

## عنوان مقاله:

An Efficiency Measurement and Benchmarking Model Based on Tobit Regression, GANN-DEA and PSOGA

## محل انتشار:

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## خلاصه مقاله:

The purpose of this study is designing a model based on Tobit regression, DEA, Artificial Neural Network, Genetic Algorithm and Particle Swarm Optimization to evaluate the efficiency and also benchmarking the efficient and inefficient units. This model has three stages, and it uses the data envelopment analysis combined model with neural network, optimized by genetic algorithm, to evaluate the relative efficiency of ۱۶ regional electric companies of Tavanir. A two-staged approach of data envelopment analysis and Tobit regression has been used to measure the effects of environmental variables on the mean efficiency of companies. Finally we use a hybrid model of particle swarm algorithm and genetic algorithm to benchmark the efficient and inefficient units. The mean efficiency of regional electric companies have increased from ۰.۸۹۳۴ to ۰.۹۱۴۷, during ۲۰۱۲ to ۲۰۱۷, and regional electric companies of Azarbayjan, Isfahan, Tehran, Khorasan, Semnan, Kerman, Gilan and Yazd, had the highest mean efficiency of ۱, and west regional electric companies and Fars had the lowest efficiency of ۰.۷۰۴۷ and ۰.۶۰۲۵, respectively.

## کلمات کلیدی:

Benchmarking, Efficiency, GANN-DEA, PSOGA, Tobit regression

## لینک ثابت مقاله در پایگاه سیویلیکا:

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