from the research of Tosun (2006). The level of community involvement pertaining to participation in the management and decision-making processes was modified from the study of Nicholas et al. (2009), and two items were used to measure this level of community involvement. Thus, community involvement...
involved was measured by including the participating stages of means, planning, management processes, and decision-making processes. The responses were scored on a seven-point Likert scale ranging from 1 for “strongly disagree” to 7 for “strongly agree.” Thus, a 4-item scale was developed to measure the community involvement of the host residents.

For the perceived benefits of sustainable tourism, the findings presented by Yoon et al. (2001), Gursoy and Rutherford (2004), and Simpson (2008) were modified. The perceived benefits of sustainable tourism consisted of perceived economic benefits (four items), social benefits (two items), and cultural benefits (four items). As described previously, the responses were scored on a seven-point Likert scale. Thus, a 10-item scale was developed to measure the perceived benefits perceived by the host residents.

For the perceived costs of sustainable tourism, this study modified the findings obtained by Yoon et al. (2001), Gursoy and Rutherford (2004), and Simpson (2008). The perceived costs of sustainable tourism consisted of perceived social costs (two items) and cultural costs (two items). The responses were scored on a seven-point Likert scale. Thus, a 4-item scale was developed to measure the perceived costs incurred by the host residents.

A 6-item scale for support for sustainable tourism development was constructed to assess the extent of a resident’s intention to support sustainable tourism development, based on the findings of Nicholas et al. (2009). As described previously, the responses were scored on a seven-point Likert scale.

The demographic variables included gender, age, marital status, education level, occupation, income, and membership in a community development association. These questions were used to create profiles of the respondents.

3.2. Sampling and surveying

The first stage involved a stratified random-sampling method to collect the field data. The stratified random-sampling procedure adequately ensured the representation of the diverse geographical distribution of the residential areas of the community (Graziano & Raulin, 2004). In the next stage, based on recommendations from some of the chairmen of the community development associations, nine communities that were located within the Cigu wetland and that were involved in wetland tourism development were selected for this study: Dujia, Shihfen, Sinan, Sangu, Yancheng, Dacheng, Longshan, Cigu, and Jhongliao. The sample size for each community was determined by the proportional population of each community relative to the total population of the research area (see Table 1).

Third, eight graduate students majoring in leisure sciences were hired and trained in research data collection techniques (such as face-to-face questionnaire administration, randomized sampling, and techniques for reducing refusal rates) to act as research assistants and collect the survey data. One local resident in each selected community was hired to act as a guide to search and identify the target residents and conduct the questionnaire survey. The questionnaire was administered at nine study sites on April 17, 18, 24, and 25, 2010; May 1, 2, 15, 16, and 30, 2010; and June 4 and 6, 2010. The questionnaires were administered using a direct face-to-face survey methodology because of the strength of this method in achieving high response rates. In total, 856 usable questionnaires were collected.

3.3. Quality of the research instrument

Based on the sample size (N = 856), this study’s survey results have a 3.3% sampling error with a 95% confidence level. This sample size seems to be adequate for performing the SEM analysis, based on studies by Marsh, Hau, Balla, and Grayson (1998) and Westland (2010). The Cronbach’s alpha scores for the latent variables of community attachment, community involvement, perceived benefits of sustainable tourism, perceived costs of sustainable tourism, and support for sustainable tourism development were 0.93, 0.90, 0.94, 0.80, and 0.91, respectively. All of the scores exceeded the benchmark of 0.70 (Nunnally & Bernstein, 1994). Thus, these scores indicate that the instrument had an acceptable level of internal consistency for items measuring the same construct. The final questionnaires were revised using an item analysis method and by considering the comments of an academic scholar and the chairman of one of the community associations in the Cigu wetland, who indicated that the research instrument had an acceptable level of content validity.

