What are Questionnaires and Surveys?

• Structured set of questions delivered either:
  • Orally
  • Pen and paper
  • Mail
  • Online

• Not strictly qualitative - More structured than many qualitative techniques

• Not strictly quantitative - Can be less structured and more exploratory
**Why learn about these?**

- We’ve seen enough examples, so what is the point?
- It is very easy to design **BAD** questionnaires and surveys
  - Difficult to design a good survey
- How many terrible surveys have you seen?
  - Junk mail and unwanted telephone calls
- What constitutes a bad survey?
  - Fails to target or engage your intended audience
  - Fails to answer the research questions you wanted to ask

**Characteristics of Surveys**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic</td>
<td>The survey follows a specific set of rules; a formal and orderly logic of operations.</td>
</tr>
<tr>
<td>Impartial</td>
<td>The survey selects units of the population without prejudice or preference.</td>
</tr>
<tr>
<td>Representative</td>
<td>The survey includes units that together are representative of the problem under study and the population affected by it.</td>
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<tr>
<td>Theory-Based</td>
<td>The survey’s operations are guided by relevant principles of human behavior and mathematical laws of probability and statistics.</td>
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<tr>
<td>Quantitative</td>
<td>The survey assigns numerical values to non-numerical characteristics of human behavior in ways that permit uniform interpretation of these characteristics.</td>
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<tr>
<td>Replicable</td>
<td>Other people using the same methods in the same ways can get essentially the same results.</td>
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</tbody>
</table>
**Identify Research Objectives**

- **Focus**
  - Less can sometimes be more

- What can you reasonably expect to learn with a survey?
  - Are other techniques more appropriate?
  - What has already been proven by others?
  - How to triangulate?

**Target Population**

- How many people are in the population we are studying?
- What are their jobs and responsibilities?
- What is the most common education level?
- What relevant experience do they possess?
- What is the age range of the population?
- Do we anticipate any difficulty with delivering a questionnaire:
  - Via mail?
  - Over internet?
  - In person?
- What can we assume about their knowledge of the domain?
- How do they speak about the domain?
- Will they be motivated to complete the questionnaire?
Sampling

• What are our goals?
  – Representative (probability) sample, or…
    • Every person has equal probability of participating
    • Used to infer about whole population
  – Idiosyncratic sample, or…
    • Self-selecting sample
    • Convenience samples
      – Problems with bias and generalizability
  – Census

Sample Sizes and Precision

• What are we hoping to accomplish?
• What are our tolerances for survey?
• Yamane 1967
  – For cells with * we cannot assume normal distribution

<table>
<thead>
<tr>
<th>Population Size</th>
<th>± 3%</th>
<th>± 5%</th>
<th>± 7%</th>
<th>± 10%</th>
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Questionnaire Considerations

• Delivery method
  – Paper
  – Internet
  – Phone
  – Person
  – Etc.
• How long should the questionnaire be?
• Structure and organization

Questions

• Types of questions:
  – Attributes
    • Age, gender, education level, etc.
  – Attitudes
    • Personal outlook and orientation
  – Beliefs
    • Subjects’ assessments
  – Behaviors
**Question Properties**

- Must be understandable to audience
- Must offer valid & meaningful answer options
- Must be relevant to subjects
- Must be open to quantitative analysis

- Construct validity
  - Are we measuring what we think we are measuring?
- External validity
  - Can the results be generalized to other people, places, or times?

**Question Guidelines**

- Do not be vague.
- Use simple words.
- Keep it short.
- Be specific.
- Avoid bias.
- Do not be too specific.
- Avoid hypothetical questions.
Question Types

- Binary
- Likert scale
- Ordering
- Single/multiple selection
- Categories
- Open-ended questions

Pitfalls

- Compound questions
  - Ask one thing at a time
- Demanding questions
  - Sensitive, or too specific
- Demanding/ambiguous language
- Biased language/Leading questions
- Mutually exclusive options
  - 0-3yrs, 3-5yrs…
**Survey Length**

- Each question decreases participation by 0.5%
- Each page decreases participation by 5%

- Prioritize questions:
  1. must know
  2. useful to know
  3. nice to know

- Discard group 3 unless groups 1 and 2 are very short.
- **Ask demographic questions last**
- Group questions by category/theme

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**Golden rule of survey design**

- Test it out

- Despite your best efforts, you will rarely get it right on the first try
  - Better to get feedback before you’ve wasted your own, and your subjects’ time.