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Sampling

Introduction:

When you conduct research about a group of people, it's rarely possible to collect data from every person in that group. Instead, researchers study a **sample** to make estimates about the total population. The sample is the group of individuals who will actually participate in the research. In social and human researches, sampling plays an important role. Sampling is the act, process, or technique of selecting a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Merriam-Webster). Sampling is important in research because of the significant impact that it may have on the quality of results or findings. The validity of statistical analysis depends on the quality of the sampling used.

What is a Survey?

A survey is a general term that refers to the collection of data using interviews, questionnaires, or observations.

What is sampling?

A sample is a subset of individuals from a larger population. Sampling is a technique of selecting individual members or a subset of the population to make statistical inferences from them and estimate the characteristics of the whole population. It means selecting the group that you will actually collect data from in your research. Different sampling methods are widely used by researchers in market research so that they do not need to research the entire population to collect actionable insights.

A sample is a group of people who take part in the investigation. The people who take part are referred to as "participants."

For example, if you are researching the opinions of students in your university, you could survey a sample of 100 students. In statistics, sampling allows you to test a hypothesis about the characteristics of a population.

Why are samples used in research?

- Samples are used to make inferences about populations. Samples are easier to collect data from because they are practical, cost-effective, convenient, and manageable.
- Sampling is an essential part of any research project. The right sampling method can make or break the validity of your research, and it's essential to choose the right method for your specific question.

- It is also a time-convenient and cost-effective method and hence forms the basis of any research design..
- to approximate a larger population on characteristics relevant to the research question, to be representative so that researchers can make inferences about the larger population
- Sampling allows researchers to obtain enough and richer data to answer the research question(s) without having to query the entire population - saving time and money.
- Sampling is important because researchers want to generalize from the sample to the target population. The more representative the sample, the more confident the researcher can be that the results can be generalized to the target population.

Sampling Method

Generalizability refers to the extent to which we can apply our research findings to the target population we are interested in. This can only occur if the sample of participants is representative of the population. To draw valid conclusions from your results, you have to carefully decide how you will select a sample that is representative of the group as a whole. This is called a **sampling method**.

Population vs. sample

A population refers to the set of items- these can be people, events, households, institutions, or something else- that are the subject of research, about which a researcher would like to answer a given question The **population** is the entire group that you want to draw conclusions about. The target population is the total group of individuals from which the sample might be drawn. The **sample** is the specific group of individuals whom you will collect data from. The population can be defined in terms of geographical location, age, income, or many other characteristics.

It can be very broad or quite narrow: maybe the researcher wants to make inferences about the whole adult population of the country; maybe his research focuses on customers of a certain company, patients with a specific health condition, or students in a single school. It is important to carefully define the target population according to the purpose and practicalities of the research project. If the population is very large, demographically mixed, and geographically dispersed, it might be difficult to gain access to **a representative sample**. A lack of a representative sample affects the validity of your results, and can lead to several research biases, particularly sampling bias.

What is sampling bias?

Sampling bias occurs when some members of a population are systematically more likely to be selected in a sample than others. A biased sample is when certain groups are over or under-represented within the sample selected. For instance, if only males are selected

Sampling frame :

The sampling frame is the actual list of individuals that the sample will be drawn from

Variables:

A variable is any characteristic on which people or groups differ. A variable is a set of mutually exclusive attributes of a sample unit: sex, age, employment status, etc. Variable is closely associated with the term sampling frame. The sampling frame lists all units in the population from which the sample will be selected.

Sampling Units :

The population is initially divided into various parts called Sampling Units which covers whole of the population and must not overlap.

Sample size

The number of individuals you should include in your sample depends on various factors, including the size and variability of the population and your research design. There are different sample size calculators and formulas depending on what you want to achieve with statistical analysis.

Types of Sampling:

- **Probability sampling methods**

  Probability sampling means that every member of the population has a chance of being selected. It is mainly used in quantitative research. If you want to produce results that are representative of the whole population, probability sampling techniques are the most valid choice.

- **Non-probability sampling methods**

  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. If you use a non-probability sample, you should still aim to make it as representative of the population as possible.

  Non-probability sampling techniques are often used in exploratory and qualitative research. In these types of research, the aim is not to test a hypothesis about a broad population, but to develop an initial understanding of a small or under-researched population.

Ref:

McCombes, S. (2023). Sampling Methods | Types, Techniques & Examples. *Scribbr*. https://www.scribbr.com/methodology/sampling-methods/

Kelley, K., Clark, B., Brown V., and J. Sitzia. Good Practice in the Conduct and Reporting of Survey Research. International Journal for Quality in Health Care, 15 (3): 261-266. 2003. Olivia Guy Evans. (2023) Sampling Methods In Reseach: Types, Techniques, & Examples https://www.simplypsychology.org/sampling.html