SAMPLING IN RESEARCH

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What is a sample?

- A sample is a finite part of a statistical population whose properties are studied to gain information about the whole(Webster, 1985).
- When dealing with people, it can be defined as a set of respondents(people) selected from a larger population for the purpose of a survey.
- A population is a group of individuals persons, objects, or items from which samples are taken for measurement for example a population of professors, books or students.

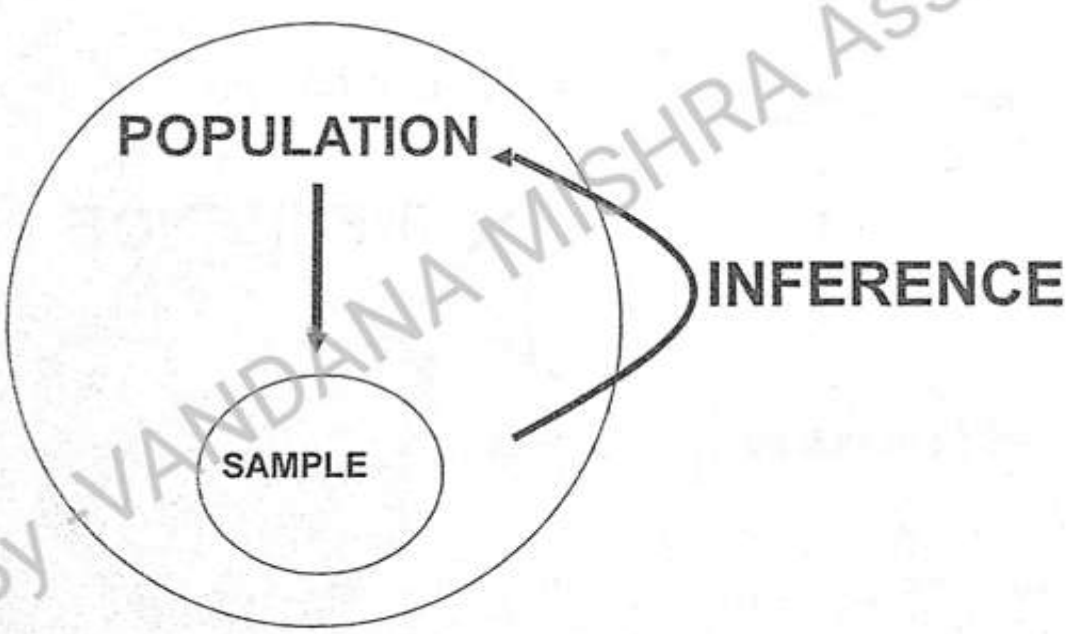
CONTD... SAMPLE

- A finite group is called population whereas a non-finite (infinite) group is called universe.
- A census is a investigation of all the individual elements of a population.
- Sampling enables researchers to make estimates of some unknown characteristics of the population in question.

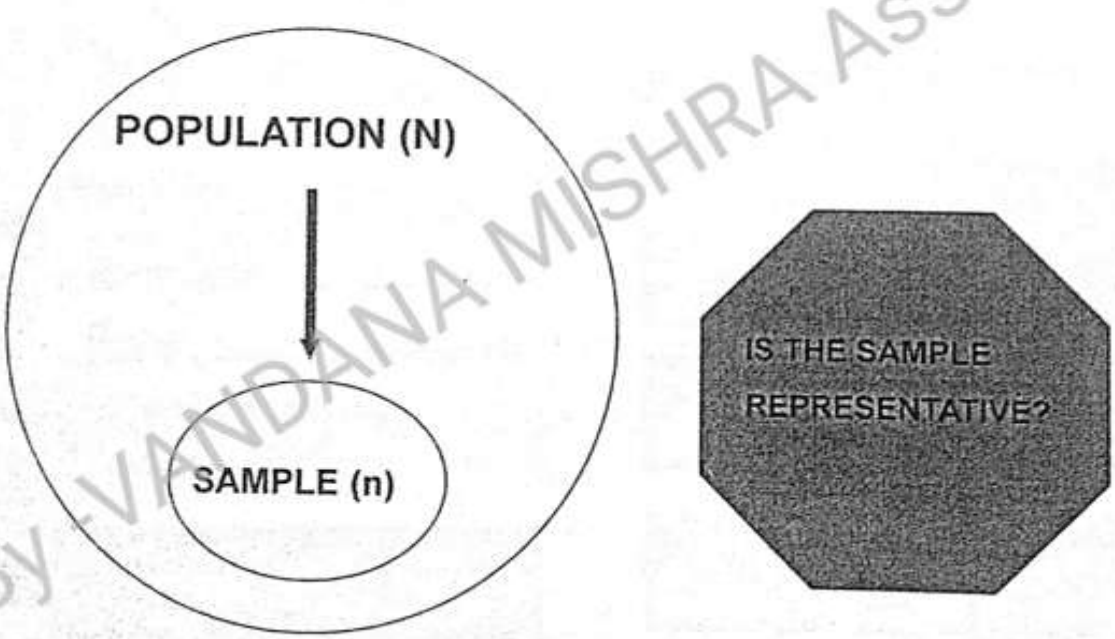
Sampling...

