
Correlation Research on Visitors' Environmental Management, Place Attachment, and Ecotourism Cognition

Qingying Duan¹, Mancang Wang^{1*}

¹ School of Economic & Management, Northwest University, Xi'an, CHINA

* Corresponding author: wang-mc@126.com

Abstract

The rapid development of global economy enhances national income and consumption capacity in various countries. Under the improvement of living conditions, the citizens' leisure time is gradually increased to popularize leisure awareness and enhance the trend of tourism. Annually increasing traveling population results in economic benefits but heavy burden on the environment. Ecotourism integrates the mission to the natural environment and the management for social morality and positively develops the identity to such an idea to visitors. The issue of environmental education should allow the public directly contacting with the nature to better cultivate the environment attitudes and enhance the environmental management than having lectures in classrooms. Visitors of ecotourism in Fujian Province, as the research object, are distributed 360 copies of questionnaire. Total 232 valid copies are retrieved, with the retrieval rate 64%. The research results show remarkably positive effects of 1.environmental management on place attachment, 2.place attachment on ecotourism cognition, and 3.environmental management on ecotourism cognition. Finally, suggestions are proposed according to the results, expecting to enhance local industry and develop ecotourism, provide visitors with quality recreation space, create quality ecotourism, and enhance existing facilities to promote the facility safety and comfort.

Keywords: environmental management, place attachment, ecotourism cognition

Duan Q, Wang M (2018) Correlation Research on Visitors' Environmental Management, Place Attachment, and Ecotourism Cognition. *Ekoloji* 27(106): 79-85.

INTRODUCTION

After Industrial Revolution, the rapid development of global economy has enhanced national income and consumption capacity in various countries. Under the improving living conditions, people are changing the value and start to purchase packaged appliance and cultivate the habit of discarding after use. Nevertheless, people, when enjoying the life, often ignore that the nature is ruthlessly damaged and polluted. The load of the nature is limited; constant earthquakes and tsunamis are the warning from the nature. The rising environmental awareness in past years has people start to think of coexisting with the earth. The ideas of green management and sustainable resources are gradually proposed. When the citizens increase the leisure time, the popularity of leisure awareness also enhances the trend of domestic tourism. Along with the change of social environment and the enhancement of the public concept about environmental protection and ecological conservation, joining in characteristic town trips, visiting humanities and monuments, participating in ecotourism in national parks, and listening to

interpretation become the popular options of domestic tourism in past years.

From the aspect of tourism, the public generally presents positive attitudes toward tourism, as the impression on service industry. In fact, buildings, businesses, and even transportation would result in large burden on the environment. Especially in scenic spots, tourism activity consumes most energy and water and produces numerous wastes. Increasing travel population results in economic benefits, but also causes heavy burden on the environment. Tourism becomes an inevitable economic activity affecting the environment. The balance between economy and environment is the national consideration. The issue of environmental protection is gradually concerned by the government, businesses and consumers. Ecotourism integrates the mission to the natural environment and the responsible for social morality and actively develops the identity of the ideas to visitors. In comparison with lectures in classrooms, having the public contact with the nature could better cultivate the environmental attitudes and enhance the environmental management.

Aiming at the correlations among visitors' environmental management, place attachment, and ecotourism cognition, this study expects to enhance local industries and develop ecotourism, provide visitors with quality recreation space, create quality ecotourism, and enhance existing facilities to promote facility safety and comfort.

LITERATURE REVIEW

Environmental Management

Huang et al. (2015) referred environmental management to individual behavior and intention to correct environmental problems, without considering personal profits, but based on social environmental welfare, and test the effectiveness with environmental behavior and attitudes. Environmental management presented the characteristics of the awareness of environmental problems, sufficient knowledge to select the optimal program for solving problems, action desire after self-evaluation, and regarding the behavior being meaningful. Sasu and Epuran (2016) regarded environmental management as "the degree of an individual concerning about the environment". Carlson et al. (2015) pointed out environmental management as the action contributing to conservation. Idajati et al. (2016) considered environmental management as individual acceptance of restricting various activities of humans and balancing the nature as well as individual or group behaviors tending to solve certain environmental problems in the travel and recreation (Dudovsky 2016). Pleshko and Heiens (2015) defined environmental management as individual or group behaviors to prevent or solve environmental problems.