3.4. Data analysis

The descriptive statistics and the profiles of the host residents were evaluated using SPSS 17.0 for Windows. The confirmatory factor analysis (CFA) and SEM were analyzed by using LISREL 8.70 for Windows. First, the proposed theoretical model was examined using CFA to assess the effectiveness of the measurement model. To closely examine the measurement model and ensure the quality of the assessment measurement model, the model fits, composite reliability, convergent validity, and discriminant validity of community attachment, community involvement, perceived benefits, perceived costs, and support for sustainable tourism development were assessed. Second, SEM analysis was used to estimate all of the SEM parameters using the maximum likelihood method. The direction and significance of the relationships were determined by simultaneously testing all of the hypotheses.

4. Findings

4.1. Profiles of the respondents

Briefly, 54.1% of the respondents were female; 70.6% were married; 23.9% were aged between 41 and 50 years, and 21.4% were aged between 31 and 40 years; 35.6% had completed a high school education, and 33.3% had achieved only a junior high school or elementary school education; 17.5% were laborers; 20.2% had lived in the community for 11-20 years; and 33.8% had a monthly income of less than NT $20,000, and 31.6% had a monthly income between NT $20,001 and NT 40,000 (1 US$ = 29.02 NT $ as of August 26, 2011).

4.2. Measurement model

A measurement model specifies how latent variables or hypothetical constructs are assessed in terms of observed variables and represent the validity and reliability of the observed variables.

Table 1: Sampling frame for local community residents based on population.

<table>
<thead>
<tr>
<th>Community</th>
<th>Population (N)*</th>
<th>Usable sample (N)</th>
<th>Usable sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dujia</td>
<td>1081</td>
<td>83</td>
<td>7.68</td>
</tr>
<tr>
<td>Shihfen</td>
<td>1661</td>
<td>117</td>
<td>7.04</td>
</tr>
<tr>
<td>Sinan</td>
<td>431</td>
<td>28</td>
<td>6.50</td>
</tr>
<tr>
<td>Sangu</td>
<td>1740</td>
<td>126</td>
<td>7.24</td>
</tr>
<tr>
<td>Yancheng</td>
<td>535</td>
<td>38</td>
<td>7.10</td>
</tr>
<tr>
<td>Dacheng</td>
<td>2181</td>
<td>159</td>
<td>7.29</td>
</tr>
<tr>
<td>Longshan</td>
<td>2119</td>
<td>153</td>
<td>7.22</td>
</tr>
<tr>
<td>Cigu</td>
<td>1184</td>
<td>88</td>
<td>7.43</td>
</tr>
<tr>
<td>Jhongliao</td>
<td>892</td>
<td>64</td>
<td>7.17</td>
</tr>
<tr>
<td>Total</td>
<td>11,824</td>
<td>856</td>
<td>7.24</td>
</tr>
</tbody>
</table>

* Data from Cigu Township Household Registration Office (2010) in February 2010. Based on Chi-square test (Chi-square = 0.78, df = 8), the usable sample of each site was equal percentage of the survey.
responses for the latent variables (Bagozzi & Yi, 1988; Hair, Black, Babin, Anderson, & Tatham, 2006). Because the initial CFA model failed to provide an acceptable fit, four items ("My friends/family would be disappointed if I were to live in another community", "I encourage the residents of this community to invest in the development of sustainable tourism", "Increase the crime rate", and "I obey regulatory environmental standards to reduce the negative effects of tourism") were eliminated to obtain an acceptable model (Anderson & Gerbing, 1988). In a further attempt to obtain a better-fitting measurement model, modification indices provided by LISREL were used for the model modification (Jöreskog & Sörbom, 1996). The results of the revised CFA indicated that the chi-square ($\chi^2$) value of the model was 1249.10, with 437 degrees of freedom ($p < 0.05$), which implies that the measurement did not fit the data well. A large sample size may have rendered this test an inadequate measure of the model’s fitness because sample size can affect the value of $\chi^2$ (McDonald & Ho, 2002). The other model fit indices used for this study were the $\chi^2$/df (1249.10/437 = 2.86; threshold less 3 for a serious view point or less 5 for acceptable criteria), the goodness-of-fit index (GFI) of 0.92, the adjusted goodness-of-fit index (AGFI) of 0.90, the normed fit index (NFI) of 0.98, the non-normed fit index of 0.98, the comparative fit index (CFI) of 0.98, the root mean square error of approximation (RMSEA) of 0.047, the critical N of 359, and the standardized root mean square residual (SRMR) of 0.040. Based on these fit indices, the measurement model appeared to fit the sample data well (Hair et al., 2006).

