

SAMPLING TECHNIQUES

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1

2 Population

- The group of elements from which a researcher samples and to which she or he might like to generalize
- It is also called Universe. It Should be clearly defined.
- It refers to total number of cases having special characteristics from which sample is drawn.

Sampling 3

- **Sample** is a small part of something used to represent the whole or to learn something about the whole population.
- Sampling is the process of drawing a number of individual cases from a larger population
- Sampling is the way to learn about a larger population by obtaining information from a subset of a larger population.
- It is mean to an end.

Sampling Frame 4

- Sampling frame is basically, is the list from which the potential respondents are drawn.
- For eg. List of students of college
- Telephone directory

5

Census Survey vs. Sample Survey

- When data is to be collected from each member of the population, it is known as census survey
- When data is to be collected only from some members of the population, it is known as sample survey

6

Blood Sample



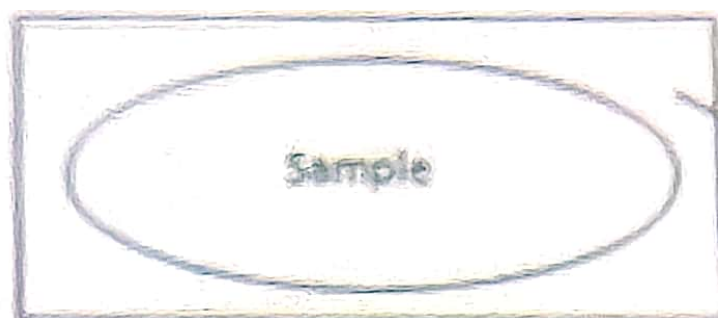
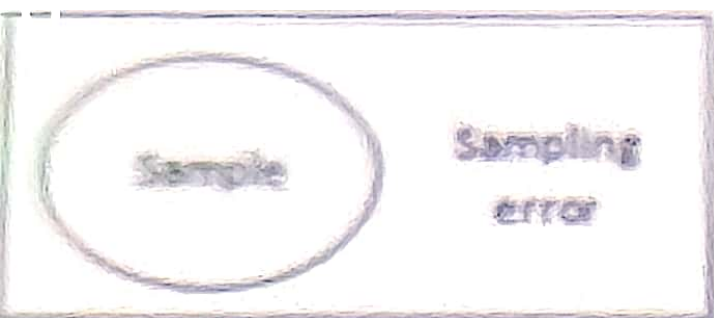


