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MAIL SURVEYS
Improving the Quality

Thomas W. Mangione

Applied Social Research Methods Series
Volume 40

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Thousand Oaks  London  New Delhi
of Massachusetts–Boston, I found Jack to be unfailing in his championing of high quality data collection efforts.

Both Rob and Jack taught me an important lesson about data quality, though. Not only is it an appropriate goal, but you can also help others achieve high quality in their own work if you respect their research goals and share with them your enthusiasm for the techniques that produce quality. Rob and Jack were always enthusiastic about data quality. In this regard this book owes much to them.

There are many others who made direct and indirect contributions to the production of this book whom I would like to acknowledge. Over the past 15 years I have taught classes in survey research methods at both Boston University and Harvard University’s Schools of Public Health. There is no better way to keep one’s focus on data collection quality than to routinely face a class of graduate students and try to articulate to them how to do surveys well. Much of what I say in this text has been developed in my class lectures. I owe a debt to my students for helping me to crystallize my message. In particular I want to acknowledge the efforts of my 1991 Harvard class who aided in the search for, and summarizing of, a variety of research articles about improving mail surveys.

I also want to acknowledge the support provided by my current employer, JSI (John Snow Inc.) Research and Training Institute and in particular Joel Lamstein as president and Patricia Fairchild as vice-president and director of my division. They encouraged me to produce this book and were understanding when its production took my time and company resources. I was aided by several staff at JSI whose contributions were appreciated. Jane Ryan helped design the figures in this text and provided the initial efforts to pull together the bibliography. Denise Yob also helped with the design of the figures. Deborah LeBel helped with proofreading. Teresa Frydryk has spent hours helping me complete the bibliography and checking the accuracy of the citations.

I also want to thank my family (Kathy, Christy, and Lisa) for their patience and support over the years when I have had to work on weekends to help improve the quality of a study’s data collection effort.

Finally, I want to say that this book may read differently from many textbooks you have seen before. It will sound like you are sitting in my class, hearing a lecture from me. It will sound very pragmatic. You should feel that you have learned the skills necessary to produce a high quality mail survey when you have completed reading it. This was done purposively because it is my style. I want to thank the series’ editors, Len Bickman and Debra Rog, for their support in this regard.

Introduction

When is a Mail Survey
The Right Choice?

This book is a short treatise on how to do mail surveys. Before you use it, though, you first need to decide whether a mailed survey is the appropriate data collection strategy for your research problem. Although you will be better able to answer this question at the end of the book, at this point I would like to give you a flavor of the appropriate situations to use mail surveys.

It is a good idea to consider using mail surveys when:

1. your research sample is widely distributed geographically,
2. your research budget is modest,
3. you want to give your research subjects time to think about their answers,
4. your questions are written in a closed-ended style,
5. your research sample has a moderate to high investment in the topic,
6. your list of research objectives is modest in length,
7. you want to give your research subjects privacy in answering,
8. your questions work better in a visual rather than oral mode, and
9. you have limited person-power to help you conduct your study.

You may think of other good reasons as you read this book.

The Scope of This Book

This book is intended to accomplish one basic goal: to provide the reader with a straightforward, pragmatic guide to conducting mail surveys. In meeting this goal, I discuss this method in contrast to other data collection methods such as in-person interviews or telephone surveys. There are many design circumstances that would suggest that these other data collection techniques should be the strategy of choice.
By describing these four broad areas in which problems may arise, I also introduce an important goal that you should keep in mind as you use this book. It is important to design quality into all stages and parts of your mail survey project. If you cut corners in one area in order to do an excellent job in another, the final product may still have significant quality problems. Quality is not an average of the efforts that you put in but rather is achieved only by showing concern for all phases of the project. This notion of optimizing your efforts across all areas is referred to as "total survey design" (Biemer, Groves, Lyberg, Mathiowetz, & Sudman, 1991). I emphasize in each chapter how to produce quality in specific areas, but in the last chapter, I remind you that you have to put it all together to end up with a quality product.

ADVANTAGES OF MAIL SURVEYS

Although there are many problems to overcome and many pitfalls lurking for the uneducated researcher, a mail survey is a very appropriate way of gathering data and can produce high quality information. As a reminder, the advantages of mail surveys over other methods of data collection include:

✓ 1. they are relatively inexpensive,
✓ 2. they allow for large numbers of respondents to be surveyed in a relatively short period,
✓ 3. they allow respondents to take their time in answering and look up information if need be,
✓ 4. they give privacy in responding,
✓ 5. they allow for visual input rather than merely auditory input,
✓ 6. they allow the respondent to answer questions at times that are convenient,
✓ 7. they allow the respondent to see the context of a series of questions, and
✓ 8. they insulate the respondent from the expectations of the interviewer.

AN OVERVIEW OF THE MAIL SURVEY PROCESS

As the final segment of our introduction, I want to give you a sense of what the steps might be in conducting a mail survey. The subsequent chapters will then provide you with information on how to accomplish these various steps. The first step is to develop the research goals for a study. What do you want to accomplish? What issues do you want to address in your study? As one figures out the "what" and the "who" of the survey process, the plausible alternative methods for collecting data become more apparent. Often at this stage, one will select a mail survey process as the data collection mechanism.

From here, two processes go on in parallel. One is the development of the questionnaire and the other is the selection of the sample. Selecting the sample involves defining your population, obtaining a list of the population, randomly selecting a sample, and preparing mailing labels for your sample. Developing your questionnaire involves becoming much more specific about the goals of your study, particularly in terms of the specific pieces of information you will need to answer your research questions. Using a detailed outline to guide you in the construction of your survey will prove invaluable. Working on the wording of individual questions involves an iterative process—draft the question, try it out, evaluate its performance, and revise if need be (sometimes many times).

