

# 考慮存貨與運輸成本下買賣雙方之合作賽局研究

卓裕仁, 莊文德

運輸科技與物流管理學系

管理學院

m9203001@chu.edu.tw

## 摘要

Due to the insufficient information, the members in the buyer-seller system often make sub-optimal decisions which diminish total profit of them. In this paper, we consider that the buyer has a monopolistic position for the product in a simple buyer-seller system. We attempt to investigate relationships between the buyer and the seller utilizing two different approaches which are Stackelberg's follower-leader game theory and interactive cooperative game theory. Both of EOQ inventory control and FOB transportation condition are simultaneously considered in the cost framework while constructing these two game models. In the first model, a non-cooperative relationship (transaction) is assumed in which the seller (as the leader) makes the first decision and then the buyer (as the follower) makes its decision. In the second model, the leader-follower relationship is relaxed and a scenario is examined in which the seller and the buyer cooperatively maximize their joint system profit. We compare results between these two game models and discuss possible mechanisms, for example, a quantity discount scheme is developed to implement a profit sharing mechanism, which can be utilized to achieve more effective system cooperation.

關鍵字：Purchase Decision; Stackelberg Game; Cooperation Game; Inventory Cost; Transportation Cost