Sampling Methods

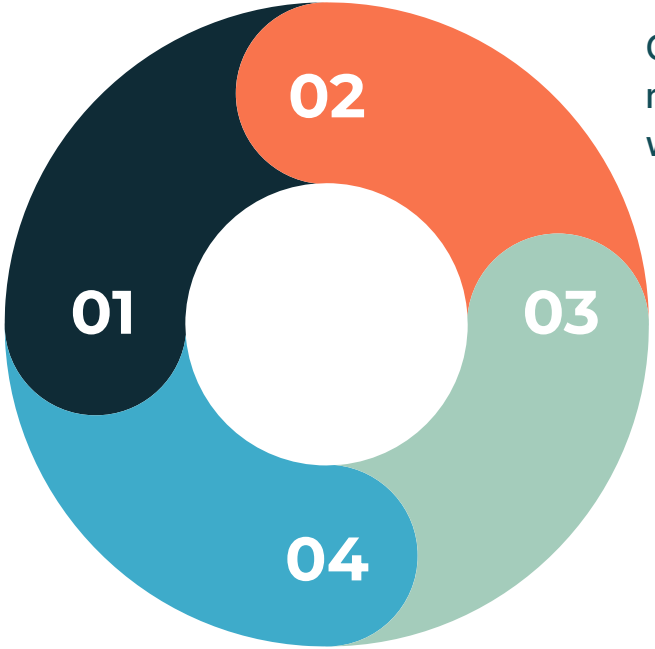
This presentation provides an overview of various sampling methods and their advantages, challenges, and applications.

Population vs Sample

- Population: Entire group of individuals, objects, or events that share a common characteristic
- Sample: Subset of the population selected for observation, study, or analysis

Simple Random Sampling

Every individual in the population has an equal chance of being selected



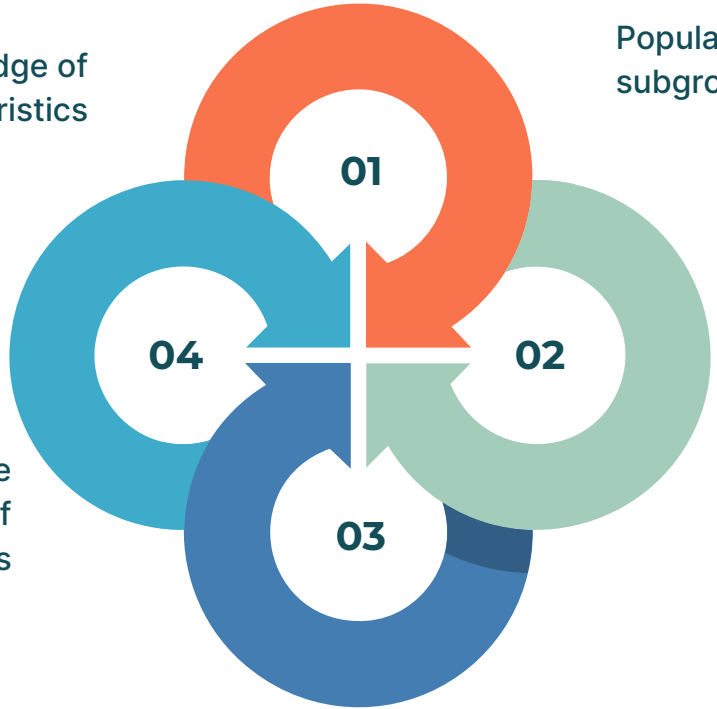
Challenges: May not represent specific subgroups well

Advantages: Unbiased, easy to implement, ensures fairness

When to Use: Homogenous population, precise representation is important

Stratified Sampling

Population divided into distinct subgroups based on characteristics



Challenges: Requires knowledge of population characteristics

Advantages: Ensures representation of each subgroup, increased precision

When to Use: Diverse population, comparison of subgroups

Systematic Sampling

01 Challenges: Susceptible to periodicity, potential bias

02 Selection of every nth item from the population after a random start

03 Advantages: Simple, easy to implement, suitable for large populations

04 When to Use: Predictable or sequential population organization

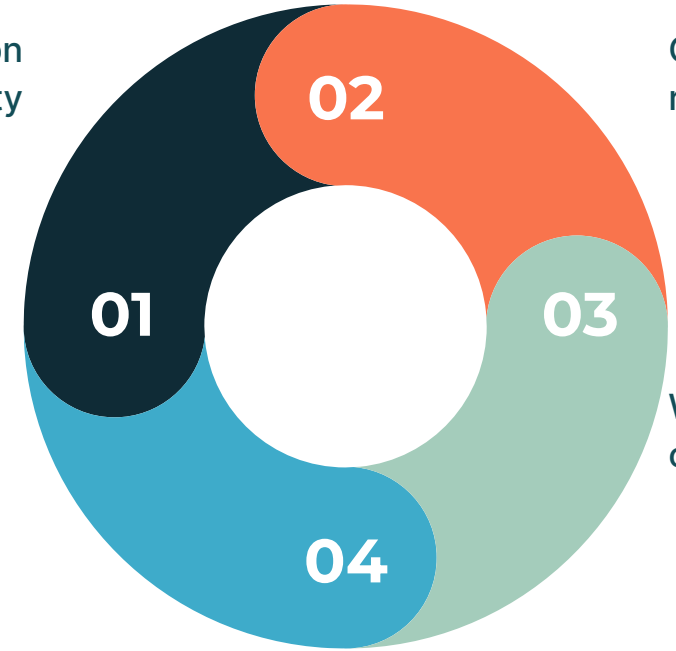
Cluster Sampling

- Population divided into clusters or groups
- Advantages: Cost Effective, efficient for geographically dispersed populations
- Challenges: Less precision, variability within clusters
- When to Use: Naturally divided population, geographically dispersed