Your questionnaire turns out to be more than merely a list of questions. The flow of the questionnaire, the logical sequence of questions, the format of your answer categories, and the style of the whole questionnaire become issues that deserve your attention at this stage.

Getting your data collected involves careful clerical procedures—making sure the right materials go in the right envelope so they can get to the right person is important. You’ll have decided by this time the sequence of mailings and reminders, and what kind of incentives you will provide to respondents. The respondent letters that accompany the survey will have been carefully crafted.

As the surveys come back, it is important to keep careful track of who has responded and who has not. Reminders must be sent to those who haven’t completed their survey. The information in the questionnaires is then translated into numbers for analysis by computer through a process of code development, coding, "keypunching," and software specifications for your data. Finally, your data are prepared for analysis by cleaning up any inconsistencies and correcting any errors made by codeurs or keypunchers. Analysis and report writing are the final steps in the research process.
Nonsponse Errors

The Basics of Avoiding Nonsponse Errors

Results

Effective questions make them seem less threatening to the study (e.g., phrasing certain words in a more positive manner), which can lead to a higher response rate. Effective questions are those that are clear, easy to understand, and directly related to the research topic. When designing your survey, consider the following tips to increase response rates:

- Use simple language
- Keep questions short
- Avoid technical jargon
- Be clear about the purpose of the survey

By following these guidelines, you can increase the likelihood of receiving valid and reliable responses from your participants.

In summary, nonsponse errors are a common problem in research, but by taking steps to avoid them, you can improve the quality and validity of your data. Always strive to achieve a high response rate to ensure that your findings are as accurate and representative as possible.
HOW TO GET GOOD RESPONSE RATES

A Good Respondent Letter

Mechanisms that you can use to increase your response rates and gather more data in this chapter. In the following chapter, we will discuss other ways to gather data that will enhance your data collection efforts. We will describe each of these approaches and provide you with some tips on how to use them.

There are a variety of procedures that can be used to collect data from respondents. These procedures include:

- Telephone surveys
- Mail surveys
- Online surveys
- Face-to-face interviews

Mail Surveys

For telephone surveys, data collection is done by trained interviewers. In order to conduct a successful telephone interview, the interviewer must be able to establish a rapport with the respondent and make the respondent feel comfortable sharing information. The interviewer should also be able to ask the right questions and encourage respondents to provide complete and accurate answers.

Mail surveys are often used when it is not feasible or practical to conduct a face-to-face interview. In a mail survey, respondents are sent a questionnaire by mail and asked to complete it and return it to the researcher. Mail surveys are useful when the sample population is large and when it is difficult or expensive to conduct interviews in person.

The main advantage of a mail survey is that it allows respondents to complete the questionnaire at their own pace and in their own time. However, there are some disadvantages to using a mail survey. For example, it can be difficult to ensure that all respondents complete the questionnaire and return it. It is also possible that some respondents may not respond at all.

The researcher needs to be aware of these potential problems and develop strategies to overcome them. For example, the researcher might offer incentives for respondents who complete and return the questionnaire, or they might follow up with non-respondents to encourage them to complete the questionnaire.

One of the main challenges in conducting a mail survey is to ensure that the questionnaire is clear and unbiased. The researcher should carefully consider the wording of the questions and the format of the questionnaire to ensure that it is easy for respondents to understand and complete.

Another challenge in conducting a mail survey is to ensure that the respondents are representative of the population being studied. The researcher should carefully consider the sample design and the methods used to select the respondents to ensure that the sample is representative of the target population.
5. You need to tell the respondent why this study is important and how this information may be used. Respondents want to participate only in things that they think are important and useful and that they feel relate to their lives in some specific way.

6. You need to explain who is being asked to participate in the survey and how you got their name and address.

7. You need to explain whether this is a confidential survey or an anonymous survey (they are not the same thing), and you need to explain how you are achieving confidentiality or anonymity.

8. You need to mention that participation in the study is voluntary, but also you should emphasize the importance of participation.

9. You need to make it clear how to get the questionnaire back to you.

10. You want to make sure that your letter is easy to read in terms of type size, layout, reproduction quality, and language level.

By following these suggestions for respondent letters, you should get your study off on the right foot.

Return Postage

It almost goes without saying that to get a good return rate you have to supply the respondent with a return envelope, already addressed to you, and return postage. (See Armstrong & Lusk, 1987; Brook, 1978; Gullahorn & Gullahorn, 1963; Harris & Guffey, 1978; Kernan, 1971; Kimball, 1961; McCrohan & Lowe, 1981; Peterson, 1975; Vocino, 1977; Yammarino, Skinner, & Childers, 1991.) You have two options for return postage. You can place a postage stamp on the return envelope or you can use a business reply envelope. Placing the postage stamp on the envelope puts subtle pressure on the respondent to send back the questionnaire so that the "stamp will not go to waste." The risk you run is that if they do not return the questionnaires, you have "wasted" the money on the unused stamps.

Business reply envelopes are efficient to use. You only get charged by the post office for the questionnaires that come back. You do have to set up an account with the post office first, and there are strict rules about how the envelope should be laid out, but business reply envelopes make the mailing process simple for the respondent.

In the next chapter we will discuss how different types of postage make an impact on your return rate.

