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Different Voices from Community Groups to Support Sustainable Tourism Development at Iranian World Heritage Sites: Evidence from Bisotun

Abstract

This empirical study investigates the causal factors affecting support for sustainable tourism development (SSTD) at a world heritage site in Bisotun, a city in Kermanshah Province, Iran. It uses social exchange theory to assess the effects of community attachment, community involvement, perceived benefits, and perceived costs on SSTD. Using social identity theory, it identifies whether these associations significantly vary across four different community groups: farmers, businesses, handicraft sellers, and local government employees. A questionnaire was administered to 489 respondents from these four community groups in the Bisotun area. The hypotheses were tested using structural equation modelling and invariance metric tests. The results revealed that community attachment, community involvement, and perceived benefits had a significant and positive impact on SSTD. The results of the metric invariance tests show that the effects of community attachment and community involvement on SSTD varied across the community groups at this world heritage site located in a developing country. The study discusses the theoretical and managerial implications of these findings.

Keywords: World heritage site, community, sustainable development, Bisotun, Iran

Introduction

The tourism sector has been recognized as a major economic contributor that plays a critical role in promoting a community's welfare, stability, progress, and identity (Li, 2002; Nyseth & Sognnæs, 2013; Sebele, 2010). Heritage tourism is a valuable source of sustainable development for the communities and the cities in which they are located (Guzmán, Roders, & Colenbrander, 2017; Ryberg-Webster, 2016). As one of the core elements of heritage tourism,

world heritage sites attract travelers who are eager to visit traditional and historic places. In return, heritage sites and host communities benefit from tourism activities (MacDonald & Jolliffe, 2003).

Regardless of their unique characteristics, world heritage sites are universally valuable for all of humanity (Su & Li, 2012); therefore, all stakeholders should contribute to be sustainably managing them (Fan, 2014). The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016) designation scheme encourages the identification, protection, and preservation of cultural and natural heritage resources. Notwithstanding the social and economic impacts of heritage tourism, if the role of all communities is ignored the sustainability of heritage sites will be undermined (Chhabra, 2010).

It is important to note that the paradigm shift in destination development, which placed the community at the center of sustainable tourism, calls for reconceptualization of the complexities of communities (Choi & Sirakaya, 2005; McCool, Moisey & Nickerson, 2001). This complexity is manifested in variations in community groups (Sharpley, 2014; Olya, Shahmirzdi, & Alipour, 2017). Furthermore, deviating from perceiving community as a homogeneous entity and anatomizing it into distinct groups is a departure from fixating on objective indicators—quantitative accounts of behaviors. That approach falls short of assessing all aspects of support for sustainable tourism development (SSTD) because it focuses on the subjective indicators that reflect a group's preferences, emotions, attitudes, interests, and personal evaluations (Choi & Sirakaya, 2005). There is evidence that community members are apathetic about preserving and valuing heritage resources (Firmansyah & Fadlilah, 2016). Involving communities using a variety of strategies and programs (e.g., empowering community members by providing opportunities to influence planning decisions) will result in social learning and will engender support for preservation of their heritage resources.

Engendering community stewardship of heritage resources through social learning can avoid the Not in My Back Yard (NIMBY) gridlock (Black & Siroky, 1994).

Models for SSTD provide managers of heritage sites with suggestions for how to avoid anti-tourism host communities (Olya et al., 2017). Different local communities might show varying levels of SSTD for a heritage site as their perceptions of the benefits and costs of heritage tourism development could differ (Olya et al., 2017). Managers need to know how models for SSTD vary across different community groups in order to customize the strategies they use for sustainable tourism development of a heritage site.

The cross-community variance spectrum is vast and complex. Discovering various characteristics of each community group will provide a clear observation of the behaviors of each group. This will result in better decision-making and more effective communication that can be used to gain support for sustainable tourism. For instance, Paek, Yoon and Shah (2005) reported that community groups with a higher consumption of local news seem more likely to be involved in civic duties. Levasseur et al. (2017) indicated that there is an association between community belonging and social participation among older adults. Therefore, identifying the cross-community variance can contribute to facilitating a better understanding of the characteristics and behaviors of different community groups.

Modelling SSTD based on the distinct perspectives of communities is an under-researched area; each community—with different levels of knowledge, power, perception, and expectation—plays a different role (Olya & Gavilyan, 2017; Olya et al., 2017). To the best of our knowledge, this is the first empirical study to investigate the factors that affect the ability to achieve SSTD based on the perspectives of different communities. This empirical study aims to fill this research gap by investigating the effects of community attachment, community involvement, perceived benefits, and perceived costs on SSTD at the Bisotun World Heritage

Site. The site, which dates back to 521 BCE, appears on the UNESCO World Heritage List (UNESCO, 2006). It is one of the 20 UNESCO cultural heritage sites in Iran frequently mentioned in recent lists of top world destinations for travelers (Kamali Dehghan, 2015; Lippe-McGraw, 2016). This study also aims to identify whether the relationships between community attachment, community involvement, perceived benefits, and perceived costs and SSTD vary significantly across four community groups: farmers, businesses, handicraft sellers, and local government employees.

Significance of the study

The study enhances current knowledge of sustainable tourism management in two ways. First, it attempts to identify how the host communities' perceptions of the benefits and costs of heritage sites trigger SSTD at the Bisotun site. Development has been defined as "a concept that has, since the 1950s, been part of the discussion about what political and economic strategies will best allow the less favored nations [communities] to emerge from their wretchedness" (Bartholo, Delamaro, & Bursztyn, 2008, p. 104). However, wretchedness should not be viewed solely from an economic perspective as Olya and Gavilyan (2017) found, in some communities, SSTD is not necessarily based on economic reasons. Some groups or pockets within the wider community are willing to support sustainable heritage management for historical, cultural, and identity reasons. While some might argue that social and cultural diversity among community groups could have a different effect on their civic engagement, complexity can either undermine or improve social cohesion for the sake of SSTD (Twigg, Taylor, & Mohan, 2010). Nonetheless, previous studies have provided little evidence about the complex behaviors of different host communities, which are influenced by a community's perceptions of the benefits and costs of sustainable management as well as community attachment and community involvement in relation to the Bisotun World Heritage Site in western Iran.

The present study assumes that, notwithstanding their spatial cohesiveness, communities are not a unified entity. Rather, they are fragmented and have different perceptions and attitudes towards sustainable development. Thus, this empirical study extends the current understanding of SSTD by investigating the different perspectives of each community that is in contact with the heritage site in Bisotun. This study's assumption that this variation expands the view of community allows it to present a new approach to entice communities to improve SSTD by customizing strategies for community attachment and involvement for different community groups (Brooks, Reyes-García, & Burnside, 2018). The uniqueness of communities is crystalized in their level of community attachment and involvement, both of which have a different effect on their SSTD. Compartmentalization of the communities around the Bisotun heritage site is justified because each community is heterogeneous with different interest groups within and between the communities (inter- and intra-communal variations) (Olya et al., 2017; Ngonidzashe Mutanga, Vengesayi, Gandiwa, & Muboko, 2015). This argument is validated; ample evidence exists in the literature in studies that have taken an atheoretical approach or an apolitical approach to the concept of community, notwithstanding the complexity and variability of the communities regardless of their spatial proximity (Blackstock, 2005; Olya & Gavilyan, 2017). Blackstock (2005) believed that the failures of community-based tourism manifest in three areas; first, they have a functional view of community; second, they perceive community as a homogenous block; and third, they ignore the endogenous and exogenous structural constraints. The present study represents a leap forward in exploring and revealing the complexity of the communities by avoiding those failures. In his investigation of the Canary Islands, Bianchi (2004) discovered that even with the responsible institutions' commitment to sustainable tourism, their efforts failed certain communities and benefited others. To further strengthen the argument, and in line with Blackstock (2005), in the case of the Bisotun heritage site, communities are compartmentalized

because their social identities vary, which affects their access to the resources (Fischer, Muchapondwa, & Sterner, 2011) and their attitudes about sustainable tourism development (Campbell, Hughes, Hewstone, & Cairns, 2008). In a way, studies on community and tourism have remained path-dependent; however, this persistent approach to studying communities ignores their evolution. This appears to be a problem because continuity and change cannot be driven by similar dynamics. The approach taken in the present study is not locked in, and, by no means is it linear. Rather, it is consonant with path creation (Garud, Kumaraswamy, & Karnøe, 2010), which is a departure from the apolitical and atheoretical (Blackstock, 2005) approaches that have been used to understand the differences of communities.

