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A Research on the Development of Low Carbon Economy in Tourist Attractions Based on Model of ASEB-C

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Abstract: With the development of Low Carbon Economy and the appeals of applying low carbon concept to the so called “smokeless industry”-tourism industry, it has become the focus of the academic circles of the application of low carbon to tourist attractions. This study aims to applying the Activity, Setting, Experience, Benefit (ASEB) analysis framework which was based on the consumer experience to the analysis of low carbon resort development. And according to the low carbon tourist attractions features, this study added the “cooperation degree” elements to the above analysis framework thus forming the Activity, Setting, Experience, Benefit and Coordinate (ASEB-C) analysis framework; Considering the traditional ASEB analysis used interview information as the main basis of analysis, thus their conclusion is subjective, this study added questionnaire and in-depth interviews with complementary method, combined qualitative analysis with quantitative analysis. Finally, this study used ASEB-C analysis framework to analyze the development of low carbon tourist attractions to put forward specific development countermeasures.

Key words: ASEB-C, low carbon tourist attractions, experience tourism

INTRODUCTION

Low Carbon Economy is a new development philosophy that proposed in response to a global warming. In the 1990s, it is low energy consumption, low pollution and low emission based economic model. As low carbon economy has become the development trend in today's society, tourism which was known as the “smokeless industry” as one of the most important industries today, Demirbas (2011a) believed it is the inevitable demand of human development also the important ways to realize its own sustainable development for tourism industry to respond to the development of low carbon economy. Affected by the inertia thinking that tourism industry is the low consumption and low pollution industry, tourism industry was thought to have little to do with the burden of emission reduction. But in fact, According to the World Tourism Organization, latest research shows that tourism bears the responsibility of 5% by causing global greenhouse climate, if to remove the flight emissions, the contribution value is 3% and the figures are quite impressive (Onan, 2011).

Tourism and the natural environment have a very close contact, so it will be helpful to reach the goal of carbon amount control by effectively reducing the tourism emissions of carbon dioxide. As an important component of the tourism industry, seeking for a low carbon path of development should be the main task of tourist attractions' going with the stream and realizing its

sustainable development (Demirbas, 2011b). Because of its close relationship with the environment and a high degree of the industry relevance, considering the problems that exist in the development of tourist attractions in China now, such as large energy consumption of tourist attractions service facilities, lack of energy saving and emission reduction technology, etc. The development of “the low carbon tourist attractions” will able to push the change in the pattern of economic growth of scenic area by high energy consumption, high emissions and high pollution to the low energy consumption, low emission and low pollution, then realize a win-win cooperation in low carbon industry; At the same time, putting the low carbon concept into the operation and management of tourist attractions, is helpful for traveling scenic area to enrich their tourism products' open up new areas and shape a good image (Eliiyi *et al.*, 2011). Experiential tourism development is focusing on the central task of tourists, to constantly create personality distinctive tourism experience and products for tourists, therefore enriching the connotation and quality of experience (El-Khatib and Ramadan, 2009; Kazancioglu, 2012; Kelly and William, 2007). Due to the low carbon tourism concept attributes, scenic operator need to enhance visitors' feel of experience if they want to realize a successful development of low carbon tourist attractions. That is to comprehensively develop the tourist attractions, to build a low carbon environment, as well as, to indoctrinate low carbon concept to travelers

through specific and touchable material object, activities, etc, to make them get a real feel for low carbon atmosphere, then forms low carbon concept and guides low carbon travel behavior. Based on the purpose of that, scenic operator must understand tourists' cognition and demand about tourist attractions in low carbon development in order to enhance their low carbon experience during the tour.

Low carbon scenic area was appeared complying with the development of a low carbon economy and low carbon tourism. Although the industry actively advocates low carbon scenic area construction and also has enough explorations for low carbon resort development mode, studies at low carbon scenic area of domestic and overseas only have a short time, mostly conducted as a part of low carbon tourism research, thus haven't formed the concept definition of authority.

