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Residents’ participation in value co-creation with tourists: the role of perceived tourism impacts and life satisfaction

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Residents’ participation in value co-creation with tourists: the role of perceived tourism impacts and life satisfaction

Abstract

Purpose: To expand tourism value co-creation to include residents-tourists social interactions. Specifically, we aim to empirically verify the effects of residents’ life satisfaction and their perceived benefits and costs of tourism development on their value co-creation with tourists.

Design/methodology/approach: A theoretical model with hypotheses was developed based on relevant theories and empirical evidence. An online questionnaire survey was conducted with a sample of 380 urban residents in China. Partial Least Square structural equation modelling was applied on the data analysis.

Findings: Residents’ perceived economic and social-cultural benefits of tourism development have positive effects on both value co-creation and life satisfaction, while perceived costs have negative effects. Life satisfaction influences value co-creation.

Research limitations/implications: Conceptualizing tourism value co-creation between tourists and residents offers ample opportunities for future research to explore questions such as what motivates residents to co-create value with tourists, what are the value-in-experience and the rewards for both residents and tourists as a result of their co-creation process.

Practical implications:

Originality/value: This is the first study that investigates residents’ participation in value co-creation in tourism context. Moreover, broaden-and-build theory was introduced to analyze a tourism phenomenon for the first time.

Key words: value co-creation; life satisfaction; resident; tourist; tourism impact; China.
1. Introduction

A growing body of literature explores value co-creation in tourism, yet our knowledge about what the value is and how it is co-created is still limited (Rihova, Buhalis, Moital, & Gouthro, 2015). Tourism is essentially about people travelling away from home to interact with other people and other places (Sharpley, 2014). It involves the encounter of two populations: tourists and residents (Bimonte & Punzo, 2011, 2016). The experiences of their encounter and interactions may affect their satisfaction, wellbeing and future behaviors (Sharpley, 2014). Because both parties have their interests and expectations, there are mutual benefits as well as potential conflicts between the two parties (Bimonte & Punzo, 2011, 2016). Bimonte and Punzo (2016) emphasized the equally important roles of both parties by criticizing the fact that tourism development studies focus too much on residents, while overlooking tourists. The opposite is true in the literature of tourism value co-creation, which has neglected residents. The essence of tourism is the interactions between tourists and residents (Sharpley, 2014). Yet, most studies only focus on value co-creation between tourists and tourism service providers (Binkhorst & Den Dekker, 2009; Cabiddu, Lui, & Piccoli, 2013; Sfandla & Björk, 2013), or between tourists and other tourists (Rihova et al., 2015). To the best of knowledge, resident-tourist value co-creation has not been examined.

This study aims to contribute to the literature of value co-creation in the tourism context from the perspective of residents. We attempt to make three major contributions. First, drawing on the tourism development literature, this study advances our understanding of the drivers of residents’ participation in value co-creation with tourists. Based on social exchange theory, we examined the effects of residents’ perceived benefits and costs as a result of tourism development on their value co-creation behavior with tourists. Second, the study advances our understanding of life satisfaction as an antecedent of residents’ value co-
creation with tourists. This contribution is significant because most studies treat life satisfaction as an outcome variable, neglecting its role as an influencing factor of co-creation.

In spite that research on tourists’ life satisfaction in tourism has flourished in recent years (Filep, 2012), most studies examined only tourists’ wellbeing or life satisfaction as a result of their tourism experiences (e.g. de Bloom, Geurts, & Kompier, 2013; Dolnicar, Yanamandram, & Cliff, 2012; Gilbert & Abdullah, 2004; McCabe & Johnson, 2013; Neal, Sirgy, & Uysal, 2004; Su, Swanson, & Chen, 2016). There are very few studies that explored the influence of tourism development on residents’ life satisfaction (Kim, Uysal, & Sirgy, 2013). Recently, Liang and Hui (2016) explored the relationship between residents’ quality of life and support for future tourism development. However, whether residents’ life satisfaction has an effect on their intention to co-create value with tourists has yet to be tested. Third, we applied broaden-and-build theory in studying life satisfaction of local residents in the tourism context. This is among the first studies that apply broaden-and-build theory in hospitality and tourism literature.