Referring to Lin et al. (2017), environmental management contains two dimensions of co-dependency and sharing control.

- (1) Co-dependency: Each person is responsible for the common and co-dependent management for human societies and natural environment.
- (2) Sharing control: Each person is responsible for fairly sharing basic needs for others or communities. The self-control could avoid limiting the opportunities of others, other societies, and future generations.

Place Attachment

Ren et al. (2015) defined place attachment as individual emotional involvement in and belongingness to a place. Song and Kuwahara (2016) regarded place attachment as individual belongingness to a special place, the user feeling the combination with the place to

generation emotion, and the meaning and feelings of the environment to a user. Castellanos-Verdugo et al. (2016) defined place attachment as individual identity to and evaluation of a special place. Masud et al. (2017) mentioned that place attachment appeared on the positive affection connection between people and a place when the place was given positive meanings. Auesriwong et al. (2015) indicated that place attachment did not simply contain the feeling of being attached, but also included the reason for being attached. Ignacio et al. (2017) considered place attachment as emotional belongingness, the combination of a user and the place. Echchakoui (2016) defined place attachment that people had to know the environment, experience the environment, and further participate in the affairs and activities in the environment to slowly appear positive emotional connection with the specific environment after deep understanding and involvement. An individual gradually enhancing the identity to the place and integrating into the environment would perform attachment behavior.

Referring to Cong (2016), place attachment is divided into place identity and place dependence in this study.

- (1) Place identity: Place identity is the integration of a person with the attitude, value, thought, and belief in certain place and the behavior tendency far beyond the emotional attachment and belongingness to the place (Wishitemi et al. 2015).
- (2) Place dependence: Place dependence is like a resident being aware of the correlation with a certain place (Ram et al. 2016).

Ecotourism Cognition

Tsai and Wang (2016) regarded ecotourism cognition as travel activity with low environmental impact but contribution to the society and environment of the country proceeded in a natural area. Kazeminia et al. (2016) defined ecotourism cognition as visitors presenting specific ecological objectives, leaving for natural areas without artificial interference or pollution, appreciating the scene or wild animals and plants, and concerning about local culture and affairs. Brown et al. (2016) considered ecotourism cognition as the tourism to protect resources that visitors did not simply pursue the experience, but sought for the assistance and guidance of interpreters and tourism managers. Nugrohoet al. (2016) pointed out the point of ecotourism cognition as natural resources that visitors did not simply pursue a brand-new experience, but

sought for assistance and guidance of interpreters and tourism managers to enhance the understanding of local culture (humanities and nature). Das and Chatterjee (2015) pointed out ecotourism cognition as the travel style based on communities and with conservation as principle and environmental education as the tactic to achieve the sustainable development of society, environment, and economy.

Referring to Lee and Hsieh (2016), ecotourism cognition contains three dimensions in this study.

- (1) Environmental experience: the travel style based on nature and conservation promotion, environmental education, and sustainable development.
- (2) Social culture: the process of community participation, allowing the residents understanding the difference between public profits and private profits so as to learn to maintain public profits, when striving for individual profits, and have the residents appear belongingness and identity to enhance the community unity and assist in the practice of community development plans.
- (3) Community participation: The supply and demands are provided through resident and visitor participation, while the economic benefits from tourism are returned to local residents. In this case, local natural resources could be reserved and the returns could be local conservation budget to achieve the sustainable management of environment resources.

