

## Original Articles

# Ethnic community's perception of benefit-sharing and participation intentions in national park tourism in China: An asymmetric modeling approach

Xiurong Wei<sup>a</sup>, Pian Pu<sup>b,\*</sup>, Li Cheng<sup>c</sup>, Haiyue Jiang<sup>d</sup>, Yong Liu<sup>b,e</sup>

<sup>a</sup> Faculty of Foreign Languages and Cultures, Sichuan University, Chengdu 610065, China

<sup>b</sup> Tourism and Cultural Industries School, Sichuan Tourism University, Chengdu 610100, China

<sup>c</sup> Tourism School, Sichuan University, Chengdu 610065, China

<sup>d</sup> Bureau of Culture, Sport and Tourism, Jinjiang District, Chengdu, Chengdu 610011, China

<sup>e</sup> Key Laboratory of Mountain Tourism Equipment and Intelligent Technology, Sichuan Tourism University, Chengdu 610100, China

## ARTICLE INFO

## Keywords:

Benefit-sharing

Ethnic community

Transportation development

National Park tourism

fsQCA

## ABSTRACT

While tourism brings employment opportunities to ethnic communities surrounding national parks, striking a balance between economic development and environmental/cultural preservation is paramount for ensuring long-term sustainability. In 2021, the first mountain cog rail transit project for poverty alleviation and tourism development started to be built in western China. It will pass through the pilot area of the Giant Panda National Park, bringing development opportunities and challenges for the local Tibetan community. Based on a questionnaire survey of 395 Tibetan residents in the park vicinity, this study utilizes asymmetrical approach so as to explore the multifaceted elements shaping benefit-sharing, tourism support and community participation intentions. The findings reveal residents' heightened emphasis on the economic benefits of tourism over environmental and cultural considerations. This inclination is rooted in the enduring impact of stringent ecological conservation measures over the past 50 years, significantly constraining regional economic development. Notably, young females who did not fully benefit from tourism express a high level of support for tourism, particularly when economic, cultural, and facility benefits align. Paradoxically, higher economic benefits are associated with lower community participation intentions in tourism decision-making, underscoring that only low economic benefits trigger such intentions. Active community participation predominantly manifests among young males, suggesting that residents express participation intentions when their benefit-sharing needs are not adequately met. This study provides valuable insights into the coordinated development of transportation, community benefit-sharing, and the preservation of national parks.

## 1. Introduction

The development of national parks and their neighboring communities are interdependent (Archabald and Naughton-Treves, 2001). First proposed by American artist George Catlin (1832), national park is a model of protected land with the management goal of protecting ecosystems and providing recreational opportunities (Dupke et al., 2009). National park tourism can not only provide a guarantee of ecological conservation but also develop neighboring communities (Heggie et al., 2008), such as offering more employment opportunities, improving infrastructure, enhancing residents' quality of life, and bringing more convenience for the interaction with the outside world (Slattery, 2002;

Fortin and Gagnon, 1999). Meanwhile, as the carrier of traditional culture (Zhang, 2009), as well as sustainer of the ecological environment, the residents of surrounding communities are the core subjects of tourism development (Gursoy et al., 2002). Driven by tourism development, communities' cultural and environmental protection behavior is changing, and their economic benefit seeking behavior have a profound impact on the sustainable development of the national park.

While the main role of national parks lies in the protection of physical geography, such as pristine nature, biology, and wildlife, thereby ensuring ecological integrity and biodiversity, it is also vital to preserve cultural geography, such as safeguarding traditional culture and heritage, as well as conducting education and scientific research

\* Corresponding author at: 459 Hongling Road, Longquanyi District, Chengdu, Sichuan Province, China.

E-mail addresses: [gracewei@scu.edu.cn](mailto:gracewei@scu.edu.cn) (X. Wei), [popyls@126.com](mailto:popyls@126.com) (P. Pu), [chengli@scu.edu.cn](mailto:chengli@scu.edu.cn) (L. Cheng).

<https://doi.org/10.1016/j.ecolind.2024.112257>

Received 25 January 2024; Received in revised form 8 May 2024; Accepted 14 June 2024

Available online 24 June 2024

1470-160X/© 2024 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC license (<http://creativecommons.org/licenses/by-nc/4.0/>).

(Nestorová-Dická et al., 2020; Telbisz et al., 2022). For some countries, the development of the national park requires that the benefits deriving from tourism be shared with local communities (Strickland-Munro and Moore, 2013). Benefit-sharing for the local communities has mostly been concerned with the sharing of tourism revenue (Carius and Job, 2019; Huynh et al., 2016; Munanura et al., 2016; Ahebwa et al., 2012; MacKenzie, 2012). However, benefit-sharing is more than monetary. Community residents may also pay close attention to the fairness of benefit distribution, whether the community environment is affected, and whether the society is negatively affected (Sharpley, 2014). Especially for the ethnic communities living around the national parks, maintaining their cultural identity and sustainable environmental behavior is as important as obtaining economic benefits. Therefore, apart from the economic benefits, this paper focuses on whether residents can recognize combined factors of benefit-sharing from the tourism development of the national park, such as the cultural and environmental ones, that influence their support for tourism and participation intentions.

Transport has huge impact on national park tourism and their neighbouring communities. Most national parks are located in the remote mountainous region in China (Liu & Lv, 2008). Due to limited accessibility, the development of tourism and other industries are constrained. Once the transportation infrastructure comprehensively improves, tourism development will inevitably impact on the neighbouring communities of the national park. For instance, it will influence community's environmental protection behavior in the national park. More reception buildings will be built around the park, and the use of forest land will increase dramatically (Stevens, 2003). With the increase of tourists, it is more difficult to deal with sewage and garbage. Furthermore, due to the impact of guest culture, local culture of mountain, forest and animal worship is disappearing, which increases the challenge for the conservation of the national park (West, 2008). Therefore, it is crucial to elucidate the significance of uncovering the impact of economic development stemming from traffic improvements on the environment and culture of communities, along with the intricate causal relationships that underlie these changes.

While prevailing researches have primarily underscored individual factors, notably the influence of economic sharing, this study aims to offer a more encompassing understanding of the multifaceted elements shaping tourism support and community participation intentions. Taking the construction of China's first mountain sightseeing railway, which passes through the pilot area of the Giant Panda National Park and its neighbouring Tibetan community, as an example, this study addresses the coordinated development between transportation, national parks and their neighboring communities through the lens of benefit-sharing. It may provide comprehensive insights into the sustainable development of the national park, stimulate enthusiasm among residents in Tibetan communities to actively engage in tourism, and furnish decision-makers with valuable reference points.

## 2. Literature review

### 2.1. Transportation and tourism development

Transportation has a close relationship with tourism. Transportation infrastructure is a significant determinant of tourism inflows into a destination (Khadaroo and Seetanah, 2008). As Khan et al. (2017) and Zhang et al. (2019) remarked, transport can promote tourism worldwide, catapulting tourism to a larger scale (Duval, 2020). For tourists, switching from private cars to public transportation to visit national parks for leisure can reduce overall carbon dioxide emission (Downard and Lumsdon, 2004). In recent years, high-speed rail has a spill-over impact on tourism with its flexibility and safety (Tian et al., 2020). For instance, Yan et al. (2014) indicated that high-speed railways boost not only less developed destinations but also those regions along the railway. A high-speed railway boosts economic and tourism

development. Jin et al. (2019) portrayed how high-speed rail has encouraged the ice and/snow tourism of northeast China. High-speed rail can increase the arrival and flow of tourists (Liu and Shi, 2019; Gao et al., 2021) and tourism revenue (Yang and Li, 2019). High-speed rail also impacts tourists' travel patterns (Sun and Lin, 2018). Gutierrez and Ortuno (2017) characterized tourists who are most likely to visit a coastal destination by high-speed rail. Some researchers also indicated that the influence of high-speed rail on tourism or the economy had spatial heterogeneity (Hiramatsu; 2018; Zhou et al., 2020) and that high-speed rail network had altered the spatial pattern of tourism (Wang et al., 2018; Wang et al., 2017). Yin et al. (2019) investigated how the high-speed railway impacted tourism on the spatial interaction within two cities. Gao et al. (2019) discovered that with the high-speed rail, less-developed regions in the central and west of China had more arrivals, but not an increase in revenue. While the relationship between transport and tourism is widely examined in previous studies, little study seems to be done on how residents perceive the impact of railway construction and tourism benefit-sharing, and how the construction of the railway might integrate with tourism development, rather than simply treating the railway as a means of transportation.

### 2.2. Benefit-sharing in national park tourism

Tourism is a common means for communities within or around national parks to share benefits (Perdue et al., 1990). Residents usually participate in tourism services related to national parks to improve their quality of life (Hammad et al., 2017). However, for tourism practice in national parks, especially in some developing countries (Ahebwa et al., 2017), community residents have been at a disadvantageous position, often lacking the right to participate or make decisions, and their interests are often ignored (Tyrrell and Spaulding, 2017). Very often their own benefits have to give way to the conservation of nature in countries and regions such as Zanzibar and Uganda (Carius and Job, 2019; MacKenzie, 2012; Kang and Lee, 2018). As a result, residents do not have the right to acquire land, which further impacts their well-being. While the local community does not benefit from tourism, their hunting and grazing activities cause ecological degradation. Thus, attention must be paid to how residents can benefit from tourism development.

### 2.3. Benefit-sharing and community participation intentions

The concept of sharing is an extension of the social exchange theory, which "regards the interaction between people as a rational behavior to measure benefit and costs, the purpose of trading is to maximize their own profits" (Homans, 1958). Blau (1964) interpreted social exchange as people automatically acting for any benefit. Receiving a benefit is the goal and purpose of exchange. When a community develops tourism, they are in a trade-off situation. Benefit-sharing in tourism is mostly associated with the sharing of tourism revenue (TRS). However, benefit-sharing is not only distributing the monetary benefit but also spreading the non-monetary benefit for achieving social equity in a broader way (Brugere and Eriksson, 2021). For instance, benefit-sharing also includes aspects of culture and facility, environment, and development ideas (Cheng and Xu, 2021; Fan and Cheng, 2020).