Theoretical Background

Heritage tourism is a formidable mode of tourism due to the distinctiveness of the cultural, historical, architectural, and archaeological resources of the heritage sites that offer opportunities for the sustainable development of the economy and quality of life of local communities (Li, 2002; Uysal, Sirgy, & Perdue, 2012). The community and tourism nexus has been researched under the community-based tourism umbrella, which aims to transform the role of community into an influential stakeholder that contributes to tourism planning and becomes instrumental in achieving sustainable tourism (Blackstock, 2005). In this context, the challenge is how to involve various community groups (e.g., farmers, handicraft sellers, businesses, and local government employees) with different perceptions/attitudes in the sustainable planning and management of their cultural heritage resources (Hodges & Watson, 2000).

Support for sustainable tourism development (SSTD)

Heritage tourism demands a sustainable approach to management and planning. Heritage sites must be developed based on the principles of sustainable tourism, which are crystalized into

the enhancement of opportunities and the holistic management of the resources in order to maximize the economic, social, environmental, and cultural impacts of heritage tourism (World Tourism Organization, 1998). In the sustainable tourism development of heritage sites, the site's ability to improve the quality of life of local communities should not undermine the quality of the site for future generations (Landorf, 2009). It is important to note that when a community is genuinely involved, a society's collective objectives for development will be guaranteed (Nguyen & Rieger, 2017). In local areas where people are more aware of the potential of their region, community support is essential for achieving SSTD (Rasoolimanesh, Jaafar, Ahmad, & Barghi, 2017). Therefore, support of local communities is a key factor in implementing sustainable tourism development programs for heritage sites.

Perceived benefits and costs

Heritage tourism can benefit local communities in two ways. They might experience economic benefits, which refer to increased job opportunities and increased income; and they might experience cultural and social benefits, such as strengthening social capital, and feeling a deeper attachment to and an increased sense of pride in the heritage site and city (Nyseth & Sognnæs, 2013; Rao, 2009; Su & Wall, 2013). Heritage tourism can enhance the quality of life for local communities with world heritage sites (McLaren, 2011; Li, 2002; Wang, Zhen, Zhang, & Wu, 2014). These benefits lead local residents to have positive perceptions of tourism, which enhance their intention to support the sustainable development of heritage sites (Gursoy, Jurowski, & Uysal, 2002; Nicholas, Thapa, & Ko, 2009; Nunkoo & So, 2016).

When communities perceive more costs than benefits in relation to tourism development, they are less likely to support it (Lee, 2013). Over the past few decades, research has shown that the tourism sector is associated with a number of social and cultural costs. Tourism costs include crowding, an increased cost of living for local residents, congestion,

pollution, conflicts between tourists and community residents, and so on. If residents find that tourism increases their perceived costs in comparison to their perceived benefits, they may oppose sustainable tourism development (Olya & Gavilyan, 2017).

Community involvement and attachment

Community involvement refers to the engagement of local residents in community issues that directly relate to their lives (Lee, 2013). Tosun (2006) indicated that community involvement includes the residents' participation in making decisions about the development while receiving benefits from the development plan. This participation increases when local community members share their experiences, knowledge, and opinions about the positive benefits of heritage tourism.

Community attachment refers to the psychological connection to the meaningful elements sensed by the people who live in the community. This emotional bond could enable individuals or groups to express their ideas and effectively collaborate with one another. Community attachment encompasses the sense of belonging and the individual's rootedness in a community (Kasarda & Janowitz, 1974; Rao, 2009). According to Kyle, Mowen, and Tarrant (2004), community attachment is linked to community dependence, social bonding, community identity, and special regard for a community.

Theories and hypotheses

The present study used two theories to support its proposed hypotheses. First, it applied social exchange theory to explain the associations between community attachment, community involvement, and perceived benefits and costs and SSTD (H1a-H4a). Second, it used social identity theory to describe how these associations differ between various community groups in relation to the Bisotun heritage site (H1b-H4b). Social exchange theory is frequently used to describe SSTD (Lee, 2013; Rasoolimansh et al., 2017). This theory is mainly concerned with

analyzing and understanding the exchange of resources, tangible or intangible, between individuals and groups whenever they interact with each other or with a situation characterized as the space of production and consumption (Ap, 1992; Blau, 1964). Local communities evaluate the benefits and costs of tourism in order to decide if they want to support programs for the sustainable development of tourism at a heritage site (Gursoy & Rutherford, 2004; Yoon, Gursoy, & Chen, 2001).

According to social exchange theory, communities that perceive the positive benefits of tourism development are most likely to express high SSTD. Conversely, tourism costs may reduce the intention of communities to support programs for sustainable development of tourism at heritage sites (Nunkoo & Ramkissoon, 2011; Rasoolimanesh et al., 2017). Community attachment includes the linkages between an individual and a specific community, which normally enhances social participation (McCool & Martin, 1994).

Attachment and involvement of the local community help community members feel they can play a more active role in the process of sustainable development in their society (Thongma, Leelapattana, & Hung, 2011). Furthermore, participation of local communities improves their understanding of the benefits and costs of sustainable tourism development at a heritage site (Rasoolimanesh et al., 2017). Therefore, community involvement and attachment can influence the residents' traditional lifestyle and social values, which enhances their support for sustainable development of heritage sites (Nicholas et al., 2009). Rasoolimanesh et al. (2017) compared the level of support for tourism development of world heritage sites in urban and rural contexts in Malaysia. That study used social exchange theory to explain the effect of positive perceptions on SSTD for both urban and rural heritage sites. Unlike an urban heritage site context, negative perception decreases SSTD at a rural world heritage site. While community participation boosts SSTD for heritage sites in an urban context, it does not have a

significant impact on SSTD in a rural context. Lee (2013) applied social exchange theory to describe the positive associations between community attachment, community involvement, and perceived benefit and SSTD in Taiwan. Lee (2013) found that perceived costs have a negative impact on support for sustainable tourism. Thus, this study proposed the following hypotheses:

H1a The community attachment of local communities increases their SSTD of the heritage site.
H2a The community involvement of local communities boosts their SSTD of the heritage site.
H3a Perceived benefits enhance the local communities' SSTD of the heritage site.
H4a Perceived costs decrease the local communities' SSTD of the heritage site.

Based on social identity theory, individuals use their knowledge of belonging to a social group to categorize themselves into in-groups or out-groups (Palmer, Koenig-Lewis, & Jones, 2013; Tajfel & Turner, 1979). Local residents can classify themselves into different community groups based on their occupations and affiliations (Olya & Gavilyan, 2017; Palmer et al., 2013). Moreover, communities may perceive different benefits and costs from tourism development. The level of community attachment and involvement can vary based on the residents' social identity, knowledge, power, and role (Olya et al., 2017; Olya & Gavilyan, 2017).