Confidentiality/Anonymity

Respondents are generally more likely to respond if they feel that their answers are kept confidential instead of being attributed to them directly (Boek & Lade, 1963; Bradt, 1955; Childers & Skinner, 1985; Cox et al., 1974; Fuller, 1974; Futrell & Hise, 1982; Futrell & Swan, 1977; Kerin & Peterson, 1977; McDaniel & Jackson, 1981; Pearlman, 1961; Rosen, 1960; Wildman, 1977). There are some fairly direct methods for maintaining confidentiality. First, you do not put any names or addresses directly on the questionnaires themselves. Instead, put some kind of code number on the survey. The list of names and addresses with the corresponding code numbers can be kept separately and out of view of people who are not on the research team.

Second, when the questionnaires come back, do not leave them lying around for curious eyes to read. Instead, keep them in file cabinets, preferably locked when you are not around, and lock your office when you are not there.

Third, do not tell colleagues, friends, or family the answers from individual questionnaires.

Fourth, do not present data in reports or papers that allow readers to figure out who people are. Sometimes this means describing individuals with characteristics somewhat different from those they really have, or it sometimes means not presenting information on very small groups of people. For example, in a company report you would not present data on the group of three vice-presidents by saying "two thirds of the senior management group reported thinking about changing jobs in the next year." Data being presented for groups such as companies, schools, or hospitals should be presented without the groups being named unless there was a prior specific agreement that this would be done.

Maintaining anonymity is distinctly different from maintaining confidentiality. For confidentiality you know who filled out which questionnaire, but you promise not to divulge that information to anyone outside the research team. For anonymity, even you do not know which questionnaire belongs to which person. This is achieved by not putting any code number on the questionnaire before it is sent out. This way there is no link between the questionnaire and any sample list you have.

It seems logical that studies that could offer true anonymity (no identification numbers on the questionnaires) versus those that offer only confidentiality (a promise of no disclosure) would produce better response rates. Studies have not clearly proved such advantages.
1970; Boek & Lade, 1963; Bradt, 1955; Mason, Dressel, & Bain, 1961; Pearlin, 1961; Rosen, 1960; Scott, 1961). Perhaps this is too technical a distinction for respondents to understand. Perhaps they assume because you knew how to mail the questionnaire to them, you can somehow find them again if you want to. There is also the cynical interpretation that says "they could figure out who I am by putting together several demographic characteristics, so their promise of anonymity is really not much more than a promise of confidentiality." Finally, many surveys are rather innocuous, and respondents would not care if people knew what they thought on these topics. It is probably best to provide anonymity if you can because no one has shown that promising anonymity produces worse response rates. Even when the data are anonymous, you still must follow the other procedures described above in which you do not leave questionnaires lying around for idle eyes to view and in which you do not report data for small groups of respondents.

Reminders

Probably the single most important technique to use to produce high response rates is to send out reminders (Denton, Tsai, & Chevrette, 1988; Dillman, Carpenter, Christenson, & Brooks, 1974; Eckland, 1965; Etzel & Walker, 1974; Filion, 1976; Ford & Zeisel, 1949; Furse, Stewart, & Rados, 1981; House, Gerber, & McMichael, 1977; Jones & Lang, 1980; Kanuk & Berenson, 1975; Kephart & Bressler, 1958; Linsky, 1975; Yammarino et al., 1991). Even under the best of circumstances you will not achieve acceptable levels of returns if you do not send out any reminders. Actually, it is important to send out several reminders, and it is important to pay attention to the timing of the reminders.

If you carefully keep track of the daily returns that you get, an interesting pattern unfolds. For the first few days after you mail out the questionnaires you get nothing back. This makes sense because it takes time for a survey to be delivered, it takes a short period to fill it out, and then a day or two to get it back to you in the mail (actually this can be a day or two longer if you use business reply returns). About 5 to 7 days after you send out the initial mailing you begin to get a few back; then in the next few days you get a lot more back, with more coming in each day than the day before. Around the 10th day after your mailing, the returns start to level off, and then around the 14th day they start dropping off precipitously.

This drop-off in returns is a signal that whatever motivational influence your initial letter had is now fading. Respondents who have not returned questionnaires by now are going to begin to forget doing it, or they are going to misplace the survey under a pile of things on their desk. You want to plan your first reminder to arrive at the respondents’ addresses just at this point in the return pattern, at about the 14th day.

After sending out a reminder, we then see the same pattern repeating itself: A few days of no impact, then a burst of returns with more coming in each day, and then a precipitous decline at about 14 days after the second mailing (the 1st reminder).

The other interesting feature about this return pattern is that whatever return rate you got in the first wave (e.g., 40%), you will get about half that amount in the second wave (e.g., 20%). Figure 6.1 shows this pattern very clearly. These were the return rates for six different companies to which we sent mail questionnaires to managers asking their opinions about work-related alcohol policies and problems at their worksites. As you can see, the overall response rates were very good (exceeding 80% for each company), and in each round of reminders we received back about half the amount that we had received from the previous round.

Therefore, because I recommend shooting for at least a 75% return rate, you should plan on at least four mailings—the initial mailing and then three reminders. Each of these mailings should be spaced about two weeks apart. This should give you approximately the following pattern of returns: 40% + 20% + 10% + 5% = 75%. This means that your total mailing period will take about 8 to 9 weeks because you have to leave time after your last reminder for the returns to come in. Sending reminders out sooner than two weeks does not speed up the returns. All it does is send reminders to people who were going to do it anyway.

Spreading two or three reminders out over a longer time (to save money on postage) is not as effective in producing a good return rate. You do not keep building momentum among the nonresponders with your reminders because the gap in time is so long that they have forgotten about the survey. Each reminder has to start all over again in getting people to decide to participate.