Firstly, economic sharing (ES) refers to residents' sharing of the economic achievements of tourism development. Economic sharing is the foundation and the core of tourism sharing (Cheng and Xu, 2021). In nature-based tourism destinations, one mission is economically benefiting the residents. The economic achievements induced by tourism development are mainly reflected in the increase of residents' income (Ramukumba et al., 2012). Besides, tourism development provides more entrepreneurial and employment opportunities, enriching residents' means of livelihood (Hammad et al., 2017; Boley et al., 2014). Furthermore, it also improves residents' working skills (Chen et al., 2016), and comprehensively improves the living standards of residents (Oviedogarcia et al., 2008).

Secondly, facility sharing (FS) is to meet the living needs of residents with tourism development. Tourism development has led to the construction and further improvements of local infrastructure, such as roads, scenic area operation facilities, and other service facilities (Oviedogarcia et al., 2008). At the same time, the arrival of tourists also promotes the growth of accommodations, catering, leisure, entertainment, medical and health care, and education among other facilities, which enhances living standards of residents (Fedorova et al., 2020). Furthermore, facility sharing (FS) reinforces community support for tourism. Kanwal et al. (2020) report community support for tourism grew with the improvements of infrastructure.

Thirdly, environment sharing (ENS) maintains the sustainable ecological environment and tourism development in destinations (Oviedogarcia et al., 2008). In some destinations based on nature, ecological conditions received more attention from managers and the community. Tourism is one way to facilitate the protection of ecological environment. It is shown that with the sustainable development of tourism, the environment is less polluted and the whole ecosystem, including water, atmosphere, soil, and plants, becomes healthier (Oviedogarcia, 2008).

Culture sharing (CS) refers to residents' sharing of their cultural achievements for the development of tourism. It helps residents re-learn their culture, and promotes the protection of local culture, especially in ethnic minority areas. As a means of cross-cultural communication, tourism highlights and enhances residents' cultural identity, cultural confidence, and national pride (Besculides et al., 2002), and develops their cultural awareness as well. In addition, it can revive and foster local cultural activities (Mccool and Martin, 1994). Development ideas sharing (DIS) emphasizes on strengthening the "co-construction" consciousness of residents' participation in tourism development, including joint participation, cooperation and protection, which is the premise of "sharing". Without the will to protect the environment, it is unlikely that nature conservation and human well-being in the national park will be achieved (Specht et al., 2019). The concept of "sharing" in this study mainly describes residents' cognition of "co-construction". Young (1999) pointed out that the shared goal of stewardship has been a major motivation for resolving resource conflicts in tourism. The responsibility of development and construction of the protected area are related to every resident, and the protection and inheritance of traditional ethnic culture and the maintenance of custom depend on the efforts of every individual in the community. It has been shown that ideas of co-construction can enhance resident participation in tourism and trigger residents to pursue a higher quality of life by being involved in the tourism industry (Tamal, 2019).

Some scholars have pointed out that social exchange theory is an appropriate framework to explain residents' perception of tourism development (Perdue et al., 1990). While the concepts of benefit-sharing are closely related to the monetary and non-monetary benefits generated in the process of social exchange with consideration of costs and benefits, they also influence community attitudes towards tourism development. When tourism generates more income, residents are willing to participate in (Tyrrell and Spaulding, 1984). Being willing to participate in tourism refers to the process of residents' all-around participation in the planning, implementation, management, supervision, and evaluation of tourism development projects. Tourism benefit-sharing measures residents' perception of sharing, which affects residents' support for national parks and protection-related behaviors. Studies found that the more community residents benefit from tourism development, the more positive perception of tourism (Kang and Lee, 2018). Based on the complexity theory, the relationship between economic sharing, cultural sharing, and gender on the results of tourism support and community participation intentions may not be linear. There are multiple possible combinations of conditions leading to outcome variables. Therefore, this study regards economic sharing (ES), environment sharing (ENS), facility sharing (FS), cultural sharing (CS) and development idea sharing (DIS) as precondition group 1; gender (Gen), age (Age) and involvement

(Inv) as precondition group 2; support for tourism as outcome 1; community participation intentions (CPI) as outcome 2 were established, and a conceptual model (Fig. 1.) was tested."

### 3. Study site

National parks have been created all over the world. In China, the first pilot national park system was launched at the end of 2015 as Chinese government proposed the strategy of "establishing a protected natural area system with national parks as the theme" which identified the development of national parks as the breakthrough for its ecological civilization. So far, 10 pilot national parks have been established, and one of them is the Giant Panda National Park. Seen as a solution to balance development and conservation, a pilot national park is also constructed in China to strengthen community residents' benefit-sharing. Therefore, it has important practical significance. This paper focuses on the construction of the first mountain railway in China. It is constructed for mountain poverty alleviation and ecotourism development.

Tibetan communities in Siguniang, Wolong, and Gengda Town are chosen as the case study sites for this research. These have been determined to be the three key railway stations of the Du-Si sightseeing railway – the railway from Dujiangyan, Chendu City, to Siguniang Mountain Scenic area in Aba Tibetan and Qiang Autonomous Prefecture in Sichuan Province. It is China's first narrow-gauge sightseeing railway for poverty alleviation and ecotourism development goals (Fig. 2. for details). Wolong and Gengda town are in Wolong National Nature Reserve, and Mount Siguniang is adjacent to Wolong National Nature Reserve. All belong to the Giant Panda National Park and the UNESCO World Heritage of Panda Habitat. Along with the sightseeing railways are four national nature reserves and four provincial nature reserves. These eight protected areas have a total of 5,600 square kilometers, mainly protecting wild animals such as the giant panda, the snow leopard, and the golden monkey.

The construction of the Du-Si sightseeing railway began in 2021 and would be completed in 2026. It will cross the Giant Panda National Park and connect three Tibetan towns, namely Siguniang, Wolong, and Gengda. The area that the train passes through had been explored and formed during the Ming and Qing dynasties (around 1627–1644) as the ancient tea-horse road connecting Han and Tibetan areas of China. The train corridor runs 96 miles from east to west. At present, this area is an important channel for political, economic, and social exchanges between Tibetan and Han nationality. With a large rural population, this region mainly relies on farming, herding, and tourism as main source of income (Pu et al., 2021).

The residents of the three communities are mainly RgyalRong Tibetans, a subset of ethnic Tibetan from the west of China. "RgyalRong" is considered to be the eastern tropical agricultural areas of the sacred mountain of Merdo, which is the mountain god of this region. Usually, Tibetans believe that every form of creation has the same right to live. Accordingly, forest, mountains, and lake are sacred sites that are worshipped as the homes of deities (Pu et al., 2023). Therefore, in the RgyalRong region, the residents retain their native religion which worships the sacred mountain, holy lake and trees. These beliefs lead to more sustainable actions in residents' daily life and protect the natural environment from their value system.

Migrating from the west of Tibet at an early time, RgyalRong Tibetans blended with the surrounding ethnic groups and formed a mixture ethnic group. The biggest difference between RgyalRong Tibetan and other Tibetan areas is the language. RgyalRong dialect is often considered an independent language. Thus, some scholars believe that RgyalRong dialect is one of the oldest Tibetan dialects. As proposed by Fei (1980), RgyalRong is part of Tibetan-Yi Corridor, and it is hybridity region culturally.

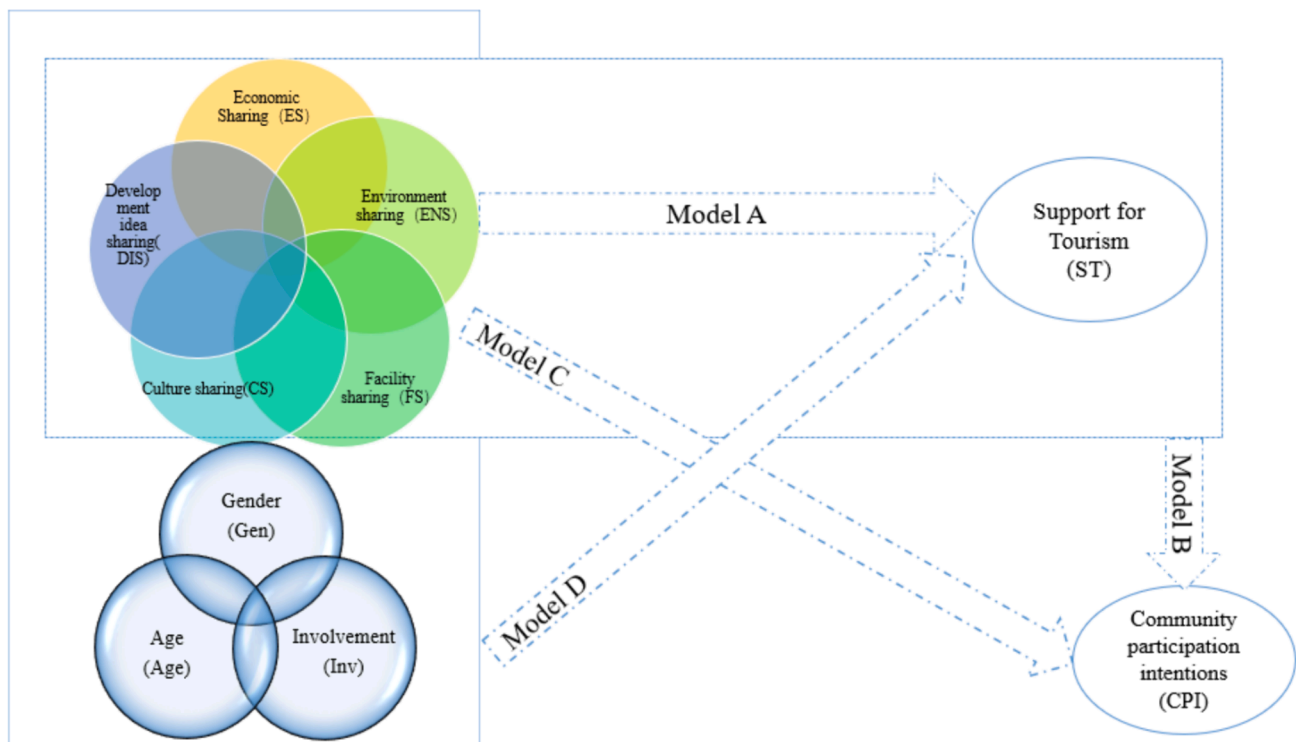


Fig. 1. The Configuration Model

#### 4. Methodology

##### 4.1. Partial Least Squares (Smart-PLS) and configurational analysis (FsQCA)

In this study, a combination of Partial Least Squares and Configurational Analysis methods is employed. Firstly, Partial Least Squares is chosen over covariance structural equation models due to its suitability for small sample studies and its independence from the requirement of normal data distribution. Secondly, as a comprehensive structural equation method, Partial Least Squares proves to be more effective in predicting and analyzing complex models with latent structures. Thirdly, the fsQCA analysis method is incorporated to address the shortcomings of structural equation models concerning model interpretation and predictive capability. The estimation of the net effect of independent variables is strongly influenced by correlations, so the use of mean-centered symmetric model estimation methods may present an incomplete relationship (Rasoolimanesh et al., 2021). As Woodside (2013) emphasized that relationships between variables are not always linear, employing asymmetric methods may more accurately assess the relationships between variables. Qualitative comparative analysis based on complexity theory, such as fsQCA, is better suited to reveal intricate relationships between variables, leading to more robust management conclusions.

