Response Rates and Survey Costs

(Click icon for audio)

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Wizard of Id

According to the latest poll, people don't believe in polls.

I'm going to miss you.
Would you be willing to take part in a survey?

I don't believe in surveys.

Surveys are skewed, manipulated and stupid!

...U...P...L...D. Very good! Ok, question number two...
Aspects of Non-response Error

100% response rate; 
no nonresponse error

Less than 100% response rate; 
no nonresponse error

Less than 100% response rate; 
nonresponse error

(a)

(b)

(c)

KEY

○ Sampling frame
○ Planned sample
○ Final sample
Having a plan for securing respondent cooperation is the first step in the design of data collection devices. Potential respondents should, whenever possible, have a reason to cooperate. Always ask yourself, "What is in it for the respondent? Why should he spend his valuable time on my survey?" If the answer is that the only reason is to help you, the researcher, you are probably in trouble. (B.C. by permission of Johnny Hart and Field Enterprises, Inc.)
Response Rate: Telephone

One of the problems often encountered in conducting telephone interviews is noncooperation on the part of the respondents caused by the past abuse of disreputable firms that claim to be conducting market research but in fact are selling something such as cemetery plots, magazines or aluminum siding.
Telephone Contacts: Possible Outcomes
### Results of First Call Attempt (N=259,088)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>No answer</td>
<td>34.7%</td>
</tr>
<tr>
<td>No eligible person&lt;sup&gt;a&lt;/sup&gt;</td>
<td>29.1</td>
</tr>
<tr>
<td>Nonworking number</td>
<td>20.3</td>
</tr>
<tr>
<td>Business</td>
<td>4.1</td>
</tr>
<tr>
<td>Busy</td>
<td>2.0</td>
</tr>
<tr>
<td>At home, eligible person</td>
<td>9.8</td>
</tr>
<tr>
<td>Refusal</td>
<td>1.4 (14.3)&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Completion</td>
<td>8.4 (85.7)&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> Any resident 18 years of age or older is eligible.

<sup>b</sup> Percentage given that an eligible person is at home.

Effects of Strategies for Handling Not-at-Homes

(a) Strategies: Callbacks; differential scheduling of interview times
(b) Strategies: Substitution for not-at-homes
(c) Strategies: None

KEY
- Sampling frame
- Planned sample
- Final sample
Unlisted Telephone Numbers

• Telephone sampling used to mean sampling from directories. However, a large proportion of households are unlisted (i.e., non-published).
• Nationally, 27.6% of households have unlisted numbers.
• In many cities, the unlisted rate is over 50%.
• California is especially bad, with most cities over 50% (Los Angeles is 56% unlisted).
Most Unlisted Phones in U.S.

• Sacramento, CA
• Oakland, CA
• Fresno, CA
• Los Angeles/Long Beach, CA
<table>
<thead>
<tr>
<th>Location</th>
<th>Estimated number of hhdls (2000)</th>
<th>Estimated telephone hhdls</th>
<th>Telephone directory listed hhdls (2001)</th>
<th>Number of ex-directory hhdls</th>
<th>% estimated phone hhdls unlisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thunder Bay (Ontario)</td>
<td>50,520</td>
<td>49,914</td>
<td>24,687</td>
<td>25,227</td>
<td>50.54%</td>
</tr>
<tr>
<td>London (Ontario)</td>
<td>175,542</td>
<td>173,435</td>
<td>87,625</td>
<td>85,810</td>
<td>49.48%</td>
</tr>
<tr>
<td>Kitchener (Ontario)</td>
<td>168,720</td>
<td>166,695</td>
<td>101,580</td>
<td>65,135</td>
<td>39.07%</td>
</tr>
<tr>
<td>Hamilton (Ontario)</td>
<td>248,778</td>
<td>245,792</td>
<td>160,509</td>
<td>85,283</td>
<td>34.70%</td>
</tr>
<tr>
<td>Sudbury (Ontario)</td>
<td>60,423</td>
<td>59,698</td>
<td>41,645</td>
<td>18,053</td>
<td>30.24%</td>
</tr>
<tr>
<td>Sherbrooke (Quebec)</td>
<td>66,478</td>
<td>65,149</td>
<td>46,399</td>
<td>18,750</td>
<td>28.78%</td>
</tr>
<tr>
<td>Trois-Rivières (Quebec)</td>
<td>59,083</td>
<td>57,902</td>
<td>43,621</td>
<td>14,281</td>
<td>24.66%</td>
</tr>
<tr>
<td>Halifax (Nova Scotia)</td>
<td>136,923</td>
<td>133,500</td>
<td>114,093</td>
<td>19,407</td>
<td>14.54%</td>
</tr>
<tr>
<td>Winnipeg (Manitoba)</td>
<td>272,440</td>
<td>267,536</td>
<td>231,333</td>
<td>36,203</td>
<td>13.53%</td>
</tr>
<tr>
<td>Vancouver (British Columbia)</td>
<td>788,000</td>
<td>774,604</td>
<td>680,747</td>
<td>93,857</td>
<td>12.12%</td>
</tr>
</tbody>
</table>
Differences Between Listed and Unlisted Households