What is also interesting about this pattern is that the rate of returns and the number of reminders have nothing to do with the total size of your sample. You follow the same procedures whether your sample size is 200 or 20,000. The only impact on size is that you have to have a bigger staff of people to help you get out the mailings each round.
% of Returns

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>ROUND 1</th>
<th>ROUND 2</th>
<th>ROUND 3</th>
<th>ROUND 4</th>
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<td>19</td>
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<td>8</td>
</tr>
<tr>
<td>Company B</td>
<td>82</td>
<td>38</td>
<td>20</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Company C</td>
<td>80</td>
<td>38</td>
<td>20</td>
<td>11</td>
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</tr>
<tr>
<td>Company D</td>
<td>81</td>
<td>36</td>
<td>26</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Company E</td>
<td>83</td>
<td>46</td>
<td>22</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Company F</td>
<td>83</td>
<td>48</td>
<td>18</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Figure 6.1. Proportion Returned by Rounds of Mailings for Six Companies

What should you put in each mailing? Is each mailing just a repeat of the first mailing? No. I recommend sending a complete package (respondent letter, questionnaire, return envelope) in the first and third mailings. In the second and fourth mailings I believe you can limit yourself to a postcard or letter reminder.

In each of the four mailings, the letter addressed to the respondent should focus on slightly different issues. For the first mailing you want to be the most thorough, covering all the bases. In the second mailing you want to be gentle and friendly. "Just a reminder in case you haven’t yet sent in your questionnaire. We would really like to hear from you."

In the third mailing you want to emphasize the confidentiality of responses and the importance of getting a good return so that all points of view are represented. You should also note that you are including another copy of the questionnaire in case they misplaced the first one you sent. The fourth mailing should be a "last call." Set a specific deadline and encourage people to send in their questionnaire so that their points of view can be represented.

If you are using a procedure that promises confidentiality, then you can keep track of the questionnaires being returned by placing a code number on the survey form and then sending out reminders only to people from whom you have not yet received questionnaires. This saves you money on postage, printing, and supplies and keeps respondents from being annoyed (or confused) by receiving reminders after they have already sent in their surveys.

If you want a procedure that gives the respondents anonymity, then the steps to follow are a little more complicated. Because you do not know who has sent back their questionnaire and who has not, you have two alternate strategies for producing reminders. The first method is to send reminders to everybody and always include a line that says "If you’ve already sent in your questionnaire, thank you very much." You probably also want to say, "Because your returns are anonymous we don’t know which of you have sent in your questionnaires and which of you have not, so that is why we are sending this reminder to everyone." I personally do not like to use this strategy because (a) it is wasteful of postage, supplies, and resources; (b) it irritates respondents to get reminders when they have returned their questionnaires; (c) it confuses them and sometimes leads to respondents worrying that their survey got lost in the mail, so that they fill out a second one that they do not want but cannot remove from the pile because you do not know if it is someone’s second questionnaire; and (d) it dilutes your reminder letters because some of the verbiage is apologizing to people who have already returned their questionnaires and not just focusing on those who have yet to return them.

I prefer a second strategy that I call the "reminder postcard strategy." This strategy enables you to accomplish two things at once: It maintains complete anonymity for the respondents’ returned questionnaires while also letting you know who has and has not returned the questionnaire. This lets you send reminders only to those who have yet to respond. The way to accomplish this is to enclose a postage-paid, return postcard that does have either an identification code or the person’s name (or both) on it. The instructions tell the respondent explicitly that returning this postcard tells us that they do not need any reminders. You also instruct them to mail the postcard back separately from the questionnaire. By using this procedure you know who has returned the questionnaire without having to put any identifying information on the questionnaire itself. Figure 6.2 shows an example of this type of postcard.

The first thing researchers worry about is "what if the respondent just sends back the postcard and not the questionnaire." That would be a
This is to let you know that I have returned my questionnaire and that you no longer need to send me any reminders.

Label with Respondent's Name and ID Number on It

Your answers to this survey will be anonymous because there is no name or identification number on the questionnaire. After you return your questionnaire to us, send separately the enclosed postcard. That will tell us that you don't need any reminders, while at the same time maintaining your anonymity. Thank you for your efforts.

Figure 6.2. Sample of Postcard and Associated Paragraph in Respondent Letter

The basics of avoiding nonresponse errors

problem, but it turns out that it is not the case. You usually get more questionnaires back than postcards. Some respondents forget to mail their postcards, some lose them, and some purposely do not send them back as a way of ensuring their anonymity. These latter folks are willing to put up with getting reminders they do not need to guarantee their anonymity. Thankfully there are only a few who take this route (e.g., 5% or so), or else the method would not achieve its intended purpose of providing you information about who has responded while maintaining anonymity.

What If You Cannot Afford to Do Follow-Ups?

Many times researchers choose to do mail surveys because they are on a very limited budget, and therefore the suggestion to do four mailings conflicts with budgetary constraints. Also, researchers may be under time pressure to get the survey results quickly and therefore feel that they cannot afford the time that it takes to do four mailings.

Researchers in this bind sometimes fall into the trap of creating a survey design that provides for a large sample that gets only one mailing without any reminders, and settling for the 30% to 40% return rate. They still wind up with enough surveys to analyze because of the large sample. These researchers draw comfort from having 1000 questionnaires returned because the sampling error formula says that the amount of sampling error for a sample of 1000 is relatively small. The fallacy in this thinking is that somehow a bigger number of questionnaires that represents a 30% return rate is more valid than a smaller number of questionnaires that represents a 30% return rate. Unfortunately both circumstances produce flawed surveys because we can never be certain that the 30% who responded accurately represent the whole population.

So how does the researcher who has budgetary and time constraints deal with these conflicting pressures? As a fall-back method I recommend sending follow-ups to a random subset of your overall sample. What does this accomplish? It provides a way of testing to what extent your low response rate returners are different from a “true” random subset on all of the variables measured in your study while at the same time not costing as much as sending reminders to everyone.