We collected data to test our hypotheses by means of a survey using a sample of 380 residents in four major cities in China: Beijing (capital of China), Tianjin (a city with a booming tourism industry), Hangzhou (a popular tourism city for its natural landscape) and Xi’an (a famous tourism city for its rich history and culture). China is an especially suitable field context for this study thanks to its booming tourism industry in the past three decades. The country has evidenced a sustained fast-speed economic growth thanks to its continuing reform and opening up policies since early 1980s. People’s disposable income and living standard have been increasing since then. The country’s long history and large geographic area offer abundant tourism resources and has a well-developed modern aviation and high-speed rail transport systems. These factors have contributed to the thriving markets of both
China’s domestic tourism and outbound travel to international destinations (Tsang, Lee, & Qu, 2015; Yang, Liu, & Qi, 2014).

2. Theoretical background and hypothesis development

2.1. Value and value co-creation

The notion of value as a marketing concept can be interpreted from different approaches. Generally, there are two major perspectives in defining value: the ‘features-and-benefits’ and the ‘value-in-use’ approaches (Rihova et al., 2015). For the ‘features-and-benefits’ perspective, ‘value’ is viewed as the trade-offs between the benefits and costs (Zeithaml, 1988). In the exchange process, the actor’s attitude and subsequent action depend on rational decision to maximize the utility following the trade-off between benefits and costs. When benefits exceed costs, the actor is satisfied. Researchers adopting this definition often treat value as the outcome that derives from service attributes, assuming the tourism service provider as a ‘producer’ of the value outcomes for the tourists and the tourists are seen as a passive value receiver (Rihova et al., 2015).

The concept of value co-creation is based on the assumption that customers will perform an active role in collaboration with the firm to create value together through different stages of the value chain from production to consumption (Prahalad & Ramaswamy, 2004). Ranjan and Read (2016) indicated that there are two major dimensions of the value co-creation concept: co-production and value-in-use. Co-production involves customers in the product and/or service design process, performing either a facilitation or active role through the sharing of knowledge or information with the firm. Value-in-use extends beyond the stage of co-production to the consumption stage of a good or service: customers assess and
determine the value of a good and service on the basis of their usage experiences (Vargo & Lusch, 2004).

Tourists usually perform an active role looking for meaningful and memorable experiences (Ritchie & Hudson, 2009), therefore tourism value is more appropriately considered as ‘value-in-use’ that emerges when tourists use, experience the tourism services in their own experience contexts (Vargo & Lusch, 2004). For tourists, tourism value resides in and derives from the tourism experiences, hence it is ‘value-in-the-experience’ (Helkkula, Kelleher, & Pihlström, 2012), or ‘experience value’ (Prebensen, Woo, Chen, & Uysal, 2012).

Value co-creation is commonly conceptualized as a process of resource exchange, and the actors involved will need to interact to enable the exchange of resources and the value to be reciprocally created (Grönroos, 2008; Vargo & Lusch, 2004). The theoretical foundation of value co-creation thus can be traced back to the resource theory of social exchange (Foa & Foa, 1975). The object of exchange, the resources can be concrete or symbolic, such as love, status, information, money, goods, and services. The essence of this theory is that people satisfy their needs through exchange of resources, and the means by which people acquire their needed resources from others is through social interactions between the exchange parties (Foa & Foa, 1975). There are certain norms and rules of exchange that guide the interactions, and the most prevalent one is reciprocity, i.e. each party expects or is entitled to receive reward in return for the reward given, either concrete or symbolic (Cropanzano & Mitchell, 2005; Wieseke, Alavi, & Habel, 2014).

