

# Chapter 23

## Segmenting Low-Carbon Tourists by Low-Carbon Travel Scale

**You-Yu Dai**

*Shandong Jiaotong University, China*

### ABSTRACT

*This chapter expands research on low-carbon tourism by using the low-carbon travel scale (LCTS) to profile low-carbon tourists. The results demonstrate the LCTS's ability to effectively identify different levels of low-carbon tourists. A priori segmentation was conducted using the respondents' overall LCTS score as the segmenting criterion. The resulting four segments were labeled "not a low-carbon tourist," "minimal low-carbon tourists," "moderate low-carbon tourists," and "strong low-carbon tourists." This study (1) confirms the usefulness of the LCTS for identifying and segmenting travelers and (2) provides the sustainable tourism field with a more holistic tool for measuring sustainable travelers. Destination managers interested in marketing to low-carbon tourists can use this tool to identify how many low-carbon tourists come to their area, level of low-carbon tourists' tendencies, and what the destination can focus on to attract more of this travel segment.*

### 1. INTRODUCTION

Tourism industry and tourist activity emission carbon dioxide account for about 5-14 percent of the global total (World Tourism Organization, WTO & United Nations Environment Programme, UNEP, 2008), and annual rate about 3.2% continued to increase (Peeters & Dubois, 2011). Among them, tourists vehicles (aircraft, cars, ships, etc.), and accommodations, as well as tourism activities caused by the energy consumption and carbon emissions of the most significant (Simpson, Gössling, Scott, Hall, & Gladin, 2008; Horng, Hu, Teng, & Lin, 2014a). Sustrans (2007) and Simpson, et al. (2008) have said that if visitors can alter energy consumption and high carbon travel behavior, you can slow down carbon emissions to increase. Therefore, how to engage in low-carbon tourism industry and academia in recent years has become a topic of concern.

DOI: 10.4018/978-1-5225-7214-5.ch023

Tourism is one of the important economic sectors in the world. The ultimate goal of low-carbon tourism is to alleviate climate change and realize the sustainable development of the society (Hsiao, Sung, & Lu, 2017). To improve travel environment, creating comfortable low carbon travel conditions and advocating green low-carbon travel have been an important measure for the government to construct low-carbon city (Qian, Zhou, & Chen, 2017). Zhu, Zhang, Liao, and Jin (2017) suggested There are many synergies between the low carbon transition and the pursuit of environmental goals, such as reducing water pollution and conserving biodiversity.

Although the study has been aimed at low-carbon tourism involved in the planning, transportation, accommodation, catering, shopping and other aspects of the discussion, however, many people interested in low-carbon tourism is still unable to arrange from the integration point of view to arrange low-carbon tourism. Therefore, it is the subject of this study which tourists can engage in low-carbon tourism activities. Compared to group visitors, since independent travelers can plan and arrange the characteristics of the run, so that it has the opportunity to practice low-carbon travel behavior in the run. Therefore, if you can guide independent travelers engaged in low-carbon tourism will be able to achieve the initiative to promote low-carbon tourism. The aim of this study is to apply a low-carbon travel scale (LCTS) to guide independent travelers to understand the orientation and content of the low-carbon travel behavior.

## **2. LITERATURE REVIEW**

### **2.1. Low-Carbon Travel and Sustainable Tourism**

Since tourists' travel behavior produce large amounts of carbon dioxide emissions, so that visitors aware of environmental threats caused by carbon emissions issues (McKercher et al, 2010; Peeters & Dubois, 2011), also contributed to the visitors to focus on reducing the carbon footprint on various holiday specific actions (Dickinson & Lumsdon, 2010, p 85; Dickinson et al, 2011.). Hu, Horng, Teng and Chou (2012) believed that visitors to have a sustainable environment has generally reduce greenhouse gases, carbon emission reductions and other self-concept, which focuses on the practice of saving energy and reducing carbon. Visitors will not only meet the low-carbon travel preferences carbon reduction recreational needs, change some tourists high carbon emissions recreation behavior (Dickinson et al., 2011), and tourists through carbon reduction behavior contribute to environmental protection. Therefore, low-carbon tourism in the tourism process focus on reducing carbon emissions, reduce carbon footprint, encouraging visitors to use less energy while traveling and stay in order to reduce the environmental impact (Lumsdon & McGrath, 2011). In summary, today's tourists have gradually awareness of the importance of low-carbon tourism sustainable tourism environment.

