

: *What is a decision support model?*

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In the realm of decision support, a model is a quantitative description of a phenomenon. A model replicates major properties of a phenomenon of interest and can be used to study it. A model is an abstraction of a real system or thing. In general, a quantitative model attempts to link the major variables or elements of a system in such a way that results can be generated that are predictive of the behavior of the actual system.

In broad terms, a quantitative description means that inputs and outputs are processed by the variables that describe any transformations that occur as part of a phenomenon. The model has a boundary and both inputs and outputs cross the boundary. The values of inputs are processed by the model to determine the values of outputs. A simple example may help explain the decision support model. Let's describe a cost estimation model where total cost is equal to number of labor hours multiplied by the wage rate per hour. So $TC = N * \$12.00$, where \$12.00 is the wage rate. N is the input and TC is the output. The model describes the transformation of the input to determine the output. If $N = 30$, then $TC = \$360.00$. This example is a simple algebraic model.

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