Environmental management research recognizes that the opinions and perceptions of residents within communities differ (Brooks et al., 2018). Brooks et al. (2018) used cultural multilevel selection as a theoretical framework to explain the emergence of community groups that have different values and that perceive different benefits associated with the sustainable management of Balinese subaks (water management (irrigation) system for paddy fields); they also discussed group-level variation in cropping strategies to tackle conflicts among different community groups. In the area of sustainable heritage management, Olya et al. (2017) used the asymmetrical approach (i.e., fuzzy set qualitative comparative analysis and complexity theory)

to explore the sufficient and consistent combinations of factors to predict SSTD for Pamukkale, a heritage site in Turkey. They explored different complex casual configurations to explain SSTD, and they matched these with the perspectives of different community groups. As previously mentioned, Rasoolimanesh et al. (2017) found that the effects of positive and negative perceptions and community participation varied significantly across the context of urban and rural regions in Malaysia.

The current body of literature notes that a community's involvement in sustainable tourism development varies among different community groups. Waterton and Watson (2013) believed that the level of power and conflict within and between community groups inform their level of involvement in heritage management activities. Ashley and Roe (1998) argued that the level of community involvement varies among community groups because the forms of their involvement in the activities are dissimilar. In the case of costal management, Harvey and Hilton (2006) advised that the degree of a community's involvement changes based on the stages of development of a coastal area.

Andereck, Valentine, Knopf, and Vogt (2005) noted that the level of community attachment in a tourism development plan varied among the members of a community based on "the duration residents had lived in the community for and whether or not they had been born in the community" (Dutt, Harvey & Shaw, 2017, p. 195). Arnberger and Eder (2012) found that community attachment differed between urban and suburban residents in Vienna region, and it was influenced by their recreation behavior and their perceptions of public green spaces.

Hatipoglu, Alvarez, and Ertuna (2016) compared the views of two community groups with different perceptions of the benefits and costs of sustainable tourism in Turkey. They concluded that local business owners held a more favorable perception if they perceived the

economic benefits of tourism to be positive, while educational institutions were more skeptical because their representatives contended that tourism imposes costs by degrading the moral values and social fabric of the community.

Therefore, communities with dissimilar interests and perceptions may have a different level of SSTD for heritage sites. For example, although the farming community, unlike the handicraft sellers' community, may not perceived any direct benefits or costs related to tourism, farmers could still be interested in supporting development of a site for non-monetary reasons. In line with social identity theory, the impact of community attachment, community involvement, and perceived benefits and costs on SSTD for a heritage site may vary across different community groups due to the community members' diverse identities, cultural values, interests, knowledge, power, and preferences (Ho & McKercher, 2003; Hodges & Watson, 2000; Nunkoo & Gursoy, 2012; Olya & Gavilyan, 2017). In response to a call for further research from many scholars, who have acknowledged that there is little knowledge on the dynamic process of SSTD from the community perceptive in developing countries (e.g., Khoshkam, Marzuki, & Al-Mulali, 2016; Sinclair-Maragh & Gursoy, 2016), the present study proposes the following hypotheses:

H1b The effect of community attachment on SSTD is statistically varied among different community groups.

H2b The effect of community involvement on SSTD is statistically varied among different community groups.

H3b. The effect of perceived benefits on SSTD is statistically varied among different community groups.

H4b The effect of perceived costs on SSTD is statistically varied among different community groups.

Figure 1 illustrates the proposed conceptual model used in this study. It depicts four direct path hypotheses (H1a, H1b, H1c, and H1d) and four moderation hypotheses (H2a, H2b, H2c, and H2d). The effects of community attachment, community involvement, perceived benefits, and perceived costs on support for sustainable tourism are represented by H1a, H1b, H1c, and H1d, respectively. In addition, the study seeks to identify the significant differences in these factors across four community groups (farmers, businesses, handicraft sellers, and local government employees) by testing H2b, H2b, H2c, and H2d.

Figure 1 here.

Methodology

Study context

The Bisotun World Heritage Site, which dates from 521 BCE, is located in Kermanshah Province in the western part of Iran. The site appears on the UNESCO World Heritage List for two reasons. It exhibits "an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design and it [bears] a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared" (UNESCO, 2006). A profile of the site is provided in Appendix A. In the study area, four major community groups—farmers, businesses, handicraft sellers, and local government employees—could contribute to the sustainable tourism development of this heritage site. In addition to the city of Bisotun, local communities in Al-Zahra, Songhorabad, Nejobaran, and Chehr were targeted. These locations were selected because the heritage site is surrounded by these areas and the support of the four studied community groups is required for sustainable tourism development in this region.

Measurement tools

The researchers designed a questionnaire to measure the five main constructs of the research model: SSTD, community attachments, community involvement, perceived benefits, and perceived costs. The items were based on relevant validated measurements from previous research (Carmichael, Peppard, & Boudreau, 1996; Choi & Sirakaya, 2005; Gursoy & Rutherford, 2004; Kyle et al., 2004; Nicholas et al., 2009; Simpson, 2008; Tosun, 2006; Yoon et al., 2001; Yuksel, Yuksel, & Bilim, 2010; Zhang, Cole, & Chancellor, 2013). The questionnaire used 35 items. Six items measured SSTD (Nicholas et al., 2009; Carmichael et al., 1996). Eight items measured community attachment (two for social bonding, two for affection attachment, two for place identity, and one for place dependence) (Kyle et al., 2004; Yuksel et al., 2010). Five items measured community involvement, including community involvement (Tosun, 2006), community contribution (Zhang et al., 2013), and community participation in decision-making (Nicholas et al., 2009). Ten items measured perceived benefits (four for perceived economic benefits, four for cultural benefits, and two for social benefits) (Gursoy & Rutherford, 2004; Simpson, 2008; Yoon et al., 2001). Six items measured perceived costs based on the social and cultural costs (Choi & Sirakaya, 2005; Gursoy & Rutherford, 2004; Simpson, 2008; Yoon et al., 2001). All of the study variables were measured using a five-point Likert scale, ranging from 'strongly agree' (1) to 'strongly disagree' (5). The first section of the questionnaire explored the five previously mentioned study variables. The second section captured the respondents' demographic information.

Data collection procedure

A quantitative approach is used to check the objectives of a research study; this approach is frequently used in community-based tourism management studies (e.g., Almeida-García, Peláez-Fernández, Balbuena-Vázquez, & Cortés-Macias, 2016; Andereck et al., 2005; Gursoy et al., 2002; Nunkoo & Ramkissoon, 2011; Rasoolimanesh, Jaafar, Kock, & Ahmad, 2016). A professional translator used the back-translation technique to translate the English version of

the scale items into the Persian language, and then a different expert translated the Persian version of the questionnaire into English pert. The two English versions were compared and were found to be well matched (McGorry, 2000). A pilot study using 35 items was conducted before the questionnaire was administered to the field. The result revealed that all the questionnaire items were clear and understandable.

A letter seeking permission to conduct the *in situ* survey was submitted to the local authority of Harsin County. The study used a purposive sampling technique to collect the views of the four community groups (farmers, businesses, handicraft sellers, and local government employees). Businesses were distinguished from handicraft sellers because they engage in different types of business activities. Handicraft sellers are people that work in any activities related to handicrafts. Members of this community produce and sell handicrafts directly to customers or tourists. The local businesses that deal with different activities include restaurants, hotels, supermarkets, and taxi drivers. Local government employees refer to public sector employees in charge of heritage site management and operation.

