

BASICS OF STATISTICS

Dr. Santhosh Babu P.C.

Assistant Professor

PG Dept. of Commerce

MES Keveeyam College, Valanchery

Development

- Old discipline
- Used by Govt. (record birth, death, population)

Latin word **STATUS**

Latin word **STATISTA**

German word **STATISTIK**

**POLITICAL STATE
(GOVT.)**

Shakespeare used (statist) in his drama= Hamlet (1602)

Gottfried (1749) **statistik** in German University (Political science of different countries)

W. Hooper (1771) (Englishman) **Statistics**

In the beginning of 20th century **W. S. GOSSET**
developed a **method for decision making** based on
small set of data

Meaning of Statistics

- In the **plural sense**, it refers to a set of figures or data.
- In the **singular sense**, it refers to the whole body of tools that are used to collect data, organise and interpret them and, finally, to draw conclusions from them.

Statistics is **concerned** with **scientific methods** for

collecting,

organising,

summarising,

presenting

and **analysing** data as well as

deriving valid conclusions

and making reasonable **decisions** on the basis of
this analysis.

- Statistics is concerned with the systematic **collection** of numerical data and its **interpretation**.
- The word 'statistic' is used to refer to
 1. **Numerical facts**, such as the number of people living in particular area.
 2. The **study of ways** of collecting, analysing and interpreting the facts

Definition of Statistics

Statistics can be defined as the **collection, presentation** and **interpretation** of **numerical data**.- Croxton and Crowed

The science of Statistics is essentially a **branch of applied mathematics** and can be regarded as a **mathematics** applied to observation data.- **R.A fisher**.

Scope and importance of Statistics

1. *Statistics and **planning**:*

“the age of planning”.

govt. (economic development)

Statistical data related to

production,

consumption,

demand,

investment,

expenditure

advanced statistical techniques are used for making **policy decisions**.

2. Statistics and economics:

solving economical problem

wages, price,

demand analysis.

Index numbers,

time series analysis,

hypothesis testing

3. Statistics and business:

- A. Marketing:*** (production purchasing power, man power, habits of compotators, habits of consumer, transportation cost , establish a new market.
- B. Production:*** (what to produce? How to produce? When to produce? For whom to produce)
- C. Finance:***
- D. Banking:*** (general economic situation and every segment of business in which they may have interest)

E. Investment: = selecting securities (safe and have a good return)

F. Purchase: (what to buy? What quantity to buy? What time to buy? Where to buy? Whom to buy)

G. Accounting: (auditing function, the technique of sampling and destination is frequently used)

H. Control: (sales, materials, labor and other costs and net profits and capital requirement.)
Business executive

4. *S. & industry:* In production engineering , inspection plan, control chart etc)
5. *S. & mathematics:* statistical technique are the outcome of wide applications of mathematics.
6. *S. & modern science:* (In medical science =causes and incidence of diseases(**t-test**))

7. *S.* , *psychology and education*:
(factor analysis)

8. *S. & war*: (assistance to the military
and personal to plan “maximum
destruction with minimum effort)

Limitations

- Statistics should **only be used as a supportive tool** in the study of a population.
- Statistical laws are **not exact**
- It **studies characteristics** of population not individuals.
- Not suitable for study of **qualitative phenomenon**.
- Data can be represented in **numerical form** then statistical methods