Competency 07 – Uses Statistical Inference for making business decisions.

Competency level 7.4 – Builds the sampling distribution of sample proportions for statistical inference.

- Once the number of population elements with a specific attribute (A) is expressed as a ratio to the total number of population elements (N) the population proportion of that attribute is derived as

$$\pi = \frac{A}{N}$$

- Once the number of sample elements with a specific attribute (a) is expressed as a ratio to the total number of sample elements (n) the sample proportion is derived as

$$\rho = \frac{a}{n}$$

- The probability distribution of the values taken by the proportions of all the possible samples with same size that can be drawn from a population is known as the sampling distribution of the sample proportions.

Activity

1.)It has been found that 3% of the units manufactured in a particular machine is defective.In a sample of 800 units,find the probability that there will be,

(i)   4% or more
(ii)   2.5% or more detective units
(iii)   Come out with your idea about the possibility of a particular batch being good enough when the defective proportion in this sample is less than 2.5%.