To set up this mechanism you need to divide your original sample into two groups: One group (presumably the larger of the two) will be designated to get fewer reminders (in order to save money and time) and the other group (the smaller) will get the full arsenal of techniques.
You need to distinguish the two groups in your code numbers so that you can (a) keep track of the different return rates and (b) analyze the data separately for the two groups.

When you are ready to begin your analyses, you compare the lower responding group to the higher responding group’s answers. You hope to find no differences, or only a few unimportant differences, in the two groups. If this is so, you can present the data from your low responding group with the full confidence that it is “representative” of the whole sample even though you obtained a low response rate. In other words, the choice of whether to respond or not was not correlated with the answers to your questions. The nonresponders looked just like the responders.

Things get a little bit more complicated if there are differences. How you deal with the situation depends on the extent of the differences. If there are a few sharp differences between the low responding sample and the high responding sample, then the easiest thing to do is to report the findings on these few characteristics based only on the high responding group. For instance, if there were differences in the proportion of males who were included in the high and low responding groups, you would describe the gender distribution of your population based on the findings from the high response group.

If, however, you find out that the group that is underrepresented also gives different answers to the rest of the questions, then additional corrections must be made. One strategy is to present your findings on these other answers separately for the over- and underrepresented groups (for example by males and females). Another strategy is to force your data to mirror the “correct” proportion of males and females (and hence also represent the correct mix of male and female answers to the rest of your questions). You do this by weighting your data in such a way that the underrepresented group is restored to its proper proportion of the overall sample. This procedure “assumes” that the males who did respond were like the males who did not respond, and the only thing you need to adjust is the proportion of males in the total sample.

Because you have complete information on a small subset, you are actually in a good position to test out this assumption by comparing the answers of males in the low responding group to the answers of the males in the high responding group. If they are similar, then the assumption holds.

If the answers between the low responding subsample and the high responding subsample are different on a variety of indicators, then you are stuck. You have clearly shown that your responding sample is not a representative group. You may have to relent and try to scrape together enough extra resources to send reminders to the rest of the non-responding sample. In the worst case you would try to publish your report with a lot of caveats about the nonrepresentativeness of the returns.

Length of the Questionnaire

It almost goes without saying that you are likely to get a better response rate with a shorter questionnaire than with a longer one. Within this general recommendation, the real world is a little more complicated. It turns out that there are no clear demarcation points. It is not like a 12-page questionnaire will get a decent response rate but a 13-page questionnaire will not. There has been a fair amount of research on this issue, but the results are muddled because of several confounding factors (Berdie, 1973; Burschel & Marsh, 1992; Champion & Sear, 1969; Childers & Ferrell, 1979; Lockhart, 1991; Mason et al., 1961; Roscoe, Lang, & Sheth, 1975; Scott, 1961).

Part of the confusion has to do with how we measure the length of the questionnaire. Are we talking about the number of questions, are we referring to the number of pages, or are we talking about some combination of the two? (Thirty questions on 3 pages may seem different from 30 questions on 6 pages.) Another confounder is that different length questionnaires may be perceived differently in terms of interest levels or in terms of importance. Longer questionnaires may actually be seen as more interesting or more important because they can get a fuller picture of a topic than a more cursory version. Even within one methodological study to test the effects of varying questionnaire length, it is hard to “hold constant” such other factors that may play a role in response rates. Many studies that try hard to control these issues wind up comparing different length questionnaires that are actually not that different. For example, a study by Adams and Gale (1982) made comparisons of surveys with 1 versus 3 pages versus 5 pages. They found no difference in response rates between one and three pages but did find a lower response rate for 5 pages.

In addition, drawing conclusions from findings on a series of studies is difficult because they each have differences in topics covered, sample, reminder procedures, and so on. An ambitious review by Heberlein and Baumgartner (1978) that covered 98 methodological studies was unable to document any zero order correlation between length measures and overall responses.
The message to take away from this is that length by itself is not the sole determining factor that decides response rates. No matter what the length, other design factors can influence whether a good response rate is obtained or not. Within a specific design, however, I believe shorter questionnaires will on average do better than substantially longer versions.

From my experience, I think the real issue for the researcher is to design a questionnaire that efficiently asks about all the elements that are important to the study. You want to avoid series of questions that seem off the topic; you want to avoid questions that are redundant; you want to avoid unnecessarily long sequences of questions that try to measure very minor differences in issues (e.g., asking about the actual length of time you had to wait in a doctor’s waiting room, plus how long you had to wait in the examining room before the doctor came in, plus asking overall how long of a wait you had, plus asking how satisfied you were with the waiting time). There are also important issues of presentation and layout that can affect the perceived length of the questionnaire. These will be described in the next chapter.

Clarity of Instructions

Another factor that contributes to perceived respondent burden and that in turn affects response rates is the clarity of the instructions that are part of the questionnaire. It is not surprising to find that forms that have complicated or confusing or wrong instructions create frustration for respondents and that the result of this frustration is a failure to return the questionnaire.

Instructions should be precise, short, and clearly visible. In addition, various format aids such as boldface type or boxing or arrows to supplement written directions help the respondent to comply with instructions. Figure 6.3 shows an example of trying to make instructions clear. The purpose is stated at the top of the page; the skip instructions are listed in all capital letters for categories #9 and #10 of question #1; and the definition of a “drink” is put in a box at question #2. In addition, it helps to use someone who has a graphical perspective to review the layout of your questionnaire. We will discuss these issues in more detail in Chapter 8.