• Listing increases with age: 50+% of households headed by 18-34 year olds and roughly 40% headed by 35-54 year olds are unlisted.

• Among people who moved in the past two years, 59% are unlisted. Although some choose to be unlisted, most unlisted people moved since the last directory was published.

• Unlisted householders tend disproportionately to be unmarried and renters.

• Unlisted households are not higher income.
How to Increase Response Rates for Mail Surveys

- Write a sales-oriented cover letter
- Money helps
  - As a token of appreciation
  - For a charity
- Ask interesting questions
- Follow up
  - Keying questionnaires with codes
- Advanced notification
- Sponsorship by a well-known and prestigious institution
Example of Ways to Increase Response Rate to Mail Survey


**Bicycling** magazine conducts a semiannual survey of individual bicycle dealers throughout the United States. The following procedure is used to increase the response to the survey:

1. An “alert” letter is sent to advise the respondent that a questionnaire is coming.
2. A questionnaire package is mailed five days after the “alert” letter. The package contains a cover letter, a five-page questionnaire, a new $1 bill, and a stamped return envelope.
3. A second package, containing a reminder letter, a questionnaire, and a stamped return envelope, is mailed five days after the first package.
4. A follow-up postcard is mailed a week after the second package.
5. A second follow-up postcard is mailed a week after the first.

In a recent survey, 1,000 questionnaires were mailed to bicycle dealers and 68% of these were returned. This represents a good response rate in a mail survey.
Relative Costs
Cost Data for Interviewing Methods

<table>
<thead>
<tr>
<th>Central location (WATS telephone)</th>
<th>Central location (Mall intercept)</th>
<th>Personal in-home (door-to-door)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone charges</td>
<td>Location rental</td>
<td>Travel time</td>
</tr>
<tr>
<td>CRT terminal costs</td>
<td>Equipment rental (VCR, displays, refrigeration, etc.)</td>
<td>Mileage</td>
</tr>
<tr>
<td></td>
<td>Supplies (cups, utensils, etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Storage (product)</td>
<td></td>
</tr>
</tbody>
</table>
# Suggested Cost Estimates—Telephone Interviews

## Central Location/Phone

<table>
<thead>
<tr>
<th>Length of Interview (by minutes)</th>
<th>Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>4.05</td>
</tr>
<tr>
<td>10</td>
<td>6.45</td>
</tr>
<tr>
<td>15</td>
<td>9.85</td>
</tr>
<tr>
<td>25</td>
<td>16.05</td>
</tr>
<tr>
<td>30</td>
<td>19.50</td>
</tr>
<tr>
<td>35</td>
<td>22.70</td>
</tr>
<tr>
<td>40</td>
<td>26.25</td>
</tr>
<tr>
<td>45</td>
<td>29.25</td>
</tr>
<tr>
<td>50</td>
<td>32.70</td>
</tr>
<tr>
<td>55</td>
<td>35.85</td>
</tr>
<tr>
<td>60</td>
<td>39.30</td>
</tr>
</tbody>
</table>

*Note:* For phoning from interviewers’ homes, deduct 20%.
## Suggested Cost Estimates - Mall Intercepts