Effects of Environmental Management on Place Attachment

Wang (2015) revealed that the strengthening of environmental protection functions and the willingness to paying higher amount showed higher place attachment. In other words, Gupta and Rout (2016) indicated that the higher expenses for environmental resources and humanistic and cultural scenes, the higher place attachment. Kourouthanassis et al. (2015) mentioned that experience in ecotourism could change ideas, turn attitudes into actual actions, realize the human management for protecting the environment, perceive the beauty of the environment, present place attachment on the concerning and emotional attitudes towards the environment and realize the importance of environmental protection (Ramseook-Munhurrun et al. 2015). Accordingly, the following hypothesis is proposed as below.

H1: Environmental management reveals significantly positive effects on place attachment.

Effects of Place Attachment on Ecotourism Cognition

Lin et al. (2017) pointed out the remarkably positive correlations between community awareness, place attachment and attitudes towards the development of ecotourism cognition. Hänninen and Karjaluoto (2017) indicated that most people understood the meaning of ecotourism cognition and the role in ecotourism cognition; besides, most people, due to the place attachment, supported the development of ecotourism cognition and were willing to engaging in relevant work. Kim and Park (2015) found out high ecotourism cognition and positive attitudes towards the development of ecotourism cognition of residents in Penghu, due to place attachment (Rasoolimanesh et al. 2016). For this reason, the following hypothesis is proposed in this study.

H2: Place attachment appears notably positive effects on ecotourism cognition.

Effects of Environmental Management on Ecotourism Cognition

Cong (2016) discovered that most students agreed with environmental management and environmental behavior as in-depth travel with ecology as the body and containing rich environmental education meanings; ecotourism cognition could actually enhance students' environmental cognition, and the promotion of environmental education would facilitate the integration of ecotourism cognition. Hultman et al. (2015) considered that field contact in ecotourism could induce the change in attitudes towards the environment. Lee and Hsieh (2016) argued that students could realize the management for environmental protection through ecological tourism; from the environmental management, it was perceived that students could cherish, conserve, and support environmental protection, favor existing nature, perceive the beauty of environment, present concerning and emotional attitudes towards the environment, and realize the importance of environmental protection to achieve the "affective" learning. Lim-Wavde et al. (2017) pointed out the positive life belief of simplicity, life respect, and management constructed through environmental management as the key inner factors in ecotourism cognition actions (Zainuddin et al. 2016). The following hypothesis is therefore proposed in this study.

H3: Environmental management presents significantly positive effects on ecotourism cognition.

SAMPLE AND MEASURING INDEX

Research Sample and Object

Visitors of ecotourism in Fujian Province, as the research object, are distributed 360 copies of questionnaire, and 232 valid copies are retrieved, with the retrieval rate 64%.

Reliability and Validity Test

The questionnaire items utilized in this study are referred to domestic and international researchers' studies that it presents certain content validity. The dimensions of environmental management, place attachment, and ecotourism cognition are tested the overall structural causal relations, and the linear structural relation model analysis result reveals the overall model fit reaching the rational range that it shows favorable convergent validity and predictive validity. Item-to-total correlation coefficients are applied to test the construct validity of the questionnaire content, i.e. reliability analysis, and the calculated item-to-total correlation coefficients are used for judging the questionnaire contents. The item-to-total correlation coefficients of the dimensions in this study are higher than 0.7, revealing certain construct validity.

To further understand the reliability of the questionnaire in this study, reliability analysis is preceded. According to the standards to develop the formal questionnaire, and the measured Cronbach's α appears in 0.70~0.90, obviously conforming to the reliability range.

EMPIRICAL RESULT ANALYSIS

LISREL Model Evaluation Index

LISREL (linear structural relation) model combines factor analysis and path analysis in traditional statistics and adds simultaneous equations in econometrics that it could calculate multiple factors and multiple causal paths at the same time. The model fit could be evaluated with preliminary fit criteria, overall model fit, and fit of internal structure of model.

The research data are organized as below.