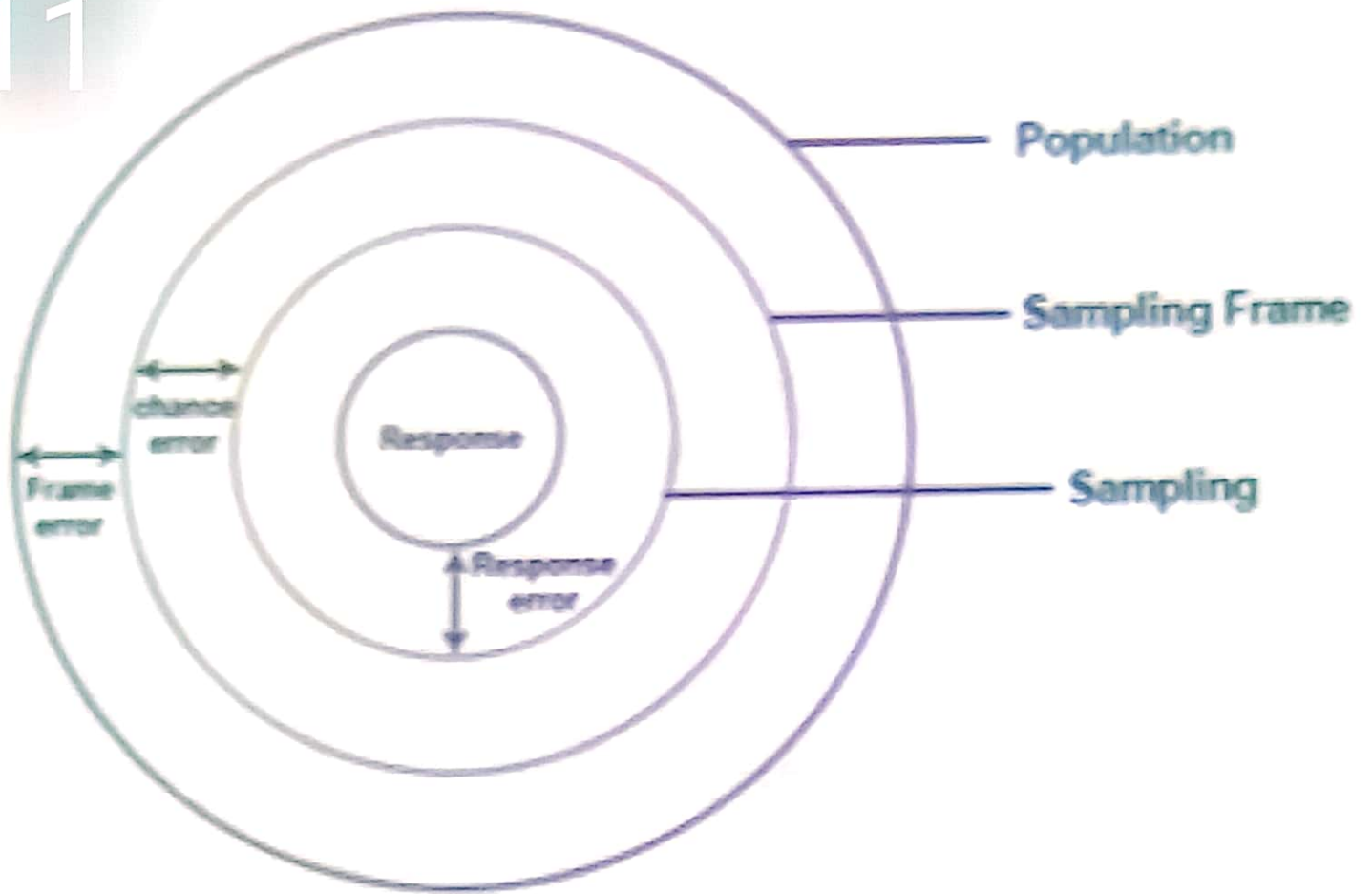
Sample Size 8

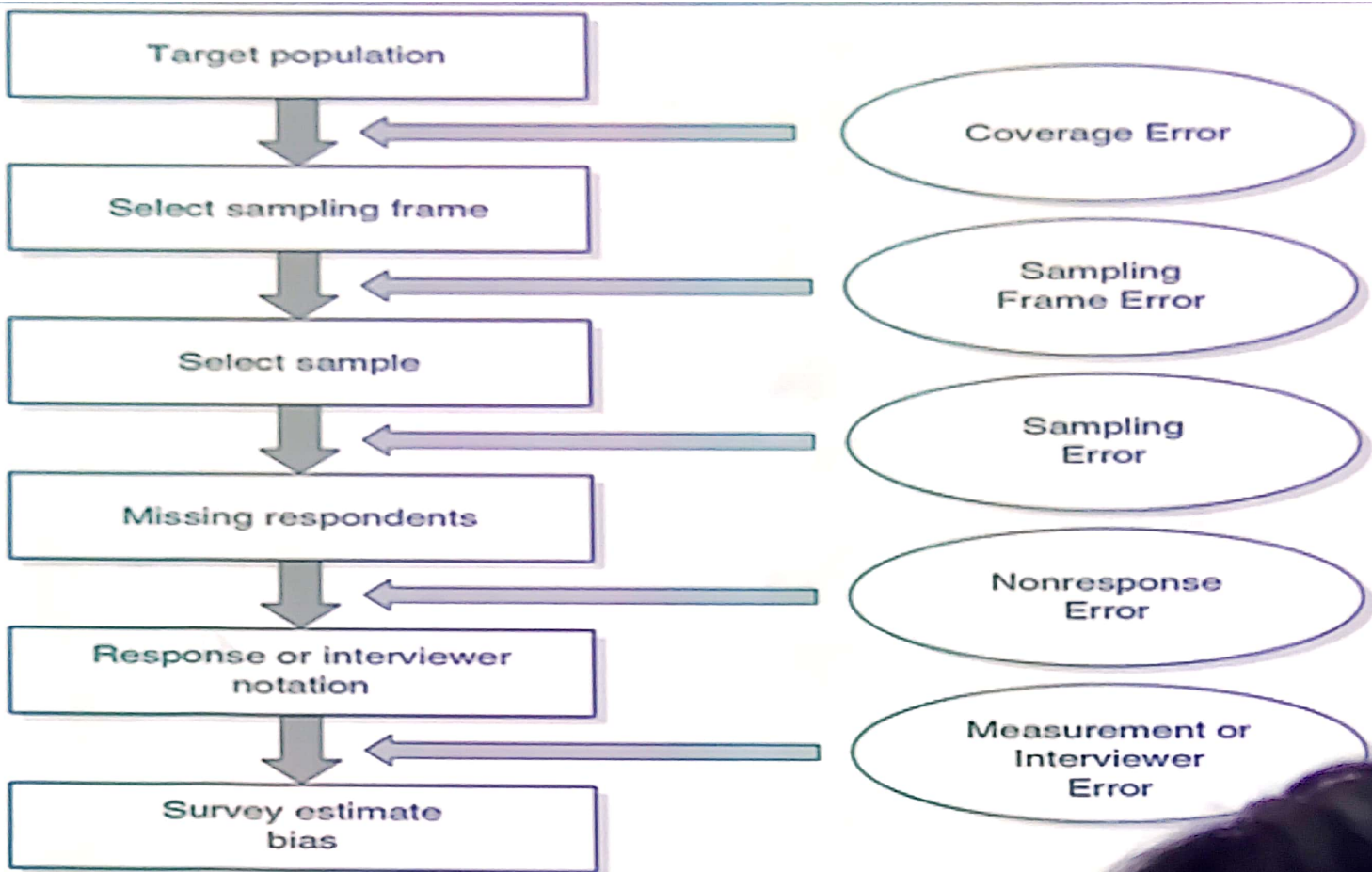
- It is the sub-population to be studied in order to make an inference to a reference population.
- In census, the sample size is equal to the population size. But in research, a representative sample is normally used because of time constraint and budget.
- The more the sample size, less chance of sampling error.