In 2009, The "Low Carbon Tourism" concepts was first officially proposed in the report "Travel and Tourism Industry that Going to Low Carbon" of the WEF (World Economic Forum). In fact, from the 1990s, people started to pay attention to tourism's bringing the environment problems, also sprung up many articles which researched the impact on tourist attractions environment of tourism activities. Dick Sisman and Associates (2007) conducted systematic and in-depth research on carbon footprint of sightseeing district with his colleagues. They thought that should be paid enough for tourist attractions, waste treatment and energy consumption inside the tourist attractions and hotels around, for it is necessary to reviewed it in detail. Lin (2010) thought that the government should take active management measures, increase traffic load factors through the method of price adjustment and guide tourists turning from traveling by private cars to using public transportation and choose tourist destinations which are close to the residence, so can effectively reduce the tourist traffic carbon emissions and to reduce the influence of the ecological environment, after determined the tourism traffic carbon emissions of five national park in Taiwan. Huang and Li (2006) pointed out that from the process of tourism activities, tourism experience began with demand generated, passed through the whole process of tourism decision, sightseeing or participate in the activities, round-trip journey, etc. it was from physiology experience up to the psychological experience, then reach all kinds of knowledge, pleasure and satisfaction and then formed memories; From the view of tourism supplies, tourism experience was a kind of management idea, it was a platform that provided by tourism enterprise for tourists to meet their personalized value, psychological feeling and emotional pursuit. Liu (2011) thought that experience was the basic

orientation of the leisure time tourism development. Tourism itself was a kind of experience, tourism should break through the surface levels of passive experience (strictly said this experience should be a kind of experience), so as to achieve a real experience which combined passive experience with active feeling.

When the industry began to pay more and more attention to the development of low carbon tourist attractions, they also realized the importance of tourism experience for low carbon tourist attractions' successful development. Hasanuzzaman *et al.* (2011) pointed out that centre on process elements in tourism development is important, such as tourist attractions, tourism facilities, tourism experience environment and tourism consumption pattern, etc. by creating a low carbon tourist attractions, constructing low carbon tourism facilities, advocating low carbon tourism consumption patterns, fostering carbon sinks tourism experience environment to realize that. Li (2000) proposed experience design of low carbon tourism product in tourism tourist attractions should take decarbonated, participation and comprehensive, emotional, innovative these for principle. Another is the successful practice of Taiwan pinglin low carbon tourism tourist attractions (Tabatchmaia-Tamirisa *et al.*, 1997), its four principles for implementing low carbon tourism were "walking cycling carpooling are good, bring your own tableware is indispensable, it's good to have the local diet in season, only keep good memories and leave less garbage", aimed at achieving low carbon scenic area's creation by enhancing tourists' experience feeling of activities in tourist attractions.

MODEL OF ASEB-C

The model of ASEB-C can explain the 5 factors (Activity, Setting, Experience, Benefit and Coordinate) related to the development of low carbon economy in tourist attractions. The model of ASEB-C included the ASEB analysis method, the ASEB-C analysis method and low-carbon development of tourist attractions. By the analysis, the information obtained by interviews in a certain extent with subjective judgments can indicate the implementation of carbon sequestration mechanisms and ways to promote low-carbon tourism consumption.

ASEB analysis method: ASEB (Activity, Setting, Experience, Benefit) Grids Analytical Method is a kind of market analysis method based on consumer demand orientation and it is perfect and improve to traditional SWOT analysis which was product oriented. It puts consumers' experience into the analysis range, especially designed for problems caused by experienced

consumption. This method is beneficial to the development and upgrade of consumer or market-oriented product in the development of experiential product, has outstanding practical utility in guiding the development of tourist attractions. Becken and Simmons (2002) formed a new management analysis tools-ASEB Matrix analysis through demonstration and analysis to the SWOT analysis in study of "Conceptualizing the experiences of heritage tourists-A case study of New Lsnsk the Word Heritage Village", integrated results of hierarchy of needs on outdoor leisure research. It combined correspondingly the hierarchy of needs analysis, ie. activities, environment, experience and interests with the different elements in the SWOT analysis, forming a matrix including 16 units, doing successive research and analysis on these 16 units in order from SA (advantages assessment of activities) to TB (threat assessment of the interests) and SS (Strengths Setting), SE (Strengths Experience), SB (Strengths Benefit), WA (Weaknesses Activity), WS (Weaknesses Setting), WE (Weaknesses Experience), WB (Weaknesses Benefit), OA (Opportunities Activity), OS (Opportunities Setting), OE (Opportunities Experience), OB (Opportunities Benefit), TA (Threats Activity), TS (Threats Setting), TE (Threats Experience) Table 1.