##### 4.2. Process

The benefit-sharing questionnaire utilized in this study has referred to pertinent research by Hammad et al. (2017) and Jani (2018), which contributed to the formulation of items gauging support for tourism. To capture residents' participation intentions, the content and scope of community participation were comprehensively considered, shaping the relevant items. Tailored to the specifics of the study site, the original items and questionnaire framework were designed.

##### 4.3. Data collection

To measure the validity of the questionnaire, a pre-test was conducted in the Siguniang community on December 11 to 13, 2018, involving 3 villages and 21 households. The official survey was conducted with a total of 22 investigators from December 17–21, 2018 in Siguniang Town (population 3312), Wolong Town (population 2448), and Gengda Town (population 2890). The ethnic communities surveyed covered 11 villages in these three towns. Led by the town cadres, the investigators were divided into several groups. Households were selected randomly. All participants involved in this study have provided informed consent. They were adequately informed about the purpose, procedures, potential risks, and benefits of the research. The investigators filled out the questionnaire based on the communication with the representatives of each household. A total of 398 questionnaires were collected from Siguniang Town, Wolong Town, and Gengda Town, covering 4.6 % of the population. Three hundred and ninety-five were valid, with an effective rate of 99 %, including 213 in Siguniang Town, 78 in Wolong Town, and 104 in Gengda Town. Simultaneously, through the conversations with residents, considerable tourism knowledge was obtained beyond the questionnaire. A supplementary survey was conducted in Siguniang town from August 1st to 7th, 2019. During this one-week period, residents were interviewed, providing valuable additional context to enhance the overall depth of our findings.

##### 4.4. Data analysis

This research exploited the SPSS, Smart-PLS and fsQCA software to analyse the data. Initially, the study employed SPSS to conduct the exploratory factor analysis. Then, Smart-PLS was utilized to perform confirmatory factor analysis, evaluating the reliability and validity of the tests. The process culminated with the application of, bootstrapping to test the formulated hypotheses. Finally, to delve into the intricate configurations of factors influencing the outcomes, configurational analysis was conducted using fsQCA.

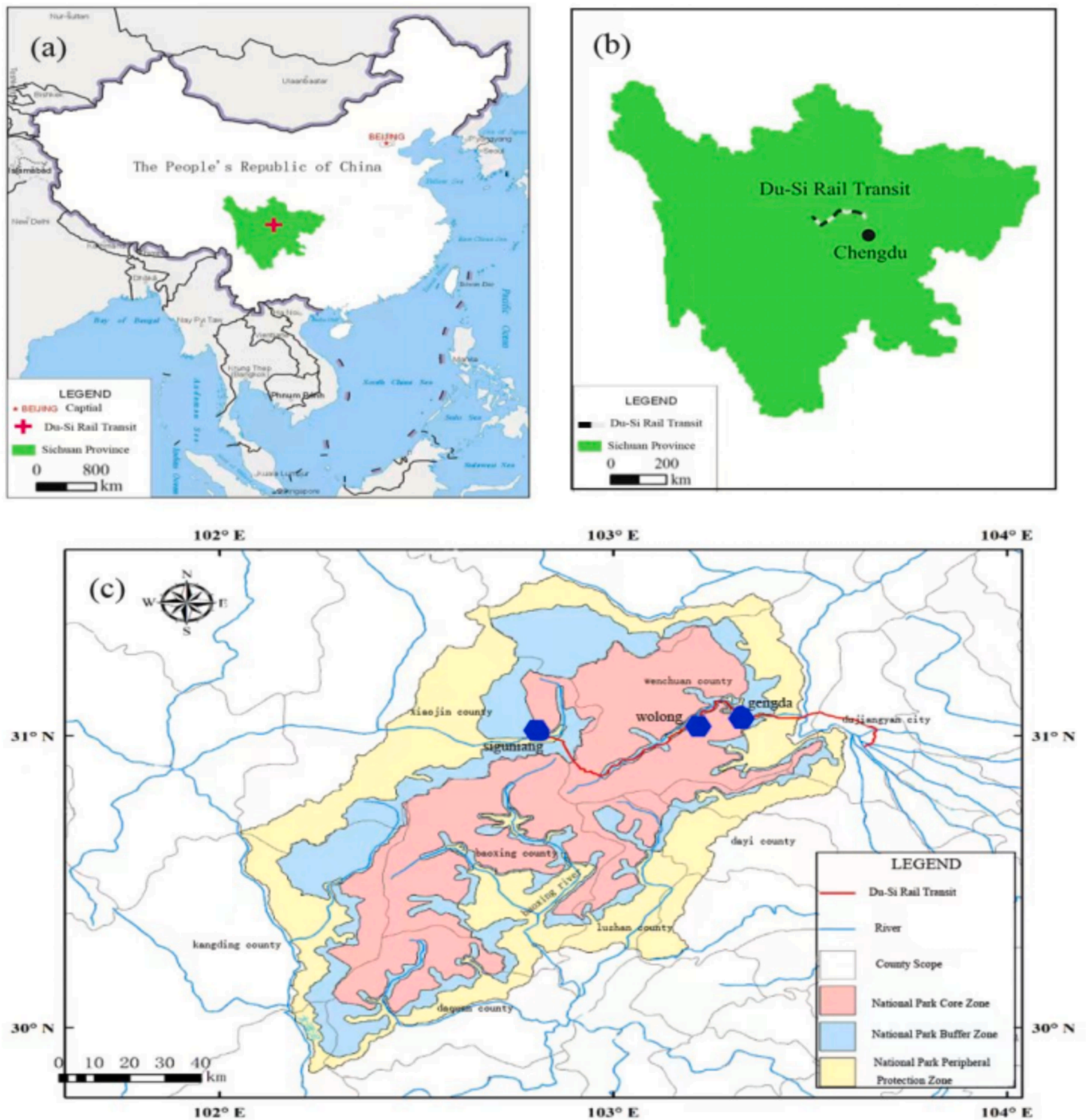


Fig. 2. Location of Dujiangyan-Siguniang (Du-Si) Sightseeing Railway in China (a); Dujiangyan-Siguniang (Du-Si) Sightseeing Railway in Sichuan Province (b); Dujiangyan-Siguniang (Du-Si) Railway (c).  
 Source: Cited from <http://bzdt.ch.mnr.gov.cn>, (Figure drawn by Zhendong Fang)

## 5. Results

### 5.1. Descriptive results

The overall demographic characteristics of residents in the three towns are as follows. The survey population includes slightly more males (58.7 %) than females. Most are young or middle-aged people under the age of 60 (82.3 %). They are mainly Tibetan (73.7 %), with a small number of Qiang and Hui. 79.5 % of the respondents have completed junior middle school, indicating that the overall educational level within

the community is not high. 89.1 % residents have lived there for more than 15 years. The majority are farmers or nomads (58.2 %). Residents who are engaged in the tourism industry also identify themselves as farmers. The remaining residents work in small-scale enterprises, government institutions, enterprises and public institutions, or are self-employed (Table 1).

### 5.2. Explorative factor analysis (EFA)

Building upon the framework established by Ren et al. (2010), this

**Table 1**  
Respondent profiles (n = 395).

| Item         | Variable       | Frequency | Rate (%) | Item             | Variable                              | Frequency | Rate (%) |
|--------------|----------------|-----------|----------|------------------|---------------------------------------|-----------|----------|
| Gender       | Male           | 232       | 58.7     | Duration of time | <=5years                              | 16        | 4.1      |
|              | Female         | 163       | 41.3     |                  | 6–10 years                            | 17        | 4.3      |
| Age          | <=44 years     | 175       | 44.3     |                  | 11–15 years                           | 10        | 2.5      |
|              | 44–59 years    | 150       | 38.0     | >=15 years       | 352                                   | 89.1      |          |
|              | >=60 years     | 70        | 17.7     | Occupation       | Government staff                      | 11        | 2.8      |
| Ethnic group | Tibetan        | 291       | 73.7     |                  | Enterprises and institutions employee | 22        | 5.6      |
|              | Qiang          | 15        | 3.8      |                  | Private company employer              | 41        | 10.4     |
|              | Hui            | 11        | 2.8      |                  | Farmers/nomad                         | 230       | 58.2     |
|              | Han            | 78        | 19.7     |                  | Community worker                      | 10        | 2.5      |
| Education    | Elementary     | 211       | 53.4     |                  | Social organization staff             | 2         | 0.5      |
|              | Middle school  | 103       | 26.1     |                  | Student                               | 2         | 0.5      |
|              | High school    | 40        | 10.1     |                  | Unemployed                            | 7         | 1.8      |
|              | Junior college | 39        | 9.9      |                  | Freelancer                            | 39        | 9.9      |
|              | Missing        | 2         | 0.5      |                  | Retired                               | 11        | 2.8      |
|              | District       | Siguniang | 213      | 53.9             | Other                                 | 9         | 2.2      |
| Wolong       |                | 78        | 19.8     | Missing          | 11                                    | 2.8       |          |
| Gengda       |                | 104       | 26.3     |                  |                                       |           |          |

study classified the items into two groups for small-scale factor analysis: (1) tourism benefit-sharing, (2) support for tourism, and community participation intentions. First, SPSS 25.0 was used to test the KMO and Bartlett’s on 25 items of tourism benefit-sharing perception. The KMO value was 0.891, the Bartlett test value was 5339.820, and under conditions of 300 degrees of freedom, the significance was  $0.000 < 0.05$ , indicating that the variables have a certain correlation and are suitable for factor analysis.

