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Meaning of Statistics

People view Statistics in many different ways. Generally it is considered to be a subject that deals with percentage, chart and tables. Some people think that Statistics is a subject consisting of rules, method and techniques of collecting and presenting large amount of information, while other people think that it is a subject of making inference about the population on the basis of sample information.

Statistics

Observation



Data Collection



Analysis



Interpretation

The word statistics which comes from the Latin word status, meaning a political state originally mean that information useful to the state.

Statistics is the discipline that concerns the collection, organization, analysis, interpretation and presentation of data.

Example

In the following example the facts and figures usually called statistics are presented in media almost every day.

- i) - The Bureau of census projects that the population to be 250 million in the year 2025.
- ii) - Eight out of ten Pakistanis do not have skills.

Use of Statistical Information

- 1 - To inform general public.
- 2 - To explain things that have happened.
- 3 - To justify a claim.
- 4 - To predict the decision regarding future outcome.
- 5 - To estimate the unknown quantities.

The following example further explain how statistics may be used.

Example:

Suppose we want to determine the best teacher at Govt. college university. How should we decide this. This could be done by asking Govt college University students.

Who the best teacher is. To do so, we collect the data analysis analyse the result and make decision. Now various question are:

i) - should we surveys every student?
ii) - How long will the survey be conducted

iii) - How will the best teacher be determined.

iv) - In order to answer these and other students, statistics techniques are used.

Books:

Introduction to statistical theory by Sher Muhammed

Characteristics of Statistics

- (i) - Statistics deals with aggregate of observation of the same kind.
- (ii) - Statistics deals with the behaviour of aggregates or large group of data.
- (iii) - Statistics deals with uncertainties as every process of getting observations whether controlled or uncontrolled involves deficiencies or chance variations.
- (iv) Statistics deals with these characteristics or aspects of things which can be described numerically either by counting or by measurement.
- v - Statistical result might be misleading and incorrect if sufficient care in collecting, processing and interpretation of data is not expert exercised.

Importance of Statistics

- Statistics assists in summarizing the larger sets of data in a form that is easily understandable.
- Statistics assists in the efficient design of laboratory and field experiments as well as surveys.
- Statistical techniques being powerful tools for analyzing numerical data.

A businessman, an industrialist and research worker all employ statistical method in their work, Bank, Insurance companies and Government.

Statistics is used for data mining, speech recognition, artificial intelligence, network and traffic modelling.