



“Gheorghe Asachi” Technical University of Iasi, Romania



PRICING DECISION AND COORDINATION CONTRACT IN LOW-CARBON TOURISM SUPPLY CHAINS BASED ON ALTRUISM PREFERENCE

Xiaole Wan¹, Baicheng Jiang², Man Qin¹, Yuanwei Du^{1*}

¹*Management College, Ocean University of China, Qingdao 266100, China*

²*School of Mathematical Sciences, Ocean University of China, Qingdao 266100, China*

Abstract

The optimal pricing strategies and coordination contract of providers of low carbon tourism products and services (TCP) and an online travel agency (OTA) are discussed based on altruism preference of decision makers. A competition model is established to compare and analyze the revenue, pricing strategies and coordination conditions in Stackelberg game model. According to the study and comparison results, altruism preference can directly influence decision-makers' decisions and supply chain. Meanwhile, information symmetry can determine decision making. If altruism preference of TCP increases, the overall profit of the supply chain will be enhanced in spite of the information symmetry. When Altruism Preference of OTA platform increases, the overall profit of the supply chain will decrease in the case of information symmetry. As for information asymmetry, the overall supply chain profit will decrease with increasing altruism preference. Moreover, numerical examples are taken to analyze the profits of OTA and TCP in revenue coordination. Finally, some suggestions are proposed for the establishment of coordination contract.

Keywords: altruism preference, consumer low-carbon preference, online travel agency, Sackelberg game¹, tourism supply chains

Received: April, 2019; *Revised final:* July, 2019; *Accepted:* September, 2019; *Published in final edited form:* November, 2019

* Author to whom all correspondence should be addressed: e-mail: duyuanwei@ouc.edu.cn; Phone: +86 15653269988.