In all, 550 questionnaires were distributed among members of the four community groups. Two employees of Kermanshah Tourism and Cultural Heritage, Handcrafts and Tourism Organization helped the research team identify community members and assisted in distributing the questionnaires. Local authorities contributed by targeting qualified respondents from different local communities, and they facilitated communication with local residents for effective field administration of study (Olya & Gavilyan, 2017). Olya et al. (2017) included the views of government employees, businesses, and farmers communities in heritage management because they could effectively contribute to sustainable tourism development. In the present study, 489 valid questionnaires were retrieved (89% response rate). Since local communities were directly approached to participate in the survey, a high response rate was achieved (Lee, 2013).

Data analyses

Preliminary tests were conducted to check the reliability and validity of the study measures. Descriptive statistics and the correlation matrix of the variables were calculated. Structural equation modelling was used to test the measurements and the research model and to investigate the interrelationships between the study variables and the formation of SSTD by considering the moderating impact of community. A two-step procedure was conducted using confirmatory factor analysis before conducting structural equation modelling (Hair, Anderson, Tatham, & Black, 1998; Hair, Hult, Ringle, & Sarstedt, 2014). The study assessed the moderating role of community using metric invariance tests at both the measurement and structural levels.

Results

Profile of respondents

Table 1 presents a profile of the respondents. In terms of age, 231 (47.2%) of the respondents ranged in age between 18 and 27, 166 (33.9%) were between 28 and 37, 60 (12.3%) were between 38 and 47, 27 (5.5%) were between 48 and 60, and 5 (1.0%) were older than 60. Among the 489 respondents, 334 (68.3%) were male and 155 (31.75) were female; 227 (46.4%) were single and 262 (53.6%) were married. In terms of educational levels, 94 respondents (19.2%) had a secondary school degree, 184 (37.6%) had a high school degree, 170 (34.8%) had a bachelor's degree, 36 (7.4%) had a master's degree, and 5 (1.0%) had a doctoral qualification. Slightly more than half of the respondents (265; 54.2%) earned less than US$ 2000 per year, 28 (25.7%) earned US$ 2000.01–5000, 146 (29.9%) earned US$ 5000.01–8000, and 50 (10.2%) earned US$ 8000.01–11000. The study sample included 109 (22.3%) local government employees, 119 (24.3%) handicraft sellers, 146 (29.9%) businesses owners, and 115 (23.5%) local farmers.

Table 1 here.

Reliability and validity

Cronbach's alpha was used to check the internal consistency of the items for each construct. Table 2 displays the results of the means, standard deviations, correlations, and alpha coefficients. The alpha values for all factors were greater than the commonly accepted level (α>.70) (Cortina, 1998). These results provide evidence of the reliability of the study scale. According to the correlation results, all the predictors, with the exception of perceived costs, have a significant and positive correlation with the dependent variable (SSTD). The proposed research model retained the perceived costs variable because a significant relationship between perceived costs and SSTD may exist across different community groups.

Table 2 here.

One item (the settings and facilities provided by this community are the best) from the community attachment scale was discarded during confirmatory factor analysis due to low standardized loadings (standardized factor loading=.35). The results demonstrated that all the items were loaded at a significant level (p<.01). The standardized loadings ranged from .43 to .83, which was greater than the commonly acceptable cut-off (λ>.40) (Anderson & Gerbing, 1988; Hair et al., 1998). The fit statistics results (X^2:1982.62, df: 55, X^2/df: 3.59, PNFI: .66; IFI: .83; RMSEA: .07) revealed that the proposed model had a tolerable fit with the empirical data (see Table 3).

In terms of construct validity, the average variance extracted values were greater than .5 and smaller than the composite reliability of the correspondence factor. This demonstrates that there is convergent validity among the study measures (Hair et al., 1998). As shown in Table 3, the average variance extracted value for all components was larger than the average shared

square variance and maximum shared squared variance, which supports discriminate validity (Anderson & Gerbing, 1988; Fornell & Larcker, 1981).

Table 3 here.

Model testing results

The results of structural equation modelling, using the maximum likelihood estimation method, revealed that the proposed conceptual model had a tolerable fit with the empirical data (x^2: 1942.55; df: 59; x^2/df: 3.28; PNFI: .66; IFI: .86; RMSEA: .07). Figure 2 presents the structural equation modelling details for testing Hypotheses **1a**, **b**, **c**, and **d**. The results demonstrate that community attachment has a positive and significant impact on SSTD (β=.21, p<.001). Therefore, Hypothesis **1a** was supported. Similarly, community involvement was positively and significantly associated with SSTD (β=.79, p<.001), supporting Hypothesis **2a**. Perceived benefits had a positive and significant effect on SSTD at the Bisotun heritage site (β=.22, p<.001), supporting Hypothesis **3a**. The results indicate that perceived costs did not have a significant effect on SSTD; thus, Hypothesis **4a** was not supported (Figure 2).

Figure 2 here.

Moderation hypothesis tests

An invariance test was conducted to test the moderation role of community (Table 4). The sample included the four community groups (farmers, businesses, handicraft sellers, and government employees). First, the non-restricted model was found to have a good fit to the data (x^2: 4158.93; df: 2068; x^2/df: 2.01; PNFI: .67; IFI: .87; RMSEA: .04). Second, the fitness of the full-metric invariance model was evaluated (x^2: 4371.77; df: 2170; x^2/df: 2.01; PNFI: .66; IFI: .86; RMSEA: .04). Third, a chi-square test was used to compare these two models. The results of the comparison test revealed that there was no significant difference between the non-restricted model and the full-metric invariance model ($\Delta\chi^2$ (102) =71.43, p>.05). These results

support the use of the full-metric invariance model (Table 4). When the goodness of fit indices for the baseline model were calculated, based on the full-metric invariance model for the four community groups, the results indicated that the baseline model fit the empirical data (x^2: 4371.77; df: 2170; x^2/df: 2.01; PNFI: .68; IFI: .81; RMSEA: .07) (Meyers, Gamst, & Guarino, 2013).

Table 4 here.

The next step involved comparing the baseline model with the nested models. Here, the specific path across each pair of community groups was constrained to be equivalent. As shown in Table 5, a chi-square test was conducted for each pair of community groups (e.g., local government and handicraft sellers in the first row of Table 5) to compare the links between the factors (e.g., community attachment) and the study outcome (SSTD). The results for the link between community attachment and SSTD revealed significant differences between the handicraft sellers and business groups ($\Delta\chi2$ (1) = 7.40, p<.01) in comparison to the business and local farmers groups ($\Delta\chi2$ (1) = 3.99, p<.05). No significant differences were found with regard to the link between community attachment and SSTD among the other community group pairings (Table 5). These results show that the effect of community attachment on SSTD varied, to some degree, between the different community groups. Therefore, **H1b** was partially supported.

The results of the structural invariance tests showed that three community group pairings—local government employees and handicraft sellers ($\Delta\chi2$ (1) = 4.67, p<.05), handicraft sellers and businesses ($\Delta\chi2$ (1) = 17.32, p<.001), and handicraft sellers and local farmers ($\Delta\chi2$ (1) = 6.3, p<.01)—have significantly different perspectives on the association between community involvement and SSTD. However, no significant differences were found with regard to the link between community attachment and SSTD among the three community group pairings (i.e.,

local government employees with businesses, local government employees with farmers, and businesses with farmers). Thus, **H2b** was also partially supported.

Table 5 here.