Sampling Error

- Normally sampling error means the difference between the sample value and the population value.
- It refers to differences/Mismatch between the sample and the population that exist only because of the observations that happened to be selected for the sample.
- It arises due to facts that only a part of population has been used to estimate population parameters and to draw inference about the population.
- Increasing the sample size will reduce this type of error.





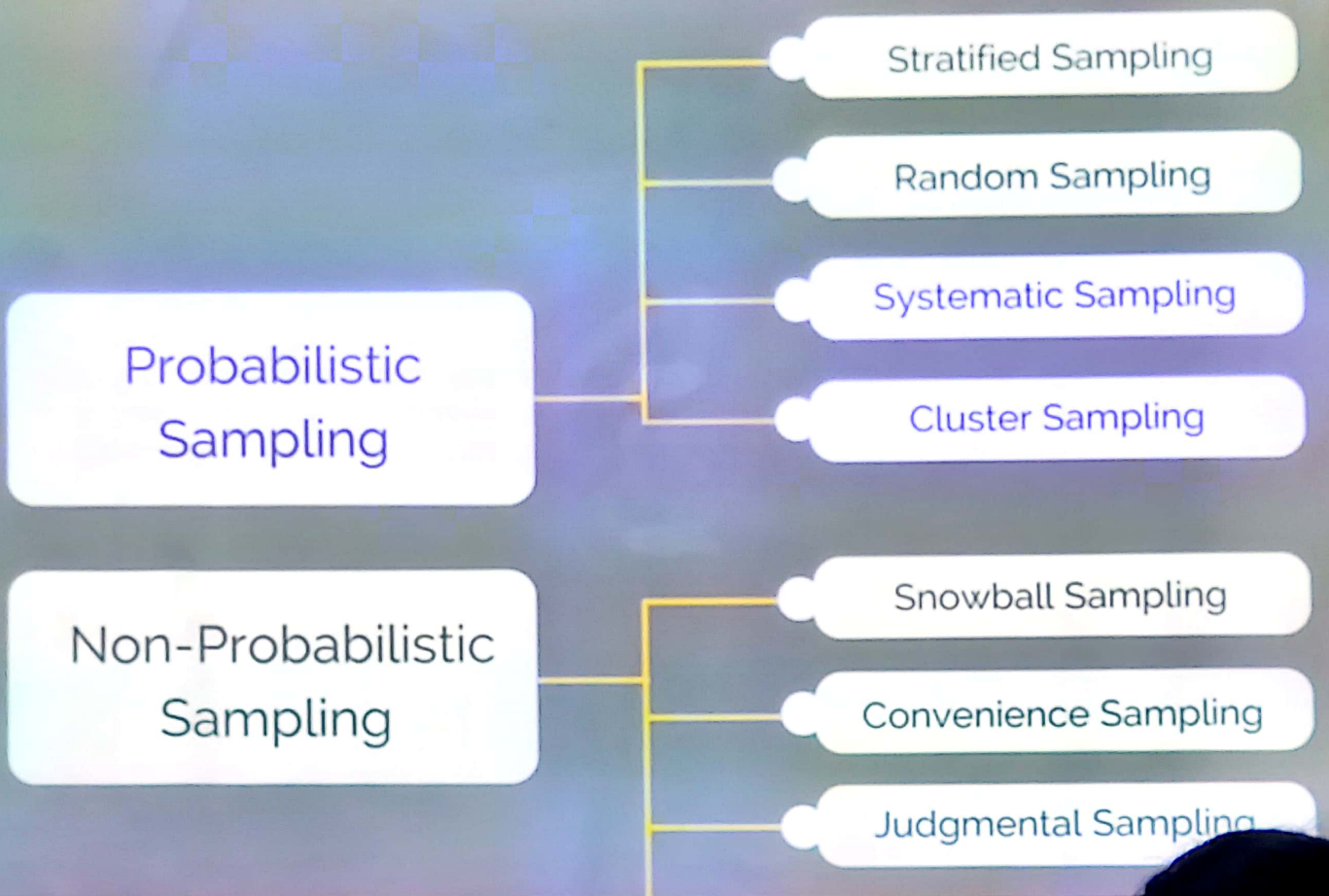


3 Estimation

A process by which a statistician makes inferences about a population, based on information obtained from a sample or observed data.

14

SAMPLING TECHNIQUES



Simple Random Sampling

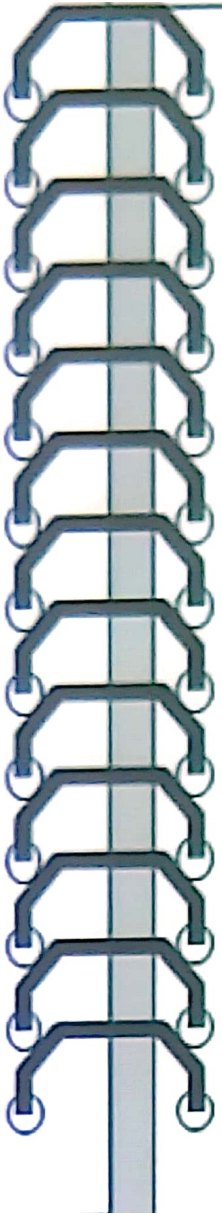
15

- In this method, Each person/member of population has the same probability of being selected as the researcher randomly selects a person from population to be included in sample.
- A simple random sample of size n consists of n individuals from the population chosen, in such a way that every set of n individual has an equal chance to be the sample actually selected.