2.2. Resident-tourist value co-creation

There are three major components in the concept of value co-creation: the value, the actors involved, and the engagement platform (Leclercq, Hammedi, & Poncin, 2016). In the tourism context, the value for tourists derives from the tourism experience (Ritchie & Hudson, 2009;
Sfandla & Björk, 2013), i.e. ‘value-in-the-experience’ (Helkkula et al., 2012); the actors involved in tourism include tourists, tourism service providers, residents and other stakeholders; and the engagement platform at the destination level, is the place where the tourists visit and the residents lead their daily life (Grissemann & Stokburger-Sauer, 2012).

The concept of value co-creation as first proposed by Prahalad and Ramaswamy (2004) mainly focuses on the co-creation between the service provider and the customers, but it can be further expanded to include the major stakeholders involved, such as customers, firms, suppliers, competitors and others to jointly create value. However, the primary focus of extant value co-creation studies is based on firm-customer co-creation, or in the context of tourism, tourist-tourism service providers (Binkhorst & Den Dekker, 2009; Cabiddu et al., 2013; Grissemann & Stokburger-Sauer, 2012). For instance, Grissemann and Stokburger-Sauer (2012) argued that the tourism industry is characterized by high-contact services and tourists plays a major role in the co-creation of tourism services. Cabiddu et al. (2013) emphasized the role of tourists in the process of IT-enabled value co-creation of tourism services. This focus is too narrow and incomplete, and there has been calls for studies to analyze the interaction process in co-creating experiences among multiple stakeholders, including facilitators (tourism service providers), tourists and others in the tourism destination context (Sfandla & Björk, 2013). Rihova et al. (2015) put forward a conceptual framework for examining value co-creation from the perspective of the interaction process between tourists and other tourists. Yet, to the best of our knowledge, there has not been much empirical work on resident-tourist interaction in co-creating tourism value.

Both the tourism industry and tourists require the hospitality of local residents for value co-creation to occur (Bimonte & Punzo, 2016; Gursoy, Jurowski, & Uysal, 2002; Pérez & Nadal, 2005; Sharpley, 2014). Negative attitude or hostility towards tourists will make tourists feel unwelcome/intimidated, destructing any tourism value that the tourism industry
and tourists attempt to co-create. The goodwill and cooperation of the local community are critical for the success of tourism development (Bimonte & Punzo, 2016; Gursoy et al., 2002; Stylidis, Biran, Sit, & Szivas, 2014), and are equally critical for meaningful and memorable experiences for tourists. Therefore, involving residents in tourism value co-creation is not just desirable, but imperative.

2.3. Residents’ benefit-cost perceptions and value co-creation

Although tourism development may bring to the local community the benefits of economic growth and prosperity, it also has negative social and environmental impacts (Butler, 1980; T. H. Lee, 2013; Monterrubio, 2016). Specifically, residents’ daily lives could be disrupted by the influx of tourists (Liang & Hui, 2016), such as overcrowding, higher prices, traffic congestion, noise, litter, crime, and other social costs (Monterrubio, 2016). Residents’ attitudes towards tourism may vary from euphoria, apathy, irritation to antagonism (Doxey, 1975). Ap and Crompton (1993) revealed that residents’ strategies for responding to tourism impacts comprise a continuum: embracement, tolerance, adjustment, and withdrawal, depending on the incoming tourists’ numbers and behavior. Monterrubio (2016) reported that local residents hold strong negative attitudes towards spring breakers’ ‘excessive’, ‘uncontrolled’ and ‘exaggerated’ behavior in Cancun, Mexico. In such a case, it is unlikely that residents are willing to co-create value for the tourists.

Research on tourism development shows that the values created from tourism for the residents are mostly economic and social-cultural benefits for the host community, while the major costs are tourism’s impacts on the environment, which is the so-called triple bottom line approach for examining tourism impacts to local residents (Andersson & Lundberg, 2013; Dyer, Gursoy, Sharma, & Carter, 2007; Gursoy et al., 2002; C.-K. Lee, Kang, Long, & Reisinger, 2010; Nunkoo & Gursoy, 2012; Stylidis et al., 2014).
Residents’ life satisfaction has recently been examined in relation with perceived tourism impacts and support for tourism development. Kim et al. (2013) argue that residents’ perceived tourism impacts have influence on satisfaction life domains, which in turn influences overall life satisfaction. Recently Liang and Hui (2016) further examined life satisfaction’s effect on support for tourism development. Following Zeithaml’s (1988) perceived value definition (trade-offs between the benefits and costs), Woo, Kim, and Uysal (2015) used the term ‘perceived value’ to describe residents’ perception of tourism impacts. This approach is consistent with resource theory of social exchange (Choo & Petrick, 2014; Foa & Foa, 1975), thus we adopt this ‘benefits-costs’ approach to develop our first three sets of hypotheses.