Respondent Motivation

In discussing the techniques to produce higher response rates in this chapter, we have alluded to various respondent motivations. It is useful,
THE BASICS OF AVOIDING NONRESPONSE ERRORS

Joining the health club after January 1 was unanimous in determining local affluence. For instance, you would not see "nonrespondents who ing groups of people and being careful to mask identity." Examine that no room comes to respondents. Primarily, this means that respondents are less likely to be captured in how they are analyzed and reported. The primary mechanism to project respondents from any detected gaps. Your primary role is your promise of confidentiality or anonymity is the

Understanding immediate pain.

pain issue. The return mechanism catches and manipulates claims to an increasing amount of suffering, conflict and logic. How long would it take suffering the immediate content and logic? How long would it take suffering the immediate content and logic? Again, why? Let's talk about these things even when things are changing but not changing. If there is common sense that respondents will not want to fill out a feedback is the best way to accomplish this goal.

In this feedback, your feedback is the best way to make improvements in response to this. Among others, feedback is the best way to accomplish this goal. These feedbacks are asked in order to improve feedbacks. This is feedback that the feedbacks are asked in order to improve feedbacks. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing. The flows of the questionnaires can make it seem more confusing.

Making your questionnaire interesting is a useful process.

Completing the questionnaire is a useful process. Completing the questionnaire is a useful process. Completing the questionnaire is a useful process. Completing the questionnaire is a useful process. Completing the questionnaire is a useful process. Completing the questionnaire is a useful process. Completing the questionnaire is a useful process.

MAIL SURVEYS

77
Additional Ways to Reduce Nonresponse Errors

In this chapter we want to discuss additional strategies that you can use to reduce the nonresponse rate in your surveys. There are a variety of mechanisms that you can use, and using as many of them as feasible should be your goal. We will also discuss some ideas that in some situations have proven beneficial but other times have not shown themselves to be effective. Obviously, you will want to assess whether you believe these strategies will help in your particular situation.

INCENTIVES

Other than follow-up reminders, there is no technique more likely to improve your response rate than incentives. It turns out, however, that the research findings hold some surprises as we consider various options in providing incentives to respondents. The logic of an incentive is simple: Raise the stakes explicitly for the respondents by giving them something in return for filling out the questionnaire. The differences come in when we try to figure out what to give to the respondents and when to give it to them.

Logically one would assume that you would send the respondents a reward after they returned the questionnaire, and you would let the respondents know in the respondent letter that this was the deal. More respondents would be motivated to participate because of the promise of this reward. Obviously, the respondent would have to value whatever it was that you were offering, or else it would not have any motivational value. One disadvantage with this mechanism is that respondents receive a delayed reward; they get their reward several weeks (probably) after their “good” behavior.

Another possibility would be to offer the reward in advance, including it with the mailing in anticipation of the respondents’ participation. The advantage here is that the impact is immediate; the respondent gets the benefit right away. We should not underestimate the motivational power of the implied contract: “They gave me this reward, so I had better do my part by filling out the questionnaire or else I wouldn’t be living up to my end of the bargain.” The disadvantage here (both financially and morally) is that some people get the reward but do not deserve it because they do not return the surveys anyway. Because of this problem, one goal in using this technique is to figure out the least value of the reward that you need to give in order to achieve the effects that you want.

Monetary Rewards

The simplest and most direct reward is to give people money. There have been a variety of studies and reviews of the literature that show that if you offer monetary incentives, your response rate will be improved (Armstrong, 1975; Brennan, Hoek, & Astridge, 1991; Church, 1993; Dommeyer, 1988; Duncan, 1979; Fox, Crask, & Kim, 1988; Friedman & San Augustine, 1979; Heberlein & Baumgartner, 1978; Hopkins & Gullickson, 1992; Huck & Gleason, 1974; Kanuk & Berenson, 1975; Linsky, 1973; Scott, 1961; Yammarino, Skinner, & Childers, 1991; Yu & Cooper, 1983). What is also clear from this research is that prepaid monetary incentives are more effective than promised monetary rewards (Blumberg, Fuller, & Hare, 1974; Cox, 1976; Hancock, 1940; O’Keefe & Homer, 1987; Schewe & Cournoyer, 1976; Wotruba, 1966). There have been contradictory conclusions drawn about the impact of promised monetary rewards compared to no rewards, but there are examples of studies that have shown benefits for promised rewards although they are not as great as prepaid rewards (Yu & Cooper, 1983).

What is surprising about these research results is that it does not seem to take a very big reward to stimulate an improved response rate. Many studies are reported in the literature that show the benefits of $.25 and $.50! However, many of these studies were done 15 to 20 years ago. It seems important to extrapolate the findings from these studies to the “current” value of the dollar. The review by Hopkins and Gullickson (1992) equated these values to 1990 dollars and still showed improvements for values less than $.50.

The question about whether there are increasing benefits for increasing dollar amounts is harder to answer definitively. It turns out that much of the experimentation that has been done to test alternate amounts have not tended to use dollar amounts more than $1, therefore, the number of studies we have available to make generalizations about
Reducing Nonresponse Errors

Over the long run, nonresponse errors are eliminated with higher rewards (e.g., Bowers 1990). All sorts of things have been, and can be, read—billboards, posters, and so forth. The key is the consumer's experience with the reward or the design of the study. For example, if the respondents believe the value of their participation is low, they may be less likely to respond, especially if the rewards are not clear or if the rewards are not perceived as being sufficient to cover the time commitment.

In addition, these errors can be reduced by providing a clear and consistent message to the respondents. For instance, if the respondents are told that they will receive a reward for their participation, they may be more likely to respond. Conversely, if the respondents are not told about the reward or if the reward is not clear, they may be less likely to respond.

