



University of Minnesota

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Presentation Topics

- How to design an effective survey instrument
- How to increase response rate
- Sampling issues

Characteristics of a Good Questionnaire

- Keep it as short as possible
- Attractive appearance (questions spaced out, neatly arranged, clearly copied)
- Directions are clear and complete
- Questions: simple and clear; objective; not ambiguous or vague
- Response categories appropriate, easy to understand
- Logical order; not biased
- Allow for easy data entry and analysis

Questionnaire Design Process

- Develop research objectives/questions
- Generate a list of topics and issues
- Write draft questions for topic areas
- Divide questions into logical categories
- Decide order of topics and/or questions
- Create first survey draft
- Revise survey

Questionnaire Design (cont.)

- Have 2nd, 3rd, 4th draft reviewed by someone who has not seen survey
- Revise based on review
- Pretest the questionnaire
- Review pretest results
- Revise the survey (final draft)

Other Questionnaire Design Issues

- Ask questions that relate to your objectives
- Decide what you NEED to know
- Eliminate what would be NICE to know
- Use language/words appropriate for respondents
- Start with an easy, interesting question

Design Issues (cont.)

- Use time periods related to questions
- Use questions from other surveys, if appropriate
- Keep wording simple and clear
- Avoid slang and/or jargon
- Wording appropriate for the method
- Avoid skipped questions for mail surveys

Design Issues (cont.)

- Use short questions whenever possible
- Avoid negative phrasing
- Avoid abbreviations
- Use complete sentences
- Avoid double questions (this AND that)
- Avoid ambiguous questions (What is your income?)
- Ask unbiased questions

Design Issues (cont.)

- Only use ranking questions if respondents can see or easily remember choices
- Use mostly closed questions
- Order questions in a logical sequence
- Keep the survey uncluttered
- Use a consistent format (spacing, shading, etc.)
- List responses vertically, not horizontally
- Demographic questions usually at end

Question Scales

- **Be sure that:**
- Options are appropriate
- Options are consistent
- Appropriate number of points used
- Responses are balanced (pos. and neg.)
- Use “neutral” only if valid option
- Options are mutually exclusive
- Phone: Use 3, 4, or 5 point scales



Sample Questions

Poor Question:

Q1. What is your income?

\$ _____

Sample Questions (cont.)

Better question (but still has an error):

Q1. What was your total household income in 2006 before taxes? (*Circle one.*)

1. Less than \$25,000
2. \$25,000 to \$50,000
3. \$50,000 to \$100,000
4. \$100,000 or more

Sample Questions (cont.)

Poor question:

Q2. How many times did you attend a professional sporting event in the past year?

Sample Questions (cont.)

Q2. In 2006, approximately how many times did you attend an event for each of the following professional sports? (*Please write in one number for each sport.*)

- _____ Football
- _____ Basketball
- _____ Baseball
- _____ Hockey
- _____ Soccer
- _____ Other (*please specify*) _____

Sample Questions (cont.)

Poor question:

Q3. Do you favor or oppose not allowing the state to raise taxes without approval of 60% of the voters?

1. Favor
2. Oppose

Sample Questions (cont.)

Better question:

Q3. Do you favor or oppose requiring 60% approval by voters before state taxes may be raised? (*Circle one.*)

1. Favor
2. Oppose



Obtaining a high response rate for a mail survey

- Design a good, “respondent friendly” questionnaire.
- Cover letter: easy to understand, one page, clear purpose/benefits, assure confidentiality, include number to call with questions
- Use original letterhead (not photo copies).
 - Personalize cover letters
- Hand sign letters or use blue ink.
- Use real stamps (first-class postage).

Mail survey response rate (cont.)

- Incentives: Often “token” ones do not work (a pen, entry in a drawing, gift certificates, \$1 bill). A \$2 bill or a check for \$5 are more effective.
- Use multiple mailings (3 or 4 mailings).
- Three-wave mailing:
 - 1st Survey, cover letter, return envelope
 - 2nd Postcard reminder
 - 3rd 2nd reminder (survey, letter, return envelope)
- Fourth mailing (postcard or another survey*)
 - *May be Fed Ex or express mail
- Phone follow-up calls

Mail survey response rate (cont.)

- Don’t provide a web address in the cover letter which gives respondents the option of either doing the paper survey they received or typing in a web address and doing a web survey. This may actually REDUCE the response rate. (Too many choices!)

Obtaining a high response rate for a telephone survey

- Keep the survey as short as possible.
- Track ALL attempts to reach each person.
- Keep calling (not just 3 attempts; maybe try 10-20 times).
- Use trained interviewers.
- Also train interviewers to prevent refusals.
- Do refusal conversions.

Obtaining a high response rate for a web survey

- Design a good, “respondent friendly” questionnaire. Keep it as short as possible!
- Initial email invitation: easy to understand; short (a few paragraphs); clearly state the purpose and benefits; assure respondents confidentiality; include name, email or phone number to call with questions

List Sources

- Specialized companies that maintain large databases of companies/orgs/households
- Government agencies/organizations
- Associations/membership organizations
- Magazine subscription lists
- Utility companies
- Client Lists from businesses/other orgs.

Sampling Methods/Types

- Simple (random or systematic)
- Stratified sample
- Cluster sampling
- Convenience sample (nonprobability)
- Snowball sample
- When not to sample? If population is small.

Sampling Issues

- What if you can't find a list that includes the whole population?
- If list is not a population list, acknowledge this as a limitation of your research; don't generalize to the population as a whole.
- Compare respondent characteristics to known population characteristics.
- May need to weight data if using a stratified sample.

Determining Sample Size

Sample size formula for data reported as percentages:

$$S = \frac{P(1-P)}{\frac{A^2}{Z^2} + \frac{P(1-P)}{N}}$$

Sample Size Formula (cont.)

S = Sample size required
 N = Number of people in population
 P = Preliminary estimate of percentage of people in population who have attribute of interest (usually 50% = .5)
 A = Accuracy desired (usually ± 5%)
 Z = Number of standard deviations that correspond to confidence level desired. (1.96 = 95%; 1.64 = 90%)

Examples of Sample Sizes at ± 5% at the 95% confidence level

Population Size	Sample Size	Population Size	Sample Size
10	9	1,500	305
50	44	5,000	356
100	80	20,000	377
400	196	50,000	381
800	260	1,000,000	384



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