A Simple Guide: Sensitivity Analysis

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What is Sensitivity Analysis?

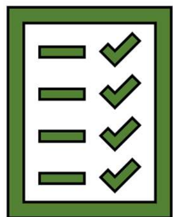
Sensitivity Analysis is a technique that can be used to examine the effect of changes in the variables that will affect the outcome of a decision. This is also commonly referred to as "what if" analysis because the question that drives sensitivity analysis is "what would happen if?"

Why is Sensitivity Analysis Important?

By creating "what if?" scenarios, Sensitivity analysis allows for proper planning for the uncertain future. Users can model their business, department, or personal finances and anticipate the effects of changes before they happen, which allows them to be more prepared to act accordingly when uncertain events inevitably occur.

During the global health crisis of 2020 related to the COVID-19 pandemic, many business owners needed to change their business models in order to stay afloat. In some parts of the country, businesses were mandated to shut down if they were not deemed essential. In order to survive, business owners needed to run the numbers by performing sensitivity analysis based on their operations to understand changes in their business operations and the demand for their businesses would ultimately change their bottom line. By performing this analysis early, some businesess were more successful than others during the crisis.

Here's an Example...



A great example of this sensitivity analysis involves the impact of the assistance that the CARES Act provided to small businesses through the Paycheck Protection Program (PPP). As long as the Company met and maintained the proper criteria for loan forgiveness, the PPP loan would be forgiven. This effectively means that the businesses could receive free money to cover their payroll costs for a certain portion of the pandemic. This undoubetly changed the game for some businesses, let's take a look at a hypothetical example below:

Peter's Paintings is a business that allows customers to come in and have their paintings of themselves done in a variety of different styles. Due to the social distancing guidelines, the company inevitably lost business. Under normal circumstances, the Company would pay artists $20 per painting and charge $60 to the customer for that same painting. With monthly fixed operating costs of $4,000, the company needed to have 100 customers in a month in order to break even.

Once the Company was approved for the PPP loan, the Company could operate as if the payroll costs were no longer a factor since the loan would be forgiven. Based on these new circumstances, the Company calculated the new breakeven number of customers for the month changed from 100 to 67, a much more manageable amount given the decreased consumer spending. By understanding the changes in its operations and the effects of the PPP loan, the Company was able to adapt its strategy and secure enough business for the month.