ASEB-C analysis method and low carbon development of tourist attractions: See from low-carbon travel's requirements, it not only gives new requirements for the planning and development of tourism resources but also gives clear requirements for tourists and the whole process of tourism: To reflect the energy conservation, reduce pollution by links of food, housing, transportation, travel, shopping, entertainment, to explain the construction of harmonious society, saving social and civilized society by action. Build low-carbon area, tourist attractions' development operators need to do a two-pronged effort-on the one hand, reform the scenic hardware facilities for the purpose of energy saving and emission reduction, make scenic facilities to reach low-carbon standard (Mahlia *et al.*, 2012). On the other hand, to instill low-carbon concept through the necessary advocacy guide for tourists, to specificate tourist behavior. Tourists should also regulate their own behavior during the tourism activities according to the provisions and effectively respond to low-carbon call, coordinate with the tourist attractions in the low-carbon activities (Lin, 2010).

Table 1: ASEB analysis method

Parameters	Activity	Setting	Experience	Benefit
Strengths	SA	SS	SE	SB
Weaknesses	WA	WS	WE	WB
Opportunities	OA	OS	OE	OB
Threats	TA	TS	TE	TB

Low-carbon tourism has a prominent feature in contrast with other types of tourism activities-close contact with the science and technology. Either the use of technology in the facilities and equipment, or the determination of the scenic carbon emissions (including buildings, facilities and transportation, as well as tourists carbon emissions), Low-carbon tourism need strong support and backing from science and technology to create an environment which always reflects low-carbon, practice low-carbon. Applying technology to the details of tourism activities is also a way to enrich low-carbon tourism activities, to enhance the effect of tourists' low-carbon experience. Low-carbon scenic area, is the development direction of scenic construction under the guidance of low-carbon concept, when the tourists taking tourism activities in the low-carbon tourist attractions, they are not just a active individual for the purpose of tourism but also a "low-carbon participant", "low-carbon practitioner".

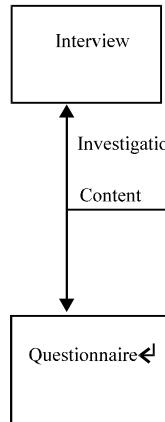
According to the understanding of low-carbon scenic, the construction of low-carbon scenic is different from traditional popular tourist attractions. Low-carbon more importantly embodied a kind of consciousness, on the construction of low-carbon tourist attractions, tourist attractions and tourists is a two-way interactive and cooperative relations: first, the action of the planning, construction and management of tourist attractions should take low carbon concept as guidance. On the one hand, reforming and replacing the hardware facilities to comply with the standards of energy conservation. On the other hand, creating a low-carbon tourism atmosphere for tourists through the scenic facilities, equipment, educational guidance means. Based on the above analysis, the studies on applying ASEB analysis method to low-carbon scenic area still can be improved and factor of tourists' degree of adaptability should be included in the analysis and evaluation system, as a fifth factor for low-carbon scenic's building to consider, it aims at finding what measures should be taken to eliminate the adverse effects of the coordination degree. This mainly includes inspections like "Whether they are willing to reduce the use of consumables", "Whether they are willing to take riding and walking as the main displacement way in the area", etc. Thus formed the ASEB-C analytical framework can be concluded. See Table 2.

