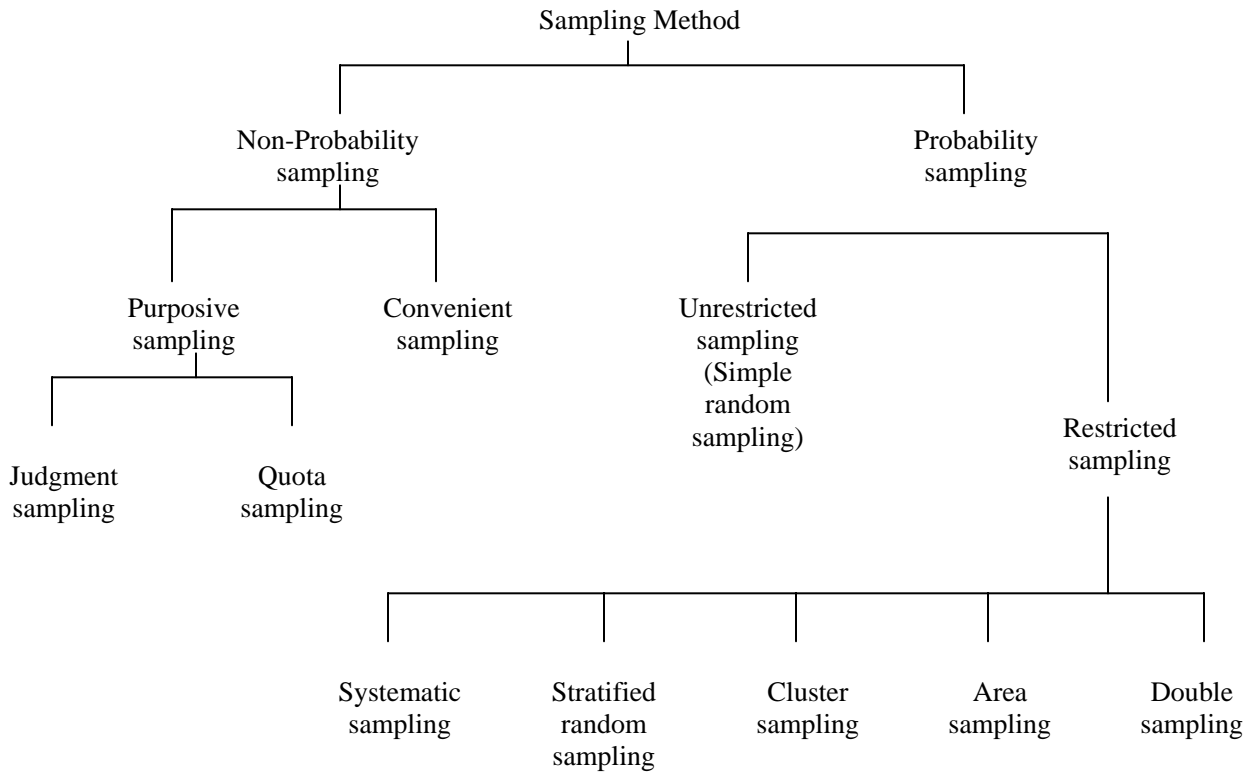


SAMPLING METHOD



1. Sample and Subject:

- A sample is a subset of the population; it comprises some members selected from it.
- A subject is a single member of the sample (just like an element is a single member of the population).

2. Population, Element and Population Frame:

- Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate.
- An element is a single member of the population.

- Population frame is a listing of all the elements in the population from which the sample is drawn.

3. Sampling:

- Sampling is the process of selecting a sufficient number of elements from the population, so that a study of the properties or characteristics of the sample make it possible to generalize such properties or characteristics to the population.

4. Two major types of sampling design:

- Probability sampling (sample picked at random).
 - The elements in the population have equal chance or probability of being selected as sample subjects.
 - Probability sampling designs are used when the representativeness of the samples is of importance in the interests of wider generalisability.
- Non-probability sampling (sample not randomly picked).
 - The elements do not have a predetermined chance of being selected as subjects.
 - When time or other factors, rather than generalisability, become critical, non probability sampling design are chosen.

5. Probability Sampling:

- Unrestricted sampling:
 - More commonly known as simple random sampling.
 - Every element in the population has a known and equal chance of being selected as a subject.
 - Advantage:
 - This kind of sampling method has the least bias.
 - Disadvantages:

- Cumbersome (difficult) and expensive.
- An entirely updated listing (population frame) of the population may not always be available.
- Restricted (complex) random sampling:
 - Offer a viable, and sometimes more efficient alternative to the unrestricted design.
 - Five most common complex probability sampling methods
 - Systematic sampling
 - Drawing every n th element in the population starting with a randomly chosen between 1 and n .
 - For example, if we want a sample of 60 students from total population of 300 students, we could sample every 9th student (9, 18, 27, ...) until 60 students are selected.
 - The number must be selected randomly for example we can take out one dollar ringgit and choose the last digit of money number.
 - Stratified random sampling
 - When sub-population vary considerably, it is advantageous to sample each sub-population (stratum) independently.
 - Stratification is the process of grouping members of the population into relatively homogenous subgroups before sampling.
 - The strata should be mutually exclusive: every element in the population must be assigned to only one stratum.
 - The strata should also collectively exhaustive: no population element can be excluded.
 - The random sampling is applied within each stratum.
 - Cluster sampling

- Cluster sampling is used when natural groupings are evident in the population.
- The total population is divided into groups or clusters.
- Elements within a cluster should be heterogeneous as possible.
- But there should be homogeneity between clusters.
- Each cluster must be mutually exclusive and collectively exhaustive.
- A random sampling technique is then used on any relevant clusters to choose which clusters to include in the study.
- Area sampling
 - One version of cluster sampling is area sampling or geographically clusters sampling.
 - Clusters consist of geographical areas.
 - A geographically dispersed population can be expensive to survey.
 - Greater economy than simple random sampling can be achieved by treating several respondents within a local area as a cluster.
- Double sampling
 - A sampling design where initially a sample is used in a study to collect some preliminary information of interest, and later a sub-sample of this primary sample is used to examine the matter in more detail
 - It is like reverse pilot study because in double sampling take all population then proceeds with sampling the interest sub-sample.

6. Non-probability Sampling:

- The elements in the population do not have any probabilities attached to their being chosen as sample subjects.
- The findings from the study of the sample cannot be confidently generalized to the population.
- This method is chosen when generalisability is not critical; focus may be on obtaining preliminary information in a quick and inexpensive way.
- 2 broad categories:
 - Convenience sampling
 - Collection of information from members of the population who are conveniently available to provide it.
 - Purposive sampling
 - The sampling is confined to specific types of people who can provide the desired information, either because they are the only ones who have it, or conform to some criteria set by the researcher.
 - 2 type of purposive sampling:
 - Judgment sampling
 - Involves choice of subject who are most advantageously placed or in the best position to provide the information required.
 - Judgment sampling may curtail the generalisability of the findings because we are using a sample of experts who are conveniently available to us.
 - Judgment sampling calls for special efforts to locate and gain access to the individually who do not have the requisite information.
 - Quota sampling

- This method ensures that certain groups are adequately represented in the study through the assignment of a quota.
- The quota fixed for each subgroup is based on the total numbers of each group in the population.
- Considered as a form of appropriateness stratified sampling, in which a predetermined proportion of people are sampled from different groups, but on a convenience basis.