

A good sampling frame should be:

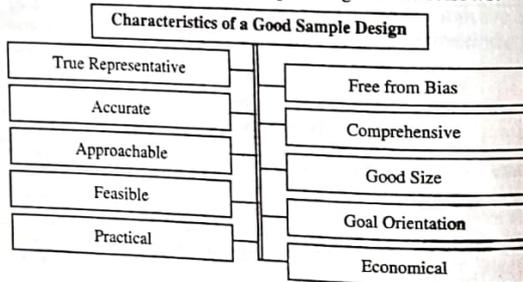
- i) **Relevant:** Research topic must be directly linked with relevant things.
- ii) **Complete:** Coverage of all relevant items.
- iii) **Precise:** It should exclude all the irrelevant items.
- iv) **Up-to-Date:** Incorporating recent changes and additions, and deleting redundant items.

6) **Sample Unit:** Every sample is made up of several members or components. These members or components are called "sampling units". A sampling unit may or may not be a sampling element. Generally sampling unit is referred as sampling element. But in case of sampling units consisting of several population units, each sampling unit is called a cluster of units. The individual population units which come under the cluster of units, are called sampling elements. Therefore in this case a sampling element is an individual object on which the research is done, and it is a component of sampling unit.

For example, in case of inspecting the quality of oranges, only few oranges are selected to examine and each selected orange is a sampling unit. But in case of finding the literacy level of a particular colony, several houses are selected in that colony for research. These houses are sampling units. However the individual members of each house are approached for examining the literacy level, thus these individual members of several houses are sampling elements.

2.1.3. Characteristics of a Good Sample Design

The various characteristics of a good sample design are as follows:



- 1) **True Representative:** The true representative of the population and matching its properties is termed as good sample where aggregate of certain properties is the population and sample is the sub-total of the universe.
- 2) **Free from Bias:** A good sample does not allow prejudices, pre-conceptions, and imaginations which affects its choice and it is unbiased.
- 3) **Accurate:** A sample is called good when it yields accurate estimates of statistics and free from errors.

- 4) **Comprehensive:** A sample that is true representative of the population is also comprehensive in nature which is controlled by definite purpose of investigation. A sample's characteristic may be comprehensive but it may not be a good representative of the population.
- 5) **Approachable:** The subjects of good sample are easily accessible where the tools of research are easily conducted and easy collection of data is possible.
- 6) **Good Size:** The size of good sample is such that it yields an accurate result and the error due to probability can be estimated.
- 7) **Feasible:** A good sample creates the research work more feasible.
- 8) **Goal Orientation:** Any sample which is selected by the researcher should be able to satisfy the objectives of the research. The sample should be taken in proper number. It should be customised to fit the environment under which the research is going to be conducted. If the sample is changed as per the requirement of the survey design then it can come out with better results and outcomes.
- 9) **Practical:** It means that the concepts of sample selection should be applied properly while conducting the research. The researcher should be well experienced and well instructed. The instructions which are passed to observer should be clear, complete and correct in all terms so as to avoid errors and biasness on their part. The sample should be selected on basis of the sample design. The sampling units should be representative. The sample design should be practical and feasible in nature.
- 10) **Economical:** It refers that the research should not incur huge costs, time or efforts. One of the objectives of any research is to complete the research with minimum effort, time, money and resources. The researcher calculates per unit cost for each respondent. The researcher should choose that sampling design which gives minimum per respondent cost and maximum accuracy. The funding agency is highly concerned with per unit cost and the corresponding accuracy.

2.1.4. Sampling Distribution

Sampling distribution is a type of probability distribution (for statistics). If any statistics is given then the repeated sampling of the population determines the sampling distribution.

The sampling distribution can be determined using another formula (other than the "repeated sampling") which depends upon the following:

- 1) Distribution of the population,
- 2) The statistics which is taken in consideration, and
- 3) The size of the sample.

For example, let there be a large normal population. For the given samples, a person regularly calculates the sample mean \bar{X} for a sample size taken from the population which will result in different means for the different sample sizes. And the distribution of the sample means for any give sample size is termed as the sampling distribution of the sample mean. As the population is normal hence the distribution will be normal.