Data Collection

Survey

Jan Osička

Outline

- Online survey: theory and practice

- Sources of data
- Triangulation

Survey

What is survey and when we use it?

Designing and implementing a survey

1) A systematic process of
2) gathering information on a specific topic by
3) asking questions of individuals and then
4) generalizing the results to the groups represented by the respondents.
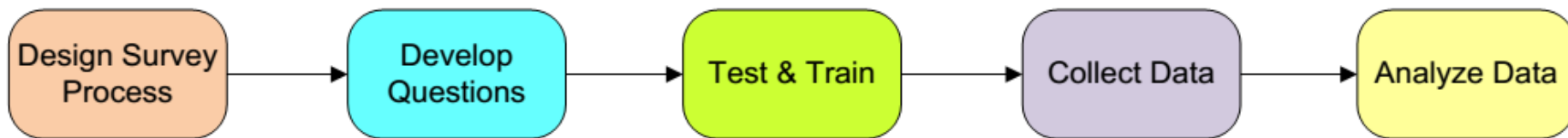
Design Survey Process → Develop Questions → Test & Train → Collect Data → Analyze Data

The process

- The research aims – what are they?

- Does the survey method help the best to achieve them?

What are the goals of survey?

The process

- The research aims – what are they?

- Does the survey method help the best to achieve them?

What are the goals of survey?

- Learn about/describe a population (stakeholders, decision makers, technology users)

- Make comparisons between groups (similar groups in different environments, users x non-users)

The process

Defining the population

- What is the target population?

- Is it possible to survey all the population? What if not?

Timing

- When is the data needed?

- When is the best time to conduct the survey?

- When is the best time to contact the respondents?

Self-administered surveys (i.e. online)

Pros: Cheap, fast, powerful

Cons:

- Response rate (30-40%)
- No control over the environment
- Survey appearance depends on platform and browser (reliability risk)
- Variation in internet usage, mail reading habits

The importance of context (the purpose, use of data, anonymity) and first contact.

Self-administered surveys (i.e. online)

Design considerations:

- Unobtrusive layout

- Intuitive launching and moving through

- Email and webpage headers create the first impressions

- Contact information necessary

Developing questions

Question = a measuring device for things that are not directly observable

- Reliability (the extent to which repeatedly measuring the same property produces the same result)
- Validity (the extent to which a survey question measures the property it is supposed to measure)

Ideal question therefore…

- Measures the underlying concept it is intended to tap
- Does not measure other concepts
- Means the same thing to all respondents

Types of questions

- Open-ended vs. closed ended questions
- Rating vs. ranking
- Semantic differentials
- Question batteries
- Contingency questions

Rules for asking questions

- Avoid technical terms and jargon
- Avoid vague or imprecise terms
- Define things very specifically
- Avoid complex sentences
- Provide reference frames
- Make sure scales are ordinal
- Avoid double-barreled questions
- Answer choices should anticipate all possibilities
- If you want a single answer, make sure your answer choices are unique and include all possible responses
- Avoid questions using leading, emotional, or evocative language

Structuring questions within survey

- Begin with questions that reflect the announced subject of the study, catch the respondent's attention, and are easy to answer

- Group items that are similar in topic, then group items within the topic that have similar response options

- Place personal and demographic questions at the end of the survey

Do	Do not
• Give clear instructions • Keep question structure simple • Ask one question at a time • Maintain a parallel structure for all questions • Define terms before asking the question • Be explicit about the period of time being referenced by the question • Provide a list of acceptable responses to closed questions • Ensure that response categories are both exhaustive and mutually exclusive • Label response categories with words rather than numbers • Ask for number of occurrences, rather than providing response categories such as often, seldom, never • Save personal and demographic questions for the end of the survey	• Use abbreviations, contractions or symbols • Mix different words for the same concept • Use "loaded" words or phrases • Combine multiple response dimensions in the same question • Bounce around between topics or time periods • Insert unnecessary graphics or mix many font styles and sizes

Testing and training

- Internal testing and tweaking (consistency, allignment with the aims, grammar)
- Testing on a sample of target population or of a similar population
  - Do people understand the terms?
  - Do people complete the survey as intended? Or do they drop out before completing it?
  - Are certain questions regularly skipped or show no variation?
  - Does the survey launch properly and work as expected with different browsers?

Sources of data

Sources of data

- Original data: documents, data sets, statistics, interviews
- Interpretations: studies, analyses, research papers, presentations

Problems with data

- Missing pieces and limited access
- Compatibility
- Money and resources

$\Rightarrow$ Need for combination of sources
$\Rightarrow$ Validity and reliability issues

Triangulation

- Using multiple perspectives to boost validity
- Does not aim to arrive at consistency across data or approaches
- Reveals inconsistencies to improve the research

Triangulation

- Data (stakeholders' points of view)
- Investigator (data/evaluation)
- Theory (multiple perspectives/disciplines)
- Methodology (multiple methods)
- Environment (intervening variables)

Triangulation

Advantages

- Increasing confidence in research data
- Creating innovative ways of understanding a phenomenon
- Revealing unique findings
- Challenging or integrating theories
- Providing a clearer understanding of the problem

Triangulation

Disdvantages

- ?

Triangulation

Disadvantages

- Time and money

- Investigator bias

- Conflicting theoretical frameworks

- Lack of understanding about why particular strategies were used

Triangulation in energy-related (social) research

Theory

• Interdisciplinary studies (economics, sciences, politics)

Environment

• Institutions in different countries

Data

• Statistics + secondary data

Method

• Statistical methods + interviews/surveys
• Case study + interviews/surveys