

AN AHP MODEL TO EVALUATE SCIENTIFIC RESEARCH PROJECTS

Zeynep Filiz Eren Dogu*
Department of Statistics
Dokuz Eylül University
Izmir, Turkey
E-mail: zeynepfiliz.eren@deu.edu.tr

Müjgan Sagir Özdemir
Department of Industrial Engineering
Osmangazi University
Eskişehir, Turkey
E-mail: msagir@ogu.edu.tr

Can Cengiz Çelikoglu
Department of Statistics
Dokuz Eylül University
Izmir, Turkey
E-mail: cengiz.celikoglu@deu.edu.tr

ABSTRACT

In Turkey, universities with revolving funds, have to allocate at least five percent of their revenues for supporting scientific research activities. The faculty members are encouraged to propose such projects and after an evaluation process, the selected ones are funded to procure required equipments, experiment materials and consumables through the scarce resources of universities. In order to evaluate the proposed projects, universities consider various quantitative criteria such as the budget and the duration of the project, as well as some qualitative ones such as the originality or expected contribution to the published literature. Generally, the qualitative criteria are difficult to measure but highly effective on the decision process. Therefore, the evaluation process needs a more realistic and systematic way to combine both qualitative and quantitative criteria. Analytic Hierarchy Process (AHP) is one of the most prominent methods which considers interdependencies and feedbacks in a multi-criteria decision making problem. In this paper, a framework to handle the scientific research project selection problem is proposed. An AHP model is developed to prioritize the criteria that play role during the evaluation process. Expert knowledge is used to make comparisons and geometric mean is performed to combine the individual judgments. The proposed model is expected to be used by the majority of universities in Turkey since most of them consider practically the same criteria during the project evaluation process. In the light of this idea, the model could also serve as a motivation factor for further improvements.

Keywords: Analytic Network Process, project selection, multi-criteria decision making