_The economic benefits of tourism._ Tourism has an overall positive economic impact to local communities, but it also has negative economic implications (Kim et al., 2013). The development of tourism may facilitate incoming investment and business activity in local community, which provides greater employment opportunity, higher income and better standards of living for the residents; but it also contributes to the rise of price of goods, services, land and property. The degree of economic impacts of tourism may depend on the different stages of tourism development (Kim et al., 2013). The tourism development literature indicates that perceived economic benefits positively related to attitude and support for tourism development (Gursoy & Rutherford, 2004). Kim et al. (2013) revealed that the economic impacts of tourism also influence residents’ material wellbeing, which further contributes to life satisfaction. Thus, we posit that:

**H1a.** Perceived economic benefits of tourism development are positively related to value co-creation with tourists.

**H1b.** Perceived economic benefits of tourism development are positively related to life satisfaction.
The social-cultural benefits of tourism. Tourism may bring to the local community positive impacts for example, the opportunities to upgrade infrastructure, recreation facilities such as parks, theaters, and others, and to provide more cultural events such as movies, concerts, and sports games. Moreover, catering to tourist quest for authenticity, tourism development may also help revitalize local cultures (Wang, Fu, Cecil, & Avgoustis, 2006). But tourism has negative social-cultural impacts too, for example social problems such as begging, gambling, drug abuse, as well as threats to local traditional culture (Kim et al., 2013). Gursoy and Rutherford (2004) showed that both positive social and cultural benefits lead to support for tourism. Kim et al. (2013) found that positive cultural impacts of tourism influence emotional wellbeing, which leads to life satisfaction. Thus, we posit that:

**H2a.** Perceived social-cultural benefits of tourism development are positively related to value co-creation with tourists.

**H2b.** Perceived social-cultural benefits of tourism development are positively related to life satisfaction.

Perceived costs of tourism. Tourism is believed to be a relatively clean industry, but its development still causes negative effects to the natural environment, such as air pollution and destruction of natural resources. Particularly, tourism is a source of environmental pollution, traffic congestion, and litter problems (Nunkoo & So, 2015). Most studies showed that the perceived costs of tourism development have negative effect on support for tourism development (e.g. Gursoy et al., 2002; T. H. Lee, 2013). Kim et al. (2013) argued that perceived environmental impact has a negative effect on sense of health and safety, which in turn influences life satisfaction. We posit the following for further examination:

**H3a.** Perceived costs of tourism development are negatively related to value co-creation with tourists.
H3b. Perceived costs of tourism development are negatively related to intention to co-create value with tourists.

2.4. Life satisfaction and value co-creation: the broaden-and-build theory

Life satisfaction is an overall sense of well-being about one’s life, which refers to the extent to which a person experiences a stable, positive affect during a certain period in their life (Lyubomirsky, 2001). Residents’ perceptions of tourism impacts affect their sense of well-being in various life domains, which in turn affects their overall life satisfaction (Kim et al., 2013). Woo et al. (2015) showed that residents’ life satisfaction further affects support for tourism development. In this study, we posit that residents’ satisfaction along with their perception of tourism impact affects residents’ participation in value co-creation with tourists visiting their place or community. We draw upon the broaden-and-build theory of positive emotion to support our rationale.

