Techniques of Sampling

Population is the collection of the elements which have some or the other characteristic in common. Number of elements in the population is the size of the population.

Sample is the subset of the population. The process of selecting a sample is known as sampling. Number of elements in the sample is the sample size.

There are Lot of Sampling Techniques which are Grouped into Two Categories as;

- Probability Sampling
- Non- Probability Sampling

The difference lies between the above two is whether the sample selection is based on randomization or not. With randomization, every element gets an equal chance to be picked up and to be part of a sample for study.

Probability sampling

A probability sampling is a sampling technique where a researcher sets a selection of a few criteria and chooses members of a population randomly.

All the members have an equal opportunity to be a part of the sample with this selection parameter.
In probability sampling randomness is the element of control.

Types of Probability Sampling.

- Simple random sampling
- Stratified sampling
- Systematic sampling
- Cluster sampling
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When to Use Probability Sampling.

1) ***When you want to reduce the sampling bias***

Probability sampling leads to higher quality findings because it provides an unbiased representation of the population.

2) When the population is usually diverse

This sampling method will help pick samples from various socio-economic strata, background, etc. to represent the broader population.

3) To create an accurate sample

Researchers use proven statistical methods to draw a precise sample size to obtain well defined data.

Non probability sampling

- In non-probability sampling, the researcher chooses members for research at random.
- This sampling method is not a fixed or pre-defined selection process.
- Researchers cannot collect confidential data.

Types of Non-Probability Sampling.

1. Purposive sampling
2. Convenience sampling
3. Quota sampling
4. Snowball sampling

When to Use Non-probability Sampling.

- Use this type of sampling to indicate if a particular trait or characteristic exists in a population.
- Use this method when they aim at conducting qualitative research, pilot studies, or exploratory research.
- Researchers use it when they have limited time to conduct research or have budget constraints.

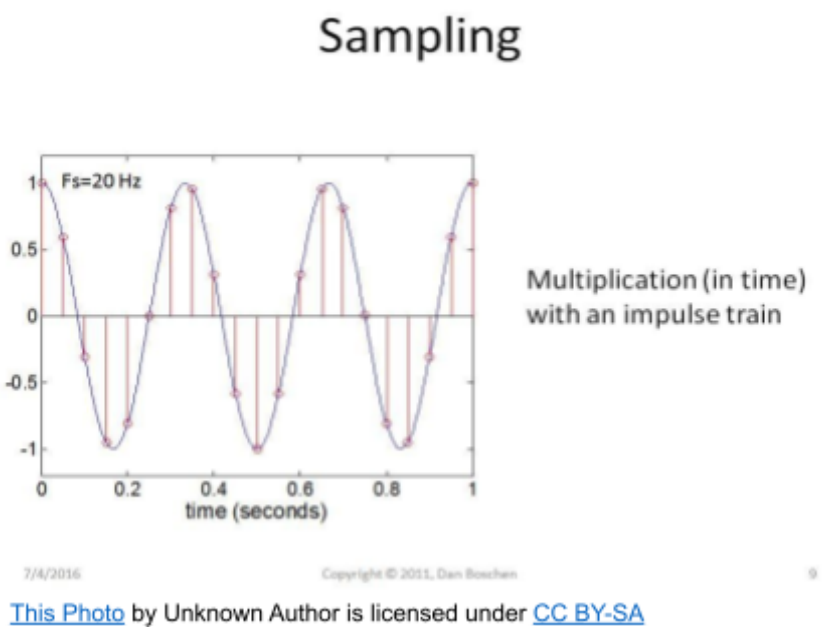
Table

Types of Probability and Non probability

SL No.	Probability	Non probability
1	**Simple random sampling**	**Purposive sampling**
2	**Stratified sampling**	**Convenience sampling**
3	**Systematic sampling**	**Quota sampling**
4	**Cluster sampling**	**Snowball sampling**

Figure

The Example of Sampling.



Reference.

1.https://towardsdatascience.com
2.https://www.Scribber.com