Table 2 lists the factor loadings, $t$-values, average variance extracted (AVE), and composite reliability for the variables. All of the composite reliability values exceeded 0.60, demonstrating a high level of internal consistency for the latent variables. The measurement reached convergent validity at the item level because all of the factor loadings exceeded 0.50. Furthermore, all of the indicators of the $t$-values that were associated with each of the completely standardized loadings exceeded 1.96, thus reaching statistical significance (Anderson & Gerbing, 1988). All of the factor loadings exceeded 0.50 and were significant ($t > 1.96$, $p < 0.05$); thus, these values constitute evidence of convergent validity. All of the intercorrelations between pairs of constructs were less than the square root of the AVE estimates of the two constructs, providing discriminant validity (Table 3; Hair et al., 2006). Additionally, the convergent and discriminant validity were evaluated using the AVE. The test’s criterion requires that each value of AVE should exceed 0.50 (Bagozzi & Yi, 1988). All of the AVE for community attachment, community involvement, perceived benefits, perceived costs, and support for sustainable tourism development exceeded the threshold of 0.50, indicating that this study had adequate levels of convergent and discriminant validity.

### 4.3. Structural model

The goodness-of-fit level of the structural model can be assessed using many of the statistics within the SEM analysis (McDonald & Ho, 2002). Previous studies have applied the $\chi^2$ test in addition to other measures, such as $\chi^2$/df, the NFI, the CFI, the RMSEA, and the SRMR, to assess model fitness (Jöreskog & Sörbom, 1996; McDonald & Ho, 2002). In this study, the $\chi^2$ test ($\chi^2 = 1434.76$, df = 441, $p < 0.05$) was unable to determine the goodness-of-fit level of the model, possibly because of the study’s large sample size. However, a $\chi^2$/df (1434.76/441 = 3.25) ratio of less than 5 is generally considered to be indicative of a reasonable fit between the proposed model and the data on which the model is constructed (Kline, 2005). The other goodness-of-fit statistics I obtained included the NFI (0.98), CFI (0.98), Critical N (314), RMSEA (0.051), and SRMR (0.061), all of which indicated an acceptable level of model fitness for the structural modeling of the data.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factor loadings</th>
<th>AVEa</th>
<th>CRb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community attachment</td>
<td>0.65</td>
<td>0.56</td>
<td>0.93</td>
</tr>
<tr>
<td>The settings and facilities provided by this community are the best</td>
<td>I prefer living in this community over other communities</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>I enjoy living in this community more than other communities</td>
<td>I identify the living in this community</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>I feel that this community is a part of me</td>
<td>I am involved in the planning and management of sustainable tourism in this community</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>I feel a strong sense of belonging to this community</td>
<td>Many of my friends/family prefer this community over other communities</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>I participate in sustainable tourism-related activities</td>
<td>I support research for the sustainability of this community</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>I am involved in the decision-making for the sustainable tourism of this community</td>
<td>Improve the conditions of roads and other public facilities</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>I am involved in the decision-making for the sustainable tourism of this community</td>
<td>Develop cultural activities by local residents</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>Increase tourism-related plans and development</td>
<td>Increase environmental pollution</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>Increase cultural exchanges between visitors and residents</td>
<td>Increase opportunities for leisure and tourism</td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>Perceived benefits</td>
<td>Improve the conditions of roads and other public facilities</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>Increase employment opportunities</td>
<td>Provide an incentive for the preservation of local culture</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Increase shopping opportunities</td>
<td>Increase cultural exchanges between visitors and residents</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>Increase the revenues from visitors for local governments</td>
<td>Increase positive effects on cultural identity</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Increase business for local people and small businesses</td>
<td>Perceived costs</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>Increase opportunities for leisure and tourism</td>
<td>Increase the prices of goods and services</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Improve the conditions of roads and other public facilities</td>
<td>Increase environmental pollution</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>Support for sustainable tourism development</td>
<td>Increase conflicts between visitors and residents</td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>I support the development of community-based sustainable tourism initiatives</td>
<td>Support for sustainable tourism development</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>I participate in sustainable tourism initiatives</td>
<td>I participate in sustainable tourism initiatives</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>I participate in sustainable tourism-related plans and development</td>
<td>I participate in community exchanges between local residents and visitors</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>I cooperate with tourism planning and development initiatives</td>
<td>I participate in the promotion of environmental education and conservation</td>
<td>0.71</td>
<td></td>
</tr>
</tbody>
</table>