- The process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected

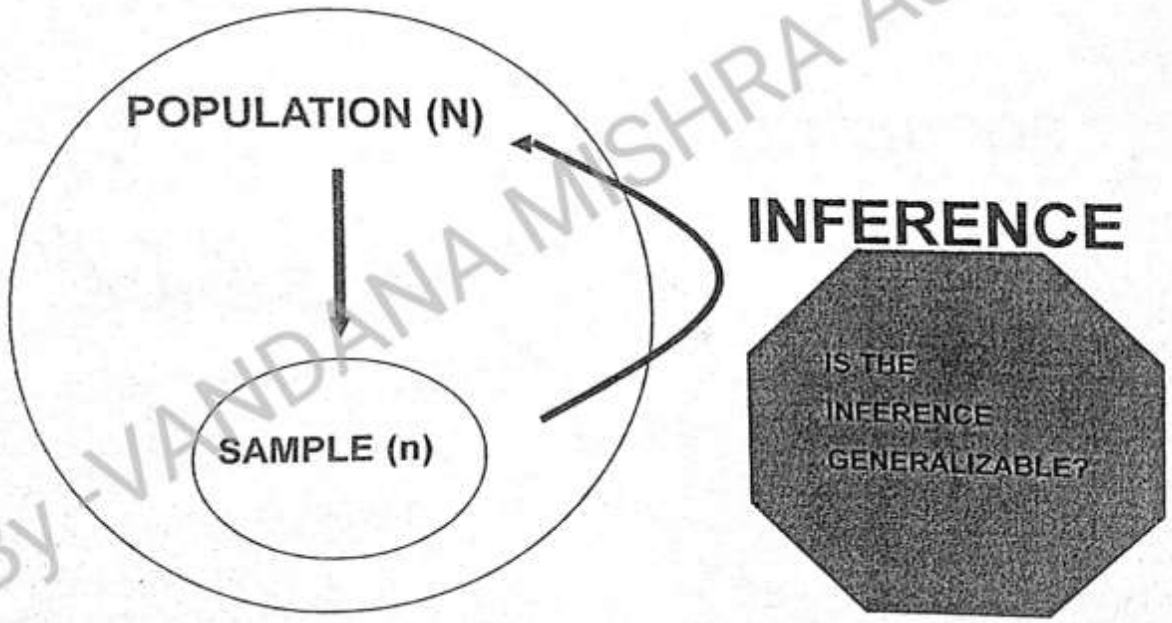
The sampling process...