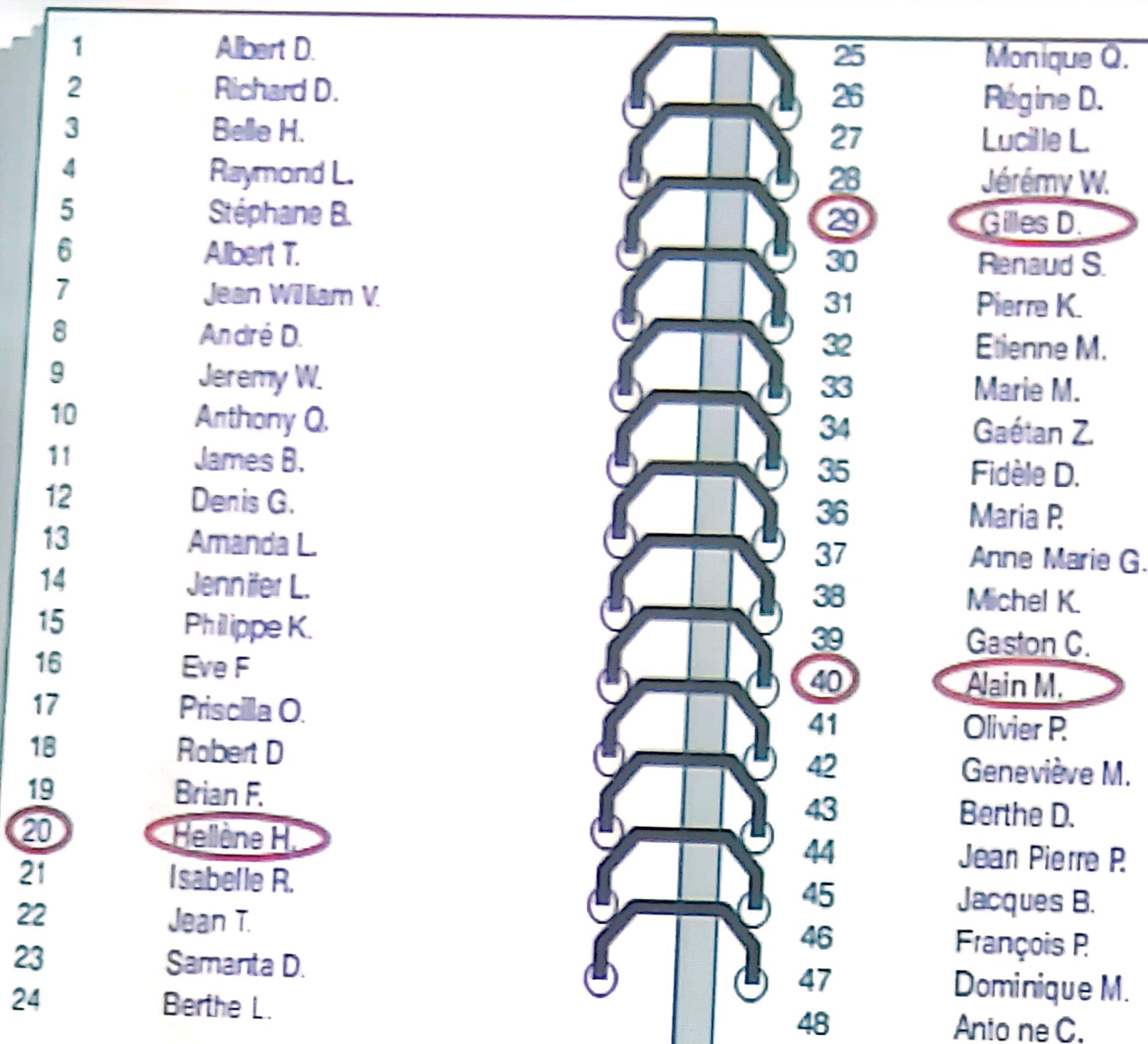
Types of Simple random Sampling 16

- **Simple Random Sampling**
- There is an equal Probability of selecting any particular item.
- **Sampling without replacement**
- As each item is selected, it is removed from the population
- **Sampling with Replacement**
- Objects are not removed from the population as they are selected for the sample.
- In Sample with Replacement, the same object can be picked up more than once.

1	Albert D.	25	Monique Q.
2	Richard D.	26	Régine D.
3	Belle H.	27	Lucille L.
4	Raymond L.	28	Jérémy W.
5	Stéphane B.	29	Gilles D.
6	Albert T.	30	Renaud S.
7	Jean William V.	31	Pierre K.
8	André D.	32	Etienne M.
9	Jeremy W.	33	Marie M.
10	Anthony Q.	34	Gaétan Z.
11	James B.	35	Fidèle D.
12	Denis G.	36	Maria P.
13	Amanda L.	37	Anne Marie G.
14	Jennifer L.	38	Michel K.
15	Philippe K.	39	Gaston C.
16	Eve F.	40	Alain M.
17	Priscilla O.	41	Olivier P.
18	Robert D.	42	Geneviève M.
19	Brian F.	43	Berthe D.
20	Hellène H.	44	Jean Pierre P.
21	Isabelle R.	45	Jacques B.
22	Jean T.	46	François P.
23	Samanta D.	47	Dominique M.
24	Berthe L.	48	Antoine C.



Simple random sampling



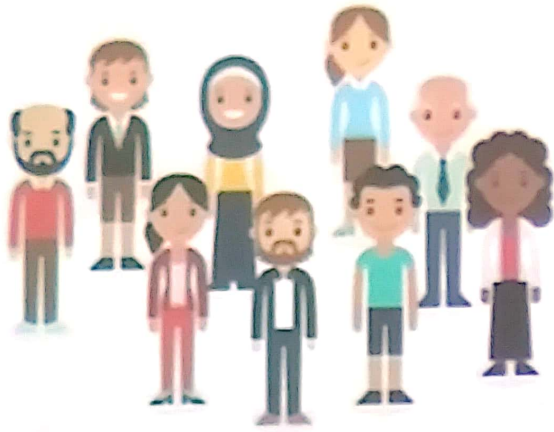
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Stratified sampling 20

- the stratified sampling is use where population embraces a number of distinct categories, the frame can be organized into separate strata. Each stratum is then sampled as an independence sub-population out of which individual elements can be randomly selected.