---

4 AVE: Average variance extracted = $\frac{(\Sigma I)(\Sigma I + \Sigma e)}{(\Sigma I + \Sigma e + \Sigma e)}$.

b CR: Composite reliability = $\frac{(\Sigma I)(\Sigma I + \Sigma e)}{(\Sigma I + \Sigma e + \Sigma e)}$ (Jöreskog & Sörbom, 1996).

Fig. 1 shows the path diagram for these structural relationships. The SEM analysis revealed that the perceived benefits of sustainable tourism directly, positively, and significantly affected support for sustainable tourism development ($\beta_{11} = 0.69$, $t = 17.15$, $p < 0.001$); thus, $H_2$ was accepted. The perceived costs of sustainable tourism directly, negatively, and significantly affected support for sustainable tourism development.

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for sustainable tourism development ($\beta_2 = -0.24, t = -7.38, p < 0.001$); thus, $H_2$ was accepted.

Community attachment directly, positively, and significantly affected the perceived benefits of sustainable tourism ($\gamma_{11} = 0.40, t = 9.83, p < 0.001$) and indirectly, positively, and significantly affected support for sustainable tourism development ($0.40 \times 0.69 = 0.28, p < 0.001$); thus, $H_3$ was accepted. Community attachment directly, negatively, and insignificantly affected the perceived benefits of sustainable tourism ($\gamma_{21} = 0.06, t = 1.43, p > 0.05$) and indirectly and insignificantly affected support for sustainable tourism development ($0.06 \times (-0.24) = -0.01, p > 0.05$); thus, $H_4$ was rejected.

Community involvement directly, positively, and significantly affected the perceived benefits of sustainable tourism ($\gamma_{12} = 0.25, t = 6.78, p < 0.001$) and indirectly and significantly affected support for sustainable tourism development ($0.25 \times 0.69 = 0.17, p < 0.001$); thus $H_5$ was accepted. Community involvement directly, negatively, and insignificantly affected the perceived costs of sustainable tourism ($\gamma_{22} = -0.07, t = -1.63, p > 0.05$) and indirectly and insignificantly affected support for sustainable tourism development ($(-0.07) \times (-0.24) = 0.02, p > 0.05$); thus, $H_6$ was rejected.

Moreover, the competing models (CMs) were further assessed to determine the best model in comparison with the proposed theoretical model (TM). Table 4 lists the statistical indices of the TM and the CMs. An insignificant change in the $\chi^2$ statistics between the nested models was used as a test of invariance (Byrne, 1993). The differences in the $\chi^2$ values were used to determine whether the two competing nested models differed significantly in their ability to explain the estimated construct covariance in the SEM analysis (Jöreskog & Sörbom, 1996). To assess the fits of the models, I determined the best-fitting model (i.e., CM3) by comparing the four competing models with the TM. Consequently, CM3 was chosen as an alternative model for this study (Fig. 2).

