Correlation Analysis

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- **key concepts:**

Types of correlation

Methods of studying correlation

a) Scatter diagram

b) Karl pearson's coefficient of correlation

c) Spearman's Rank correlation coefficient

d) Method of least squares

Correlation Analysis

- **Correlation:** The degree of relationship between the variables under consideration is measure through the correlation analysis.
- The measure of correlation is called the correlation coefficient .
- Correlation coefficient measures the degree and direction of co-variation between two or more variables.
- The **degree** of relationship is expressed by **absolute value of coefficient** which ranges from correlation **(-1 ≤ r ≥ +1)**
- The **direction** of change is indicated by **sign of the coefficient**.
- The correlation analysis enable us to have an idea about the degree & direction of the relationship between the two variables under study.

Correlation Analysis

- Correlation is a statistical tool that helps to measure and analyze the degree of relationship between two variables.
- Correlation analysis deals with the association between two or more variables.

Correlation & Causation

- Causation means cause & effect relation.
- Correlation denotes the interdependency among the variables for correlating two phenomenon, it is essential that the two phenomenon should have cause-effect relationship, and if such relationship does not exist then the two phenomenon can not be correlated.
- If two variables vary in such a way that movement in one are accompanied by movement in other, these variables are called cause and effect relationship.
- Causation always implies correlation but correlation does not necessarily imply causation.