Meanwhile, the domestic's analysis of on visitors' experience in tourist attractions using the ASEB method

Table 2: ASEB-C analysis method

Parameters	Activity	Setting	Experience	Benefit	Coordinate
Strengths	SA	SS	SE	SB	SC
Weaknesses	WA	WS	WE	WB	WC
Opportunities	OA	OS	OE	OB	OC
Threats	TA	TS	TE	TB	TC

Table 3: Framework of the research methods

	Activities Form and participation degree of activities such energy saving activities, "gathering carbon" activities, activities of "low carbon"
Environment	Health condition, infrastructure, community environment, other tourists' behavior
Experence	Feeling degree of low-carbon, source of low-carbon feelings, participation feelings of low-carbon activities
Benefits	Knowledge acquisition of low-carbon, impact on tourism activities caused by low-carbon requirements
Cooperate	Cooperate degree of low-carbon activities on reducing the use of consumables, adopting low energy displacement mode

mostly based on qualitative analysis, the analysis of the information obtained by interviews in a certain extent with subjective judgments. Therefore, on the basis of the ASEB in-depth interview method, the questionnaire should be joined to obtain data supportance, combined with questionnaires and interviews, the two complement each other, made the argument more scientific (Wen, 2010). The framework of the research methods can be concluded (Table 3).

EVALUATION ON ASEB-C ANALYSIS

Low-carbon tourism practiced the low carbon economy requirements through the use of low-carbon technologies, the implementation of carbon sequestration mechanisms and ways to promote low-carbon tourism consumption. This line of thinking can be used for reference during the construction process of low-carbon tourist attractions (Fig. 1).

Relevant government departments play an advocacy role at promoting the implementation of scenic low-carbon activities. First, the government should issue appropriate policies and regulations to guide and support the construction of low-carbon tourist attractions; Set industry standards to promote the tourist attractions

taking actions to a low carbon objectives; Secondly, implement necessary publicity to promote low-carbon concept within the whole society, establish standards of low-carbon conduct. Thirdly, strengthen the supervision and control and ensure the effective conduct of low-carbon activities. Scenic operators are direct planners of low-carbon activities in the scenic area, asking them to take action to reform the tourism facilities, develop low-carbon tourism projects according to relevant policies of the government. Actively build a carbon sinks tourism environment and create low-carbon tourism attractions for tourists to implement low-carbon travel behavior (Sahin, 2011). Tourists are participants and direct implementing subjects of the tourist attractions' low-carbon tourism activities, they should actively cooperate with the scenic area to participate in low-carbon activities. During the whole tourism process, to comply with the relevant provisions, implement tourism activities in line with the low-carbon concept of society advocacy.

CONCLUSION

Under the advocating of low carbon concept, the appeals of industry to construct low carbon tourist attractions become more and more intense. Since research

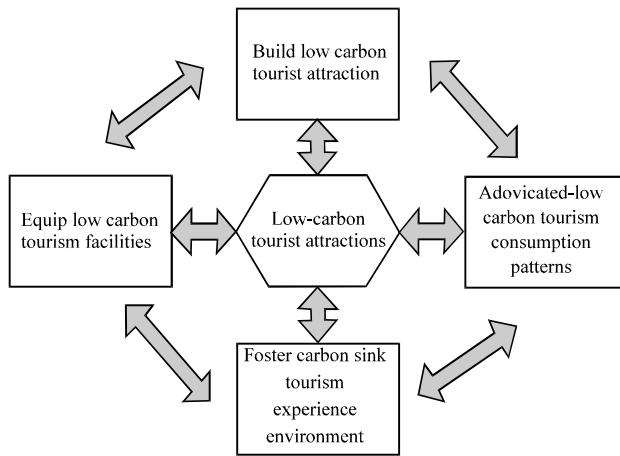


Fig. 1: Construction process of low-carbon tourist attractions

on low carbon tourism and low carbon scenic area in a relatively short time, successful practice experience of low carbon tourist attractions are also very limited, now academic research is still on a narrow range and a superficial degree but scholars generally agree with tourism experience has very vital significance for the development of low carbon scenic area. Due to the concept attribute of “low carbon”, constructing low carbon scenic area need through the experience activities, beat low carbon concept into travel behavior executor-tourists’ consciousness, make it be used in guiding its implement specific tourism activities, promote the goals of creating low carbon scenic area to be realized.

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