

基於共享單車企業的綠色閉環供應鏈模型設計研究
Research on Green Closed-loop Supply Chain Model Design for
Sharing Bicycle Enterprises

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摘要

共享經濟是源於實踐的全新經濟模式，當共享的理念慢慢深入人心，各種基於共享理念的商業模式紛紛出現，並顯示出強大的發展趨勢和潛力。共享單車作為共享經濟中備受矚目的一員，從誕生開始就伴隨著爭議，共享單車能夠解決城市交通“最後一公里”的問題，能夠促進資源合理分配，但在發展過程中卻造成很多意想不到的社會問題。本研究通過為共享單車企業設計適合的綠色閉環供應鏈來解決共享單車企業現存的種種問題。因此建立出以最大化企業利潤以及最小化鏈上碳排放量為目標的多目標混合整數規劃模型，該模型提供了開啟或關閉鏈上設施以及鏈上產品流量的決策。

關鍵詞：共享經濟、共享單車、綠色閉環供應鏈、多目標整數規劃模型

Abstract

The sharing economy is a new economic model derived from practice. When the concept of sharing is deeply rooted in the hearts of the people, various business models based on shared ideas have emerged,

showing strong development trends and potential. Sharing bicycles, as a high-profile member of the sharing economy, have been controversial since their birth. Sharing bicycles can solve the problem of “last mile” of urban transportation, which can promote the rational distribution of resources, but it has caused many unexpected problems in the development process. This study solves the existing problems of sharing bicycle companies by designing a suitable green closed-loop supply chain for sharing bicycle companies. A multi-objective mixed-integer programming model that aims to maximize corporate profits and minimize carbon emissions in the chain is therefore established, which provides the decision to turn the chain on or off the chain and the product flow on the chain.

Keywords: sharing economy, sharing bicycle, closed-loop supply chain, multi-objective integer programming model