

# Week 10

# Data Collection

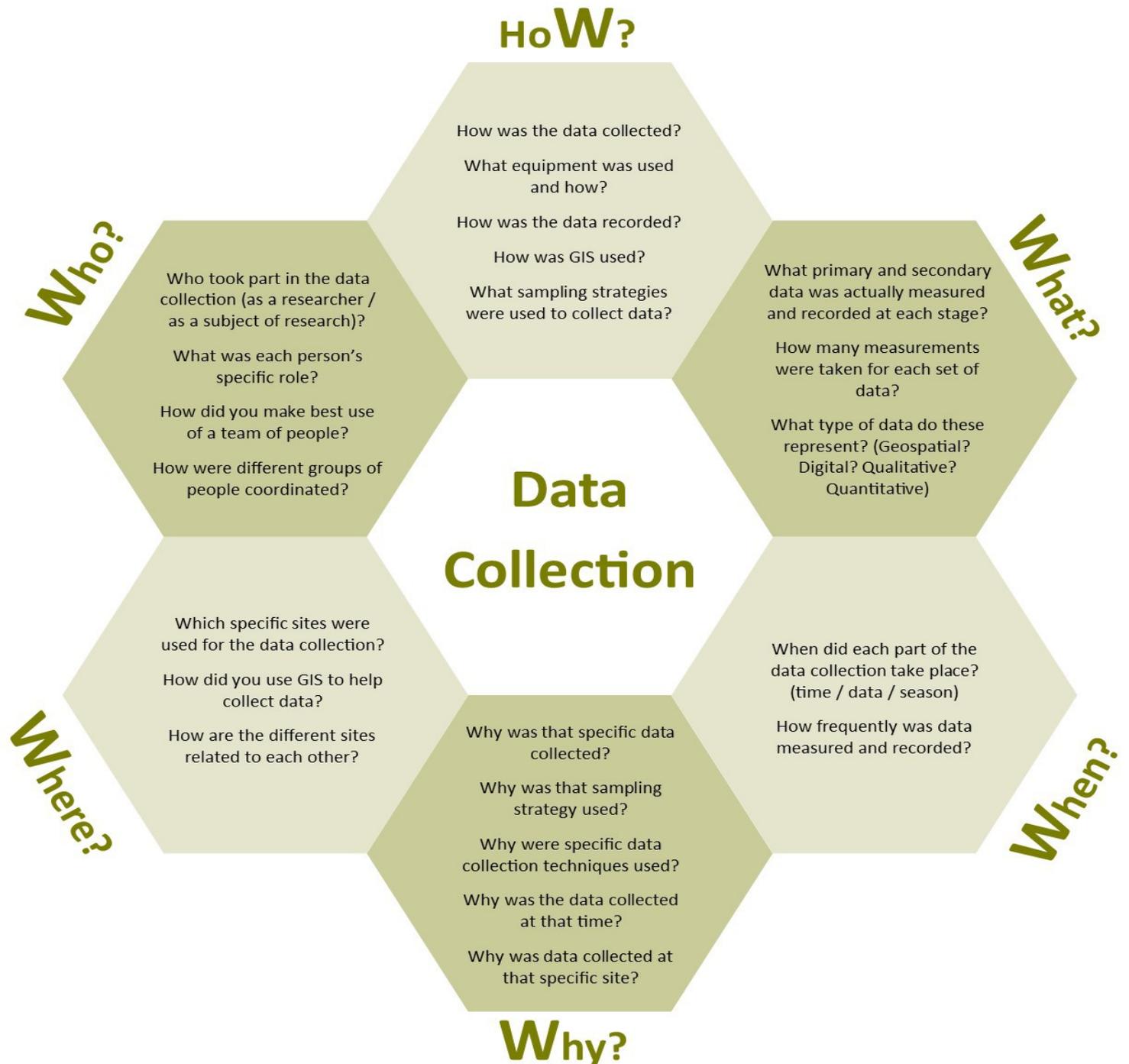
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*Modified from PPT developed by Allen Rubin, Lin Fang & Jennifer L. Bellamy*

# Overview of Research Process

1. Problem formulation
2. Methodology
  - Research design
  - Study population and sampling
  - Operationalization and measurement
  - **Data collection**
  - Data analysis plan
3. Implementation- Data collection
4. Data analysis
5. Dissemination