Based on the results of the chi-square test, no significant differences were found with regard to the links between perceived benefits and perceived costs with SSTD (Table 5). Therefore, **H3b** and **H4b** were not supported. These results indicate that the four community groups have similar views about the impact that perceived benefits and perceived costs have on SSTD at the Bisotun heritage site. In other words, it is not necessary to develop different strategies in order to gain SSTD from all the community groups based on their perceived benefits and perceived costs. However, perceived benefits had a positive relationship with SSTD, whereas perceived costs had no significant impact on SSTD.

Discussion and Conclusion

This empirical study contributes to the sustainable tourism literature by developing and testing hypotheses to assess the level of SSTD across different community groups at the Bisotun World Heritage Site. This study is the first attempt to apply symmetrical modelling of SSTD to different community groups. This study sought to answer two research questions: 1) How is SSTD impacted by community attachment, community involvement, perceived benefits, and perceived costs? 2) How do models for SSTD vary within different community groups? It used structural equation modeling to identify the significant factors that affect SSTD at the Bisotun site. It also applied multi-group analyses to show how the links between community attachment and community involvement and SSTD are partially moderated across different community groups. The findings provide deeper insights into the perceptions that communities have about SSTD in relation to their heritage sites.

This study's findings show that the involvement and attachment of local community groups boosted SSTD at the Bisotun World Heritage Site. This is in accordance with the findings of Lee (2013), and Lindén, Rapeli, and Brutemark (2015), which also reported that community involvement and community attachment have positive effects on SSTD. The results of this empirical study show that perceived benefit increases a community's SSTD. This is in line with the findings reported by Nicholas et al. (2009) and Nunkoo and Gursoy (2012); those studies also indicated that perceived benefits have a positive influence on SSTD.

Interestingly, perceived cost did not have a significant association with SSTD (**H4a**). Similarly, Gursoy et al. (2002) found that perceived costs had the smallest effect on SSTD in five counties surrounding a Virginia recreational area in the United States. Rasoolimanesh et al. (2016) and Nunkoo and So (2016) indicated that support for tourism development was not influenced by the negative impacts of tourism. Four factors could explain why perceived costs did not decrease SSTD in the context of the Bisotun heritage site. First, local communities might accept the costs of tourism because they consider the heritage site to have a cultural value that confers a sense of pride. They feel proud that the visitors have recognized the heritage site, which represents their identity and culture. This argument is in accordance with Li (2002), who reported that local residents' behaviors are derived from their sense of pride. Some tourists who travel to Iran have a unique and positive experience with the hospitality of the country's people as Iranians have a tendency to be welcoming hosts and treat visitors well. In this way, local people like to take this opportunity to express their culture and identify with the visitors.

The second reason why perceived costs did not decrease SSTD is that local communities probably hoped that tourism development, which is not without its costs, would be beneficial; therefore, it would enhance their intention to support its development, directly. In other words, local communities have a sustainable view about the development of Bisotun as a world

heritage site. They actually accept the costs of doing so as a trade-off to receive more benefits in the future. Nonetheless, perceptions of local communities vary based on the context. Rasoolimanesh et al. (2017) reported that negative perception increases SSTD in heritage sites located in urban areas; it decreases SSTD in heritage sites located in rural areas. Rasoolimanesh et al. (2017) believed such heterogeneities might be rooted in different study contexts. In line with Rasoolimanesh et al. (2017), the third reason why perceived costs did not decrease SSTD is that Bisotun is a rural heritage destination where negative impact/costs do not necessarily decrease SSTD.

The fourth reason why perceived costs did not decrease SSTD refers to the complexity of community-based management of heritage sites. As Olya and Gavilyan (2017) reported, the role of factors (e.g., perceived costs) for predicting SSTD depends on the conditions of other antecedents (e.g., community involvement, attachment, and perceived benefits). These results confirm the complex nature of community-based management of cultural heritage sites (Kwon, 2017; Olya et al., 2017). These findings suggest that strategic action plans for the sustainable management of heritage sites should be customized based on the various perceptions of different community groups, as suggested by Hodges and Watson (2000) and Kwon (2017).

Theoretical implications

The findings of the positive effects of perceived benefits, community attachment, and community involvement on SSTD are supported by social exchange theory. Along with community involvement and attachment, community members learn more about the potential perceived benefits of sustainable tourism development, which boosts their SSTD of the local heritage site. Perceived costs do not affect SSTD, which is not in line with the precepts of social exchange theory. These results show that all the community groups shared a common

perception in terms of perceived benefits and perceived costs with regard to SSTD and the Bisotun heritage site. There are four justifications for these results.

Social identity theory was used to explain the moderating effect of community on the links between community attachment and community involvement and SSTD. According to social identity theory, individuals with common characteristics (e.g., jobs and identity) classify themselves into different community groups so their level of SSTD might be different because they might have dissimilar perceptions, knowledge, and expectations related to their SSTD for the heritage site. Social identity theory helps support dynamic and heterogeneous relationships between SSTD and its determinants across different community groups. Specifically, the effects of community attachment and community involvement on SSTD varied, to some degree, based on the type of community. For example, the involvement of the handicraft sellers in order to achieve SSTD is significantly different from that of businesses, farmers, and government employees. In terms of the impact of community attachment on SSTD, the business community's view is different from the views of the handicraft sellers and farmers. Therefore, specific programs must be developed to promote community attachment of handicraft sellers and community involvement of the business community—in comparison to the other community groups—in order to achieve SSTD for the heritage site.

Managerial implications

The findings of this empirical study have practical implications for the local authorities of Bisotun and international decision-makers. Although community attachment and community involvement increase SSTD, the moderating effect of the different community groups indicated that there is a need to develop and implement different strategies across different communities. In terms of the effect of community attachment on SSTD, the metric invariance test results showed that the effect for the business community group is stronger than it is for the farmers (businesses > farmers) and handicraft sellers (businesses > handicraft sellers) community

groups. These results indicate that sense of community attachment for the farmers and handicraft sellers' community groups needs to be improved. Based on the socio-economic conditions of these two groups, their demands to be satisfied with community attachment-related activities are not strong. Thus, it is important to establish and empower unions and foundations for farmers and handicraft artisans to boost their level of community attachment. Reinforcing the governance of unions for farmers and handcraft sellers is a complementary strategy. These two communities can organize events to appreciate the contributions of their predecessors and leaders, to celebrate their achievements, and to share their ideas about and concerns for diversification of the activities that enhance the attachment of community members.

Based on the results shown in Table 5, the association between community involvement and SSTD is weaker among members of the handicraft sellers' community in comparison to the other three community groups (businesses > farmers> government employees> handicraft sellers). To increase the community involvement of the handicraft sellers, managers can involve them in events and festivals to sell and promote their products directly to heritage site visitors. Furthermore, allocation of appropriate sources for a marketplace around the Bisotun heritage site can be a helpful strategy. This presents an opportunity to improve the handicraft sellers' involvement in SSTD; they could become a frontline community dealing with visitors at the site. Government employees and their families could be given vouchers to participate in cultural activities and events around the site. Organizers could follow-up by sending emails and making phone calls to obtain their views about the sustainable tourism development of the Bisotun site. Farmers could be involved by the development of agro-tourism projects that target visitors to the site. Tour operators could bundle tours of the site with agro-tourism tours. The business community could be involved by offering financial and entrepreneurial opportunities related to tourism development.

