

# **BUSINESS STATISTICS – UNIT 1**

Introduction to Statistics

Nature, Scope, Importance & Data Collection

BY

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# INTRODUCTION TO STATISTICS

- Statistics deals with collection, classification, presentation, analysis and interpretation of data.
- It helps in converting raw data into meaningful information.
- Widely used in business, economics, government and research.

# DEFINITIONS OF STATISTICS

- ✖ • A.L. Bowley: Statistics are numerical statements of facts.
- ✖ • Croxton & Cowden: Collection, presentation, analysis and interpretation of numerical data.
- ✖ • Webster: Science of collecting and analyzing numerical data.

# KEY FEATURES OF STATISTICS

- Deals with aggregates of facts
- Numerically expressed
- Collected for a definite purpose
- Affected by multiple causes
- Results are approximate

# ORIGIN OF STATISTICS

- ✖ • Derived from Latin word ‘Status’ meaning State
- ✖ • Used by governments for census, taxation and administration
- ✖ • Earlier known as Political Arithmetic

# HISTORY OF STATISTICS

- ✖ • Ancient period: Census in Egypt, China, India
- ✖ • 17th Century: John Graunt, William Petty
- ✖ • 18th Century: Term statistics by Achenwall
- ✖ • Modern period: Karl Pearson, R.A. Fisher

# **NATURE OF STATISTICS**

- ✖ • Studies mass phenomena
- ✖ • Quantitative in nature
- ✖ • Based on averages
- ✖ • Useful for comparison
- ✖ • Depends on accuracy of data

# SCOPE OF STATISTICS

- Business and Commerce
- Economics and Planning
- Banking and Insurance
- Industry and Production
- Government and Administration

# STATISTICS IN BUSINESS

- Sales forecasting
- Demand analysis
- Production planning
- Quality control
- Market research

# LIMITATIONS OF STATISTICS

- ✖ • Deals only with quantitative data
- ✖ • Not suitable for individual cases
- ✖ • Can be misused
- ✖ • Results are not exact
- ✖ • Requires expert interpretation

# IMPORTANCE OF BUSINESS STATISTICS

- Helps in decision making
- Useful for planning and forecasting
- Assists in control and evaluation
- Reduces business risks
- Improves efficiency

# ROLE IN DECISION MAKING

- Provides factual basis
- Helps choose best alternative
- Reduces uncertainty
- Supports strategic planning

# CONCEPT OF DATA

- ✖ • Data are raw facts and figures
- ✖ • Can be numerical or descriptive
- ✖ • Basis for statistical analysis
- ✖ • Must be accurate and reliable

# **TYPES OF DATA**

- ✖ • Primary Data
- ✖ • Secondary Data
- ✖ • Classification depends on source

# PRIMARY DATA

- Collected first-hand by researcher
- Original in nature
- Collected for specific purpose
- More reliable but costly

# SECONDARY DATA

- ✖ • Already collected by others
- ✖ • Published or unpublished sources
- ✖ • Less costly and easily available
- ✖ • May be less reliable

# TOOLS OF PRIMARY DATA COLLECTION

- Questionnaire
- Schedule
- Interview

# QUESTIONNAIRE METHOD

- ✖ • List of written questions
- ✖ • Respondents fill answers
- ✖ • Economical and wide coverage
- ✖ • Requires literacy

# **SCHEDULE METHOD**

- ✖ • Questions filled by enumerator
- ✖ • Suitable for illiterate respondents
- ✖ • More accurate but costly

# INTERVIEW METHOD

- ✖ • Face-to-face interaction
- ✖ • Direct and flexible
- ✖ • Time consuming and expensive

# CONCLUSION

- Statistics is vital for business decisions
- Proper data collection is essential
- Correct interpretation leads to success