Difference Between Descriptive and Inferential Statistics

Definition of Descriptive Statistics

Descriptive Statistics refers to a discipline that quantitatively describes the important characteristics of the dataset. For describing properties, it uses measures of central tendency, i.e. mean, median, mode and the measures of dispersion i.e. range, standard deviation, quartile deviation and variance, etc.

The data is summarized by the researcher, in a useful way, with the help of numerical and graphical tools such as charts, tables, and graphs, to represent data in an accurate way. Moreover, the text is presented in support of the diagrams, to explain what they represent.

Definition of Inferential Statistics

Inferential Statistics is all about generalizing from the sample to the population, i.e. the results of analysis of the sample can be deduced to the larger population, from which the sample is taken. It is a convenient way to draw conclusions about the population when it is not possible to query each member of the universe. The sample chosen is a representative of the entire population; therefore, it should contain important features of the population.

Inferential Statistics is used to determine the probability of properties of the population based on the properties of the sample, by employing probability theory. The major inferential statistics are based on the statistical models such as Analysis of Variance, chi-square test, student's t distribution, regression analysis, etc. Methods of inferential statistics:

- Estimation of parameters
- Testing of hypothesis

Key Differences Between Descriptive and Inferential Statistics

The difference between descriptive and inferential statistics can be drawn clearly on the following grounds:

Descriptive Statistics is a discipline which is concerned with describing the population under study. Inferential Statistics is a type of statistics; that focuses on drawing conclusions about the population, based on sample analysis and observation.

Descriptive Statistics collects, organizes, analyzes and presents data in a meaningful way. On the contrary, Inferential Statistics, compares data, test hypothesis and make predictions of the future outcomes.

There is a diagrammatic or tabular representation of result in descriptive statistics whereas the result is displayed in the form of probability.

Descriptive statistics describes a situation while inferential statistics explains the likelihood of the occurrence of an event.

Descriptive statistics explains the data, which is already known, to summarize sample. Conversely, inferential statistics attempts to reach the conclusion to learn about the population; that extends beyond the data available.

May 9, 2016 By Surbhi S from https://keydifferences.com/difference-between-descriptive-and-inferential-statistics.html