Survey Research Methods

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WAS*IS

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Survey research methods

Survey experience

Studies:

- Arkansas River Irrigation, groundwater, spotted owls, coal dust, global warming & recreational fishing, global warming & duck hunting, Green Bay, Kalamazoo, Hudson, air toxics, Confidence, Contra Costa, Hospital, Reliable, Storm, Hurricane

Development:

- focus-groups
- cognitive interviews

Implementation:

- mail
- telephone
- internet
- focus-group site written
- mixed methods

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Survey research methods

Advantages

• Efficient for collecting large amount of information
• Statistical techniques to determine validity, reliability, and statistical significance
• Flexible to collect wide range of information
  – attitudes, values, beliefs, and past behaviours.
• Standardized - relatively free from several types of errors
• Relatively easy to administer
• Economy in data collection


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Disadvantages

• Subjects’ motivation, memory, and ability to respond
• Not appropriate for studying complex social phenomena
• Structured surveys, particularly those with closed ended questions, may have low validity when researching affective variables.
• *Respondents* usually self-selected
• Participants may not answer honestly

Survey research methods

- Is a survey the correct approach?
- Constraints on survey research
  - Paperwork Reduction Act
  - Other regulatory constraints
    - Human subjects - Institutional Review Board
- Costs and time resources for survey research
  - Natural resources damage assessment (NRDA)
  - Grad students and pizzas

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Objectives
• What information do I need?
• What will I do with information?
• How will it be analyzed?
• Who will it be presented to?

Different types of surveys
• attitudinal
• behavioral
• information gathering (economic surveys)
• valuation

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Survey biases

- social desirability bias
- interviewer bias
- non-response bias
  - item non-response
- measurement bias
- hypothetical bias
- information bias

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Reliability and Validity

Population parameter (Red line) = Sample statistic (Yellow line) --> unbiased
High variance (Green line)
Unreliable but valid


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Reliability and Validity

Population parameter (Red line) <> Sample statistic (Yellow line) --> Biased low variance (Green line)
Invalid but reliable

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National Survey of Nonprofit Organizations

Figure 1: Survey Design and Implementation Procedures

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Survey research – components

• Survey design
• Sampling
• Implementation
• Analysis and reporting
Survey design

Technical background

Preliminary survey design

• introduction
  – tell respondents purpose of the survey
• providing information
• how to ask the correct questions
• response categories
• socio-demographic information
• de-briefing questions

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Survey design

Focus-groups
- Mary Hayden - more on qualitative research
- Ex: focus-group 9/10/01 – Poughkeepsie, NY

One-on-one cognitive interviews
- verbal protocols
  - think alouds
- retrospective reports

Pre-testing survey
- survey instrument
- implementation method
- analysis planning

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Survey design – asking the question

• Did you happen to have murdered your wife?
• As you know, many people kill their wives nowadays. Did you happen to have killed yours?
• Do you know about other people who have killed their wives? How about yourself?
• Thank you for completing this survey, and by the way, did you kill your wife?
• Three cards are attached to this survey. One says your wife died of natural causes; one says you killed her; and the third says Other (explain). Please tear off the cards that do not apply, leaving the one that best describes your situation.

http://faculty.ncwc.edu/toconnor/308/308lect07.htm
**Asking the question**

How often do you use weather forecasts in planning for each of the activities listed below? Please remember that we are asking about how you use the weather forecast for *planning* activities (not on how you may change plans based on what the weather actually is at the time you do these activities). *Circle the number of your answer for each item.*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Rarely</th>
<th>Half the time</th>
<th>Often</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dressing yourself or your children for the day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How to get to work, school, or the store</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Job or business</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>House or yardwork</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Social activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Vacation or travel</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Planning for the weekend</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

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Survey design

Peer review of instrument

- technical information
- sampling plan
- questions – Uncle George test
- questions and survey language
- analysis plan
Sampling

• **Population, Units, Subjects and Samples**
  – Population: entire group of people about which information wanted.
  – Units/subjects: Individual members of the population are called units
  – Sample: part of population examined

http://www.gseis.ucla.edu/courses/ed230a2/notes2/sampling.html
Sampling

• Types of Samples
  – Voluntary response sample
  – Convenience (accidental, haphazard) sample
  – Simple random sample
  – Stratified random sample
  – Cluster random sample
  – Multistage sample design

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Sampling

- Cautions About Sampling
  - Undercoverage
  - Nonresponse
  - Response bias
  - Social desirability
  - Wording of questions
Implementation

methods for survey implementation
  – telephone
  – in-person
  – internet
    • Knowledge Networks type of access
  – mixed mode – e.g., telephone/mail
  – mail
    • the mail survey “package”
      – pre-contact
      – cover letter
      – survey instrument
      – return envelope
      – incentive
      – reminder post-card
      – follow-up

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Analysis and reporting

QA/QC
response rate – AAPOR
socio-demographics of pop / sample / respondents
analysis methods
• content analysis
• factor analysis
• latent class variable analysis
quantitative analysis
• summary data
• basic statistical analysis
• econometric modeling

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Surveys

- Many rules
- No such thing as perfect sample or survey or study - so, sometimes better to plow ahead
- Beg, borrow, and steal!

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Literature


Resources

• The American Association for Public Opinion Research: http://www.aapor.org/

• Survey Research Center – University of California, Berkeley: http://srcweb.berkeley.edu/index.html

• Survey Research Center – Centers of the Institute for Social Research (ISR). – University of Michigan: http://www.isr.umich.edu/src/


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