The broaden-and-build theory suggests that the experience of positive affect broadens the scope of thoughts and actions, and builds personal resources (Fredrickson, 2001). In other words, positive emotions expand the focus of cognitive attention, increase the possible alternative ways of thinking, which leads to a greater variety of actions, and consequently facilitates the development of personal resources such as knowledge, skills, health, and social networks (Lyubomirsky, King, & Diener, 2005). Prior research has shown that positive emotions trigger a range of positive work behaviors, such as greater creativity, venture effort and performance, as well as pro-social, pro-environmental or altruistic behaviors (Bissing-Olson, Iyer, Fielding, & Zacher, 2013). In general daily life occasions, people who are happier with their life tend to be more extroverted, energetic, lively, sociable, interested in exploring new things, and engaged in social interactions (Lyubomirsky et al., 2005). As such, life satisfaction is not only a desirable outcome but also an important predictor of positive actions (Diener, 2012), such as engagement in social interactions and value co-creation with
tourists. Following this rationale, we posit that residents’ with higher level of life satisfaction are more likely to participate in value co-creation activities with tourists. Thus:

H4. Life satisfaction is positively related to value co-creation with tourists.

3. Research method

3.1. Construct measures

The constructs in our study were measured by 5-point Likert-type scale, and the respondents were asked about their level of agreement (1= strongly disagree, 5 = strongly agree). The questionnaire started with five items measuring life satisfaction, based on Diener, Emmons, Larsen, and Griffin (1985) “In most ways my life is close to my ideal”, “The conditions of my life are excellent”, “I am satisfied with my life”, “So far I have gotten the important things I want in life”, “If I could live my life over”, and “I would change almost nothing”).

The questionnaire then consists of items to capture residents’ benefits-costs perceptions of the three domains of tourism impacts. Perceived economic benefits were measured by five items (including tourism impacts on standard of living, jobs, infrastructure, city economy development and price of housing) adopted from existing literature (Gursoy & Rutherford, 2004; Nunkoo & Ramkissoon, 2010; Stylidis et al., 2014). Four items (including tourism impacts to recreational facilities, cultural activities, meeting people from other cultures, collectivist spirit) were used to measure perceived sociocultural benefits (Dyer et al., 2007; Nunkoo & Ramkissoon, 2010). Perceived costs of tourism impacts were evaluated via four items: tourism impacts on crowding, traffic congestion, noise, environmental pollution (Gursoy & Rutherford, 2004; Nunkoo & So, 2015).

In accordance with the resource theory of social exchange conceptualization of value co-creation, we focused on residents’ offer of sources to support tourists in generating ‘value-in-experience’, and adapted three of the items measuring customer-to-customer interactions
in agritourism context from (Choo & Petrick, 2014): “I treated tourists with high esteem”, “I provided tourists with useful information, such as transport, attractions, restaurants, hotel and others”, “I provided tourists with information on our way of life, traditional culture, and history”.

We first developed the questionnaire in English and then translated into Chinese. To ensure content validity, we ran an expert panel of three marketing academics familiar with survey design to improve the wording of each item, following the principle that each question should be simple, concise, and easily understandable. The questionnaire was then back-translated into English.

3.2. Data collection

The survey was conducted on a market research website in China (www.sojump.com), and a hyperlink to the site was posted on major social media platforms in China, such as Sina Weibo, Tencent Weibo, and Wechat. There are large differences between urban and rural areas in tourism development of China, and rural tourism is at early stage in most places. The survey is focused on residents of cities to capture their attitude towards tourism development. We used a convenience sampling approach and chose Beijing (capital of China), Tianjin (a developing tourism city), Hangzhou (a popular tourism city for its natural landscape) and Xi’an (a famous tourism city for its history and culture) as our sample cities. The survey lasted 4 weeks from July to August 2016, and a total of 380 valid responses were received.

3.3. Data analysis

We applied the Partial Least Squares Structural Equation Modeling (PLS-SEM) to estimate the theoretical model, and the software we used is SmartPLS 2.0 (Ringle, Wende, & Will, 2005). According to Henseler, Ringle, and Sinkovics (2009), PLS-SEM simultaneously evaluates the measurement model testing the constructs’ reliability and validity, as well as the
structural model testing the hypothesized relationships between independent and dependent constructs. One of the advantages of PLS-SEM is that it avoids parameter estimation biases in regression analysis. Its algorithm requires minimal demand on sample sizes and residual distributions and is particularly suitable for prediction oriented research and complex models (Henseler et al., 2009). Following the guidelines by Hair Hair, Ringle, and Sarstedt (2011), we used bootstrapping (individual sign changes, 380 cases and 5000 samples) to estimate the t-values to assess the level of significance for path coefficients.