Community groups prefer to be involved from the beginning of decision-making and to be included in the implementation stages of sustainable tourism development plans. Representatives of all community groups should be included in initiatives and meetings so all community members can voice their opinions about the sustainability of tourism development at the site. Thus, one immediate recommendation for managers is to consider the views of the four community groups included in this study to determine the status of community attachment and identify their expectations for community involvement in relation to SSTD for the Bisotun site. To ensure that all communities are satisfied with the process of sustainable management of the heritage site, training workshops should be organized to enhance community attachment and community involvement for different community groups. In line with Brooks et al. (2018), rituals and cultural activities could maximize synergy among different community groups, leading to a high level of community involvement and support for a sustainable tourism development plan for the Bisotun heritage site.

Moreover, the World Tourism Organization can contribute to this effort of securing SSTD for heritage sites in developing countries, such as Iran, which is home to 20 world heritage sites, by encouraging each country's national tourism organization to establish destination-marketing organizations (DMOs) that can provide useful and reliable information for event planners. For instance, marketing practices (e.g., the bundling of events and campaigns) could be developed and implemented based on contributions from the four community groups to enhance their level of involvement and to maximize the perceived benefits.

This study found that perceived costs do not decrease SSTD. This finding does not imply that a local community's perceptions of the costs and benefits of tourism at a heritage site should be ignored because the perceived benefits significantly boosted their SSTD. In other words, local communities may evaluate the impacts of tourism and they may support the development of sustainable tourism at a heritage site based on the perceived benefits of doing

so. Hence, mangers need to ensure that all communities benefit from sustainable tourism development of the Bisotun heritage site.

The Bisotun authorities can increase the perceived benefits of tourism by nominating residents from all community groups for tourism-related jobs, assigning some business activities (e.g., travel agencies) to local communities, and providing financial support (e.g,. low interest loans) for launching sustainable businesses. Planners can reinforce the perceived benefits of tourism for both handicraft sellers and farmers by organizing regular events where members of these communities can find opportunities to sell their products to site visitors, directly. Provision of cultural exchange between government employees, businesses, and visitors may help community members see the benefits of heritage tourism development. For example, training employees to learn another language may function as a tool for effective communication with international tourists; it could also serve as driver of employee performance because they could consider this as an opportunity for professional development. Bisotun authorities could plan to allocate the funds raised from tourism to improve public facilities and services, such as schools and health centers. All members of the communities near the Bisotun site could enjoy these tangible benefits.

Limitations and pathways for further research

One of the limitations of the present study is that a questionnaire survey was used to model the residents' SSTD, which is a socially complex phenomenon. It is suggested that future studies apply a qualitative approach and or a mix method approach to explore solutions for explaining the behavioral intentions of local communities with different interests and preferences in the process of sustainable tourism development at world heritage sites. Further research can apply a more powerful sampling technique (e.g., stratified random sampling) to obtain data from different communities.

Olya, H. G., Alipour, H., & Gavilyan, Y. (2018). Different voices from community groups to support sustainable tourism development at Iranian World Heritage Sites: evidence from Bisotun. *Journal of Sustainable Tourism*, 1-21.https://doi.org/10.1080/09669582.2018.1511718

Although this study showed how to achieve SSTD for a heritage site based on the contributions of different community groups, it is worthwhile to model SSTD in various contexts (e.g., rural and urban destinations at spatially different heritage sites). This study acknowledges that the proposed structural model had a tolerable fit with the empirical data. Thus, studies using structural equation modeling to model SSTD in relation to different communities should ensure that both the measurement and research model fit with well with the empirical data. Future research on SSTD should also include the availability of time to participate and the demographics of the communities into the conceptual model.

This study identified the net effect of perceived costs, perceived benefits, community involvement, and community attachment to achieve SSTD across different community groups. Furthermore, advanced approaches (e.g., qualitative comparative analysis and complexity theory and Bayesian network analysis) should be used to explore the sufficient complex conditions and necessary conditions for SSTD in developed and developing countries. Future studies should also investigate the interaction effects of perceived costs/benefits, community involvement, and community attachment in predicting SSTD.

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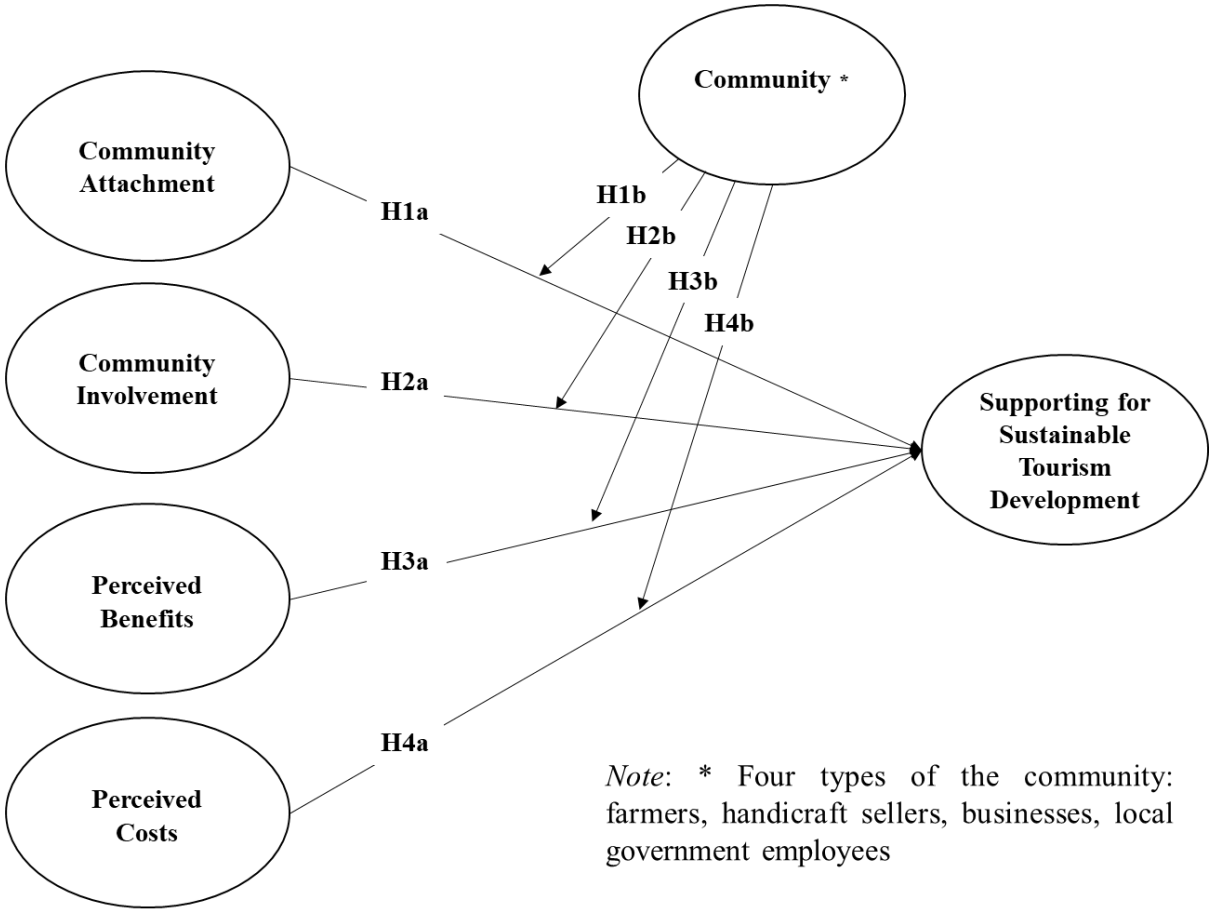

