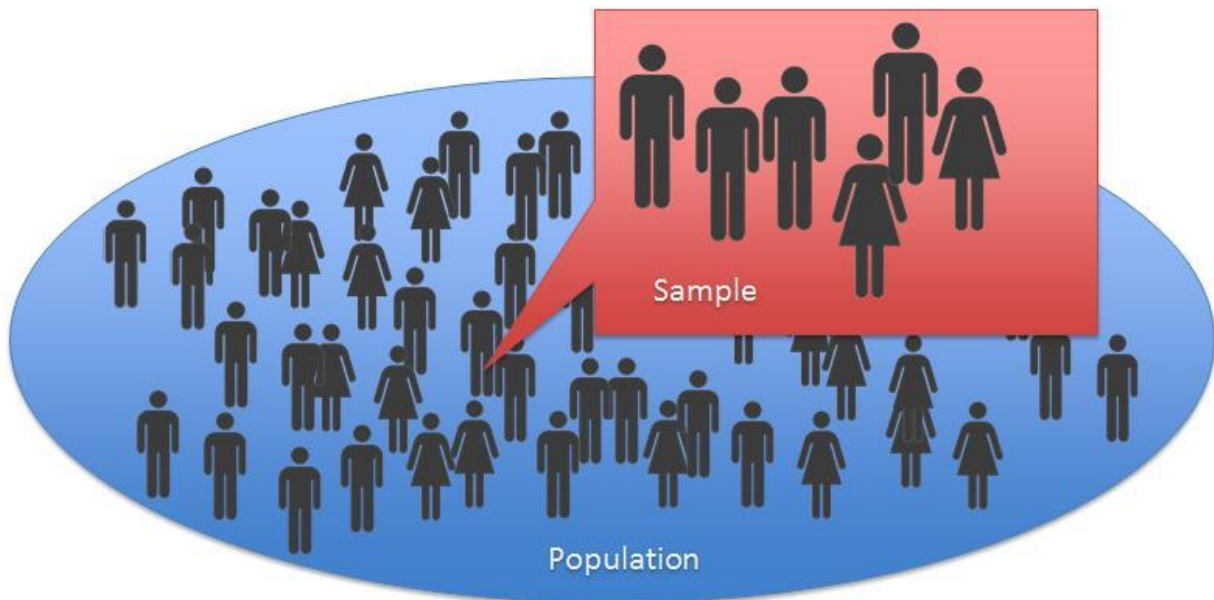


Module-10

SAMPLING IN SOCIAL RESEARCH



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SAMPLING IN SOCIAL RESEARCH

INTRODUCTION

Sampling is the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen. In the Research Methodology, practical formulation of the research is very much important and so should be done very carefully with proper concentration and in the presence of a very good guidance. But during the formulation of the research on the practical grounds, one tends to go through a large number of problems. These problems are generally related to the knowing of the features of the universe or the population on the basis of studying the characteristics of the specific part or some portion, generally called as the sample. So now sampling can be defined as the method or the technique consisting of selection for the study of the so called part or the portion or the sample, with a view to draw conclusions or the solutions about the universe or the population.

DEFINITION

The sample method involves taking a representative selection of the population and using the data collected as research information. A sample is a “subgroup of a population. It has also been described as a representative “taste” of a group. The sample should be representative in the sense that each sampled unit will represent the characteristics of a known number of units in the population. All disciplines conduct research using sampling of the population as a method, and the definition is standard across these disciplines. Only the creative description of sampling changes for purposes of creating understanding. The standard definition always includes the ability of the research to select a portion of the population that is truly representative of said population. Sampling theory is important to understand in regards to selecting a sampling method because it seeks to “make sampling more efficient. Cochran posits that using correct sampling methods allows researchers the ability to reduce research costs, conduct research more efficiently (speed), have greater flexibility, and provides for greater accuracy. According to Mildred Parton, “Sampling method is the process or the method of drawing a definite number of the individuals, cases or the observations from a particular universe, selecting part of a total group for investigation.”

Sampling is based on the two laws like, 1) Law of Statistical Regularity – This law comes from the mathematical theory of probability. According to King, “Law of Statistical Regularity says that a moderately large number of the items chosen at random from the large group are almost sure on the average to possess the features of the large group.” According to this law the units of the sample must be selected at random. 2) Law of Inertia of Large Numbers – According to this

law, the other things being equal – the larger the size of the sample; the more accurate the results are likely to be.

Characteristics of the sampling technique

1. Much cheaper.
2. Saves time.
3. Much reliable.
4. Very suitable for carrying out different surveys.
5. Scientific in nature.

Advantages of sampling

1. Very accurate.
2. Economical in nature.
3. Very reliable.
4. High suitability ratio towards the different surveys.
5. Takes less time.
6. In cases, when the universe is very large, then the sampling method is the only practical method for collecting the data.

Disadvantages of sampling

1. Inadequacy of the samples.
2. Chances for bias.
3. Problems of accuracy.
4. Difficulty of getting the representative sample.
5. Untrained manpower.
6. Absence of the informants.
7. Chances of committing the errors in sampling.

IMPORTANCE OF SAMPLING IN SOCIAL RESEARCH

Sampling is important in social science research because it helps you to generalize to the population of interest and ensure high external validity. Since it is often impossible and not practical to enroll the entire population in your study researchers select a sample. Choosing a 'correct' sample means making sure that your sample is large enough and representative of the population.

TYPES OF SAMPLING

Sampling methods are broadly categorized into two groups: i.) Probability sampling methods. ii) Non probability sampling methods.