4. Results

4.1. Sample profile

The sample is made up of 54% male and 46% female. The respondents are predominately young or middle-aged (62% are under 40) or middle-aged (32%). Most respondents received education to senior middle/professional college (38%) or bachelor degree and above level (36%). Majority of the respondents stated that they had an income of about the average (38%) or higher than the average (36%).

[Table 1 about here]

4.2. Measurement model

We tested construct items’ internal consistency reliability, convergent validity, and discriminant validity. Table 2 shows the item cross-loadings, all of which are above the recommended level of 0.70 to their respective constructs and are significant (Hair et al., 2011). The lowest loading value is 0.724 for an item measuring life satisfaction (LS1). The composite reliability (CR) for each construct exceeds the recommended level of 0.70; and the lowest CR is 0.883 (for economic benefits and life satisfaction), thus measurement items’ internal consistency’s reliability can be confirmed. The average variance extracted (AVE)
values for each constructs are above the recommended level of 0.50 (Hair et al., 2011). The lowest value AVE value is 0.602 for life satisfaction. Thus convergent validity of the measures was verified.

[Table 2 about here]

To test discriminant validity, we examine the extent to which the construct measure is empirically distinct from those of other constructs. We do so by first looking at the cross loadings which were presented in Table 2 and then comparing the square roots of the AVE and latent variables as presented in Table 3 (Fornell & Larcker, 1981). All of the item loadings on their respective construct are greater than their loadings on other constructs, and the square roots of the AVEs exceed the correlations between every pair of latent variables. Thus discriminant validity can be confirmed.

[Table 3 about here]

4.3. Structural model

Two major criteria, the $R^2$ and the significance of path coefficients are used in structural mode evaluation (Hair et al., 2011). The estimation results are presented in Table 4, which indicate that the aggregate path coefficients are statistically significant. $R^2$ values for co-creation and life satisfaction were 36% and 21% respectively, indicating adequate explanatory power (Hair et al., 2011). The results show that: first, economic benefits of tourism were positively related to both co-creation ($\beta=0.155$, $p<0.01$) and life satisfaction ($\beta=0.19$, $p<0.01$), thus H1a and H1b were supported; second, social-cultural benefits of tourism were positively related to both co-creation ($\beta=0.27$, $p<0.001$) and life satisfaction
(β=0.29, p<0.001), thus H2a and H2b were supported; third, costs are negatively related to co-creation (β=−0.131, p<0.01) and life satisfaction (β=−0.109, p<0.05), thus H3a and H3b were supported. Finally, life satisfaction was positively related to co-creation (β=0.298, p<0.001), thus H4 was supported. Among the controlled demographic variables, only two pairs of relationship were significant: age was positively related to co-creation (β=0.226, p<0.05), while income was negatively related to co-creation (β=−0.244, p<0.05), indicating that older people are more likely to co-create with tourists, while higher income earners seem somewhat less likely to co-create with tourists.

[Table 4 about here]

5. Discussion and conclusions

5.1. Theoretical implications

This study conceptually expanded the construct of value co-creation in tourism to include resident-tourist interactions (Bimonte & Punzo, 2011, 2016; Sharpley, 2014), and empirically verified the effects of residents’ perceptions of tourism development on their value co-creation with tourists. Non-economic benefits such as residents’ life satisfaction was examined (Liang & Hui, 2016), based on the broaden-and-build theory (Fredrickson, 2001; Lyubomirsky et al., 2005). Specifically, Liang and Hui (2016) consider tourism may bring to residents emotional wellbeing by having opportunities to contact with tourists and make new friends. Drawing on the conceptualization of perceived value in consumer research, Woo et al. (2015) investigated the perceived value of tourism development by examining items such as community economic well-being, tourism development as a good cause, strategic importance
for planning, community cohesion, and community pride. Except the opportunities to contact with tourists and make new friends (Liang & Hui, 2016), most of these benefits or values of tourism development do not reside in or directly derive from residents’ personal interaction experience with tourists, but they influence residents’ participation in value co-creation with tourists, as the findings of this study suggest.

