Statistics for IT

MEASURES OF DISPERSION Cont.....

Week 10

Co-efficient of variation

- It is also known as the relative standard deviation
- The coefficient of variation (CV) is a relative measure of variability that indicates the size of a standard deviation in relation to its mean

$$CV = \frac{\text{standard deviation}}{\text{mean}} \times 100$$

- Higher values indicate that the standard deviation is relatively large compared to the mean.
- It helps to compare two data sets on the basis of the degree of variation.

Eg: Two plants C and D of a factory show the following results about the number of workers and the wages paid to them. Using coefficient of variation formulas, find in which plant, C or D is there greater variability in individual wages.

No. of workers	5000	6000
Average monthly wages	$2500	$2500
Standard deviation	9	10

$CV = (\sigma/\mu) \times 100, \mu \neq 0$
$CV = (9/2500) \times 100$
$CV = 0.36\%$
CV for plant D
$CV = (\sigma/\mu) \times 100$
$CV = (10/2500) \times 100$
$CV = 0.4\%$
Plant C has CV = 0.36 and plant D has CV = 0.4
Hence plant D has greater variability in individual wages.