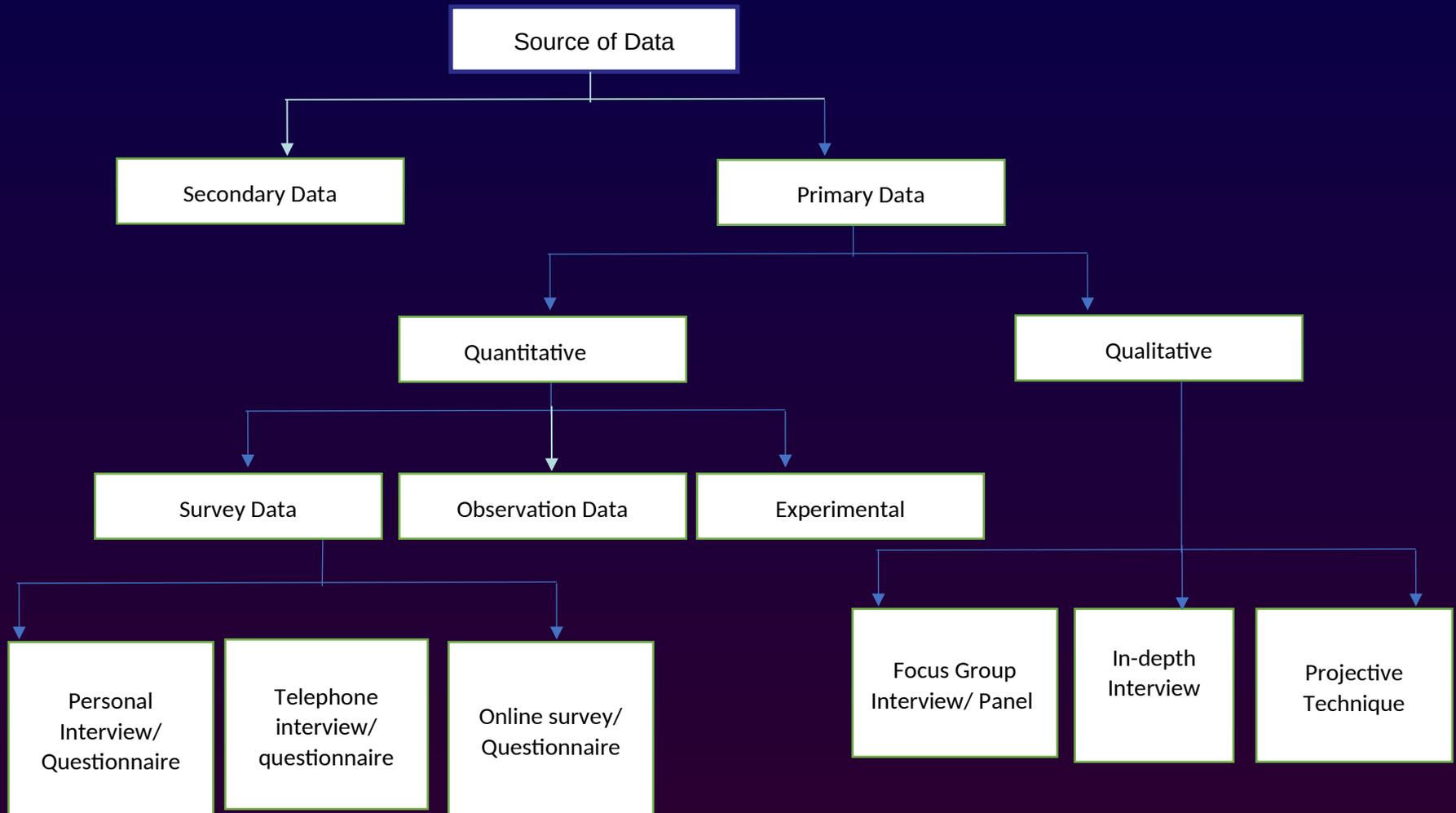
# 6W



# Data Collection Procedures

- Once decided study design, data collection should be considered
- Decide what to collect and then how to collect (verbal reporting, questionnaires, observation?)
- Make sure clear criteria for selection
- Assure data is reliable, consistent, and accurate
- In writing, discuss how relevant it can be in the research as well as its effectiveness

# Data collection Techniques



# Sources of Data

- Primary sources- refer to information collected firsthand by researcher on the variables of interest for the research purposes
- Secondary sources- refer to information gathered by someone else and from sources already existing through the statistical process

# Primary Sources of Data

- Individuals

- Quantitative Data

- Survey (Questionnaires and interview)
    - Participant observation
    - Experiment
    - Personal Interview- unstructured, superficial and short interview



- Qualitative Data

- In-depth Interview- structured and time-consuming interview
    - Projective Techniques (e.g., Asking meaning of ambiguous image)

- Unobtrusive Measures

- Not involve direct contact with the research participants

# Primary Sources of Data

- Focus Groups (Qualitative Data)
  - Obtain respondents' impressions, interpretations, and opinions
  - Used for qualitative information and exploratory studies
  - Recently videoconferencing is also used
  - Meet one time
- Panels (Qualitative Data)
  - Meet more than once
  - Used when several aspects of a product are to be studied from time to time



# Secondary Sources of Data

- Data from primary Sources; Collected by someone else through
  - Survey
  - Interviews
  - Questionnaires
  - Observation
  - Unobtrusive Measures (e.g., archival research, library data, etc.)
  - Etc.

