

عنوان مقاله:

A Game Theory Model to Analyze Driving Violations in Iran : Improvement Methods

محل انتشار:

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خلاصه مقاله:

In the technology era, the transportation industries have changed significantly especially in the case of security and speed. The development of automobile industries and daily use of automobile affect the human life from different aspects. Apart from the positive side of the automobiles, there is some weakness such as traffic issues, accidents, violations, fatalities and economic and psychological loses. The aim of this paper is to investigate the factors influence the driving violations and also to simulate the relationship between these factors using game theory. Police officers and drivers known as two human factors play a key role in the driving violations. As both of them are rational players thus a rational game is formed. Strategies, enforce the law and ignore the violations, are defined for the police officers and on the other hand, strategies respect the rules and disrespect the rules are defined for the drivers. After strategies definition, a strategic space which contains the payoff functions for each player are developed; while the payoff of each player is directly related to the strategy chosen by the other players. The results of the model reveal that the amount of punishment and encouragement applied due to the performance of police officers is directly related to the choice of strategy enforce the law. More over and from the drivers' point of view, the rate of punishment due to the driving violations has directly affected the strategy played by the drivers

کلمات کلیدی:

Game theory; Driving violations; Nash Equilibrium; Law enforcement; Human factors

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