### Central Location

<table>
<thead>
<tr>
<th>Length of Interview by Minutes</th>
<th>Incidence Rate</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>90%</td>
<td>80%</td>
<td>70%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>5</td>
<td>4.55</td>
<td>5.20</td>
<td>5.70</td>
<td>6.45</td>
<td>7.15</td>
<td>7.65</td>
<td>8.40</td>
<td>9.85</td>
<td>12.25</td>
</tr>
<tr>
<td>10</td>
<td>8.15</td>
<td>8.70</td>
<td>9.25</td>
<td>9.90</td>
<td>10.40</td>
<td>11.25</td>
<td>11.85</td>
<td>13.10</td>
<td>15.80</td>
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<tr>
<td>20</td>
<td>15.25</td>
<td>16.10</td>
<td>16.80</td>
<td>17.40</td>
<td>17.95</td>
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<td>24.25</td>
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<tr>
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<td>45</td>
<td>33.50</td>
<td>34.00</td>
<td>34.95</td>
<td>35.70</td>
<td>36.20</td>
<td>36.55</td>
<td>37.25</td>
<td>38.70</td>
<td>40.95</td>
</tr>
<tr>
<td>50</td>
<td>37.10</td>
<td>37.40</td>
<td>38.20</td>
<td>38.70</td>
<td>39.30</td>
<td>39.85</td>
<td>40.65</td>
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<td>44.35</td>
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<td>40.65</td>
<td>41.55</td>
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<td>43.85</td>
<td>44.35</td>
<td>45.75</td>
<td>48.35</td>
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<tr>
<td>60</td>
<td>44.15</td>
<td>44.70</td>
<td>45.65</td>
<td>46.35</td>
<td>46.70</td>
<td>47.35</td>
<td>48.00</td>
<td>49.20</td>
<td>51.90</td>
</tr>
</tbody>
</table>
Fielding a Telephone Study

Assumptions
A. Required sample size: $n = 300$
B. 225 = Number of telephone numbers an interviewer can dial per 8-hour shift assuming 6 1/2 productive hours
C. 65% = Category incidence rate
D. 60% = Cooperation rate
E. 15 minutes = Questionnaire length
F. 3 minutes = Interviewer checking time
G. $215 = Cost per workday
Calculating Interviews per Workday

1. Contacts per day = B × C × D
   = 225 × 0.65 × 0.60
   = 87.75

2. Contacts per hour = Contacts per day/6.5
   = 87.75/6.5
   = 13.5

3. Time in minutes to reach qualified contact
   = 60/Contacts per hour
   = 60/13.5
   = 4.44
   Time in minutes

4. Time to interview = time to reach qualified respondent + interview time + checking time
   = 4.44 + 15 + 3
   = 22.44

5. Interviews completed per hour = 60/Time to complete interview
   = 60/22.44
   = 2.67

6. Interviews completed per workday = 6.5 × Interviews completed per hour
   = 6.5 × 2.67
   = 17.36
Calculating Field Costs

To determine field costs

1. Take completed interviews per workday (called completes):
   \[ \text{17.36} \]

2. Divide required sample size by completes, which equals number of workdays needed to complete interviews:
   \[ \frac{300}{17.36} = 17.28 \]

3. Field costs are equal to cost per workday to complete interviews including overhead and margin:
   \[ 17.28 \times 215 = 3,715.2 \]
   Hence, the field costs for the telephone survey are $3,715.20.
# Mailed Questionnaire Budgeted Costs

<table>
<thead>
<tr>
<th>Cost estimate for:</th>
<th>Date prepared:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepared by:</td>
<td></td>
</tr>
</tbody>
</table>

## A. Direct expenses

1. Planner salary (hrs \times \$'s/hour) \[ \text{\$} \]
2. Administrator salary \[ \text{\$} \]
3. Preparation costs
   a. copy \[ \text{\$} \]
   b. layout \[ \text{\$} \]
   c. photography \[ \text{\$} \]
   d. cost estimating \[ \text{\$} \] \[ \text{\$} \]
4. Printing costs
   a. paper \[ \text{\$} \]
   b. other printed enclosures \[ \text{\$} \]
   c. envelopes \[ \text{\$} \]
   d. folding, collating, stapling, inserting, addressing, sorting \[ \text{\$} \] \[ \text{\$} \]
5. Postage
   a. outgoing \[ \text{\$} \]
   b. return \[ \text{\$} \] \[ \text{\$} \]
6. Mailing list
   (rental/purchase) \[ \text{\$} \]
7. Premiums \[ \text{\$} \]

Total Direct \[ \text{\$} \]

## B. Indirect Expenses

1. Office space \[ \text{\$} \]
2. Office supplies \[ \text{\$} \]
3. Secretarial assistance \[ \text{\$} \]
4. Utilities \[ \text{\$} \]

Total Indirect \[ \text{\$} \]

Total Budgeted Expense \[ \text{\$} \]