Analytic hierarchy process (ahp) pairwise matrix with one missing value

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Abstrak

In order to obtain the results of an Analytic Hierarchy Process (AHP), all of the lower or upper triangle elements of the pairwise matrix need to be filled in. As the number of criteria of an AHP increases, the number of elements of the pairwise matrix increases quadratically. This forces an expert to answer a large number of comparisons. This paper studies and analyzes the characteristics of a pairwise matrix when one of its elements is not available. This is one of the efforts to reduce the number of comparisons that need to be provided by an expert. The results show that a complete pairwise matrix that is consistent tends to have the same characteristics (priority sequence and consistency index) as when it has one missing value. Further research is needed so that the number of comparisons can be decreased while still keeping the pairwise matrix consistent.