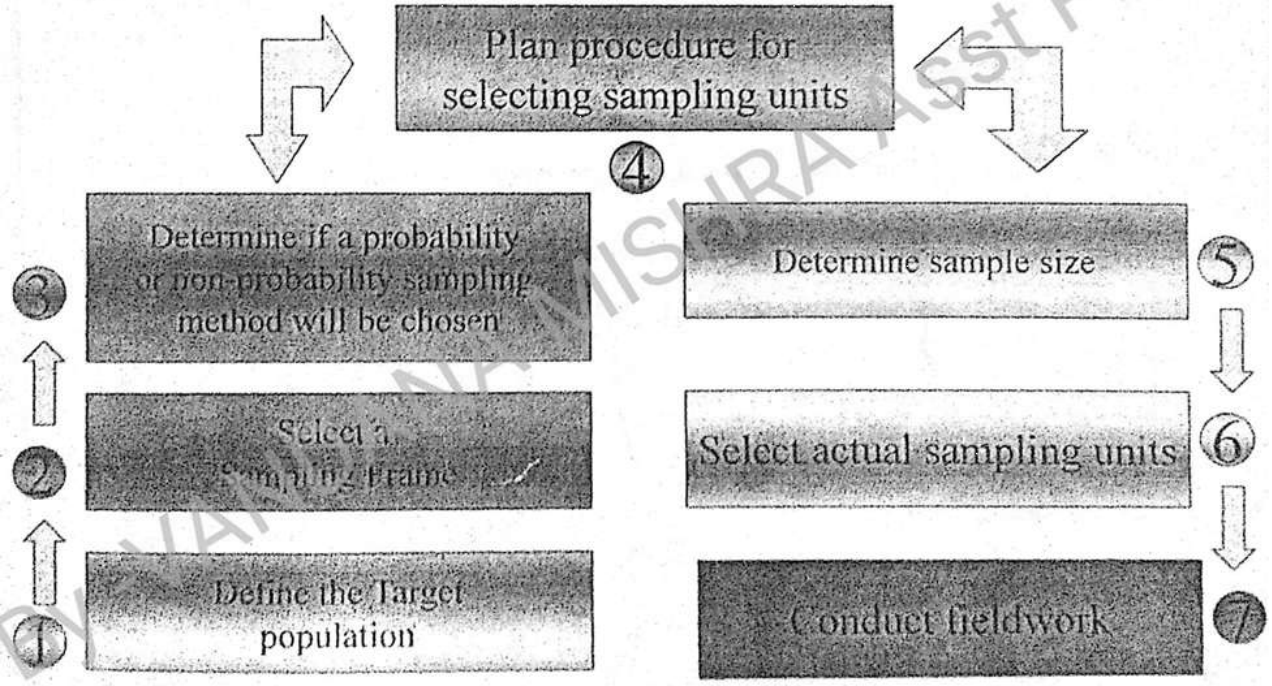
Regarding the sample...



Regarding the inference...



The Sampling Process



The purpose for sampling...

- To gather data about the population in order to make an inference that can be generalized to the population.
- To draw conclusions about populations from samples.
- Obviously, it is cheaper to observe a part rather than the whole.

Sampling error

- It comprises the differences between the sample and the population that are due solely to the particular units that happen to have been selected.
- For example, suppose that a sample of 100 Haryana women are measured and are all found to be taller than six feet.

Contd.... The sampling error

- It is very clear even without any statistical prove that this would be a highly unrepresentative sample leading to invalid conclusions.
- This is a very unlikely occurrence because naturally such rare cases are widely distributed among the population.
- But it can occur. Luckily, this is a very obvious error and can be detected very easily.

Causes for sampling error

- One is chance: That is the error that occurs just because of bad luck.
- *For example, in a recent study in which was looking at the number of trees, selected a sample of households randomly but strange enough, the two households in the whole population, which had the highest number of trees (10,018 and 6345) were both selected making the sample average higher than it should be.*

Contd.... Causes of Sampling error

- The second cause of sampling is sampling bias.
- Sampling bias is a tendency to favour the selection of units that have particular characteristic.
- For example, take a hypothetical case where a survey was conducted recently by X organisation to find out the level of stress that graduate students were going through.
- A mail questionnaire was sent to 100 randomly selected graduate students.
- Only 52 responded and the results were that students were not under stress.

Other causes

- **The interwiers effect**
- **The respondent effect**
- **Knowing the study purpose**
- **Induced bias**