

**Level : LMD3**

**Module : Research Methodology**

# **Data Analysis**

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# Data Analysis

- The collected data can be analysed quantitatively and qualitatively.
- Quantitative data analysis relies on statistics.

# Quantitative Data Analysis

**According to Kothari ( 2004, p.131):**

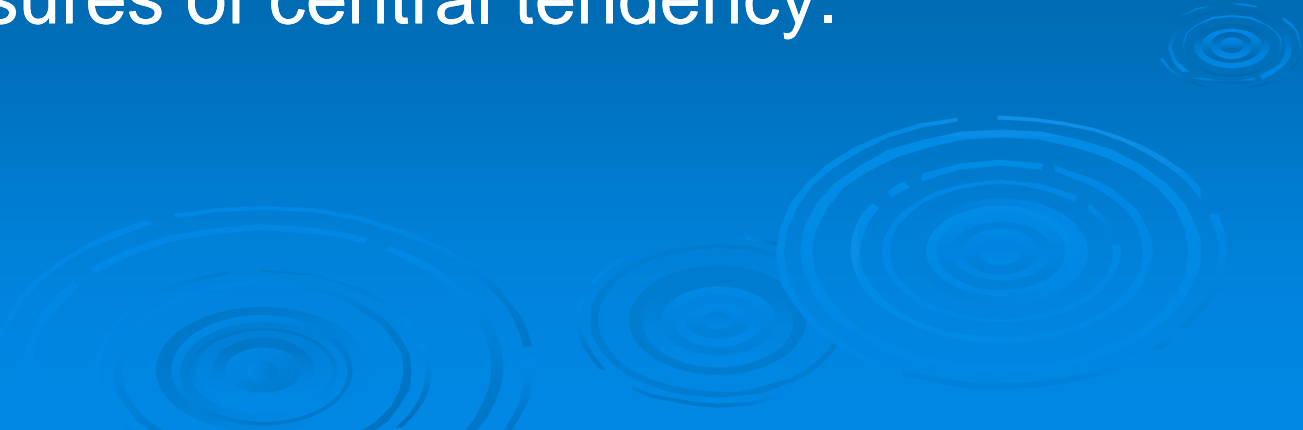
The role of statistics in research is to function as a tool in designing research, analysing its data and drawing conclusions therefrom. Most research studies result in a large volume of raw data which must be suitably reduced so that the same can be read easily and can be used for further analysis.

## Quantitative Data Analysis

Quantitative data analysis enables the researcher to get more reliable results. Moreover, it is less time consuming. Quantitative analysis helps to summarize data using descriptive statistics.

# Descriptive Statistics

Descriptive statistics refer to a set of procedures employed for the purpose of summarizing the collected information. They consist of frequencies and percentages as well as measures of central tendency.



# Measures of Central Tendency

Measures of central tendency include the mean, median and mode.

➤ The mean refers to the average:

$$M = \frac{\sum X}{N}$$

M= mean

$\sum X$ = sum of scores

N= number of scores

## Measures of Central Tendency

- The median is the middle value.
- For an odd number, the median is the middle score. For example, in the list of scores: 8,9,10,11,12, the median is 10.
- For an even number, the median is the average of the two middle scores. For example, in the list of scores: 6, 8,9,10,11, 12, the median is 9.5  $[(9+10)/2]$ .


## Measures of Central Tendency

- The mode is a measure of central tendency that refers to the most frequently repeated number. For example, in the list of values: 10, 9, 11, 9, 8, 9, 12, the mode is 9.



# Quantitative Data Analysis

The analysed data are often presented in tables, bar graphs and pie charts. Quantitative data analysis helps to provide evidence and understand the results through the explanation of numerical information.



# References

- Cohen, Louis, Manion, Lawrence, and Morrison, Keith. (2007). *Research Methods in Education*. New York: Routledge.
  - Kothari, C.R. (2004). *Research Methodology*. India: New Age International Publishers.
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