

Data collection Techniques and Tools

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Talk Plan

- **Introduction**
- **Contents of data collection**
- **Sampling techniques**
- **Data collection tools**
- **Conclusions**

Introduction

- Data collection technique is the part of research planning
- It depends on the types of study & research design
- It must be clearly mentioned in the methodology with reasons
- It must be well described in the procedure

Introduction

Constituents of data collection technique

- Ascertainment technique or sampling
- Selection or development of data collection tools or instruments
- Fixing data collection procedure
- Organizing data collection team

Sampling

Definition

Sampling is the process of selecting a subset of population for the purpose of drawing conclusion

Purpose of sampling

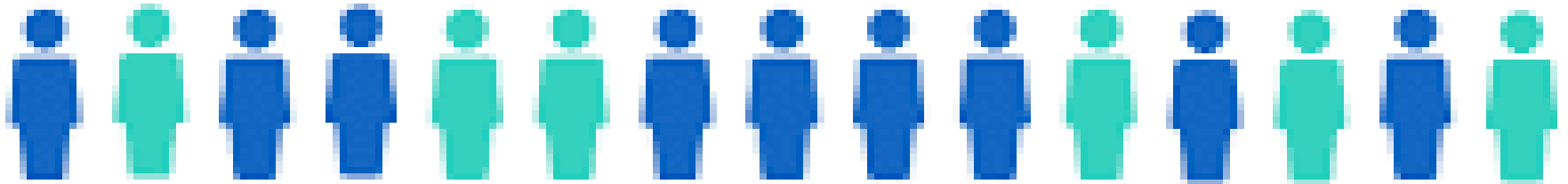
to achieve maximum reliability within a given source

Sampling

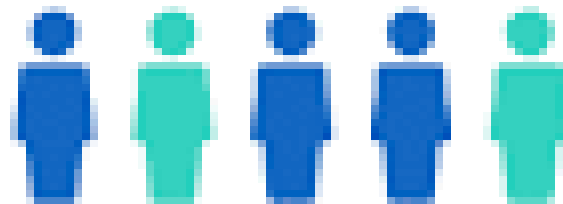
For sampling defining the following are necessary:

1. Population-N
2. Sample-n
3. Sampling frame-Source/list of sample units
4. Sampling fraction- n/N
5. Sampling unit-individual
6. Sample size
7. Participation rate

Population



Sample



Sampling

- Can the population and the sample be the same ?

Sampling

Common Sampling techniques are:

- Non-probability Sampling
- Probability Sampling

Sampling

Non-probability Sampling

- Purposive/ Deliberate/ Convenience/ Judgmental
- Consecutive
- Quota/Proportionate
- Snow ball

Sampling

Probability Sampling

- Simple Random
- Systemic
- Stratified
- Cluster
- Multistage

Qualitative VS Quantitative sampling

Qualitative sampling	Quantitative sampling
Selected elements are representative	Select elements according to research of target population focus
Generalize from sample to population	Generate detailed and subjective understanding
Make claims about the population	Answer research questions
Test theories within population	Build theories

Stages of Sampling

- Stage One: Decide whether the study needs a sample, or whether it is possible to have the whole population
- Stage Two: Identify the population, its important features (the sampling frame) and its size

Stages of Sampling

- Stage Three: Identify the kind of sampling strategy that is required (e. g. probability, non-probability, or mixed methods sample)
- • Stage Four: Ensure that access to the sample is guaranteed. If not, be prepared to modify the sampling strategy

Stages of Sampling

- Stage Five: For non-probability sampling, identify the people whom you require in the sample
- Stage Six: Calculate the numbers required in the sample, allowing for non-response, incomplete or spoiled responses and sample mortality
- Stage Seven: Decide how to gain and manage access and contact
- Stage Eight: Be prepared to adjust the data, once collected

Sampling Bias

Factors related to sampling bias

- Predetermined sampling techniques are deviated from
- Out dated sampling frame is used
- Difficult to reach population group are omitted
- Participation rate is low
- Response rate is low

Data collection Tools

Types

- Selecting from available tools
- Developing necessary tools

Data collection Tools

Selecting tools

- Adopted/validated
- Objective based- right tools for right task
- Reasons for selection

Data collection Tools

Developing tools

- Define the purpose
- Fix the variables- based on the objectives
- Define the variables
- Decide types- structured/semistructured
- Prepare contents
- Check the contents
- Test the contents

Conclusions

- Perfect sampling is crucial for a research particularly establishing representativeness of the population
- Using appropriate tools only can ensure in achieving the objectives
- In other words, sound methodology is the firm base of the findings either in implication or generalization

***Let us open our inquisitive and analytical
mind for evidence based findings***

Thank you!