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Veri Zarflama Analizi ve Gri İlişki Analizinin Birlikte Kullanımıyla Cerrahi Servislerin Etkinliklerinin Analizi/ Efficiency Analysis Surgical Services By Combined With DEA And GRA

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ABSTRACT

The purpose of this study is to determine the efficiency of the 10 surgical services of a public hospital in Eskişehir and ranking the factor which are efficient and significant for inefficiency by Gray Relational Analysis (GRA). In this study, the efficiency levels of 10 surgical services -decision making units- in the hospital are examined through output maximization-oriented data envelopment analysis (DEA) models with 4 inputs (bed turnover, total number of physicians, number of other healthcare personnel and bed occupancy rate) and 2 outputs (number of total operations, number of discharged clinical inpatients). As a result of DEA, in surgical services, it is determined that all services except Cardiovascular and plastic surgery are efficient. As a result of GRA that aims the ranking of 8 efficient services in terms of performances, eye surgery, ear nose and throat (ENT) and pediatric surgery are sharing the first three rankings in sequence. According to results of GRA, the most important variables in performances of surgical services number of discharged clinical inpatients and number of other healthcare personnel.

KEYWORDS Efficiency; Data Envelopment Analysis; Gray Relational Analysis; Surgical

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