Compared with the general tourism, low-carbon tourism focuses on reducing carbon emissions in the tourism process, reduce carbon footprint. Simpson et al. (2008) argued that low-carbon tourism is a low-carbon transport in the run-in to the nearby tourist destinations do stay long way to travel. Kuo and Dai (2012) further pointed out, visitors can choose a tourist destination by environmental friendliness of transport equipment, accommodation with environmental certification, and local or organic food diet dining options and other means, to achieve low levels of carbon dioxide emissions purposes. Therefore, low-carbon tourism tourist stressed individuals to change travel behavior and reduce energy consumption of tourism activities, taking into account the lowering carbon dioxide emissions (Sustrans, 2007). In Taiwan, the existing low-carbon tourism activities in the industry and local governments to design

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/segmenting-low-carbon-tourists-by-low-carbon-travel-scale/211630](http://www.igi-global.com/chapter/segmenting-low-carbon-tourists-by-low-carbon-travel-scale/211630)

## Related Content

---

### Productivity Measurement in Software Engineering: A Study of the Inputs and the Outputs

Adrián Hernández-López, Ricardo Colomo-Palacios, Pedro Soto-Acosta and Cristina Casado Lumberas (2015). *International Journal of Information Technologies and Systems Approach* (pp. 46-68).

[www.irma-international.org/article/productivity-measurement-in-software-engineering/125628](http://www.irma-international.org/article/productivity-measurement-in-software-engineering/125628)

### Enhancement of TOPSIS for Evaluating the Web-Sources to Select as External Source for Web-Warehousing

Hariom Sharan Sinha (2018). *International Journal of Rough Sets and Data Analysis* (pp. 117-130).

[www.irma-international.org/article/enhancement-of-topsis-for-evaluating-the-web-sources-to-select-as-external-source-for-web-warehousing/190894](http://www.irma-international.org/article/enhancement-of-topsis-for-evaluating-the-web-sources-to-select-as-external-source-for-web-warehousing/190894)

### A Framework for Profiling Prospective Students in Higher Education

Santhosh Kumar Lakkaraju, Deb Tech and Shuyuan Deng (2018). *Encyclopedia of Information Science and Technology, Fourth Edition* (pp. 3861-3869).

[www.irma-international.org/chapter/a-framework-for-profiling-prospective-students-in-higher-education/184095](http://www.irma-international.org/chapter/a-framework-for-profiling-prospective-students-in-higher-education/184095)

### The Influence of the Application of Agile Practices in Software Quality Based on ISO/IEC 25010 Standard

Gloria Arcos-Medina and David Mauricio (2020). *International Journal of Information Technologies and Systems Approach* (pp. 27-53).

[www.irma-international.org/article/the-influence-of-the-application-of-agile-practices-in-software-quality-based-on-isoiec-25010-standard/252827](http://www.irma-international.org/article/the-influence-of-the-application-of-agile-practices-in-software-quality-based-on-isoiec-25010-standard/252827)

### PolyGlut Persistence for Microservices-Based Applications

Harshul Singhal, Arpit Saxena, Nitesh Mittal, Chetna Dabas and Parmeet Kaur (2021). *International Journal of Information Technologies and Systems Approach* (pp. 17-32).

[www.irma-international.org/article/polyglut-persistence-for-microservices-based-applications/272757](http://www.irma-international.org/article/polyglut-persistence-for-microservices-based-applications/272757)