5.2. Managerial implications

5.3. Limitations and further research

The conceptualization of tourism value co-creation to include residents in this study offers ample opportunities for future research to explore questions such as what motivates residents to co-create value with tourists, what are the value-in-experience and the rewards for both residents and tourists as a result of their co-creation process.
References


## Tables

### Table 1. Profile of respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage (%)</th>
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<tr>
<td>Female</td>
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<td>Up to junior middle school</td>
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<td>25.9</td>
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<td>38.0</td>
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<td>36.1</td>
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<td>About the average</td>
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<td>Higher than the average</td>
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<td>0.313</td>
<td>0.491</td>
</tr>
<tr>
<td>Econ4</td>
<td>0.266</td>
<td>0.397</td>
</tr>
<tr>
<td>Cost1</td>
<td>-0.077</td>
<td>0.111</td>
</tr>
<tr>
<td>Cost2</td>
<td>-0.076</td>
<td>0.101</td>
</tr>
<tr>
<td>Cost3</td>
<td>-0.132</td>
<td>-0.002</td>
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<tr>
<td>Cost4</td>
<td>-0.132</td>
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<td>LS1</td>
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<td>0.401</td>
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<tr>
<td>LS2</td>
<td>0.270</td>
<td>0.233</td>
</tr>
<tr>
<td>LS3</td>
<td>0.382</td>
<td>0.346</td>
</tr>
<tr>
<td>LS4</td>
<td>0.346</td>
<td>0.214</td>
</tr>
<tr>
<td>LS5</td>
<td>0.313</td>
<td>0.288</td>
</tr>
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</table>

Note: CR = composite reliability, AVE = Average variance extracted
Table 3: Construct correlations and square roots of AVE

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>0.868</strong></td>
</tr>
<tr>
<td>2. Social-cultural benefits</td>
<td>0.050</td>
<td></td>
<td></td>
<td><strong>0.829</strong></td>
<td></td>
</tr>
<tr>
<td>3. Economic benefits</td>
<td>0.059</td>
<td>0.632</td>
<td></td>
<td><strong>0.810</strong></td>
<td></td>
</tr>
<tr>
<td>4. Life satisfaction</td>
<td>-0.056</td>
<td>0.395</td>
<td>0.356</td>
<td></td>
<td><strong>0.776</strong></td>
</tr>
<tr>
<td>5. Co-creation</td>
<td>-0.127</td>
<td>0.472</td>
<td>0.427</td>
<td>0.467</td>
<td><strong>0.928</strong></td>
</tr>
</tbody>
</table>

Notes: Boldface numbers on the diagonal are the square root of the average variance extracted.
Table 4 The results of structural model analysis

<table>
<thead>
<tr>
<th></th>
<th>Life satisfaction (R²=0.206)</th>
<th>Co-creation (R²=0.360)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Economic benefits</td>
<td>0.190</td>
<td>2.903**</td>
</tr>
<tr>
<td>Social-cultural benefits</td>
<td>0.290</td>
<td>4.537***</td>
</tr>
<tr>
<td>Costs</td>
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<td>2.027*</td>
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<tr>
<td>Life satisfaction</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Control variables

<table>
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<tr>
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<th>β</th>
<th>t</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.036</td>
<td>0.311</td>
</tr>
<tr>
<td>Gender</td>
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<td>0.766</td>
</tr>
<tr>
<td>Education</td>
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<td>1.049</td>
</tr>
<tr>
<td>Income</td>
<td>0.220</td>
<td>1.681</td>
</tr>
</tbody>
</table>

Note: *p < 0.05; **p < 0.01; ***p < 0.001.