Sampling Methods

There are two main categories of sampling methods: probability sampling and non-probability sampling.

Probability Sampling

means that every member of the population has a chance of being selected. involves random selection, allowing you to make strong statistical inferences about the whole group.

1. Simple Random Sampling

Every member of the population has an equal chance of being selected.

Example:

You want to select a simple random sample of 1000 employees of a social media marketing company. You assign a number to every employee in the company database from 1 to 1000, and use a random number generator to select 100 numbers.

2. Systematic Sampling

Members are chosen at regular intervals from a list of the population. For instance, selecting every 10th name on a list.

Example

All employees of the company are listed in alphabetical order. From the first 10 numbers, you randomly select a starting point: number 6. From number 6 onwards, every 10th person on the list is selected (6, 16, 26, 36, and so on), and you end up with a sample of 100 people.

Hint:

If you use this technique, it is important to make sure that there is no hidden pattern in the list that might skew the sample.

3. Stratified Sampling

The population is divided into subgroups (strata) based on relevant characteristics. Then, a random sample is drawn from each subgroup to ensure the sample reflects the population's proportions.

Example

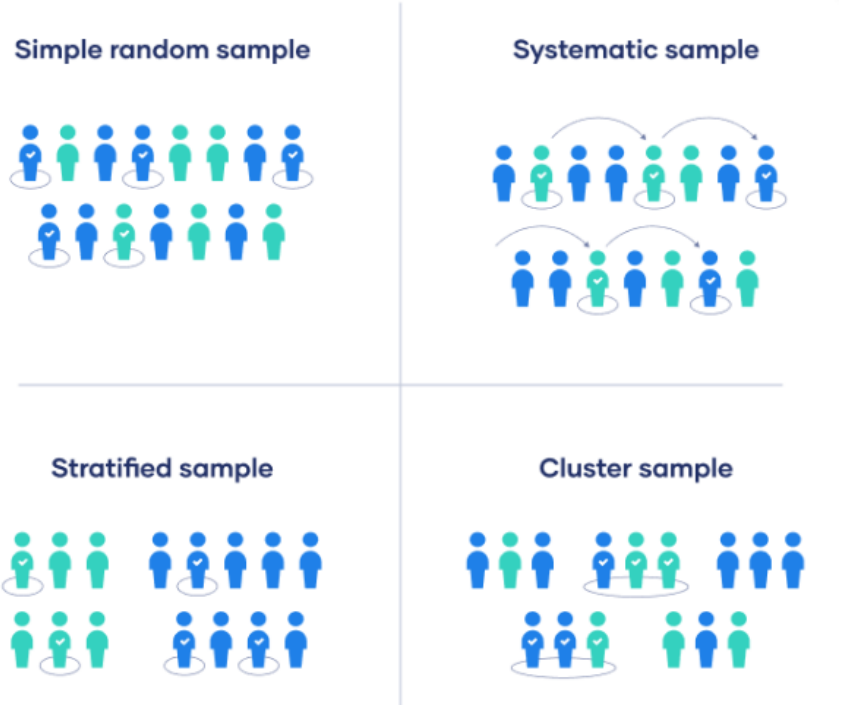
The company has 800 female employees and 200 male employees. You want to ensure that the sample reflects the gender balance of the company, so you sort the population into two strata based on gender. Then you use random sampling on each group, selecting 80 women and 20 men, which gives you a representative sample of 100 people.

4. Cluster Sampling

The population is divided into groups (clusters), and some clusters are randomly selected. All members within those chosen clusters are then included in the sample.

Example

The company has offices in 10 cities across the country (all with roughly the same number of employees in similar roles). You don't have the capacity to travel to every office to collect your data, so you use random sampling to select 3 offices – these are your clusters.



Non-Probability Sampling

In a non-probability sample, individuals are selected based on non-random criteria, and not every individual has a chance of being included.

This type of sample is easier and cheaper to access, but it has a higher risk of sampling bias. That means the inferences you can make about the population are weaker than with probability samples, and your conclusions may be more limited.

1. Convenience Sampling

A convenience sample simply includes the individuals who happen to be most accessible to the researcher.

Example

You are researching opinions about student support services in your university, so after each of your classes, you ask your fellow students to complete a survey on the topic. This is a convenient way to gather data, but as you only surveyed students taking the same classes as you at the same level, the sample is not representative of all the students at your university.

2. Purposive Sampling (Judgmental Sampling)

The researcher selects individuals based on their judgment of who would be best suited to provide the information needed.

Example

You want to know more about the opinions and experiences of disabled students at your university, so you purposefully select a number of students with different support needs in order to gather a varied range of data on their experiences with student services.

3. Quota Sampling

Similar to stratified sampling, but quotas are set for subgroups based on their proportion in the population. Non-random selection is then used to fill those quotas.

4. Snowball Sampling

Used when the target population is difficult to reach. Initial participants are recruited, and they are asked to identify others who fit the criteria.

Example

You are researching experiences of homelessness in your city. Since there is no list of all homeless people in the city, probability sampling isn't possible. You meet one person who agrees to participate in the research, and she puts you in contact with other homeless people that she knows in the area.