Table 1 shows the model analysis results. In regard to preliminary fit, two dimensions of environmental management (co-dependency and sharing control) could remarkably explain environmental management ($t > 1.96$, $p < 0.05$), two dimensions of place attachment (place identity and place dependence) could notably

Table 1. Overall linear structural relation model analysis result

evaluation item	parameter/evaluation standard	result	t	
preliminary fit	environmental management	co-dependency	0.711	9.13**
		sharing control	0.724	9.77**
	place attachment	place identity	0.706	8.46**
		place dependence	0.742	10.86**
ecotourism cognition		environmental experience	0.733	10.27**
		social culture	0.761	12.21**
		community participation	0.752	11.47**

Note: * stands for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$

Table 2. Overall linear structural relation model analysis result

evaluation item	parameter/evaluation standard	result	t
internal fit	environmental management → place attachment	0.811	19.26**
	place attachment → ecotourism cognition	0.851	23.75**
	environmental management → ecotourism cognition	0.866	25.19**

Note: * stands for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$

Table 3. Overall linear structural relation model analysis result

overall fit	χ^2/Df	1.388
	GFI	0.972
	AGFI	0.931
	RMR	0.008

Note: * stands for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$

explain place attachment ($t > 1.96$, $p < 0.05$), and three dimensions of ecotourism cognition (environmental experience, social culture, and community participation) could significantly explain ecotourism cognition ($t > 1.96$, $p < 0.05$). Apparently, the overall model shows favorable preliminary fit.

Table 2 reveals positive and notable correlations between environmental management and place attachment (0.811, $p < 0.01$), place attachment and ecotourism cognition (0.851, $p < 0.01$), as well as environmental management and ecotourism cognition (0.866, $p < 0.01$) that H1, H2, and H3 are supported.

From **Table 3**, the overall model fit standards $\chi^2/Df = 1.388$, smaller than 3, and $RMR = 0.008$ show the appropriateness of χ^2/DF and RMR . Moreover, chi-square is sensitive to sample size that it is not suitable for directly judging the fit. However, the overall model fit standards $GFI = 0.972$ and $AGFI = 0.931$ are above the standard 0.9 (the closer GFI and $AGFI$ to 1 revealing the better model fit) that this model presents better fit indices.

CONCLUSION

The research results show that traditional mass travel market could no longer satisfy visitors' needs. Modern visitors do not simply desire to travel in certain places, but stress more on the perception in the destination and seek for spiritual and emotional

stimulation and satisfaction. Ecotourism therefore should integrate cultural and creative elements, present cultural and creative attraction and uniqueness to enhance the surprising climate between visitors and the place to establish sustainably developed ecotourism. In this case, expanding visitors' living to combine with ecotourism scenic spots, holding cultural or art activities, increasing chances for activity participation, e.g. natural ecology, water park, and green channel, to enhance the importance of ecotourism and have visitors be willing to spend more time for and favor the place to further appear belongingness and identity to ecotourism.

SUGGESTION

From the research results and findings, following practical suggestions are proposed in this study.

- I. Ecotourism should present and plan different local cultural and creative climate as well as invest manpower, resources, and money in the reconstruction and maintenance of ecological areas to extend visitors' stay. Besides, more exciting water and physical facilities and

romantic spots should be established to attract students and young groups. It is expected to attract different groups.

- II. Ecotourism should enhance visitors' place attachment by designing activities related to visitors' leisure life in order to attract visitors' continuous participation in the activity. Various leisure activities could be positively encouraged for visitors connecting the living, leisure participation, and ecotourism so as to appear belongingness and identity and eventually enhance the revisit intention.
- III. Education allows the public realizing the importance of environmental protection and could enhance the public environmental management so that the public would be more willing to pay more attention to natural conservation and environmental maintenance. It would promote the public dependence on and identity to ecotourism and further enhance the place attachment to be willing to actively participate in ecotourism related activity.

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