

The Analytic Hierarchy Process as method for decision-making and stakeholder involvement in sustainability management

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Stakeholder participation is an integral part of scientific projects in order to achieve a high level of acceptance with respect to project activities and results. Thus, legitimate stakeholder interests require managerial recognition and attention as a matter of moral right, particularly in sustainability management. However, stakeholder involvement frequently results in highly different and often significantly diverging interests that must be considered. Simultaneously, situations in which each contributed topic appears to be most important may arise. Consequently, it is difficult to objectively rank the contributed topics according to their importance.

Therefore, this work highlights the benefits of the Analytic Hierarchy Process (AHP) method, which helps to address the aforementioned challenges. The AHP is a multi-criteria decision making method used to hierarchically organize complex and unstructured decision problems. Therefore, the AHP is often used for strategic management decisions in order to achieve a rational decision. Based on defined target criteria and individual or group priorities, the benefit-maximizing alternative is systematically identified. The method thus aims at deriving priorities between criteria and alternatives by pairwise comparisons. The primary result is a preference evaluation among the decision criteria.

This work illustrates several use cases of the AHP in scientific sustainability projects. In particular, the design of AHP surveys, stakeholder response options, and typical AHP outputs are addressed. Furthermore, opportunities, risks, and limitations of the AHP method are outlined and discussed.

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