Second, the component analysis method and the variance maximization orthogonal rotation method were used to extract the common factors. The measurement items were eliminated according to the following criteria: (1) The loading rotation factor is less than 0.5; (2) The loading on both factors is greater than 0.5; (3) After deleting the measurement item, the total variance explanation would increase [73]. Finally, the questionnaire items D6 (Tourism-related jobs are prioritized for local people) and H1 (Tourism development encourages a better understanding of our culture, including history, language, etc.). Twenty-three items remained, and five common factors were extracted: “economic sharing (ES)”, “facility sharing (FS)”, “environment sharing (ENS)”, “culture sharing (CS)” and “development ideas sharing (DIS)”.

After factor analysis, the Cronbach’s  $\alpha$  value of each construct was above 0.7, indicating that the internal consistency of the measurement was relatively high. The total variance explained was 66.359 %, which exceeds the general standard of 60 % in social science research; the characteristic roots after rotation were all greater than 1; the factor load was divided by I4 (Only if tourism develops well can the local area develop well) other than 0.562, all were above 0.6, indicating that the validity of the factor analysis was acceptable. As shown in Table 2, the same process is applied to support for tourism development and community participation intentions. Two common factors were extracted, and all eight measurement items remained (Table 2).

### 5.3. Evaluation of measurement model

The initial phase of analysis involved testing the measurement model, given that all measurement items in this study are reflective. Evaluation criteria encompassed internal consistency reliability, indicator reliability, convergent validity, discriminant validity, and other relevant indicators. The results of validity index are shown in Table 3 and Table 4. Notably, the composite reliability (CR) for each construct is  $0.84 \sim 1 > 0.7$ . This affirms the internal consistency within the data structure, and each measurement model fulfilled the reliability requirements. The average variance extraction value (AVE) score of the latent variable was  $0.56 \sim 1$ , which is greater than the recommended threshold of 0.5 (Bagozzi and Yi, 1988), and the minimum external load of all variables was  $0.637 > 0.5$  (Fornell and Larcker, 1981). The

convergence validity of each measurement model was also acceptable, with the square root value of each AVE surpassing its correlation coefficient with other latent variables, as suggested by Duarte and Raposo (2010). Consequently, each latent variable exhibited robust discriminative validity (Tables 3 and 4).

### 5.4. Structural model analysis

The structural model fit was evaluated using the coefficient of determination  $R^2$  and predictive relevance  $Q^2$ . The coefficient of determination  $R^2$  represented the explanation of the exogenous latent variable. The  $R^2$  support for tourism and community participation intentions were 0.518 and 0.191, respectively.  $Q^2$  is used to test the predictive relevance of the model.  $Q^2 > 0$  means that the model had predictive relevance to the endogenous latent variables, and the  $Q^2$  of both were greater than 0 (support for tourism were 0.394 and community participation intentions were 0.115). Evaluating the structural model, each exogenous variable in the structural model had a certain explanatory power for the corresponding endogenous variables and the structural model had a significant predictive relevance degree. The results of the PLS path test are shown in Table 5. Economic sharing (ES), facility sharing (FS), and development ideas sharing (DIS) significantly affected tourism support ( $p < 0.05$ ), ( $p < 0.01$ ), ( $P < 0.01$ ) were supported; Economic sharing (ES) and development ideas sharing (DIS) positively affected the community participation intentions ( $p < 0.05$ ) and ( $p < 0.01$ ) were supported while environment sharing (ES), and cultural sharing (CS) had no impact on tourism support. Facility sharing (FS), environment sharing (ES), and culture sharing (CS) had no impact on the community participation intentions, and tourism also had no support on the community participation intentions (Table 5).

### 5.5. Configurational model analysis

The structural equation model provides insights into the individual impacts of factors on outcome variables, yet it falls short of explaining the intricate effects arising from the combinations of these factors. For instance, while economic sharing independently influences the level of support for tourism, the permutations of the five sharing factors can result in, amplify, or diminish the overall support for tourism and community participation intentions. As highlighted by Woodside (2014) and Pappas (2016), statistical significance does not comprehensively represent the relationships between variables, given that two variables within a dataset may exhibit various relationships, including positive impact, negative impact, or no mutual impact. To addressing this complexity, configurational analysis is employed in this study to elucidate the nuanced relationships between variables, and counterfactual

**Table 2**  
Factor analysis.

| Constructs and indicators | Mean | S D   | SL    | Constructs and indicators | Mean | SD    | SL    |
|---------------------------|------|-------|-------|---------------------------|------|-------|-------|
| ES( $\alpha = 0.832$ )    | 4.39 | 0.747 | 0.785 | DIS( $\alpha = 0.741$ )   | 4.43 | 0.756 | 0.679 |
| D1                        |      |       |       | I1                        |      |       |       |
| D2                        | 4.44 | 0.669 | 0.709 | I2                        | 4.42 | 0.727 | 0.710 |
| D3                        | 4.26 | 0.811 | 0.802 | I3                        | 4.47 | 0.656 | 0.746 |
| D4                        | 4.21 | 0.840 | 0.750 | I4                        | 4.56 | 0.670 | 0.562 |
| D5                        | 3.83 | 1.066 | 0.615 | ST( $\alpha = 0.891$ )    | 4.62 | 0.562 | 0.852 |
| FS                        |      |       |       | J1                        |      |       |       |
| ( $\alpha = 0.780$ )      | 4.55 | 0.579 | 0.712 | J2                        | 4.60 | 0.536 | 0.886 |
| F1                        |      |       |       | J3                        |      |       |       |
| F2                        | 4.44 | 0.704 | 0.730 | J4                        | 4.58 | 0.542 | 0.891 |
| F3                        | 4.48 | 0.586 | 0.753 | J4                        | 4.54 | 0.601 | 0.815 |
| F4                        | 4.32 | 0.873 | 0.605 | CPI( $\alpha = 0.788$ )   | 4.29 | 0.910 | 0.847 |
| ENS                       |      |       |       | E1                        |      |       |       |
| ( $\alpha = 0.877$ )      | 4.16 | 0.853 | 0.735 | E2                        | 4.33 | 0.855 | 0.871 |
| G1                        |      |       |       | E3                        |      |       |       |
| G2                        | 4.16 | 0.787 | 0.843 | E4                        | 4.24 | 1.009 | 0.673 |
| G3                        | 4.15 | 0.797 | 0.816 |                           | 4.45 | 0.761 | 0.719 |
| G4                        | 4.01 | 0.936 | 0.783 |                           |      |       |       |
| G5                        | 4.23 | 0.772 | 0.766 |                           |      |       |       |
| CS                        | 4.30 | 0.726 | 0.807 |                           |      |       |       |
| ( $\alpha = 0.904$ )      |      |       |       |                           |      |       |       |
| H2                        |      |       |       |                           |      |       |       |
| H3                        | 4.27 | 0.724 | 0.841 |                           |      |       |       |
| H4                        | 4.30 | 0.740 | 0.874 |                           |      |       |       |
| H5                        | 4.23 | 0.757 | 0.858 |                           |      |       |       |
| H6                        | 4.32 | 0.776 | 0.672 |                           |      |       |       |

**Table 3**  
Convergence validity and reliability.

| Construct                                | Indicator | Out loading | T-value | CR   | AVE  |
|--|-----------|-------------|---------|------|------|
| Economic sharing (ES)                    | D1        | 0.880       | 48.843  | 0.89 | 0.63 |
|  | D2        | 0.865       | 50.673  |      |      |
|  | D3        | 0.782       | 22.738  |      |      |
|  | D4        | 0.746       | 18.800  |      |      |
|  | D5        | 0.663       | 17.231  |      |      |
| Facility sharing (FS)                    | F1        | 0.830       | 24.343  | 0.87 | 0.63 |
|  | F2        | 0.833       | 23.463  |      |      |
|  | F3        | 0.862       | 45.679  |      |      |
|  | F4        | 0.637       | 9.669   |      |      |
| Environment sharing (ENS)                | G1        | 0.777       | 21.340  | 0.91 | 0.67 |
|  | G2        | 0.852       | 30.799  |      |      |
|  | G3        | 0.862       | 44.985  |      |      |
|  | G4        | 0.803       | 31.249  |      |      |
|  | G5        | 0.809       | 26.091  |      |      |
| Culture sharing (CS)                     | H2        | 0.872       | 39.226  | 0.93 | 0.73 |
|  | H3        | 0.880       | 46.644  |      |      |
|  | H4        | 0.879       | 33.417  |      |      |
|  | H5        | 0.880       | 41.269  |      |      |
|  | H6        | 0.737       | 13.894  |      |      |
|  |           |             |         |      |      |
| Development ideas sharing (DIS)          | I1        | 0.714       | 14.899  | 0.84 | 0.56 |
|  | I2        | 0.760       | 22.991  |      |      |
|  | I3        | 0.809       | 22.320  |      |      |
|  | I4        | 0.720       | 13.913  |      |      |
| Support for tourism (ST)                 | J1        | 0.846       | 21.331  | 0.93 | 0.76 |
|  | J2        | 0.895       | 56.491  |      |      |
|  | J3        | 0.901       | 66.873  |      |      |
|  | J4        | 0.839       | 33.962  |      |      |
| Community participation intentions (CPI) | E1        | 0.801       | 25.309  | 0.87 | 0.62 |
|  | E2        | 0.847       | 34.577  |      |      |
|  | E3        | 0.730       | 18.956  |      |      |
|  | E4        | 0.765       | 18.855  |      |      |

Notes:  $T > 1.648, P < 0.1$  ;  $T > 1.965, P < 0.05$  ;  $T > 2.586, P < 0.01$ . ( $T > 1.648, P < 0.1$ . It means that results are significant at a 90 % confidence level;  $>1.965, P < 0.05$ , it indicates that results are significant at a 95 % confidence level.  $T > 2.586, P < 0.01$ , the results are significant at a 99 % confidence level.)

**Table 4**  
Discriminant validity of constructs.

| Construct | ES    | FS    | ENS   | CS    | DIS   | ST    | CPI   |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| ES        | 0.791 |       |       |       |       |       |       |
| FS        | 0.540 | 0.796 |       |       |       |       |       |
| ENS       | 0.386 | 0.430 | 0.821 |       |       |       |       |
| CS        | 0.379 | 0.361 | 0.319 | 0.851 |       |       |       |
| DIS       | 0.407 | 0.483 | 0.264 | 0.491 | 0.752 |       |       |
| ST        | 0.464 | 0.599 | 0.286 | 0.366 | 0.629 | 0.871 |       |
| CPI       | 0.322 | 0.285 | 0.183 | 0.322 | 0.374 | 0.276 | 0.787 |

Notes: The values on the diagonal represent the square root of AVE, while the values below the diagonal represent correlation coefficients.

analysis is conducted to ascertain the relationships between variables.