Moreover, the rewards should be designed to be attractive to the respondents. For example, a monetary reward may be more effective than a non-monetary reward. Additionally, the rewards should be designed to be easily accessible to the respondents. For instance, if the respondents are required to do something in order to receive the reward, they may be less likely to respond.

In conclusion, nonresponse errors can be reduced by ensuring that the respondents have a clear and consistent message about the rewards and that the rewards are designed to be attractive and easily accessible to them.
is similar to that for giving a token amount of money. The idea is to express to the respondent that you are appreciative of their efforts and want to thank them for their participation. Again, like money rewards it is possible to think about the gift being given as a "prepaid" gift or as a "promised" gift that is sent after the survey is returned (Brennan, 1958; Pucel, Nelson, & Wheeler, 1971).

There has not been as much research on the differences between prepaid versus promised gifts but one would assume that the effectiveness would follow the same pattern as with monetary rewards—prepaid gifts would probably have a better effect. Also, there has not been much research done on the "value" of the gift to see what the trends are with more valuable gifts. To some extent the concept of value is less obvious with many types of gifts. Also, it is possible that the gift's perceived value exceeds the actual cost of the gift itself. This could arise because respondents may not have a good sense about how much such a gift costs, or it may be because by buying in bulk you can get a discount. Movie passes are great in this regard because they cost you only about $4 although they are good at movies that cost about $7 normally.

Other Incentives

Sometimes respondents can be offered other incentives that encourage them to respond (Dommeiner, 1985; Hubbard & Little, 1988). These alternate devices will provide improvements in response rates to the extent that the offer is viewed as valuable by respondents. I recently had occasion to be part of a survey study in which respondents were asked to fill out a short questionnaire concerning their nutritional intake. The researchers also needed respondents to include a clipping from their toenails! As an incentive, respondents were told that when they returned the survey they would receive a detailed nutritional analysis of their own diet based on their report and their toenail clippings. Returns were over 70% with only one reminder.

Another interesting incentive is to offer a contribution to a charity if the sample as a whole provided a certain number or percentage of returns (e.g., a 70% return rate). My recent worksite study included two sites in which we used the group strategy, a $750 contribution to charity, and wound up with response rates of 68% and 78%.

Incentives Versus Reminders

Now that we have extolled the virtues of incentives as well as reminders, a legitimate question is whether incentives should be used instead of reminders. The question can be answered from the perspective of final response rates, cost effectiveness, and quickness of returns. A study by James and Bolstein (1990) gives some information on this issue. They ran an experiment using different amounts of incentives (none, $.25, $.50, $1, and $2) and kept track of the response rates at the end of each of the four mailings using a four-page questionnaire. The highest rates of returns were provided by using both methods in combination—four mailings and a $2 prepaid incentive. This strategy is also the most expensive. Good return rates (although a little lower than the combination method) were also obtained by using two mailings and a $2 incentive or four mailings and no incentive. The no incentive strategy was slightly less expensive than the incentive strategy but of course it took more time for the additional waves of mailings to be administered. If time rather than money is the limiting factor, then using incentives may allow you to save some time; if money is the limiting factor then planning for multiple mailings with no incentives may be the best. If a high response rate is the major goal, then multiple mailings and incentives should be used together.

OTHER TECHNIQUES

There are other techniques beyond reminders and incentives that have been shown to improve response rates. Some techniques show consistent improvements; some have shown improvements in only some circumstances.

Prenotification

One interesting variation of the reminder mechanism is to prenotify respondents before they receive the survey. In a sense this is a reminder
done ahead of time. Basically it is a contact by mail or phone that "warns" the respondent that they have been selected to be in a survey and to keep an eye open for its arrival in the mail a week or two in the future. The impact of the prenotification is generally equivalent to one reminder (Allen, Schewe, & Wijk, 1980; Brunner & Carroll, 1969; Ford, 1967; Furse, Stewart, & Rados, 1981; Heaton, 1965; Jolson, 1977; Kerin & Peterson, 1977; Myers & Haug, 1969; Parsons & Medford, 1972; Schegelmilch & Diamantopoulos, 1991; Stafford, 1966; Walker & Burdick, 1977; Wynn & McDaniel, 1985; Yammarino et al., 1991).

This procedure provides one way to shorten the interval from the first mailing of the survey until the last reminder. You can "gain" 2 weeks on your return schedule by mailing out the prenotification letter a couple of weeks before you send out the questionnaire. You would send it out about the same time that the questionnaire goes off to the printer.

Return Postage

It almost goes without saying that paying for the return postage will increase response rates. Maybe because this is such an obvious procedure, there have not been all that many studies that explicitly test this assertion. The few that have been done certainly confirm this point (Armstrong & Lusk, 1987; Blumberg et al., 1974; Ferris, 1951; Harris & Guffey, 1978; McCrohan & Lowe, 1981; Price, 1950; Yammarino et al., 1991).

There has been more research on the type of postage put on the return envelope. The alternatives are to use some kind of business reply franking or to put a stamp on the return envelope. The advantage of the business reply is that you get charged only for questionnaires that are actually returned. By the way, the post office does charge a little extra for this service, something on the order of magnitude of $.07 per returned questionnaires. This "extra" cost needs to be factored in when comparing the costs of alternate postage mechanisms. The disadvantage of this choice is that it gives more of the appearance of impersonality.

