Stages of Sampling

Sampling is a crucial step in the context of research. The selection of sample is a crucial research decision. The process of sampling involves certain stages. These stages are also known as sample design. Sample design is a specific plan for obtaining a sample from a given population. It refers to the technique or procedure the researcher would adopt in selecting items for the sample. It is the responsibility of the investigator to make sure of the reliability, appropriateness, and authenticity of the sample design.

Characteristics of a Good Sample Design

A good sample design should have certain characteristics. The sample design must result in a truly representative sample. Sample design must have small sampling error. The given sample design must be viable in the context of budget availability. Sample design must be such so that systematic bias can be controlled. Sample should be such that the results of the study can be general with a reasonable level of confidence (Kothari 2004: 56-58).

Identifying the Target Population

The first step in the sampling process is to identify the target population. The target population refers to the large group of individuals or elements that the researcher wishes to generalize the results of the study to. In other words, it is the population that the researcher is interested in learning about or describing.

Example 1: Teachers in the Jawahar Navodaya Vidyalaya Samiti

For instance, if a researcher is interested in learning about the teachers in the Jawahar Navodaya Vidyalaya Samiti system, all the teachers who teach within that system would constitute the target population.

Example 2: Indian Adolescents

In another example, if a researcher is interested in studying the attitudes and values of Indian adolescents, the target population would be all Indian boys and girls in the age range of 10 to 19 years, assuming that adolescence is operationally defined as the period between ages 10 and 19 years.

Distinguishing Between Target Population and Accessible Population

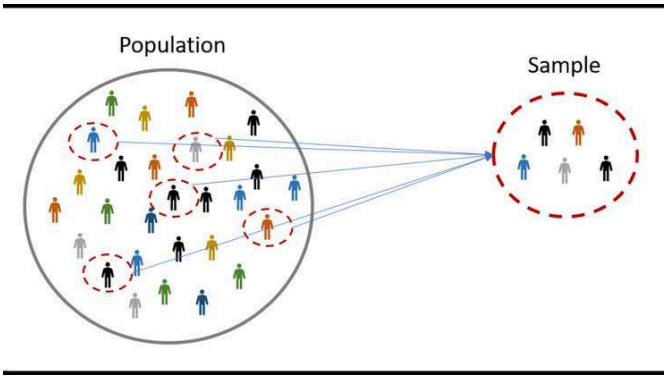
It is essential to distinguish between the target population and the accessible population. The accessible population refers to the population of subjects that are accessible to the researcher for drawing a sample. In most research studies, researchers deal with accessible populations rather than the target population.

Example: Sampling Indian Adolescents

For example, it would be expensive and time-consuming to sample from the total population of Indian adolescents. However, a researcher could draw a sample of adolescents from one state. In this case, the accessible population would be the adolescents from that particular state, and the researcher could only generalize the results to adolescents in that state, not to all Indian adolescents.

Figure 1

Population and Sample



Select the Sampling Frame

Once the population has been identified, the next step is to select the sampling frame. A sample frame is drawn from the target population. A sampling frame is a list of the actual cases from which sample will be drawn. Thus the sampling frame must be representative of the population. In brief, sampling frame is a list of all the items in the population.

Choose Sampling Technique

In general, sampling techniques can be divided into two types- probability sampling and non-probability sampling.

Probability Sampling

Probability sampling involves selecting a sample in which the elements are drawn by chance procedures. The main characteristic of probability sampling is that every member or element of the population has a known probability of being chosen in the sample. This type of sampling is also known as random sampling.

Non-probability Sampling

Non-probability sampling, on the other hand, includes methods of selection in which elements are not chosen by chance procedures. The success of non-probability sampling depends on the knowledge, expertise, and judgment of the researcher. Non-probability sampling is used when the application of probability sampling is not feasible. Its advantages include convenience and economy.

Table 1

Basic Sample Designs

Element selection technique	Representation Basis	
	Probability sampling	Non-probability sampling
Unrestricted sampling	Simple random sampling	Haphazard sampling or convenience sampling
Restricted sampling	Complex random sampling (such as cluster sampling, systematic sampling, stratified sampling)	Purposive sampling(such as quota sampling, judgement sampling)

Determine Sample Size

After selecting the sample technique, the investigator must determine the sample size. The researcher should also consider factors like desired precision, confidence level, population variance and budget constraints.

Field Work and Data Collection

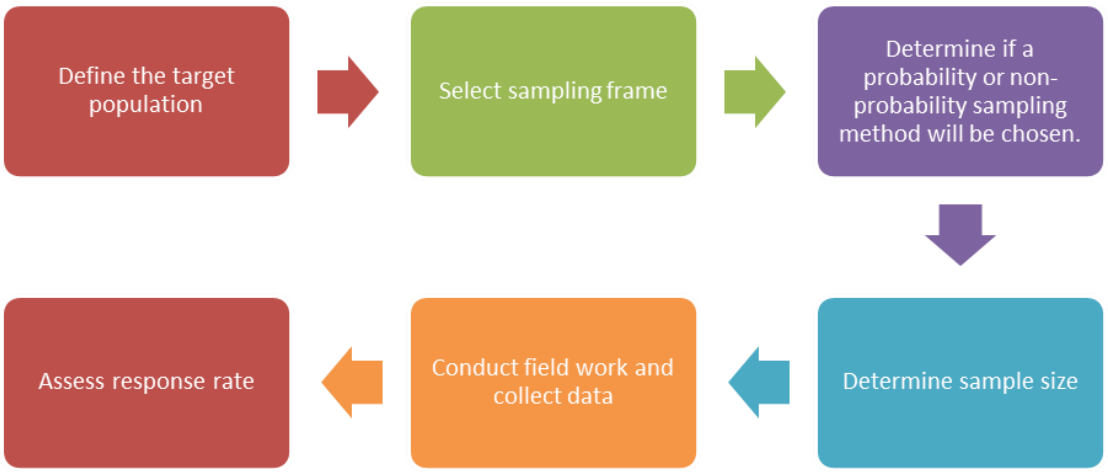
Once target population, sampling frame, sampling technique and sample size have been established, the next step is to conduct fieldwork and collect data.

Assess Response Rate

Response rate is the number of cases agreeing to take part in the study. These cases are taken from the original sample. In reality, most researchers never achieve a 100 percent response rate. Reasons for this might include refusal to respond, ineligibility to respond, inability to respond, or the respondent has been located but the researchers are unable to make contact. In sum, response rate is important because each non response is liable to bias the final sample.

Figure 2

Stages of Sampling



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