
An experiment on the effectiveness of AHP for informed decision making

Ram Kumar Dhurkari

T A Pai Management Institute Manipal, Karnataka, India

Anjan Kumar Swain

Indian Institute of Management Kozhikode, Kerala, India

Keywords

Multi-Criteria Decision Analysis, Analytic Hierarchy Process, Inconsistency, Informed Decision Making

Abstract

This paper addresses the issue of how the popular analytic hierarchy process (AHP) method is going to perform when used for ranking of alternatives in a well informed decision scenario. Also, we highlight problems associated with the scale used in AHP and its subsequent inconsistency measure which is used to check the inconsistency of preferences given by a decision maker (DM). A systematic study is conducted on a well defined choice problem, with which all the DMs are well acquainted. This study analyzes resemblance between the rank order prescribed by the AHP after due elicitation of the preferences given by the DMs and actual rank order provided by the same DM (i.e., without using the AHP). In this study, a weak resemblance between the two rank orders shows that the AHP is not appropriate to model accurately the decision making processes of the DM. Further, without any intransitivity present in pairwise comparison, the DM's are found highly inconsistent (even if the solution prescribed by AHP resembled with the actual decisions) in their preferences. Thus, it raises serious doubts on the capabilities of the AHP to address the decision scenarios; particularly where the DMs is well informed on the problems they are dealing with.