21



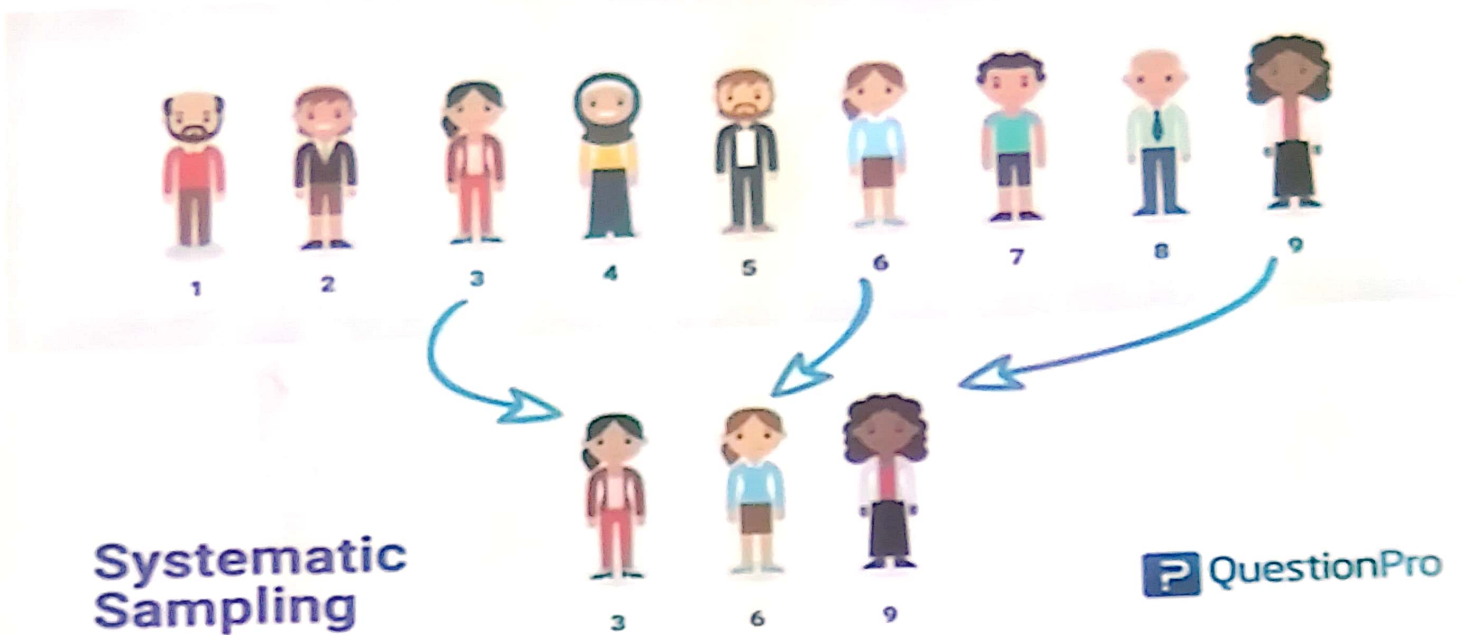
Stratified Random Sampling



 QuestionPro

Systematic Sampling ²²

- Under this method, we can take every Kth element listed in a sampling frame.