In most cases, there is a positive relationship between environmental sharing and support for tourism, meaning that as the numerical value of economic gains increases, the numerical value of support for tourism also increases. Through configuration analysis, it is found that 13 cases existed (Table 6). This indicates that a larger numerical value of environmental sharing does not necessarily mean a larger numerical value of support for tourism, thus confirming Woodside’s viewpoint that there are always reverse cases in a dataset. This provides a foundation for the subsequent analysis.

Data Calibration. The foundation of fsQCA is Boolean algebra, which requires the analysis data to be within the [0, 1] interval. To meet this condition, the original data must be calibrated. Following Ragin’s (2008) suggestion, data variables are transformed into fuzzy membership scores, representing the degree to which established cases belong to a set. Here, 1 represents complete membership, 0 represents no membership, and values between 0 and 1 indicate varying degrees of membership. Taking economic sharing benefit as an example, a value of 1 signifies residents completely endorsing the statement that tourism brings economic benefits, while a value of 0 indicates residents completely rejecting the idea that tourism development brings economic benefits. In accordance with the requirements of data calibration, Likert scale values (Likert 5) are used for conversion in this study, with 1 being transformed into complete non-membership (0), 5 into complete

**Table 5**  
Results of structural model test.

| Path                                       | Path coefficient | T -value | SupportH0 |
|--|------------------|----------|-----------|
| Economic sharing (ES)                      | 0.115            | 2.198**  | YES       |
| Support for tourism(ST) →                  |                  |          |           |
| Facility sharing (FS)                      | 0.340            | 4.998*** | YES       |
| Support for tourism(ST) →                  |                  |          |           |
| Environment sharing (ENS)                  | -0.016           | 0.386    | NO        |
| Support for tourism(ST) →                  |                  |          |           |
| Culture sharing (CS)                       | -0.003           | 0.033    | NO        |
| Support for tourism(ST) →                  |                  |          |           |
| Development idea sharing (DIS)             | 0.423            | 7.298*** | YES       |
| Support for tourism(ST) →                  |                  |          |           |
| Economic sharing (ES)                      | 0.156            | 2.162**  | YES       |
| Community participation intentions (CPI) → |                  |          |           |
| Facility sharing (FS)                      | 0.043            | 0.604    | NO        |
| Community participation intentions (CPI) → |                  |          |           |
| Environment sharing (ENS)                  | 0.002            | 0.047    | NO        |
| Community participation intentions (CPI) → |                  |          |           |
| Culture sharing (CS)                       | 0.137            | 1.807*   | NO        |
| Community participation intentions (CPI) → |                  |          |           |
| Development idea sharing (DIS)             | 0.222            | 3.331*** | YES       |
| Community participation intentions (CPI) → |                  |          |           |
| Support for tourism (ST)                   | -0.026           | 0.331    | NO        |
| Community participation intentions (CPI) → |                  |          |           |

Note: \* P < 0.1 ; \*\* P < 0.05 ; \*\*\* P < 0.01.

membership (1), and 3 into the crossing point (0.5).

**Construction of Truth Table.** After completing data calibration, it is necessary to construct a Truth Table to adhere to the logical operations of Boolean function minimization. During the construction of the Truth Table, refinement is done based on two criteria. The first criterion is the number of cases, i.e., frequency. Generally, the larger the number of cases, the larger the minimum frequency value, and vice versa. Additionally, the requirement to retain 80 % of the sample must be satisfied. The second criterion involves setting consistency, typically recommended to be equal to or greater than 0.8, while avoiding a critical consistency threshold below 0.75. In this study, the consistency threshold is set at 0.8. During Truth Table operations, consistency (Consistency) and coverage (Coverage) are used as evaluation indicators, similar to correlation coefficients and determination coefficients R2 in statistical analysis. Consistency is commonly used to

measure the extent to which a given antecedent condition or combination of antecedent conditions leads to the occurrence of a result, while coverage refers to the explanatory power of these given conditions or condition combinations on the occurrence of the result (case coverage).

**Configuration Comparison Analysis Results.** The configurational analysis yields three solutions: complex solution, parsimonious solution, and intermediate solution. The complex solution refers to a solution without using logical remainders; the parsimonious solution is one that can use all logical remainders without the need for any evaluation of their rationality; the intermediate solution refers to considering only logical remainders that are deemed “meaningful” based on researchers’ substantive and theoretical knowledge. Generally, intermediate solutions are preferred over complex and parsimonious solutions because they are often the most easily interpretable. When limited diversity (observed data significantly less than the potential attribute range described by condition combinations) is substantive, complex solutions may be very intricate, as there is little or no simplification. Similarly, under these same conditions, parsimonious solutions may be very straightforward, as they combine many (simple and difficult) counterfactual combinations. Based on substantive and theoretical knowledge, intermediate solutions strike a balance between simplicity and complexity.

According to the model constructed based on complexity theory, a test was conducted on factors influencing support for tourism and community participation intentions, revealing two paths leading to low support for tourism. Among them,  $f(\sim ES^* \sim FS^* \sim CS^* \sim DIS)$  has the highest coverage (0.869) and consistency (0.999), indicating that low economic sharing, low facility sharing, low culture sharing, and low development idea sharing can lead to low support for tourism (Table7). Low economic sharing, low facility sharing, high environment sharing, low culture sharing, and low development idea sharing, female, no involvement tourism, young (18–44 years old) can lead to high support for tourism ( $\sim Gen^* \sim Inv^* \sim ES^* \sim FS^* \sim ENS^* \sim CS^* \sim DIS^* \sim Age$ ) (Table7).

Low economic sharing, low facility sharing, low culture sharing, and low development idea sharing, low support for tourism can lead to high community participation intentions ( $\sim ES^* \sim FS^* \sim CS^* \sim DIS^* \sim ST$ ). Low economic sharing, low facility sharing, low cultural sharing, and low development idea sharing can lead to high community participation intentions ( $\sim ES^* \sim FS^* \sim CS^* \sim DIS$ ). Low economic sharing, low facility sharing, low cultural sharing, and low development idea sharing, low support for tourism, male, young (18–44 years old) lead to high community participation intentions ( $Gen^* \sim ES^* \sim FS^* \sim CS^* \sim DIS^* \sim ST^* \sim Age$ ). Male, involvement tourism, high economic sharing, low facility sharing, low environment sharing, low cultural sharing, low development idea sharing, and low development idea sharing, low support for tourism,

**Table 6**  
Results of cross-tabulation analysis of Environment sharing (ENS)with Support for tourism (ST).

|       |                   |            | ST                |         |       |                |        |
|-------|-------------------|------------|-------------------|---------|-------|----------------|--------|
|       |                   |            | Strongly disagree | Neutral | Agree | Strongly agree | Total  |
| E     | Strongly disagree | Count      | 0                 | 0       | 0     | 4              | 4      |
|       |                   | % of total | 0.0%              | 0.0%    | 0.0%  | 1.0%           | 1.0%   |
| N     | disagree          | Count      | 0                 | 0       | 5     | 2              | 7      |
|       |                   | % of total | 0.0%              | 0.0%    | 1.3%  | 0.5%           | 1.8%   |
|       | Neutral           | Count      | 1                 | 16      | 51    | 22             | 90     |
|       |                   | % of total | 0.3%              | 4.1%    | 12.9% | 5.6%           | 22.8%  |
|       | Agree             | Count      | 0                 | 13      | 159   | 35             | 207    |
|       |                   | % of total | 0.0%              | 3.3%    | 40.3% | 8.9%           | 52.4%  |
|       | Strongly agree    | Count      | 0                 | 0       | 20    | 67             | 87     |
|       |                   | % of total | 0.0%              | 0.0%    | 5.1%  | 17.0%          | 22.0%  |
| Total |                   | Count      | 1                 | 29      | 235   | 130            | 395    |
|       |                   | % of total | 0.3%              | 7.3%    | 59.5% | 32.9%          | 100.0% |

Constrain cases (13cases), ENS-ST

Constrain cases (13cases), ENS-ST.



**Table 7**  
Recipes formulating a high/low ST/CPI.

| Causal models   | Coverage | Unique coverage | Consistency |
|---|----------|-----------------|-------------|
| Model A( $\sim$ ST) = f(ES, FS, ENS, CS, DIS)                               |          |                 |             |
| $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS                                | 0.852    | 0.026           | 0.998       |
| $\sim$ ES* $\sim$ FS* $\sim$ CS* $\sim$ DIS                                 | 0.869    | 0.043           | 0.999       |
| solution coverage: 0.895  |          |                 |             |
| solution consistency: 0.997   |          |                 |             |
| Model B(CPI) = f(ES, FS, ENS, CS, DIS, ST)                                  |          |                 |             |
| $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS* $\sim$ ST                     | 0.883    | 0.022           | 0.948       |
| $\sim$ ES* $\sim$ FS* $\sim$ CS* $\sim$ DIS* $\sim$ ST                      | 0.906    | 0.044           | 0.952       |
| solution coverage: 0.927  |          |                 |             |
| solution consistency: 0.947   |          |                 |             |
| Model C(CPI) = f(ES, FS, ENS, CS, DIS)                                      |          |                 |             |
| $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS                                | 0.883    | 0.022           | 0.946       |
| $\sim$ ES* $\sim$ FS* $\sim$ CS* $\sim$ DIS                                 | 0.906    | 0.044           | 0.951       |
| solution coverage: 0.927  |          |                 |             |
| solution consistency: 0.945   |          |                 |             |
| Model D(ST) = f(Gen, Inv, ES, FS, ENS, CS, DIS, Age)                        |          |                 |             |
| $\sim$ Gen* $\sim$ Inv* $\sim$ ES* $\sim$ FS*ENS* $\sim$ CS* $\sim$ DIS*Age | 0.549    | 0.549           | 0.805       |
| solution coverage: 0.549  |          |                 |             |
| solution consistency: 0.805   |          |                 |             |
| Model E: CPI = f(Gen, Inv, ES, FS, ENS, CS, DIS, ST, Age)                   |          |                 |             |
| $\sim$ ES* $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS* $\sim$ ST          | 0.862    | 0.380           | 0.953       |
| $\sim$ Inv* $\sim$ ES* $\sim$ FS* $\sim$ CS* $\sim$ DIS* $\sim$ ST*Age      | 0.257    | 0.002           | 0.988       |
| Gen* $\sim$ ES* $\sim$ FS* $\sim$ CS* $\sim$ DIS* $\sim$ ST*Age             | 0.402    | 0.010           | 0.970       |
| Gen*Inv* $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS* $\sim$ ST*Age        | 0.300    | 0.006           | 0.969       |
| solution coverage: 0.887  |          |                 |             |
| solution consistency: 0.953   |          |                 |             |
| Model F: $\sim$ CPI = f(Gen, Inv, ES, FS, ENS, CS, DIS, ST, Age)            |          |                 |             |
| $\sim$ Inv* $\sim$ ES* $\sim$ FS*ENS* $\sim$ CS* $\sim$ DIS* $\sim$ ST*Age  | 0.394    | 0.119           | 0.769       |
| Gen*Inv*ES* $\sim$ FS* $\sim$ ENS* $\sim$ CS* $\sim$ DIS* $\sim$ ST*Age     | 0.362    | 0.087           | 0.831       |
| solution coverage: 0.481  |          |                 |             |
| solution consistency: 0.715   |          |                 |             |