Figure 1. Proposed research model

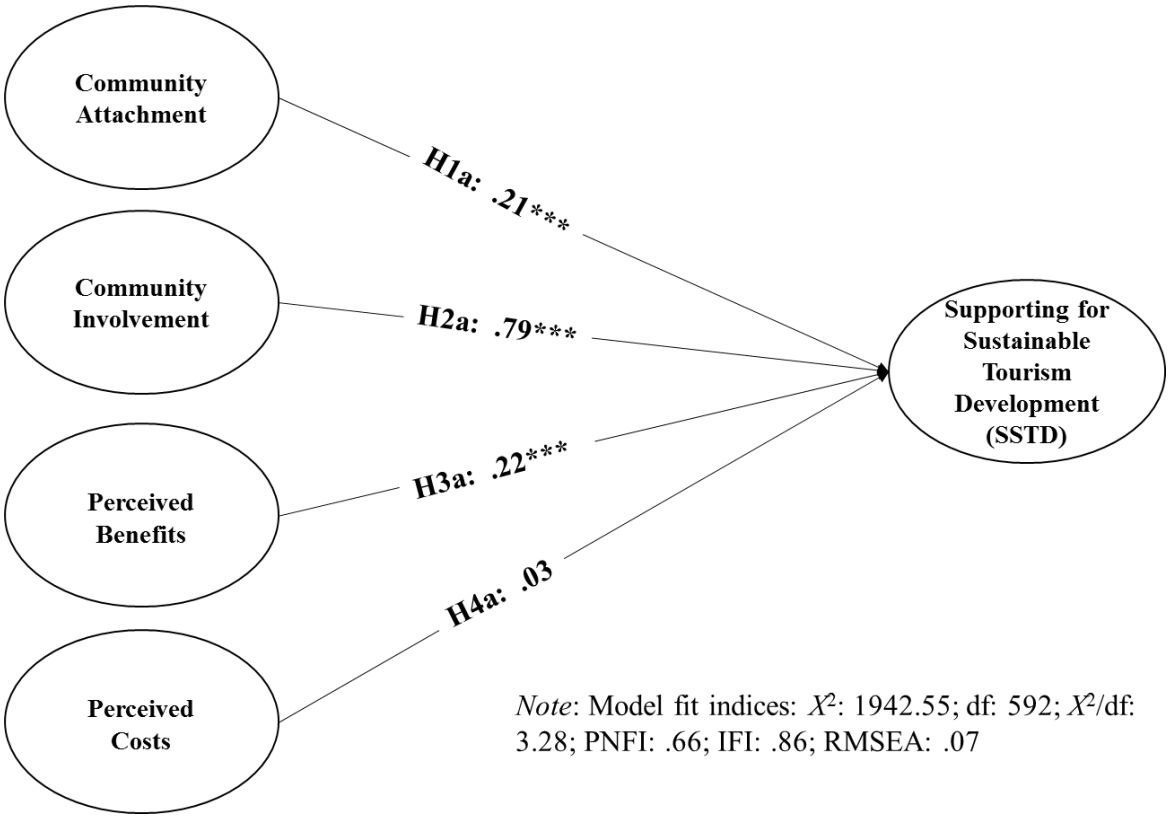

Figure2. Results of hypothesis testing (H1a-H4a)

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Table 1. Respondents' Profile

Variable	**N**	**%**	**Variable**	**N**	**%**
Age			*Educational level*		
18-27	231	47.2	Secondary school	94	19.2
28-37	166	33.9	High school	184	37.6
38-47	60	12.3	Bachelor	170	34.8
48-60	27	5.5	Master	36	7.4
>60	5	1.1	Doctoral	5	1.0
Total	489	100.0	Total	489	100.0
Marital status			*Gender*		
Single	227	46.4	Male	334	68.3
Married	262	53.6	Female	155	31.7
Total	489	100.0	Total	489	100.0
Income level (annually)			*Community type*		
Less than $2000	265	54.2	Local Government	109	22.3
$2000.01-5000	28	5.7	Handicraft	119	24.3
$5000.01-8000	146	29.9	Business	146	29.9
$8000.01-11000	50	10.2	Farmer	115	23.5
Total	489	100.0	Total	489	100.0

Note: N represents number of the respondents and % shows the frequency.

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Table 2. Means, standard deviations, Cronbach alpha, and correlations matrix of study variables

Variable	1	2	3	4	5
1. Community attachment	(.84)				
2. Community involvement	.36**	(.72)			
3. Perceived benefits	.28**	.47**	(.86)		
4. Perceived costs	.28**	.06	-.03	(81)	
5. Support for Sustainable Tourism Development	.40**	.65**	.48**	.024	(.75)
Mean	2.17	1.95	1.82	2.94	1.70
Std. Deviation	.86	.68	.69	.84	.59

Note: **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). Cronbach alpha for reliability check is presented within the parenthesis.

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Table 3. Results of Confirmatory Factor Analysis

Scale items	SFL	AVE	MSV	ASV	CR
Support for sustainable tourism development (Carmichael et al., 1996; Nicholas et al., 2009)		.36	.79	.33	.74
I support the development of community-based sustainable tourism initiatives	.62**				
I participate in sustainable tourism-related plans and development	.71**				
I participate in cultural exchanges between local residents and visitors	.66**				
I cooperate with tourism planning and development initiatives	.67**				
I participate in the promotion of environmental education and conservation	.44**				
Further tourism development would positively affect my community's quality of life	.43**				
Community attachment (Bilim and Yuksel, 2010; Kyle et al., 2004)		.45	.19	.13	.80
The settings and facilities provided by this community are the best	~~.35~~				
I prefer living in this community over other communities	.61**				
I enjoy living in this community more than other communities	.62**				
I feel that this community is a part of me	.75**				
Living in this community says a lot about who I am	.65**				
Living in this community means a lot to me	.81**				
I feel a strong sense of belonging to this community	.71**				
Many of my friends/family prefer this community over other communities	.51**				
Community involvement (Nicholas et al., 2009; Tosun,2006; Zhang et al., 2013)		.35	.79	.33	.63
I participate in sustainable tourism-related activities	.53**				
I support research for the sustainability of this community	.72**				
I am involved in the planning and management of sustainable tourism in this community	.54**				
Local residents should be consulted in tourism planning	.59**				
I am involved in decision making for sustainable tourism in this community	.55**				
Perceived benefits (Simpson, 2008; Rutherford & Gursoy, 2004; Yoon et al., 2001)		.37	.35	.19	.67
Increased employment opportunities	.50**				
Increased shopping opportunities	.64**				
Increased revenues from visitors for local governments	.55**				
Increased business for local people and small businesses	.54**				
Increased opportunities for leisure and tourism	.69**				
Improves conditions of roads and other public facilities	.68**				
Provides an incentive for the preservation of local culture	.70**				
Development of cultural activities by local residents	.71**				
Increases cultural exchanges between visitors and residents	.83**				
Increases positive effects on cultural identity	.57**				
Perceived costs (Chris Choi, 2005; Dyer et al., 2006; Simpson, 2008; Rutherford & Gursoy, 2004; Yoon et al., 2001)		.42	.01	.00	.68
Increased prices of goods and services	.65**				
Increased environmental pollution	.59**				
Increases conflicts between visitors and local residents	.65**				
I often feel irritated because of tourism in the community	.67**				
I do not feel comfortable or welcome in local tourism businesses	.70**				
Tourism is likely to result in traffic congestion	.64**				

Note. SFL: standardized factor loading; AVE: average variance extracted; MSV: maximum shared squared variance; ASV: average shared square variance; CR: composite reliability. **: SFL is significant at the .001 level. Fit statistics: x^2: 1982.62; df: 553; x^2/df: 3.59; PNFI: .66; IFI: .83; RMSEA: .07. Fit statistics before dropping one item of community attachment: x^2: 1928.37; df: 550; x^2/df=3.50; PNFI: .66; IFI: .80; RMSEA: .07.

