



## Decision Tree

The decision tree is a tool to assist with idea assessment through the visual representation of different options and their expected consequences. There are three components of a decision tree, referred to as nodes: decision nodes, represented by squares, depicting the decision that needs to be taken; chance nodes, represented by circles, depicting uncertain outcomes; and end nodes that symbolise possible outcomes. The advantages to this approach are that all options can be visualised and evaluated in a structured manner and that the consequences to a decision can be understood. It may be used either by individuals or in a group context.

### Using the 'Decision Tree' tool

Step 1: The focal decision or problem is detailed and represented by a square.

Step 2: A line is drawn from the central 'decision square' to a short description of each possible solution.

Step 3: The possible results for each solution are detailed. If the results are uncertain they are represented by a circle. If the result includes making another decision, step 2 is repeated for the node.

Step 4: At this point, the decision tree is created and different options can be evaluated. Estimate the expected revenue for each of the outcomes.

Step 5: For each uncertain event, an estimation is made of its probability.

Step 6: The potential value of each of the uncertain outcomes is calculated by multiplying the probability of its occurrence by the estimated revenue expected.

Step 7: The value for each of the branches is calculated by subtracting the estimated cost of each option from the expected outcome value.

Step 8: The option that provides the largest benefit is selected.

