



AHP

AHP is an acronym for analytic hierarchy process. It is a structured technique used to support decision making processes in which there are multiple criteria, of which some are more important than others. The approach analyses and organises these criteria, representing and quantifying their significance, to assist with the determination of appropriate solutions.

Using AHP

Step 1: Initially, the decision problem is decomposed into a hierarchy of criteria that are more easily comprehended. An example would be the decision to select the best candidate for a position. This could be broken down into criteria such as the candidates' level of education, experience, or charisma.

Step 2: The importance of each of these pieces of criteria, referred to as factors, are then assessed in comparison to all other factors. This is conducted in pairs using a grid (illustrated below), where human judgements are converted into numerical values that allow meaningful contrasts between the factors to occur and those of the greatest significance to be identified. On commencing this step, it is advised that a system of numeric values is established to ensure consistency with ratings. For example, 3 could mean moderately more important, and 5 significantly more important. Note that contrasts between a factor and itself are not possible and the value 1, indicating equal importance, is used in these instances.

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1			
Factor 2		1		
Factor 3			1	
Factor 4				1

Step 3: The total for each column is calculated.

Step 4: The numeric data is normalised by dividing each element in every column by the sum of that column. This creates another grid containing these new values. Once completed each column should add up to 1.

Step 5: The average of each row on the new grid is calculated. These values are referred to as criteria weights and reveal which factor is of the greatest importance to the decision in question. A verdict can then be reached using this information.

