

Research on the Optimal Financing Strategies of the Main Entities in the Order Agriculture Supply Chain

Dan Wang*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

2757426573@qq.com (Dan Wang)

*Corresponding author

Abstract

Under the background of China's vigorous promotion of agricultural modernization, order agriculture, as an emerging model, is of great significance for the large-scale and modern development of agriculture. For example, it has been actively promoted in places like Shouguang, Shandong Province. However, currently, order agriculture in China is faced with problems such as "high default rates", "difficulty in loan financing", and "single financing modes", which seriously hinder the process of agricultural modernization. Blockchain technology, with its characteristics of decentralization, immutability of data, high transparency, and traceability of information, provides new ideas for solving the production and financing problems of order agriculture. In the academic field, discussions focus on two typical financing scenarios of the supply chain financing of order agriculture, namely trade credit financing and bank credit financing. Different financing models have a significant impact on the revenues of farmers and platforms. Moreover, existing research rarely takes into account the influence of blockchain technology. In the decision-making process of the two parties, a model of platform dominance and farmer following is adopted. This study uses the Stackelberg game model to construct the financing decision-making model for farmers and platforms. At the same time, under different financing scenarios, farmers and platforms can choose between decentralized or centralized decision-making. The evolutionary game theory can simulate their dynamic strategic choices and the evolution of cooperative behaviors. When cooperation can make the overall interests of the supply chain greater than those under decentralized decision-making, cooperation should be chosen, and the interests of all parties should be reasonably distributed. This study will comprehensively consider the influencing factors of revenue distribution, use the revised shapley value to improve the revenue distribution coefficient, so as to achieve a more scientific and reasonable revenue distribution. It will also deeply explore the factors affecting the financing choices and decision-making of farmers and platforms under blockchain technology, as well as the influencing mechanisms, which is of great theoretical and practical significance.

Keywords

Order Agriculture, Supply Chain Financing, Blockchain Technology, Stackelberg Game Model, Evolutionary Game Theory