

Sensitivity analysis

Most, if not all, decisions are made under uncertain conditions. Sensitivity analysis is a technique used to determine how different values of an independent variable impact a particular dependent variable under a given set of assumptions. It is used to identify how much variation, in the input values for a given variable, will impact the results for a mathematical model.¹

This uncertainty imposes a limit on our confidence in the response or output of the model. Sensitivity analysis is an integral part of any decision-making process accompanied by the creation of a decision-support model.²

Also known as the *What-If* analysis,³ sensitivity analysis can be used for any activity or system - from planning a family vacation with the variables in mind, to the decisions at corporate levels.

It helps in analyzing how sensitive the output is, by the changes in one input while keeping the other outputs constant. Sensitivity analysis works on this simple principle: Change the model and observe the behavior.³

Next: [Iteration](#)

¹Maverick, J.B. "What are some examples of ways that sensitivity analysis can be used?" Investopedia, Mar. 2018. <<https://www.investopedia.com/ask/answers/052115/what-are-some-examples-ways-sensitivity-analysis-can-be-used.asp>>.

²Borgonovo E., Peccati L. (2008) Sensitivity Analysis in Decision Making: A Consistent Approach. In: Abdellaoui M., Hey J.D. (eds) Advances in Decision Making Under Risk and Uncertainty. Theory and Decision Library (Series C: Game Theory, Mathematical Programming and Operations Research), vol 42. Springer, Berlin, Heidelberg.

³*All you want to know about Sensitivity Analysis.* <<https://www.edupristine.com/blog/all-about-sensitivity-analysis>>.