The alternate procedure of putting a stamp on the return envelope seems to produce a small increase in return rates (Brook, 1978; Jones & Linda, 1978; Kimball, 1961; Watson, 1965). The reason for this is that respondents do not want to "waste" the stamp by not returning the questionnaire and yet are not crass enough to peel it off and use it for their own purposes. We are using the value put on avoiding wastefulness to induce a better response rate. There have also been some studies that show using pretty commemorative type stamps has a slight advantage over regular stamps (Henley, 1976; Jones & Linda, 1978; Martin & McConnell, 1970). The disadvantage of this approach is its cost. Not only do you "pay" for stamps that ultimately never get used but it also costs time and money to get the stamps, lick them (the post office now offers self-stick stamps in some denominations), and stick them on all the envelopes.

Outgoing Postage

The usual alternatives for types of outgoing postage are stamps or metered mail using a postage meter. There have been a few studies done that show a slight advantage for stamps, particularly commemorative stamps, on outgoing envelopes (Blumenfeld, 1973; Dillman, 1972; Hopkins & Podolak, 1983; Kernan, 1971; McCrohan & Lowe, 1981; Peterson, 1975; Vocino, 1977). The explanation for this difference is that respondents are less likely to assume the mailing is "junk mail" if there is a stamp on the envelope and therefore actually open the envelope. The only disadvantage for stamps again is the extra cost of sticking them on the envelopes.

There is a third postage option. It is called a first class indicia. It is like the business reply except that it is used for outgoing first class mail. You print your account number and a first class designation on your outgoing envelopes. The post office keeps track of your mailings and deducts the postage amounts from a prepaid account that you have set up with them. This is the least labor intensive method of sending out your questionnaires, but it probably suffers somewhat from the same problem as metered mail in that it may be confused with "junk mail."

There has also been some research on the value of using premium postage for mailings such as special delivery or next day delivery services. The research shows there to be some advantage for this type of postage, but the costs are so substantial that many consider this prohibitive (Clausen & Ford, 1947; Kephart & Bressler, 1958). When special postage is used, it is most often used for the final reminders. At least you are mailing to only part of your sample at this stage.

Study Sponsorship

Respondents are more likely to respond to surveys that they consider important or prestigious (Doob, Freedman, & Carlsmith, 1973; Houston & Nevin, 1977; Jones & Lang, 1980; Jones & Linda, 1978; Peterson, 1975; Roche, 1963; Watson, 1965). Therefore they are more likely to
respond to surveys that are sponsored by government agencies or well-known universities (Houston & Nevin, 1977; Jones & Lang, 1980; Jones & Linda, 1978; Peterson, 1975). Also, perhaps they are less concerned that the survey is a ploy to sell them real estate or insurance if it comes on university or government agency letterhead.

Color of the Questionnaire

There have been a few studies that show that the color of the questionnaire cover affects return rates (Gullahorn & Gullahorn, 1963; Pressley & Tullar, 1977; Pucel et al., 1971). The explanation for this effect is that a color other than white might stand out more on the respondent’s desk so the respondent is less apt to misplace it or to forget to deal with it. Green versus white are the colors that have been tested most often; the relative values of colors other than green have not been tested to any large extent.

**ADDITIONAL TECHNIQUES TO CONSIDER**

There are a variety of other techniques that have not consistently shown improvements in response rates but that have from time to time shown an impact. Unfortunately it is hard to know when these might have a positive effect and when they might not. Using them is riskier, therefore, at least in terms of ensuring positive results. On the other hand, for most, using it will not hurt.

Types of Appeal

When you write your cover letter and you come to the paragraph that speaks to why the respondent should participate, there are several different approaches that could be taken. You can use the scientific approach—"our sample won’t be valid unless everyone responds." You can use the egoistic approach—"this is how participating will benefit you." You can use the social utility approach—"this study is important and worthwhile." None of these approaches has consistently proved better than the others (Bachman, 1987; Childers, Pride, & Ferrell, 1980; Hendrick, Borden, Giesen, Murray, & Seyfried, 1972; Houston & Nevin, 1977; Yammarino et al., 1991; Yu & Cooper, 1983).

**REDUCING NONRESPONSE ERRORS**

**Personalization**

A closely related technique is personalization, either through the salutation to the respondent by using a name as opposed to a more anonymous greeting such as “dear Boston resident,” or by personally signed letters. Neither procedure has consistently shown benefits for response rates (Andreasen, 1970; Carpenter, 1975; Dillman & Frey, 1974; Frazier & Bird, 1958; Houston & Jefferson, 1975; Kawash & Aleamoni, 1971; Kerin & Peterson, 1977; Kimball, 1961; Rucker, Hughes, Thompson, Harrison, & Vanderlip, 1984; Simon, 1967; Weibacher & Walsh, 1952). Some authors have commented that by personalizing the letters you may have just the opposite effect by calling attention to the fact that you know the respondent’s name.

**Deadlines**

Providing the respondents with a deadline for responding has a nice appeal to it. The presumption is that respondents would try harder to return the questionnaire by the deadline, rather than putting it aside for a while and then forgetting it. The use of a deadline gets a little complicated when you are also using reminders. You do not want to say that 2 weeks from now is the deadline for responding, and then send the respondent a reminder at that time saying “please respond, we’re giving you 2 more weeks.” On the other hand, you do not want to give a deadline of 8 weeks in the future, because that hardly serves any motivating purposes.

What research has been done on the use of deadlines does not show any particular advantage in final response rates. What it does show is that the returns come in a little faster (Futrell & Hise, 1982; Henley, 1976; Kanuk & Berenson, 1975; Linsky, 1975; Nevin & Ford, 1976; Roberts, McCrory, & Forthofer, 1978; Vocino, 1977). My suggestion is to use soft deadlines that also incorporate the information about subsequent reminders, such as “Please try to respond within the next week, so we won’t have to send you any reminders.”