

SAMPLING

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INTRODUCTION

- All items in any field of inquiry constitute a 'Universe' or 'Population'. In other words 'Population' refers to all those people within the context of a particular research problem.
- A population could be all students in the college, all prisoners in the prison, all users of a particular model of car etc.
- When the population is relatively large and is not accessible physically, researchers survey only a sample.
- A sample is a portion of people drawn from a large population.

Definition of Sampling

David S. Fox: In the social sciences, it is not possible to collect data from every respondent relevant to our study but only from some fractional part of the respondents. The process of selecting the fractional part is called sampling.

W.G.Cochran: “In every branch of science we lack the resources, to study more than a fragment of the phenomena that might advance our knowledge.” In this definition a ‘fragment’ is the sample and ‘phenomena’ is the population.

According to Manheim: “a sample is the part of the population which is studied in order to make inferences about the whole population.”

Principles or Essentials of sampling

- Sample unit must be chosen in a systematic and objective manner.
- Sample units must be clearly defined.
- Sample units must be independent of each other.
- Same units of sample should be used throughout the study.

Key terms in sampling

- Universe: The aggregate of all the units that conform to some designated set of specifications is called universe or population.
- Sample: It is portion of the total population.
- Sampling frame: It is the complete list of all the units from which the sample is drawn.
- Target population: is the one to which the researcher would like to generalise his results.
- Size of sample: This refers to the number of items to be selected from the universe to constitute a sample.
- Parameters: Characteristics of a population are called parameters.
- Sample

Significance of Sampling

- Population in many cases may be so large and scattered that a complete coverage is not possible. So sample study helps there.
- Sampling offers a high degree of accuracy because it deals with a small number of persons.
- It offers valid and comparable results in a short period of time.
- It is economical requires less number of investigators.
- It is helpful in research projects where quality control testing, require the destruction of items being tested.
- It achieves greater response rate.
- It increases accuracy of data.

Types of Sampling

- There are two types of sampling:
 - ❖ Probability sampling
 - ❖ Non-probability sampling
- ❖ Probability sampling is also known as 'random sampling' or 'chance sampling'. It is one in which every unit of population has an equal probability of being selected for the sample.
- ❖ Non-probability sampling doesn't claim for representativeness as the researcher decide here which sample units should be chosen.

Probability sampling includes the following types:

a) **Simple random sampling**

Sample units are selected here by techniques like

- ✓ lottery method,
- ✓ Tippet's table,
- ✓ pricking blind foldedly,
- ✓ personal identification number
- ✓ Tossing a coin
- ✓ Throwing a dice etc.

b) **Stratified random sampling**

This is the form of sampling in which the population is divided into a number of strata or sub-groups and a sample is drawn from each stratum.

Types of stratified sampling:

- Proportionate sampling where the sample unit is proportionate to the size of the sampling unit.
- Disproportionate sampling is in which the sample unit is not related to the unit of the target population.

C) Systematic or interval sampling

This sampling is obtained by collection of elements by drawing every n th person from a pre-determined list of persons.

d) Cluster sampling

This sampling means dividing population into clusters and drawing random sample either from all clusters or selected clusters.

e) Multi-stage sampling

This method is more comprehensive and representative of population. In this method sample is selected in various stages for constituting the multi-stage sampling. But only the last sample of subjects is studied.

Non-probability sampling is of five types:

- Purposive sampling
- Convenience sampling
- Quota sampling
- Snow-ball sampling
- Volunteer sampling

- A. Purposive sampling: This is also known as judgemental sampling. The researcher purposively chooses person who according to researcher are thought to be relevant to the research topic and are easily available to him.
- B. Convenience sampling: This is also known as 'accidental' or 'haphazard' sampling. In this sampling the researcher studies all those persons who are most conveniently available or who accidentally come in his contact during a certain period of time in the research.
- C. Quota sampling: In it the population is classified into several categories. The proportion of population falling into each category is decided on the basis of judgement, assumption or previous knowledge.

- D. Snowball sampling: The researcher begins the research with the few respondents who are known and available to him. Subsequently, these respondents give other names who meet the research criteria, who in turn give more names.
- E. Volunteer sampling: In this technique the respondent himself volunteers to give information he holds.

Conclusion

- Sampling thus is the technique undertaken for field study when the universe is large . A portion of people is drawn from the larger population which represents the whole population. It offers high degree of accuracy and is economical and less demanding.

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Thank You