Note: Gen = gender; Inv = Involvement; Age = Age.

young (18–44 years old) lead to low level of community participation intentions (Gen\*Inv\*ES\* $\sim$ FS\* $\sim$ ENS\* $\sim$ CS\* $\sim$ DIS\* $\sim$ ST\*Age). From the above paths, it can be observed that residents who participate in tourism and experience high economic sharing tend to have lower community participation intentions in tourism decision-making, while low economic benefits prompt them to engage in tourism decision-making. The group involved in decision-making itself is concentrated among young males.

Finally, an examination was conducted on the necessary conditions of each latent variable in this study. When the consistency of a variable reaches 0.9, it is considered a necessary condition. The study found that low economic sharing, low facility sharing, low culture sharing, and low development idea sharing, low support for tourism are necessary condition for community participation intentions. This implies that when people’s sharing is not guaranteed, they are willing to participate in decision-making. It indicates that residents are not enthusiastic about participating in tourism decision-making unless the aspect of sharing is inadequate (Table 8).

**Table 8**  
Results of NCA.

| ST         | Consistency | Coverage | CPI        | Consistency | Coverage |
|------------|-------------|----------|------------|-------------|----------|
| Gen        | 0.623       | 0.881    | ES         | 0.201       | 0.969    |
| $\sim$ Gen | 0.438       | 0.850    | $\sim$ ES  | 0.939       | 0.925    |
| Inv        | 0.662       | 0.884    | FS         | 0.147       | 0.978    |
| $\sim$ Inv | 0.399       | 0.844    | $\sim$ FS  | 0.969       | 0.903    |
| Age        | 0.686       | 0.906    | ENS        | 0.237       | 0.986    |
| $\sim$ Age | 0.428       | 0.921    | $\sim$ ENS | 0.908       | 0.188    |
|            |             |          | CS         | 0.945       | 0.962    |
|            |             |          | $\sim$ CS  | 0.136       | 0.92     |
|            |             |          | DIS        | 0.979       | 0.969    |
|            |             |          | $\sim$ DIS | 0.128       | 0.905    |
|            |             |          | ST         | 0.982       | 0.989    |
|            |             |          | $\sim$ ST  |             | 0.898    |

## 6. Discussion

This study, conducted through the analysis of data collected from a comprehensive field survey and subsequent application to configurational models, provides insights into ethnic residents’ perspectives on benefit-sharing in tourism. It delves into the implications of these perceptions on their support for tourism and participation intentions within the context of national park tourism, particularly in anticipation of upcoming railway construction. The findings highlight that residents’ perceptions of economic sharing, facility sharing, and sharing of development ideas had significant positive impact on their support for tourism. Additionally, residents’ perceptions of economic sharing and development ideas sharing also wield a significant positive impact on their participation intentions. Notably, residents prioritize economic benefits, a finding that aligns with previous studies, such as that conducted by Hammad et al. (2017) and Al-Masroori (2006). In contrast, the study reveals that perceptions of environment sharing (ES) and culture sharing (CS) do not exert a significant impact on residents’ support for tourism and participation intentions.

Our fieldwork has revealed that the current social and economic development of the region is at a notably low level,<sup>1</sup> with residents expressing a predominant concern for economic benefit-sharing. Interestingly, environmental sharing (ENS) and cultural sharing (CS) did not contribute significantly to their economic benefits. It’s crucial to recognize that the transformation of economic benefits stemming from environmental (ES) and cultural sharing (CS) is a gradual process, often not immediately evident to the community. The residents’ primary focus is on their livelihoods and economic well-being. The stringent

<sup>1</sup> Research on the Strategy of Green High-Quality Development of Dujiangyan-Siguniangshan Ecological Corridor. Project Team of Sichuan Provincial Academy of Social Sciences. Chengdu: Sichuan People’s Publishing House, 2019.p.17.

environmental protection policies may have, in the short term, over-ridden residents' economic gains. Since the establishment of the reserve in 1963, local inhabitants have endured considerable sacrifices to achieve environmental protection goals. The enforcement of these policies has imposed restrictions on traditional livelihood activities, such as farming and herding, preventing the vigorous development of other industries. Consequently, residents are eager to derive economic benefits from tourism development as a means to enhance their economic prospects.

Moreover, a combination of factors such as low economic sharing, limited facility sharing, high environmental sharing, minimal cultural sharing, and restricted sharing of development ideas, particularly among young females (aged 18–44) disengaged from tourism, tends to correlate with a heightened inclination to support tourism. Conversely, when economic sharing, facility sharing, cultural sharing, and development idea sharing are all low, it typically results in diminished support for tourism. This implies that young females, who have not fully reaped the benefits of tourism, exhibit a pronounced interest in supporting tourism initiatives. The potential here is notable, particularly in the realm of mountain tourism, where employment opportunities for young males—such as mountain guides, hiking guides, and forest rangers—are abundant. However, it is noteworthy that opportunities for women in such tourism sectors remain relatively limited. Despite this limitation, there is a growing aspiration among females to actively engage in the tourism industry, motivated by the prospect of benefit-sharing.

Besides, a combination of low economic sharing, limited facility sharing, minimal cultural sharing, and restricted sharing of development ideas correlates with low support for tourism and tends to result in high community participation intentions ( $\sim ES^* \sim FS^* \sim CS^* \sim DIS^* \sim ST$ ). Similarly, when economic sharing, facility sharing, cultural sharing, and development idea sharing are all low, it leads to increased community participation intentions ( $\sim ES^* \sim FS^* \sim CS^* \sim DIS$ ). Among males aged 18–44 disengaged from tourism, low economic sharing, limited facility sharing, minimal cultural sharing, and restricted development idea sharing contribute to high community participation intentions ( $Gen^* \sim ES^* \sim FS^* \sim CS^* \sim DIS^* \sim ST^* \sim Age$ ). On the contrary, males actively involved in tourism, characterized by high economic sharing, limited facility sharing, minimal environmental sharing, restricted cultural sharing, and limited development sharing, exhibit low support for tourism, especially among young adults (18–44 years) ( $Gen^* \sim Inv^* \sim ES^* \sim FS^* \sim ENS^* \sim CS^* \sim DIS^* \sim ST^* \sim Age$ ). This suggests that active participation in tourism and the pursuit of high economic benefits may paradoxically lead to reduced community participation intentions in tourism decision-making. Notably, the inclination for community participation intentions is more concentrated among young males, underscoring residents' pronounced emphasis on economic benefit-sharing. Economic benefit-sharing plays a pivotal role in shaping their support for tourism and community participation intentions.

In the configuration model, it becomes evident that a combination of low tourism support rates corresponds to low economic sharing, low facility sharing, low cultural sharing, and low development idea sharing. This might be related to the stage of local tourism development (Akis, et al., 1996). Nazneen et al. (2019) noted that when residents did not benefit from tourism or when tourism was still in its infancy (Brankov et al., 2019), they tend to prioritize economic benefits. This concern for low economic benefits, combined with non-economic factors, collectively shapes residents' attitude. This finding is in partial agreement with the work of Brankov et al. (2019) and Harun et al. (2018), emphasizing that noneconomic benefits derived from tourism play a important role in influencing residents' attitudes. Besides, the observed situation might be intertwined with the local economic state, signifying a continued need for economic development among the local population (Nunkoo and Ramkissoon, 2011).

As most Tibetans and people from the Himalayan region traditionally worship the forest and sacred mountains, the commodification of these

natural elements may pose a conflict with their deeply ingrained value system. Nevertheless, the increasing influence of tourism and modern consumerism have led to a decline in the importance of local knowledge that venerates nature. Qu et al. (2019) pointed out that Tibetans, particularly those with strong cultural and religious identity, prioritize the preservation of their culture over economic interests associated with tourism. Conversely, in areas like Kangding, characterized by a high influx of other ethnic residents, the emphasis tends to shift toward profit-making in tourism, sometimes resorting to deceptive practices. This shift suggests a diminished focus on maintaining religious and cultural activities amidst economic pursuits. Additionally, regions with a diverse cultural landscape often witness residents prioritizing the economic benefits brought about by tourism development over cultural preservation. Notably, in the Himalayan region, tourism deeply impacts on residents' view on the relationship between man and nature and their attitudes toward wealth and religion. The once sacred mountain and forestry have now been commodified as resources for financial gain, challenging the traditional reverence held in the region. Consequently, this shift may contribute to residents' apparent lack of concern for environmental protection.

## 7. Conclusions

Based on the concept of benefit-sharing, this study examines residents' attitudes toward tourism in the vicinity of the national park amid ongoing railway construction. The findings suggest that residents exhibit a heightened concern for the economic benefits brought about by tourism, prioritizing these over environmental and cultural benefits. This inclination stems from the strict ecological conservation measures enforced in the region over the past 50 years, imposing enduring constraints on residents' economic development. Notably, young females aged 18 to 44, who have not fully experienced multiple benefits encompassing economic, cultural and environmental aspects of tourism, express a positive inclination toward supporting tourism. When a person lives within a particular natural environment, they might not value nature in the same way as someone who comes from outside to enjoy or tour the area. However, a high emphasis on economic benefits may correlate with lower levels of participation intentions in tourism decision-making among residents.