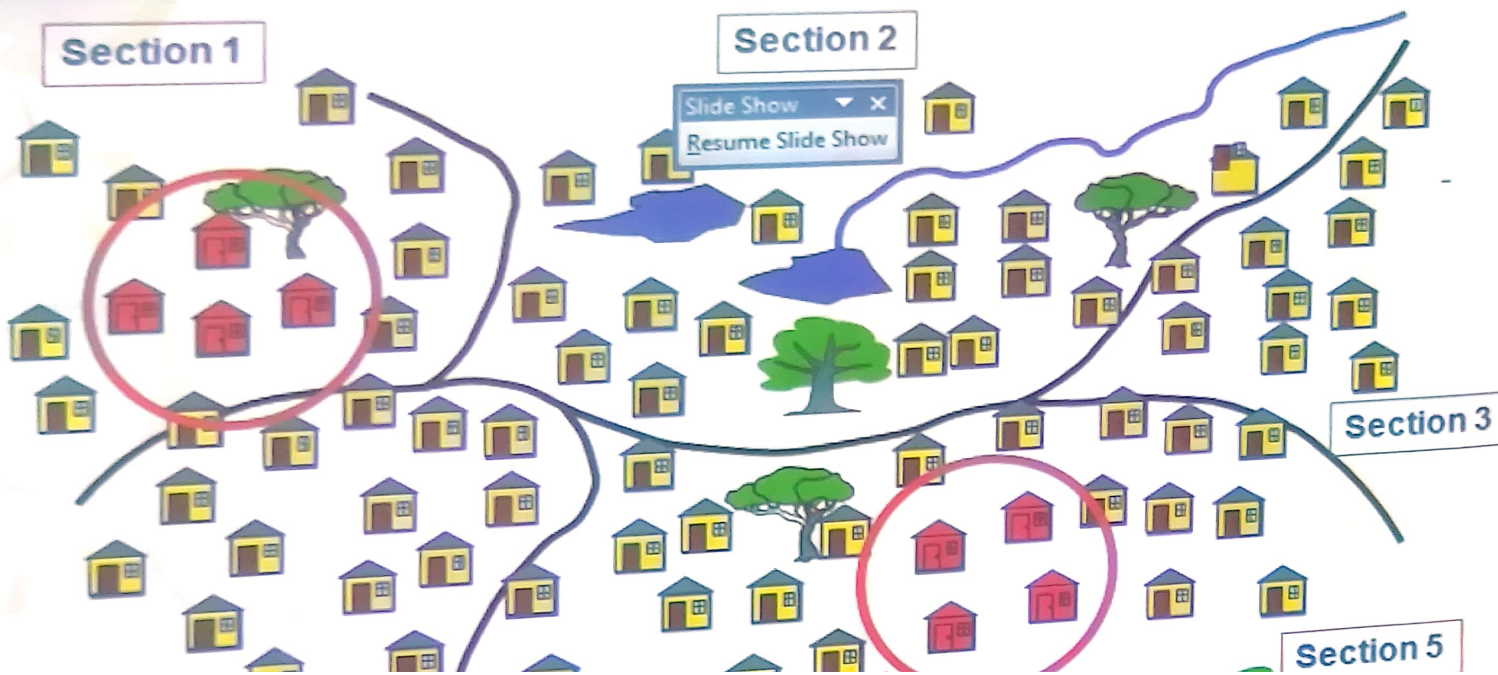
Stratified

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Cluster Sampling 24

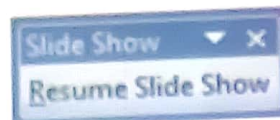
- With **cluster sampling**, the researcher divides the population into separate groups, called **clusters**. Then, a simple random **sample of clusters** is selected from the population. The researcher conducts his analysis on data from the **sampled clusters**.

