

What is the difference between a parameter and a statistic? - A descriptive guide

You are not the only one who is asking and searching for the answer to the question: what is the difference between a parameter and a statistic? Because there are a lot of other people also who have a similar kind of confusion between parameters and statistics.

Basically, mathematics is a very vast area with a great scope of study and learning. Parameters and statistics are part of this mathematical field only. In fact, we can understand them as interrelated or correlated terms to each other. Most of the time, these are interchangeably used as well.

So, [what is the difference between a parameter and a statistic?](#)

Let us understand the answer to the same question in a better and more descriptive manner.

Here is what is Parameter

Parameter is basically a measurement, which is being used by researchers and scientists in the statistics field in order to measure the whole of the population.

Parameters take the whole of the population into consideration in order to draw any kind of result of the analysis.

Here is what is Statistics

On the other hand, statistics basically means, a measurement of a sample or a portion of the whole population.

Statistics do not take the whole population into consideration. It only takes a sample and uses an educated guess method to draw the conclusion.

Real-life Examples

Scenario: 1 Suppose, a company of 50,000 employees wants to distribute gifts on the occasion of Diwali. Now, 2 choices are given to them to choose from.

In this scenario, taking responses from all 50,000 people is possible and can be done with some metrics. So, here the parameter concept is used. Because we have taken the whole targeted population into consideration here.

Scenario: 2 Now suppose, an amendment is to be done by the government. Because of this, the government wants to ask the whole country to give feedback on yes or no.

In this case, asking and taking feedback from the whole country is not possible. It will ultimately lead the government to loss of time and money. Because of this, the researchers will take a sample population or a portion of the complete population. Now with an educated guess, they will come up with a conclusion in this case.

This case highlights the statistics. As we have only taken the sample into consideration.

Still, confused regarding the answer to what is the difference between a parameter and a statistic?

No worries! Here is a more clear and more descriptive answer for you.

Here are some major differences between parameters and statistics:

1. Measurement values

- Parameter is known to be a fixed element
- Statistics is a variable measurement

2. Target data for analysis

- Parameter analysis is done on the whole of the population
- Statistics is performed on the sample of population

3. Statistical notations

- Parameter is denoted as an “N” capital letter.
- Statistics is denoted as an “n” small letter

4. Method of measurement

- Parameter is known to be an explanatory method of measurement
- Statistics is known to be a comprehensive method of measurement

I hope you have got and understood the answer to the question: what is the difference between a parameter and a statistic? In fact, both parameters and statistics are very similar to each other. As both of them are part of the same field. But still, some major differences are there between both of them. Because of this, understanding them in a descriptive way is very important to get the correct results of the study.