Convenience Sampling

Selection based on accessibility and availability

Challenges: Not representative, risk of bias



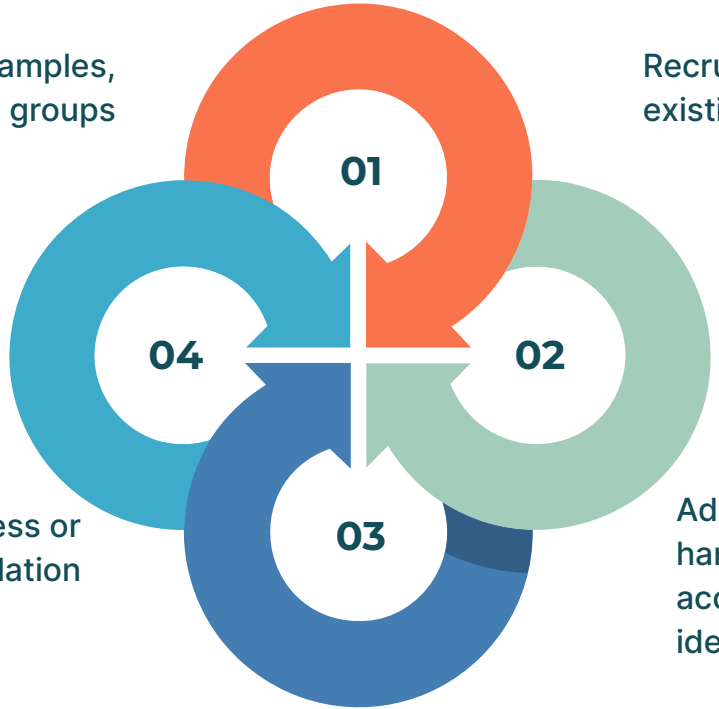
Advantages: Quick, easy, cost-effective

When to Use: Difficult to obtain representative sample

Snowball Sampling

Challenges: Biased samples, overrepresentation of certain groups

Recruiting participants through existing study participants



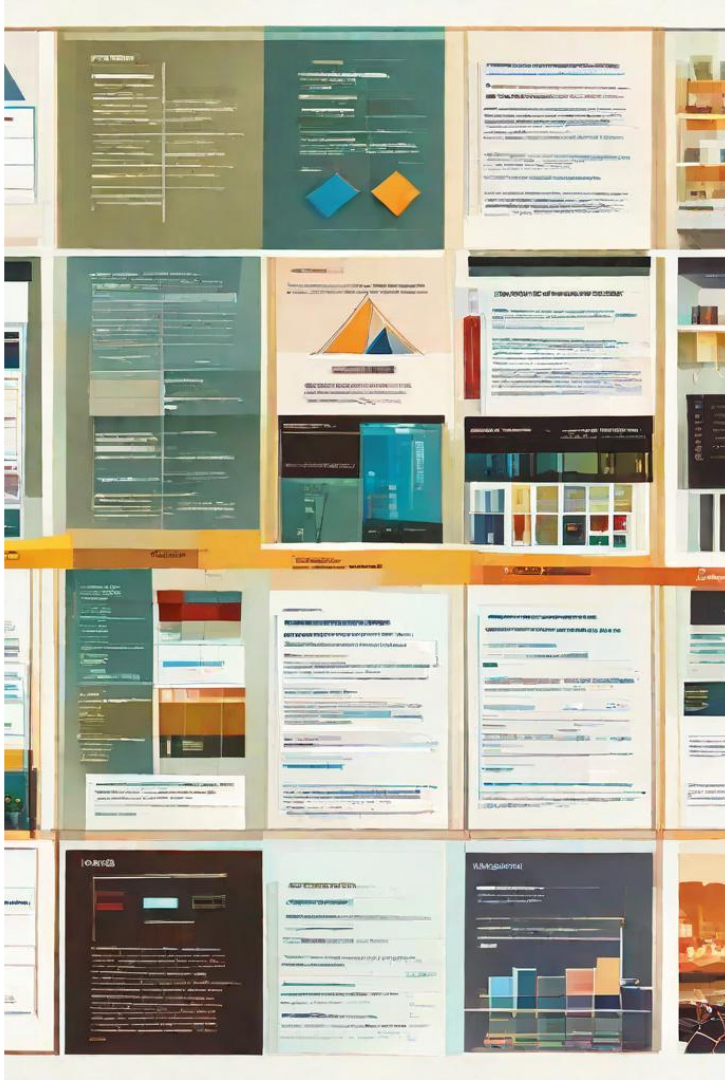
When to Use: Difficult to access or identify population

Advantages: Reaching hard-to-reach populations, accessing individuals not easily identifiable

Conclusion

01 Each method has strengths and limitations

02 Choose the right sampling method based on research objectives and population characteristics



Thank you for your time and attention 🙂