The findings of this study hold crucial practical significance in advancing the ecological protection of the Giant Panda National Park, fostering sustainable development in the surrounding ethnic communities, and gradually realizing the shared development goals. In the future, prioritizing equitable participation and opportunities for diverse interest groups is crucial, especially in areas such as tourism employment, involvement in tourism decision-making, and the distribution of tourism benefits. For instance, to bolster the tourism skills of female residents in Mount Siguniang, comprehensive measures can be implemented in education and training. This includes creating more avenues for women to engage in tourism-related employment and decision-making roles. Simultaneously, diversifying the tourism offerings in the Mount Siguniang area, such as distinctive homestays and catering services, holds the potential to attract greater female participation in the industry. The Tibetan community is abundant in eco-friendly local knowledge. It is vital to integrate this valuable local knowledge into their regulations and policies, which residents might find easier to accept. Moreover, fostering an appreciation among residents for the inherent value of their ecology can inspire proactive environmental preservation. In the long term, it is imperative to raise public awareness (Mudzengi et al., 2021), with local institutions and schools taking the lead in initiating conservation education programs (Lemmi et al., 2018).

Meanwhile, community residents must keep practicing their traditional ethnic culture and customs in their daily life. Recognizing the importance of their culture, residents should actively interact and communicate with tourists to share their daily life and enrich the content of cultural tourism activities. It is crucial for residents to cultivate

ethnic cultural tourism brands and environmentally-friendly enterprises with local participation. Additionally, incorporating these cultural elements into the tourism visual system contributes to creating a distinct local landscape (Alfitri et al., 2022), thereby promoting the development of traditional culture. Furthermore, residents can seek social and cultural adaptive development through festival activities and other means to bolster cultural confidence and preserve their identity. This conforms to China's national park development goal of stimulating the protection of local culture and biodiversity.

During the railway construction, efforts should be made to develop nature education and ecotourism activities, such as holding bird or flower festivals and observing wildlife in the experimental zone. These endeavors aim to strike a balance between development and protection goals. To achieve this, local residents should receive more training to become proficient eco-tour guides and sustain more eco-friendly livelihoods (Huang et al., 2020). As tourists are drawn to the region's resources, residents' awareness of the significance of environmental protection will be enhanced. Furthermore, implementing ecological compensation mechanism can substantially reward residents for their environmental protection efforts, effectively reducing detrimental ecological and environmental behavior.

In order to obtain a relatively stable, comprehensive, objective and scientific benefit-sharing scale for residents in tourist destinations, it is suggested that qualitative research methods such as field observation can be used in the future to re-select or expand the dimensions of residents' benefit-sharing, or to verify the tourism sharing scale by supplementing resident samples of other tourist destinations with different characteristics. Although the study sites are tourist destinations with

prominent ecological and ethnic elements, local residents' perceptions of environmental sharing and cultural sharing cannot significantly affect their support for tourism and participation intentions. While several explanations for this result have been given above, the author believes that this is still a phenomenon worth further exploration.

## Funding

Sichuan Provincial Office of Philosophy and Social Sciences, SCJJ23HQ09; National Office for Philosophy and Social Sciences, 21FGLB088.

## CRedit authorship contribution statement

**Xiurong Wei:** Review and Editing. **Pian Pu:** Writing, Visualization. **Li Cheng:** Supervision, Conceptualization. **Haiyue Jiang:** Writing – original draft, Investigation. **Yong Liu:** Resources.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data will be made available on request.

## Appendix

### Constructs and indicators

---

|   |  |
|---|--|
| Economic sharing (ES)                   | D1 Tourism will increase my income   |
|   | D2 Tourism will improve my standard of living  |
|   | D3 Tourism will increase my employment/job opportunities   |
|   | D4 Tourism will improve my skills (restaurants, accommodation, hospitality, etc.)  |
|   | D5 I will enjoy the revenue-sharing brought by tourism development (such as rural cooperatives)                              |
| Facility sharing (FS)                   | F1 Local transportation will become more convenient  |
|   | F2 Local entertainment and leisure facilities will become more abundant  |
|   | F3 It will be more and more convenient to buy daily necessities stuffs locally   |
|   | F4 Local medical treatment will become more and more convenient  |
| Environment sharing (ES)                | G1 Tourism will promote the better protection of national park   |
|   | G2 Tourism will make national parks and heritage sites cleaner   |
|   | G3 Tourism will promote more scientific and systematically landscape planning for national park                              |
|   | G4 Tourism will make water, air, and soil condition of national parks and village become better                              |
|   | G5 Tourism development promotes nature protection education and nature experience for locals and tourists                    |
| Culture sharing (CS)                    | H2 Tourism will encourage me to love my national culture more  |
|   | H3 Tourism will motivate me to have the idea of protecting and maintaining the national culture                              |
|   | H4 Tourism will promote my sense of cultural pride   |
|   | H5 Tourism prompted my sense of belonging  |
|   | H6 Tourism will significantly improve the quality of culture and education in the region                                     |
| Development ideas sharing (DIS)         | I1 It needs the active participation of everyone in our local area for better tourism development                            |
|   | I2 We need to cooperate with local people for better tourism development   |
|   | I3 We need to abide by the relevant regulations of the scenic spot   |
|   | I4 Only if tourism develops well can the local area develop well   |
| Support for Tourism development (ST)    | J1 I am very supportive of the development of tourism in the region  |
|   | J2 Tourism will make local villages and towns better development   |
|   | J3 I hope more tourists will come to the local area to travel and have more contact with tourists                            |
|   | J4 I am very willing to participate in and actively cooperate with local tourism planning and development activities         |
| Willing to participate in tourism (CPI) | E1 I look forward to participating in local tourism decision-making (participating in meetings, voting, and giving opinions) |
|   | E2 I look forward to participating in local tourism development planning discussions   |
|   | E3 I look forward to having the opportunity to participate in local tourism supervision                                      |
|   | E4 I look forward to my travel suggestions can be adopted by relevant departments  |