Based on the SEM analysis of this model, the perceived benefits of sustainable tourism have a partial mediating role between community attachment and support for sustainable tourism development and between community involvement and support for sustainable tourism development. Community attachment directly and significantly affected support for sustainable tourism, but the indirect effect via the perceived costs of sustainable tourism was insignificant; thus, perceived costs do not have a mediating role between community attachment and support for sustainable tourism development. Similarly, community involvement directly and significantly affected support for sustainable tourism, but the indirect effect via the perceived costs of sustainable tourism was insignificant; therefore, perceived costs do not have a mediating effect between community involvement and support for sustainable tourism development.

5. Discussion

The means by which perceived benefits and costs affect the support of the host residents for sustainable tourism development has rarely been studied within the populations of Eastern nations. In this study, the perceived benefits variable is a positive precedent variable of support for sustainable tourism development. This finding corresponds with the results from previous studies that have been conducted in Western nations (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Kaltenborn et al., 2008; Nicholas et al., 2009; Nunkoo & Ramkissoon, 2011). Similarly, the perceived costs variable is a negative precedent variable of support for sustainable tourism development. This finding also corresponds with the results from previous studies in Western nations (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009; Nunkoo & Ramkissoon, 2011). Based on the social exchange theory, perceived benefits and costs are effective predictors of the support for sustainable tourism development. Thus, this study suggests that the perceived benefits and costs of sustainable tourism affects support for sustainable tourism development, and the behavioral model of the host residents reflects international and multicultural perspectives on community-based sustainable tourism development.

![Diagram](image-url)
This study employed a multi-dimensional approach (i.e., community identity, community dependence, community affection, and social bonding) to assess whether community attachment may be more rigorous than has been reported in previous studies (e.g., Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009) that employed a single-dimensional approach to studying and discussing community attachment. My results indicate that community attachment directly and positively correlates with perceived benefits and indirectly and positively correlates with support for sustainable tourism development. Therefore, community attachment can be used to effectively assess support for sustainable tourism development. A resident who has greater community attachment will be more likely to support sustainable tourism development. Although my finding that community attachment affects the perceived benefits of the host residents conflicts with the results of previous studies, this variance may be explained by differences pertaining to the studied community development stages and the attitudes of the host residents (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009). Moreover, my results indicate that the perceived benefits have a mediating effect between community attachment and support for sustainable tourism development. This finding is consistent with the findings of previous studies regarding the support behavior of the host residents (Gursoy & Kendall, 2006; Nicholas et al., 2009).

A significant relationship was not found between community attachment and perceived costs. Therefore, community attachment is not an effective predictor of the perceived costs of sustainable tourism. This finding is consistent with some previous studies (Gursoy et al., 2002; Gursoy & Rutherford, 2004; Jurowski et al., 1997) but conflicts with the results of other studies (Gursoy et al., 2002; Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004; Nicholas et al., 2009).

Gursoy et al. (2002) reported the significant relationship of community attachment leading to perceived benefits and perceived benefits, in turn leading to support for tourism development. However, the relationship between community attachment and support for tourism development remains undetermined. Nicholas et al. (2009) attempted to examine the effect of community involvement on the perception of the Pitons Management Area (PMA) as a heritage site and on the level of support for sustainable tourism development. Unfortunately, these

Table 4  
Fit indices for the theoretical model and competing models.

