## A NEW PRIORITIZATION METHOD IN THE ANALYTIC HIERARCHY PROCESS APPLIED ON A CASE STUDY OF THE CONVENTION SITE SELECTION

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## Abstract

The first part of this article is dedicated to the Analytic Hierarchy Process, particularly to the eigenvector prioritization method. The well-known fixed-point theorem is used for the new prioritization method which is presented in the second part of this article. Finally, using MATLAB, the numerical example, i.e., a case study of the convention site selection computed by the new prioritization method is given, and the result are pointing close a proximity to those achieved by the eigenvector prioritization method in the Super–Decision software. The result is high quality information about the factors using for the evaluating the site selection.

**Keywords and phrases:** multi-criteria optimization, the analytic Hierarchy process, prioritization vector..

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