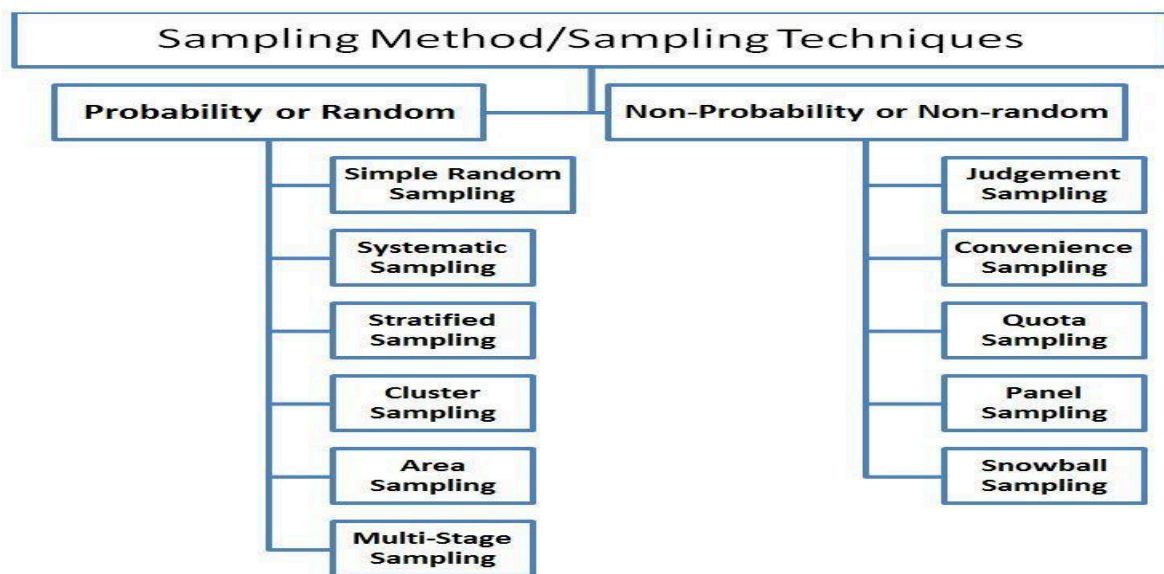


Selection of Sample in Quantitative Research, Qualitative Research and Mixed Method Research

The process of selecting a sample differs across **quantitative**, **qualitative**, and **mixed methods** research because of their different goals, data collection approaches, and analytical methods.

Figure 1

Different types of Sampling Techniques Used in Research



I. Selection of Sample in Quantitative Research

Quantitative research aims to collect numerical data that can be analyzed statistically. The goal is often to make generalizations about a larger population from a smaller sample.

Researchers aim to achieve representativeness and ensure that the sample reflects the population accurately.

Sampling Process

Defining the Population. Researchers clearly define the population, which could be a group of people, schools, classrooms, etc.

Sample Size. The sample size in quantitative research is typically determined statistically to ensure that the results are reliable and the margin of error is within acceptable limits.

Selecting a Sampling Method. Probability Sampling is commonly used in quantitative research to ensure representativeness. The most common methods include:

- Simple Random Sampling: Every member of the population has an equal chance of being selected.
- Systematic Sampling: A regular interval is chosen from the population (e.g., every 5th person).
- Stratified Random Sampling: The population is divided into strata (subgroups), and samples are randomly selected from each.
- Cluster Sampling: The population is divided into clusters (groups), and entire clusters are selected randomly.

Key Features

- Aims for generalizability.
- Uses larger sample sizes.
- Relies on statistical tools to analyze data.

II. Qualitative Research Sampling

Qualitative research focuses on understanding the meanings, experiences, or social processes of individuals or groups. It's often exploratory and in-depth, aiming to gather rich, detailed data rather than make broad generalizations. The sampling method is more flexible and purposeful.

Sampling Process

Defining the Population or Target Group. The researcher identifies a specific group that has experience or insight into the phenomenon being studied (e.g., teachers, students, or community members).

Sample Size. The sample size is typically smaller in qualitative research, and researchers focus on data saturation rather than statistical representation.

Selecting a Sampling Method. Non-Probability Sampling is commonly used in qualitative research. Researchers may intentionally select participants who can provide rich and relevant information.

- **Purposive Sampling (or Judgmental Sampling):** The researcher selects individuals who have specific knowledge or experience related to the research question. For example, studying high-performing students in a particular subject.
- **Snowball Sampling:** Participants refer other participants who fit the study's criteria. This method is especially useful when the population is hard to access.
- **Convenience Sampling:** The researcher selects participants who are readily available. While this is not ideal, it's often used in pilot studies or early explorations.

- Theoretical Sampling: The researcher selects participants based on emerging theories and insights during the study, continuing until the point of saturation (when no new data emerges).

Key Features

- Aims for deep understanding rather than generalizability.
- Smaller, more purposeful sample sizes.
- Focuses on the richness and context of data.

III. Selection of Sample in Mixed Methods Research

Mixed methods research combines both quantitative and qualitative approaches, allowing researchers to draw on the strengths of both methods. The sampling process in mixed methods typically involves using different sampling techniques for the quantitative and qualitative components. In mixed methods research, the sampling strategies for the quantitative and qualitative components often need to be carefully coordinated to ensure that the data collected can be integrated meaningfully. The overall goal is to combine the strengths of both approaches to provide a more comprehensive understanding of the research problem.

Sampling Process

Defining the Population. The researcher must define the population for both the qualitative and quantitative components, which may or may not overlap.

Selecting Sampling Methods. For quantitative data, researchers use probability sampling methods (e.g., simple random sampling, stratified sampling) to ensure that the sample is representative of the population. For qualitative data, researchers often use non-probability sampling techniques (e.g., purposive, snowball, or convenience sampling) to select individuals who can provide rich insights into the topic.

Sequential or Concurrent Sampling: Since Mixed Method Research uses both quantitative and qualitative data, based on what sequence they are carried out sampling can be sequential or concurrent.

- In sequential designs, qualitative data may be collected first to inform the quantitative phase (or vice versa).
- In concurrent designs, quantitative and qualitative data are collected at the same time, and different sampling methods are applied to the respective components.

Key Features

- Combines both probabilistic (for generalizability) and non-probabilistic (for depth and context) sampling methods.
- The sample size for quantitative data may be large, while for qualitative data, it may be smaller but purposefully selected.
- Sampling decisions are based on the research design and the integration of both types of data.

Table 1

Research Type	Sampling Method	Sample Size	Goal
Quantitative	Probability sampling (e.g., simple random, stratified, cluster)	Large (for statistical power)	To ensure generalizability to the population.
Qualitative	Non-probability sampling (e.g., purposive, snowball, theoretical)	Smaller, focused on depth	To gain in-depth insights from specific individuals or groups.
Mixed Methods	Combination of probability (quantitative) and non-probability (qualitative) sampling	Varies for each component	To combine generalizability and rich insights for comprehensive findings.

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