# Secondary Sources of Data

- Advantage
  - Savings in time and costs
- Disadvantage
  - higher chance of not meeting the specific needs related to research purposes

# Survey Research

- Used to describe both the characteristics of the respondents and the population they represent
- Descriptive, exploratory, and explanatory
- Doesn't focus on a cause-and-effect relationship, but on an association by **finding the significance** of association
- Most widely used methods
- Establish **validity and reliability** of measurement

# Benefits of Survey

- One of the oldest and most used research methods
- Best method to gather Data with Large number of individuals
- Ensure that the sample is representative of the population with strong sampling method
- Allow quantitative and qualitative analysis
- Can Include valid and reliable measures

# Data Collection Methods- Questionnaire or Survey

- questionnaire: a written set of questions
- survey: the form is a set of questions and interviews; But it includes process of collecting, aggregating, and analyzing the responses from those questions.

	Survey	Questionnaire
Individual questions	✓	✓
Delivery of questionnaire	✓	✗
Analysis of responses	✓	✗

# Designing Questions Guidelines

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## 1. Closed VS. open-ended questions

- Exhaustive and mutually exclusive

## 2. Wording of questions

- Simple, short, direct and clear
- Never use slang terminology

## 3. Avoid double-barreled questions

- “Should the state abandon its community-based services and spend the money on improving institutional care?”

# Designing Questions

4. Culturally sensitive wording choice

5. Respondents Must be Willing to Answer

6. Questions Should be Relevant -

Study results are not useful if questions are not relevant to respondents

7. Short Items are Best

8. Avoid Words like No or not- easy misinterpretation

# Designing Questions

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## 9. Structure and Design of Questionnaires

- Be easy on the eyes and easy to complete
- Directions: clear & Precise
- Order: Begin with easy, interesting items, opinion first, factual later; Put sensitive questions at the end

# Critically Appraising Quantitative Instruments: Questionnaires

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- Spread out and uncluttered
- Format for Respondents
  - Use genuine boxes
- Contingency Questions
  - Respondents will only answer questions that are relevant to them

**Have you ever smoked marijuana?**

Yes

No

Filter question

Contingency question

**If yes, about how many times have you smoked marijuana?**

Once

2 to 5 times

6 to 10 times

11 to 20 times

more than 20 times

Circle one response for each of the following ten items.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. I feel that I am a person of worth, at least on an equal basis with others.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
*3. All in all, I am inclined to feel that I am a failure.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
*5. I feel I do not have much to be proud of.	1	2	3	4
6. I take a positive attitude toward myself.	1	2	3	4
7. On the whole, I am satisfied with myself.	1	2	3	4
*8. I wish I could have more respect for myself.	1	2	3	4
*9. I certainly feel useless at times.	1	2	3	4
*10. At times I think I am no good at all.	1	2	3	4

# Mail Surveys

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- Cover letter
- Monitoring returns
- Follow-up mailings

- Return rates can be increased when follow-ups are planned
- The higher response rate, the less significant response bias

# Online Surveys

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- Via email
- Through a website
- Adaptations to technological advances, such as smartphones
- Advantages
  - Quick and inexpensive
- Disadvantages
  - Questionable representativeness
  - Possible technical problems

# When Conducting Online Surveys

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- Use consistent wording
- Use plain, simple language
- Offer to share selected results
- Plan the time of day and day of week to mail
- Be aware of technical limitations
- Test incentives, rewards, and prize drawings
- Limit surveys to 15 minutes or less
- Don't force respondent to scroll down the screen for the URL for study location

# Interview Surveys

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- Interviewers ask the questions orally and record the answers
- Higher response rates than mail surveys
- Minimizes “don’t know” or “no answers” responses
- Allows interviewers to observe respondents while asking questions

# General Guidelines for Survey Interviewing

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- Appearance and demeanor
  - Dress and grooming
  - Pleasant, genuine demeanor
- Familiarity with a questionnaire
- Following question wording exactly

# General Guidelines for Survey Interviewing

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- Recording responses exactly
  - Use marginal comments to explain responses that are not conveyed
- Probing for response
  - Probes must be completely neutral
  - get the respondent to answer a question more fully
  - “Would you lean more toward [answer] or [answer]?” “Just your best guess is fine”

# Coordination and Control

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- Train and supervise interviewers
- Provide specifications
- Conduct demonstration interviews
- Involve “real” interviews

# Telephone Surveys

## Advantages

- Money and time
- Interviewers have more support
- Personal safety

## Disadvantages

- Bogus surveys
- Survey discontinuation
- Answering machine
- Caller ID
- Cell phones

# Survey Research: Strengths

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- Describes the characteristics of a large population
- Makes a large sample feasible
- Makes findings more generalizable
- Enables analysis of multiple variables
- Flexible analysis
- Uniform measurement

# Survey Research: Weakness

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- Fitting of round pegs into square holes
- Superficiality
- Lack of context
- Inflexibility in design
- Artificiality

# Combining Survey Research Methods and Qualitative Research Methods

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- Combines the strengths of both approaches
- Offsets their weaknesses

# When Asking Questionnaire Items

Please don't

- skip questions that the respondent cannot answer and return to them at the end of the interview.
- react to a question after the respondent has answered to show interest
- give help on difficult questions.
- summarize the respondent's answers so that they are more meaningful answers.

# 6W

