

Introduction

The word 'Statistics' seems to have been derived from the Latin word 'Status' meaning political State. The Indian word 'Statista' or German word 'Statistik' also bears similar meaning. In ancient times, the Governments used to collect information regarding the population and Property or Wealth of the State. In modern times collection of Data and analysing them are not limited to any particular sphere of human activity. Quantitative information are not only necessary to run the Government or Semi-Government organisations but they are also the backbone of the study of the Agriculture, Biology, Electronics, Medicine, Political Science, Economics, Psychology, Sociology, Business and Commerce. With introduction of theory of probability since midseventeenth Century by two French mathematicians B. Pascal and P. Fermat. Statistics has been placed on a very sound mathematical footing. With the marriage between Statistics and Probability the importance of the subject increased in all those disciplines in which an element of uncertainty.

Meaning of Statistics

Statistics refers to data and the methods of collecting data used in two distinct senses-

1. Plural Sense,
2. Singular Sense.

1. Plural Senses

i) Refers to a numerical set of data - collected in systematic manner with definite purpose in any field to study

ii) Statistics = Data

iii) Data can be classified as

- a. Quantitative data
- b. Qualitative data

a. Quantitative Data: whose variables can be expressed in numerical terms - Price, income, weight

b. Qualitative Data: data whose variables cannot be measured in numerical terms - Emotions, happiness

Singular Senses-

- i) Refers to science of collection, organising, analysing, and presentation of numerical data.
- ii) Implies the knowledge of various stages of statistical study
- iii) Stage I- collection of data- data collection related to problem under investigation.
- iv) Stage II- Organisation of data- figures collected by investigator need to be organised by editing and classifying and Tabulating
- v) Stage III - Presentation of data- Presented with help of diagrams, graphs, tables
- vi) Analysis of data- Analysis done using Average, dispersion, correlation
- vii) Interpolation Data: Conclusions drawn on basis of which decisions are made

Definition of Statistics

Different statisticians defined statistics in their own ways. Some of the remarkable definitions are noted below.

Plural Senses STATISTICS AS NUMERICAL DATA- SOME DEFINITIONS

- "Statistics are numerical statement of facts any department of enquiry placed in relation to each." BOWLEY
- "By statistics we mean quantitative data affected to a marked extent by multiplicity of causes" Yule and Kendall
- "Statistics are measurements, enumerations or estimate of natural phenomenon, usually systematically arranged, analysed and presented so to exhibit important inter-relationship among them!" A.M. Tuttle

We given below the definitions of statistics used in
Singular Senses

STATISTICS AS STATISTICAL METHODS - SOME DEFINITIONS

- "Statistic may be called as a science of counting"
— Bowley
- "Statistics is the science of estimates and probabilities"
— Boddington
- "Statistics is the science and art of handling aggregate of facts - observing, enumeration, recording, classifying and otherwise systematically treating them"
- "Statistics is a method of decision making ^{that is} in the face of uncertainty on the basis of numerical data and calculated risks