# A Game Theory Model Applied to After-Sale Services

The after-services are a set of activities dedicate to provide support to the buyer when he buys a product or a service, meaning an insurance of the item purchased. For this kind of environment, there are at least two players; the consumer and the original manufacturer equipment (OEM), where both have different points of view about this extra service (may be conflicting in some cases). Thus, this paper aims to show a game theory model applied to after-sale services when there are two players; a consumer, the owner of the piece of equipment and receiver of after-sale services and the OEM who is responsible for producing, selling, and providing the after-sale services. Moreover, there is an important variable that affects players' payoff, the customer's maintenance effort. The model is solved by the Stackelberg solution, through an optimization system divided into two steps whose the leader is the OEM who defines the prices of device and insurance level. Finally, an example illustrates how the model works, emphasizing the key elements and the decision variables of the players.

**Keywords**: After-Sale Services; Customer's Maintenance Effort; Expected Payoffs, Stackelberg Game