Cluster sampling



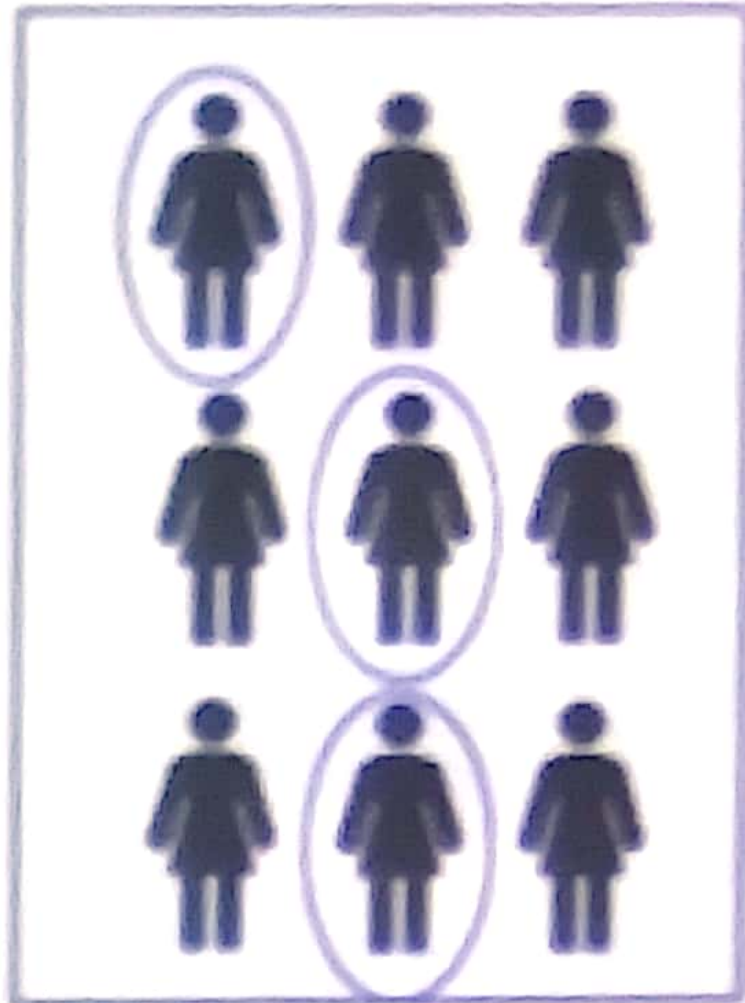
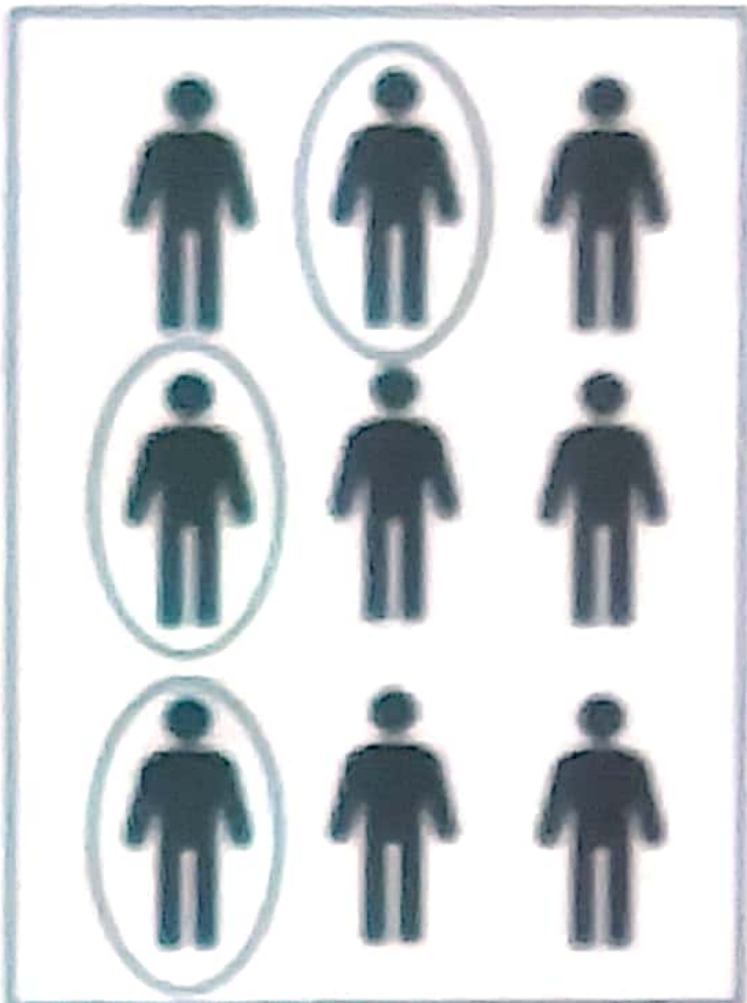
26

Multi stage Sampling



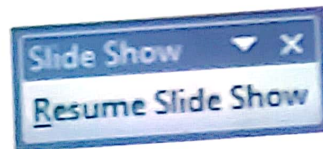
- **Multistage Sampling** is the taking of **samples** in stages using smaller and smaller **sampling** units at each stage. **Multistage sampling** can be a complex form of cluster **sampling** because it is a type of **sampling** which involves dividing the population into groups (or clusters).
- It is the probability **sampling** technique wherein the **sampling** is carried out in several stages such that the **sample** size gets reduced at each stage





Advantages and Disadvantage of Sampling

29



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u check
n all?

No, but I checked
a random sample
that should have
been representative
of the entire
population



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