Target setting in data envelopment analysis using MOLP.

ABSTRACT

Data envelopment analysis (DEA) and multiple objective linear programming (MOLP) can be used as tools in management control and planning. The existing models have been established during the investigation of the relations between the output-oriented dual DEA model and the minimax reference point formulations, namely the super-ideal point model, the ideal point model and the shortest distance model. Through these models, the decision makers' preferences are considered by interactive trade-off analysis procedures in multiple objective linear programming. These models only consider the output-oriented dual DEA model, which is a radial model that focuses more on output increase. In this paper, we improve those models to obtain models that address both inputs and outputs. Our main aim is to decrease total input consumption and increase total output production which results in solving one mathematical programming model instead of n models. Numerical illustration is provided to show some advantages of our method over the previous methods.