<table>
<thead>
<tr>
<th>Competing models</th>
<th>TM</th>
<th>CM₁</th>
<th>CM₂</th>
<th>CM₃</th>
<th>CM₄</th>
<th>CM₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>1434.76</td>
<td>1434.09</td>
<td>1299.72</td>
<td>1295.52</td>
<td>1672.32</td>
<td>1462.15</td>
</tr>
<tr>
<td>df = 441, p &lt; 0.05</td>
<td>df = 440, p &lt; 0.05</td>
<td>df = 440, p &lt; 0.05</td>
<td>df = 439, p &lt; 0.05</td>
<td>df = 445, p &lt; 0.05</td>
<td>df = 440, p &lt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Chi-square/df</td>
<td>3.25</td>
<td>3.26</td>
<td>2.95</td>
<td>2.95</td>
<td>3.76</td>
<td>3.32</td>
</tr>
<tr>
<td>GFI</td>
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<td>0.91</td>
<td>0.91</td>
<td>0.91</td>
<td>0.89</td>
<td>0.90</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.89</td>
<td>0.89</td>
<td>0.90</td>
<td>0.90</td>
<td>0.87</td>
<td>0.88</td>
</tr>
<tr>
<td>NFI</td>
<td>0.98</td>
<td>0.98</td>
<td>0.98</td>
<td>0.98</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.98</td>
<td>0.98</td>
<td>0.98</td>
<td>0.98</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>CFI</td>
<td>0.98</td>
<td>0.98</td>
<td>0.99</td>
<td>0.99</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>IFI</td>
<td>1.88</td>
<td>1.88</td>
<td>1.73</td>
<td>1.72</td>
<td>2.15</td>
<td>1.92</td>
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<tr>
<td>RMSEA</td>
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<td>0.051</td>
<td>0.048</td>
<td>0.048</td>
<td>0.057</td>
<td>0.052</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.061</td>
<td>0.058</td>
<td>0.047</td>
<td>0.046</td>
<td>0.19</td>
<td>0.061</td>
</tr>
<tr>
<td>Critical N</td>
<td>314</td>
<td>316</td>
<td>346</td>
<td>347</td>
<td>253</td>
<td>309</td>
</tr>
</tbody>
</table>

TM = Theoretical model. CM₁ = TM with community attachment → support for sustainable tourism development path added. CM₂ = TM with community involvement → support for sustainable tourism development path added. CM₃ = TM with both community attachment → support for sustainable tourism development and community attachment → support for sustainable tourism development paths added. CM₄ = Only paths with community attachment → support for sustainable tourism development and community involvement → support for sustainable tourism development remained. CM₅ = TM with community attachment → community involvement path added.

Fig. 2. Structural model of CM₃.
authors did not examine community involvement as a precedent variable of perceptions regarding the PMA and the level of support for sustainable tourism development. Nicholas et al. indicated that most respondents in their study were not actively involved in their community, nor were they involved in the management or the decision-making processes of the PMA. This lack of involvement may explain the absence of a relationship between community involvement and perceived benefits. In this study, the five items that were included in the three stages of host residents’ community participation and that were used to assess community involvement reflect the various levels of community participation. Consequently, the positive and significant relationship of community involvement → perceived benefits → support for sustainable tourism development was examined. This paper has contributed to the literature in this area of study by examining the linear relationship among these variables. Moreover, on the basis of the competing model in this study (Table 4), perceived benefits play a partial mediating role between community attachment and support for tourism development. This finding filled the research gap regarding community-based tourism and indicated that, similar to the findings of previous studies, support for sustainable tourism development relies more on perceived benefits than on perceived costs (Dyer et al., 2007; Gursoy & Kendall, 2006).

Few studies have examined the relationship between community involvement and perceived costs. In this study, a significant relationship between these two latent variables was not found. Therefore, the degree to which community involvement affects the perceived costs of sustainable tourism remains undetermined. However, in the analytical results of the comparisons between the proposed theoretical model and competing models, this study found that community involvement, rather than perceived costs, directly affects the host residents’ support for sustainable tourism development. Thus, a mediating effect of the perceived costs between community attachment and the host residents’ support for sustainable tourism development was not found. Thus, this study indicates that as the host residents’ level of community involvement increases, the residents’ support for sustainable tourism development also increases.

Finally, I conclude that this study examined how community attachment significantly and directly correlates with perceived benefits and indirectly correlates with support for sustainable tourism development. Similarly, community involvement significantly and directly correlates with perceived benefits and indirectly affects support for sustainable tourism development for the host residents living in a community-based tourism area. The findings of these linear relationships are the original findings in this study of Eastern nations and wetlands-related community-based tourism. Thus, this study contributes to the literature on behavioral models of community-based tourism.