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Table 4. Results of metric invariance test for moderation analysis (measurement and structural invariance)

Measurement invariance	x^2	*df*	x^2/df	*PNFI*	*IFI*	*RMSEA*	$\Delta\chi^2$	**Status**
Non-restricted model	4158.93	2068	2.01	.67	.87	.04	$\Delta\chi^2$ (102) = 1.43 non-significant	Full-metric invariance supported
Full-metric invariance model	4371.77	2170	2.01	.66	.86	.04		
Baseline model fit statistics	x^2	*df*	x^2/df	*PNFI*	*IFI*	*RMSEA*	**Status**	
Value of index	2171.05	1046	2.05	.68	.81	.07	Tolerable fit	

Note: x^2/df (<3: satisfactory); PNFI: parsimonious normed fit index (> .5: good fit); IFI: incremental fit index (> .9: good fit); RMSEA: root mean square error of approximation (< .08: good fit; .08 to .1: moderate fit; > .1: poor fit) (source: Meyers, Gamst & Guarino, 2013).

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Table 5. Results of metric invariance test for moderation analysis (structural invariance- H2a-H4b)

Structural invariance	*Gruorp1(β)*	*Gruorp2(β)*	*Baseline model* (unconstrained)	*Nested Model* (fully constrained)	$\Delta\chi^2$	**Status**
H1b: CA→SSTDV						
Gov. & Hand.	.19**	.16*	χ^2 (12)= 119.03	χ^2 (13)= 119.66	$\Delta\chi^2$ (1)= .63	-
Gov. & Bus.	.19**	.30***	χ^2 (12)= 173.15	χ^2 (13)= 175.26	$\Delta\chi^2$ (1)= 2.11	-
Gov. & Farm.	.19**	.17*	χ^2 (12)= 152.78	χ^2 (13)= 152.90	$\Delta\chi^2$ (1)= .12	-
Hand. & Bus.	.16*	.30***	χ^2 (12)= 127.45	χ^2 (13)= 134.85	$\Delta\chi^2$ (1)= **7.40****	Supported
Hand. & Farm.	.16*	.17*	χ^2 (12)= 107.14	χ^2 (13)= 107.35	$\Delta\chi^2$ (1)= .21	-
Bus. & Farm.	.30***	.17*	χ^2 (12)= 161.25	χ^2 (13)= 165.24	$\Delta\chi^2$ (1)= **3.99***	Supported
H2b: CI→ SSTDV						
Gov. & Hand.	.54***	39****	χ^2 (12)= 119.03	χ^2 (13)=123.70	$\Delta\chi^2$ (1)= **4.67***	Supported
Gov. & Bus.	.54***	.65***	χ^2 (12)= 173.15	χ^2 (13)=175.01	$\Delta\chi^2$ (1)= .14	-
Gov. & Farm.	.54***	.58***	χ^2 (12)= 152.78	χ^2 (13)=152.80	$\Delta\chi^2$ (1)= .02	-
Hand. & Bus.	.39***	.65***	χ^2 (12)= 127.45	χ^2 (13)=144.77	$\Delta\chi^2$ (1)= **17.32*****	Supported
Hand. & Farm.	.39***	.58***	χ^2 (12)= 107.14	χ^2 (13)=113.44	$\Delta\chi^2$ (1)= **6.3****	Supported
Bus. & Farm.	.65***	.58***	χ^2 (12)= 161.25	χ^2 (13)=162.96	$\Delta\chi^2$ (1)= 1.71	-
H3b: PB→ SSTD×						
Gov. & Hand.	.19*	.31***	χ^2 (12)= 119.03	χ^2 (13)=119.17	$\Delta\chi^2$ (1)= .14	-
Gov. & Bus.	.19*	.12*	χ^2 (12)= 173.15	χ^2 (13)=173.41	$\Delta\chi^2$ (1)= .26	-
Gov. & Farm.	.19*	.14	χ^2 (12)= 152.78	χ^2 (13)=153.16	$\Delta\chi^2$ (1)= .38	-
Hand. & Bus.	.31***	.12*	χ^2 (12)= 127.45	χ^2 (13)=128.55	$\Delta\chi^2$ (1)= 1.1	-
Hand. & Farm.	.31***	14	χ^2 (12)= 107.14	χ^2 (13)=108.56	$\Delta\chi^2$ (1)= 1.42	-
Bus. & Farm.	.12*	.14	χ^2 (12)= 161.25	χ^2 (13)=161.29	$\Delta\chi^2$ (1)= .04	-
H4b: PC→ SSTD ×						
Gov. & Hand.	-.09	.01	χ^2 (12)= 119.03	χ^2 (13)=119.09	$\Delta\chi^2$ (1)= .06	-
Gov. & Bus.	-.09	-.09	χ^2 (12)= 173.15	χ^2 (13)=173.18	$\Delta\chi^2$ (1)= .03	-
Gov. & Farm.	-.09	-.06	χ^2 (12)= 152.78	χ^2 (13)=152.92	$\Delta\chi^2$ (1)= .14	-
Hand. & Bus.	.01	-.09	χ^2 (12)= 127.45	χ^2 (13)=128.85	$\Delta\chi^2$ (1)= 1.4	-
Hand. & Farm.	.01	-.06	χ^2 (12)= 107.14	χ^2 (13)=107.48	$\Delta\chi^2$ (1)= .34	-
Bus. & Farm.	-.09	-.06	χ^2 (12)= 161.25	χ^2 (13)=161.61	$\Delta\chi^2$ (1)= .36	-

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Note: ***: $p<.001$;**: $p<.01$; *: $p<.05$. Critical value at 95% confidence interval is 3.84 and critical ratio at 99% confidence interval is 6.13. H1b= CA→ SSTD: partially supported; H2b= CI→ SSTD: partially supported; H3b (PB→ SSTD) and 4b (PC→ SSTD): not supported. Group 1 refers to the first community (e.g. Gov. in first row) and group 2 indicates second group (e.g. Hand. In first row).

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Appendix A.

Study site: Bisotun Bisotun is an ancient archeological site and one of the most outstanding historic attractions of Iran. It is located in the Province of Kermanshah, on the ancient trade route between the Persian high plateau and Mesopotamia (Figure I). It was recognized and inscribed as world heritage site (WHS) in the year 2006 (ref: 1222) (http://whc.unesco.org/en/list/1222). As one of the popular sites in Iran and the subject of great attention by international tourists, the Bisotun heritage site will continue to draw more tourists in the future.

Figure I. Map of Iran and location of Bisotun.

The site occupies 187-hectare (462 Acres) of area featuring remains from prehistoric times to the Median period (8th to 7th centuries BCE) as well as from the Achaemenid (6th to 4th centuries BCE) and post-Achaemenid periods. Its most significant period, however, was from the 6th century BCE to the 6th century CE. The site composed of numerous historical relics and monuments. However, the Inscription carved in rock is the primary monument. It dated back to 521 BC during the era of Darius the Great when he conquered the Persian throne. The inscription is written in three languages. The oldest is an Elamite text referring to legends describing the king and the rebellions. This is followed by a Babylonian version of similar legends. The last phase of the inscription is particularly important,

as it is here that Darius introduced for the first time the Old Persian version of his res gestae (things done). This is the only known monumental text of the Achaemenids to document the re-establishment of the Empire by Darius I (http://whc.unesco.org/en/list/1222).

Figure 1. Sample of Relics and Monuments of Bisotun Heritage Site (https://en.wikipedia.org/wiki/Behistun_Inscription).