## References

- Ahebwa, W.M., Van Der Duim, R., Sandbrook, C., 2012. Tourism revenue sharing policy at Bwindi Impenetrable National Park, Uganda: A policy arrangements approach. *J. Sustain. Tour.* 20, 377–394.
- Akis, S., Peristianis, N., Warner, J., 1996. Residents' attitudes to tourism development: The case of Cyprus. *Tour. Manag.* 17, 481–494.
- Alfitri, Alfatih, A., Lionardo, A., et al., 2022. The complexity of integrating indigenous customary forests Indonesia. *Inter. Jour. Tour. Anthro.* 9 (1), 76–77.
- Al-Masroori, R.S., 2006. Destination competitiveness: Interrelationships between destination planning and development strategies and stakeholders' support in enhancing Oman's tourism industry. Griffith University – Nathan campus [Unpublished doctoral thesis].
- Bagozzi, R.P., Yi, Y., 1988. On the evaluation of structural equation models. *J. Acad. Mark. Sci.* 16, 74–94.
- Besculides, A., Lee, M.E., McCormick, P.J., 2002. Residents' perceptions of the cultural benefits of tourism. *Ann. Tour. Res.* 29, 303–319.
- Blau, P.M., 1964. Exchange and Power in Social Life. John Wiley & Sons, New York.
- Boley, B.B., McGehee, N.G., Perdue, R.R., Long, P., 2014. Empowerment and resident attitudes toward tourism: Strengthening the theoretical foundation through a Weberian lens. *Ann. Tour. Res.* 49, 33–50.
- Brankov, J., Glavonjić, T.J., Pešić, A.M., Marko, D., Petrović, T.N., Tretiakova, 2019. Residents' perceptions of tourism impact on the community in national parks in Serbia. *Europ. Country.* 11, 124–142.
- Brugere, C., Eriksson, M.-T.-H., 2021. More than fish: Policy coherence and benefit-sharing as necessary conditions for equitable aquaculture development. *Mar. Policy.* 123, 104271.
- Carius, F., Job, H., 2019. Community involvement and tourism revenue sharing as contributing factors to the UN Sustainable Development Goals in Jozani-Chwaka Bay National Park and Biosphere Reserve. *Zanzibar. J. Sustain. Tour.* 27, 826–846.
- Chen, K., Zhang, J.X., Zhang, Q., 2016. Research on residents' perception of tourism impact, participation intention and participation behavior in Dashu Village. *Agric. Econ.* 5, 26–28.
- Cheng, L., Xu, J., 2021. Benefit-sharing and residents' subjective well-being in rural tourism: An asymmetric approach. *J. Dest. Mark. Manag.* 21, 100631.
- Downward, P., Lumsdon, L., 2004. Tourism transport and visitor spending. *J. Trav. Res.* 42 (4), 415–420.
- Duarte, P.A.O., Raposo, M.L.B., 2010. A PLS model to study brand preference: An application to the mobile phone market. In: *Handbook of Partial Least Squares*. Springer, Berlin, Heidelberg, pp. 485–499.
- Duval, D.T., 2020. Transport and tourism: A perspective article. *Tour. Rev.* 75, 91–94.
- Fan, X., Cheng, L., 2020. The complexity of residents' tourism support in rural tourism communities from the perspective of sharing: An analysis based on fsQCA method. *Tour. Trib.* 35, 36–50.
- Fedorova, S.N., Fedorova, G.A., Konopleva, N.A., 2020. Functional typological structure of ethnic and cultural tourism in the Republic of Sakha (Yakutia). *Amaz. Investig.* 9, 71–77.
- Fornell, C., Larcker, D.F., 1981. Structural equation models with unobservable variables and measurement error: Algebra and statistics. *J. Mark. Res.* 18, 382–388.
- Fortin, M.J., Gagnon, C., 1999. An assessment of social impacts of national parks on communities in Quebec. *Canada. Environ. Conserv.* 26, 200–211.
- Gao, Y.Y., Su, W., Wang, K.N., 2019. Does high-speed rail boost tourism growth? New evidence from China. *Tour. Manag.* 72, 220–231.
- Gao, Y.Y., Nan, Y.Q., Song, S.F., 2021. High-speed rail and city tourism: Evidence from Tencent migration big data on two Chinese golden weeks. *Growth Chang.* <https://doi.org/10.1111/grow.12473>.
- Gursoy, D., Jurovski, C., Uysal, M., 2002. Resident attitudes: A structural modeling approach. *Ann. Tour. Res.* 29, 79–105.
- Gutierrez, A., Ortuno, A., 2017. High-speed rail and coastal tourism: Identifying passenger profiles and travel behavior. *PLOS ONE* 12. <https://doi.org/10.1371/journal.pone.0179682>.
- Hammad, N., Ahmad, S.Z., Papastathopoulos, A., 2017. Residents' perceptions of the impact of tourism in Abu Dhabi, United Arab Emirates. *Int. J. Cul. Tour. Hosp. Res.* 11, 551–572. <https://doi.org/10.1108/IJCTHR-04-2017-0048>.
- Harun, R., Chichiudean, G.O., Sirwan, K., Arion, F.H., Muresan, I.C., 2018. Attitudes and perceptions of the local community towards sustainable tourism development in Kurdistan regional government. *Iraq. Sustain.* 10, 2991.
- Hiramatsu, T., 2018. Unequal regional impacts of high-speed rail on the tourism industry: A simulation analysis of the effects of Kyushu Shinkansen. *Transp.* 45, 677–701.
- Homans, G.C., 1958. Social behavior as exchange. *Am. J. Sociol.* 63, 597–606.
- Huang, Q., Fei, Y., Yang, H., Gu, X., Songer, M., 2020. Giant Panda National Park, a step towards streamlining protected areas and cohesive conservation management in China. *Glob. Ecol. Conserv.* 22, e00947.
- Huynh, H., Lobry de Bruyn, L., Prior, J., Kristiansen, P., 2016. Community participation and harvesting of non-timber forest products in a benefit-sharing pilot scheme in Bach Ma National Park, Central Vietnam. *Trop. Conserv. Sci.* 9, 877–902.
- Jani, D., 2018. Residents' perception of tourism impacts in Kilimanjaro: An integration of the social exchange theory. *Turizam : Medunarodni Znanstveno-Stručni Casopis* 66, 148–160.
- Jin, S.H., Yang, J., Wang, E.X., Liu, J., 2019. The influence of high-speed rail on ice-snow tourism in northeastern China. *Tour. Manag.* <https://doi.org/10.1016/j.tourman.2019.104070>.
- Kang, S.K., Lee, J., 2018. Support of marijuana tourism in Colorado: A residents' perspective using social exchange theory. *J. Dest. Mark. Manag.* 9, 310–319.
- Kanwal, S., Imran, M., Pitafi, R.A.H., Pitafi, A., Ren, M., 2020. Road and transport infrastructure development and community support for tourism: The role of perceived benefits, and community satisfaction. *Tour. Manag.* 77, 104014.
- Khadaroo, J., Seetanah, B., 2008. The role of transport infrastructure in international tourism development: A gravity model approach. *Tour. Manag.* 29, 831–840.
- Lemmi, E., Sacco, P.L., Crociata, A., Agovinod, A., 2018. The Lucca Comics and Games Festival as a platform for transformational cultural tourism: Evidence from the perceptions of residents. *Tour. Manag. Perspect.* 27, 162–173.
- Liu, Y., Shi, J., 2019. How inter-city high-speed rail influences tourism arrivals: Evidence from social media check-in data. *Curr. Issues Tour.* 22, 1025–1042.
- MacKenzie, C.A., 2012. Trenches like fences make good neighbours: Revenue sharing around Kibale National Park. *Uganda. J. Nat. Conserv.* 20, 92–100.
- Mccool, S.F., Martin, S.R., 1994. Community attachment and attitudes toward tourism development. *J. Trav. Res.* 32, 29–34.
- Mudzengi, B.K., Gandiwa, E., Muboko, N., Mutanga, C.N., 2021. Towards sustainable community conservation in tropical savanna ecosystems: A management framework for ecotourism ventures in a changing environment. *Environ. Dev. Sustain.* 23, 3028–3047.
- Munaura, I.E., Backman, K.F., Hallo, J.C., Powell, R.B., 2016. Perceptions of tourism revenue sharing impacts on Volcanoes National Park, Rwanda: A Sustainable Livelihoods framework. *J. Sustain. Tour.* 24 (12), 1709–1726.
- Nazneen, S., Xu, H., Dinm, N.U., 2019. Cross-border infrastructural development and residents' perceived tourism impacts: A case of the China-Pakistan Economic Corridor. *I. J. Tour. Res.* 21, 334–343.
- Nestorová Dická, J., Gessert, A., Bryndzová, L., Telbisz, T., 2020. Behavioural survey of local inhabitants' views and attitudes about Slovak Karst National Park in Slovakia. *Sust.* 12 (23), 10029.
- Nunkoo, R., Ramkissoon, H., 2011. Residents' satisfaction with community attributes and support for tourism. *J. Hosp. Tour. Res.* 35, 171–190. <https://doi.org/10.1177/1096348010384600>.
- Oviedogarcia, M.A., Castellanosverdugo, M., Martinruiz, D., 2008. Gaining residents' support for tourism and planning. *Int. J. Tour. Res.* 10, 95–109.
- Perdue, R.R., Long, P.T., Allen, L., 1990. Resident support for tourism development. *Ann. Tour. Res.* 17, 586–599.
- Pu, P., Ling, X.P., Liu, Y., 2021. Local residents' perception of the impacts of mountain adventure tourism: The Case of Si-gunaing mountain range, Tibet. *Inter. Jour. Tour. Anthro.* 8 (3), 177–200.
- Pu, P., Cheng, L., Samarathunga, W., Wall, G., 2023. Tour guides' sustainable tourism practices in host-guest interactions: When Tibet meets the west. *Tour. Rev.* 78 (3), 808–833.
- Qu, C., Timothy, D.J., Zhang, C., 2019. Does tourism erode or prosper culture? Evidence from the Tibetan ethnic area of Sichuan Province, China. *J. Cult. Change Tour.* 17 (4), 526–543.
- Ragin, C.C., 2008. Redesigning social inquiry: Fuzzy sets and beyond. The University of Chicago Press, Chicago.
- Ramukumba, T., Mmbengwa, V.M., Mwamayi, K.A., Groenewald, J.A., 2012. Analysis of local economic development (LED) initiated partnership and support services for emerging tourism entrepreneurs in George municipality, Western Cape Province. *RSA. Tour. Manag. Perspect.* 2, 7–12.
- Rasoolimanesh, S.M., Ringle, C.M., Sarstedt, M., et al., 2021. The combined use of symmetric and asymmetric approaches: Partial least squares-structural equation modeling and fuzzy-set qualitative comparative analysis. In: *J. Con. Hos. Managt.* 33, 1571–1592.
- Sharpley, R., 2014. Host perceptions of tourism: A review of the research. *Tour. Manag.* 42, 37–49.
- Slattery, D., 2002. Resistance to development at Wilsons Promontory National Park (Victoria, Australia). *Soc. Nat. Resour.* 15, 563–580.
- Specht, M.J., Santos, B.A., Marshall, N., Melo, F.P.L., Leal, I.R., Tabarelli, M., Baldauf, C., 2019. Socioeconomic differences among resident, users and neighbour populations of a protected area in the Brazilian dry forest. *J. Environ. Manag.* 232, 607–614.
- Stevens, S., 2003. Tourism and deforestation in the Mt Everest region of Nepal. *Geogr. J.* 169, 255–277.
- Strickland-Munro, J., Moore, S., 2013. Indigenous involvement and benefits from tourism in protected areas: A study of Purnululu National Park and Warmun Community. *Australia. J. Sustain. Tour.* 21, 26–41.
- Sun, Y.Y., Lin, Z.W., 2018. Move fast, travel slow: The influence of high-speed rail on tourism in Taiwan. *J. Sustain. Tour.* 22, 433–450.
- Tamal, J., 2019. *Justice and Ethics in Tourism*. Routledge, London.
- Telbisz, T., Sulc, I., Mari, L., Kaufmann, P.R., 2022. Attitudes and preferences of visitors of Krka National Park. *Croatia. Hung. Geogr. Bull.* 71 (2), 117–132.
- Tian, F.J., Yang, Y., Jiang, L., 2020. Spatial spillover of transport improvement on tourism growth. *Tour. Econ.* <https://doi.org/10.1177/1354816620982787>.
- Tyrrell, T., Spaulding, I.A., 1984. A survey of attitudes toward tourism growth in Rhode Island. *J. Hosp. Tour. Res.* 8, 22–33.
- Wang, D.G., Niu, Y., Sun, F., Wang, K.Y., Qian, J., Li, F., 2017. Evolution and spatial characteristics of the tourism field strength of cities linked by high-speed rail (HSR) network in China. *J. Geogr. Sci.* 27, 835–856. <https://doi.org/10.1007/s11442-017-1409-1>.
- Wang, D.G., Niu, Y., Qian, J., 2018. Evolution and optimization of China's urban tourism spatial structure: A high-speed rail perspective. *Tour. Manag.* 64, 218–232.
- West, P., 2008. Tourism as Science and Science as Tourism-Environment, Society, Self, and Other in Papua New Guinea. *Curr. Anthropol.* 49, 597–611.
- Woodside, A.G., 2013. Moving beyond multiple regression analysis to algorithms: Calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory. *J. Bus. Res.* 66, 463–472.

- Yan, Y.Q., Zhang, H.Q., Ye, B.H., 2014. Assessing the impacts of the high-speed train on tourism demand in China. *Tour. Econ.* 20, 157–169. <https://doi.org/10.5367/te.2013.0260>.
- Yang, Z.Z., Li, T.H., 2019. Does high-speed rail boost urban tourism economy in China? *Curr. Issues Tour.* 23, 1973–1989.
- Yin, P., Lin, Z.B., Prideaux, B., 2019. The impact of high-speed railway on tourism spatial structures between two adjoining metropolitan cities in China: Beijing and Tianjin. *J. Transp. Geogr.* 80, 102495.
- Young, E.H., 1999. Balancing conservation with development in small-scale fisheries: Is ecotourism an empty promise? *Hum. Ecol.* 27, 581–620.
- Zhang, S.S., 2009. Economic benefits and cultural sharing under the overall planning of region-wide tourism. *Tour. Trib.* 34, 11–13.
- Zhou, B., Wen, Z.H., Sutherland, I., Lee, S.K., 2020. The spatial heterogeneity and dynamics of tourism-flow spillover effect: The role of high-speed train in China. *Tour. Econ.* <https://doi.org/10.1177/1354816620958309>.

### Further reading

- C.-F. Lee K.-Y. Chen Exploring factors determining the attractiveness of railway tourism, *J* 2016 *Tour. Mark Travel* 10.1080/10548408.2016.1182460.