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Topic- Correlation (Introduction)

Correlation refers to the relationship of variables. Some relationship is found in certain type of variables, for example, there exists a relation between Price and demand, Production and employment, Wages and Price index, etc.

According to W.I. King "Correlation means that between two series or groups of data there exists some causation connections."

In statistical analysis, the concept and technique of Correlation is of great importance. The fundamentals of this concept were first propounded by the French astronomer, Bravais, but correlation technique as such was first investigated graphically by Sir Francis Galton. In 1896, Karl Pearson introduced a method of assessing Correlation by means of Coefficient of Correlation.

• Utility — Correlation has immense utility in various fields of knowledge. Some of the important areas where correlation has been used successfully are —

1. In the field of genetics — Galton and Pearson developed a method of assessing correlation which was used in studying many problems of biology and genetics.
2. In the field of management — Basically, management is all about making decision. Correlation technique present a strong tool into the hands of the manager which reduces the range of uncertainty associated with decision-making.
3. In the field of economics — Correlation is very useful in understanding economic behaviour. It helps in locating those variables on which other variables depend. In this way various economic events can be analysed. Moreover, it also helps in identifying the stabilising factors for a disturbed economic situation.
4. Other field of social sciences — Correlation helps in determining the interrelationships between different variables and in this way it is very helpful in promoting research and opening new frontiers of knowledge.

## Degree of Correlation

Degree of correlation exist between  $+1$  to  $-1$ .

Value of Correlation Coefficient	Degree of Correlation
$+1$	Perfect +ve. Correlation
$-1$	Perfect -ve. Correlation
Value between $1$ and $0.75$	High degree of Correlation
Value between $0.75$ and $0.5$	Moderate degree of Correlation
Value between $0.5$ and $0$	Low degree of Correlation
$0$ (zero)	Absence of Correlation