6. Implications

6.1. Management implications

Community-based tourism produces economic benefits that result from the conservation of natural and cultural resources and directly assists both local communities and nations in achieving sustainable environmental development (Lewis, 2001). Consequently, the development of community-sustainable tourism is worthwhile. According to my analytical results, community attachment is a precedent variable of perceived benefits and of support for sustainable tourism development. Moreover, four dimensions were used to effectively measure the level of community attachment. Therefore, I suggest that the managers or marketers of community development associations can develop programs to foster community attachment among host residents. First, the promotion of a community-based festival or event, for example, could lead to an increase in the level of community attachment exhibited by host residents. Increased levels of community attachment will cause increases in the perceived benefits and support for sustainable tourism development among host residents (Filo, Funk, & O’Brien, 2008). Second, programs designed to protect a community’s environment and maintain its standard of living will increase the community dependence of its host residents. If host residents have a high level of community dependence on natural and living resources, then they will also exhibit a high level of perceived benefits and will thus support sustainable tourism development. Third, the results of this study encourage the implementation of community-based programs or activities that can foster emotional connections among community residents.

Simultaneously, these promotional programs should emphasize community involvement. Such programs should be designed to increase the level of activity involvement for host residents. For example, local governments should provide opportunities for host residents to participate in tourism-related activities and to invest in the development of community-based tourism. Moreover, the managers of these communities should provide opportunities for residents to become involved in the planning and management of sustainable tourism development within their communities. The increased involvement of host residents in sustainable tourism decision-making processes is critical for the support of sustainable tourism development. Thus, the findings of this study offer important insights for managers of community initiatives in developing sustainable tourism.

The perceived benefits have a mediating effect between community attachment and support for sustainable tourism development and between community involvement and support for sustainable tourism development. Therefore, community managers should focus on activities that can increase the perceived benefits of sustainable tourism among host residents, such as developing cultural activities, increasing cultural exchanges between visitors and residents, and increasing opportunities for leisure and tourism. Moreover, tourism industries in local communities should give priority for employment to host residents to generate local employment opportunities and realize the perceived benefits from tourism development (Lepp, 2007). By increasing the perceived benefits, managers could ensure that host residents would be more likely to lend their support for sustainable tourism development.

6.2. Recommendations for future studies

Despite its contributions, this study has several limitations that should be addressed in future research. First, this study focused only on a wetland community. Different types of communities, such as aboriginal communities, agricultural communities, and fishing communities, may hold differing opinions regarding sustainable tourism development. To overcome this limitation, future studies should conduct similar surveys across a wide spectrum of community types. Given the need to assess the effects of “community attachment” and “community involvement” on support for sustainable tourism development, future research should thoroughly examine this behavioral model in relationship to the host residents. Thus, it would be useful to assess whether this model can be applied to other forms of community-based tourism. Next, the respondents in this study were sampled randomly over a period of one year. Although this sampling approach allowed us to assess the suitability of the current behavioral model for the host residents, only cross-sectional data were assessed. I could not
examine longer periods of time. Thus, my method may be associated with a common method variance created by the methodology itself (Sekaran, 1992). Moreover, only communities involved in tourism development were sampled. It would be interesting to survey the attitudes of communities that are not involved in tourism. To overcome this limitation, future research should examine communities that are involved and others that are not involved in tourism development. These populations should be compared by testing the moderating effect of community involvement in tourism. Additionally, perceived benefits and costs may change as the effects of sustainable tourism development are realized. Further research is necessary to investigate data pertaining to host residents over the course of multiple years to better understand this model of support for sustainable tourism development; it would be useful to perform a longitudinal study of the support of residents for sustainable tourism development.

Appendix A. Supplementary material

Supplementary material related to this article can be found online at doi:10.1016/j.tourman.2012.03.007.

References


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