I. Probability Sampling Methods

In probability sampling methods the universe from which the sample is drawn should be known to the researcher. Under this sampling design every item of the universe has an equal chance of inclusion in the sample. Lottery methods or selecting a student from the complete students names from a box with blind or folded eyes is the best example of random sampling, it is the best technique and unbiased method. It is the best process of selecting representative sample. But the major disadvantage is that for this technique we need the complete sampling frame i.e. the list of the complete items or population which is not always available. Probability sampling methods are of three types

- i) Simple random sampling: in this method each element has the equal probability to be selected as a sample. It is bias free. Here an element cannot come twice as sample.
- ii) Stratified random sampling: In stratified random sampling the population is first divided into different homogeneous group or strata which may be based upon a single criterion such as male or female. Or upon combination of more criteria like sex, caste, level of education and so on .this method is generally applied when different category of individuals constitutes the population viz general. O.B.C, S.C, S.T or upper caste, middle caste, backward caste or small farmers, big farmers, marginal farmers landless farmers etc .To have an actual picture of a particular population about the standard of living, in case of India it is advisable to categorized the population on the basis of caste, religion or land holding otherwise some section may be under-represented or not represented at all.

Stratified random sampling may be of two types. a) Proportionate stratified random sampling and b) Dis-proportionate stratified random sampling

In case of proportionate random sampling method, the researcher stratifies the population according to known characteristics and subsequently, randomly draws the sample in a similar proportion from each stratum of the population according to its proportion. That is, the population is divided into several sub-populations depending upon some known characteristics, this sub population is called strata and they are homogeneous. Suppose, a Gaon Panchayat consists of 1000 voters among which 60% is Hindus, 30% is Muslims and 10% is schedule tribes. Now the investigator wants to draw a sample of 150 voters from the population as per their proportion. That can be done by multiplying the sample number with their proportion; as per this method the sample size of Hindu voter will be $150 \times 60\% = 90$, Muslims will be $150 \times 30\% = 45$ and S.T will be $150 \times 10\% = 15$. So the investigator has to collect the complete voter list of the G.P and randomly select the sample from each category as calculated above. In this method the sampling error is minimized and the sample possesses all the required characteristics of the population.

b) Disproportionate stratified random sampling:

In this method the sampling unit in each stratum is not necessarily be as per their population. Suppose for the said G.P the investigator wants to the know the voting pattern of male and female of Hindu, Muslim and S.T voters; in that case he must take equal no. of male and female voter from each category. Here the investigator has to give equal weightage to each stratum. This is a biased type of sampling and in this case some stratum is over-represented and some are less-represented; these are not truly representative sampling, still this to be used in some special cases.

iii) Cluster sampling: This is another type of probability sampling method, in which the sampling units are not individual elements of the population, but group of elements or group of individuals are selected as sample. In cluster sampling the total population is divided into a number of relatively small sub-divisions or groups which are themselves clusters and then some of these cluster are randomly selected for inclusion in the sample. Suppose an investigator wants to study the functioning of mid day meal service in a district in that case he can use some schools clustering in a block or two without selecting the schools scattering all over the district. Cluster sampling reduces the cost and labour of collecting the data of the investigator but less precise than random sampling.

Non Probability Sampling Methods

In this type of sampling, items for the sample are selected deliberately by the researcher instead of using the techniques of random sampling. It is also known as purposive or judgment sampling. For instance an investigator wants to verify the profit making and self dependency of the self help groups in their chosen enterprises assisted by the central Govt. fund in a state; then the investigator may select one or two districts having more number of S.H.G, getting comparatively more fund, and researcher having long term experience in that locality. This is a biased type of sampling bears large sampling errors. This type of sampling is rarely adopted in large and important purposes. However for research purpose this may be taken by the research scholar.

Some important techniques of non probability sampling methods are –

- a) Quota sampling
- b) Purposive sampling
- c) Systematic sampling
- d) Snow ball sampling and
- e) Double sampling

a) Quota sampling: This method of sampling is almost same with that of stratified random sampling as stated above, the only difference is that here in selecting the elements randomization

is not done instead quota is taken into consideration. In the above example the G.P. consists of 60% Hindu voters; for a sample size 150 the proportion is 90 individual, this number of individual is selected from the voter list of Hindu voters not observing the rule of randomization but as quota, so 90 number voters are selected as per convenience of the investigator. As quota sampling is not random so sampling method is biased and lead to large sampling errors.

b) Purposive sampling: this is also non random sampling method; here the investigator selected the sample arbitrarily which he considers important for the research and believes it as typical and representative of the population. Say, an investigator wants to forecast the chance of coming into the power of a political party in general election; for that purpose he selected some reporters, some teachers and some elite people of the territory and collect their opinions. He considers those are the leading persons and their view are relevant for the chance of coming in to the power of the party. As it is a purposive method it has big sampling errors and carry misleading conclusion.

c) Systematic sampling: In this method every nth element is selected from a list of population having serial number. For a large population (say,one lakh) is taken into study and the sample size is 100, so the investigator is to select every nth name means 1000th name; the starting name may be any one within 1000, so selecting a particular element/person taking the 1000th name can not represent the different strata or groups that may exist in that big population. Moreover once the starting number is decided and collected data it can not be changed or switched over the other category as per its definition (systemic). Moreover the list may have the chance to repeat the same category of element by passing the other. It is biased and misleading but useful in homogeneous population.

d) Snow ball sampling: This is a sociometric sampling technique generally used to study the small group. All the persons in a group identify their friends who in turn know their friends and colleagues, until the informal relationships converge into some type of a definite social pattern. It is just like the snow ball go on increasing its size when rolling in a ice-field. In case of drug addict people it is difficult to find out who are the drug user but when one person is identified he can tell the names of his partner then each of his partner can tell another 2 or 3 whom he knows uses drug . This way the required number of element/person is identified and collects data. This method is suitable for diffusion of innovation, network analysis, decision making.