Bringing Research to Life

"Jason, you'll enjoy this," Myra called as she arrived for her meeting on the economic council research proposal. She was waving a letter above her head and smiling widely.

"You remember me telling you about my Aunt Edna, the not-so-retired attorney in Albany? Well, she sent this for my—our—amusement."

Edna Koogan, P. A., Attorney at Law
P. O. Box 8219-2767
Albany, New York 12212-2767

Dr. Edith Coblenz, M.D.
3456 Barshoot Building
Albany, New York 12212

Dear Edith,

I want you to have my side of this morning's incident at the Albany Outpatient Laser Clinic Inc. I am sure you have by now heard from the business manager and the admissions director and possibly the anesthetist. You are a stockholder in the center, I know, and as your former lawyer and current patient, I thought I owed you a warning and explanation.

You told me to report to the center at 7 A.M. for a workup in preparation for eye surgery tomorrow. I caught a cab and was there at 6:55 promptly and was then obliged to stand outside in lightly drifting snow until the doors opened. They were late opening the admissions department.

I identified myself as your patient, and at once the receptionist called someone from the back room and said, "Ms. Koogan's personal physician is Dr. Coblenz," which is, of course, not true, as you are my eye doctor, and my personal physician is Dr. Burke in Troy. But I was too cold to argue and there were people lined up behind me.

A fellow who had scooted in from the back insisted on taking my glasses and medications with him "for a workup," as he said. As soon as he had disappeared with my glasses the first admissions clerk disappeared and a second one appeared and handed me a "questionnaire" to fill out. It appeared to be a photocopy of a photocopy of a photocopy and was very faintly printed in small gray type on a light gray sheet. When I pointed out that I was about to be admitted for treatment of glaucoma, a leading cause of blindness, she told me, "Do the best you can." When I objected emphatically, she seemed taken aback. I suppose most of her 80-year-old patients are more compliant, but I guess I am an intractable old attorney.

Was I wrong to object to the questionnaire being too faint and the type too small? Am I the first glaucoma patient who has ever been treated at the Laser Center? One would think they would understand you can't ask someone blind in one eye to fill out such a questionnaire, especially without her glasses. She finally, grudgingly, asked me to sit by her side, so she could help me.

There were several questions about my name, address, age, and occupation. Then she wanted to know the name of the admitting physician and then the phone number (but not the name) of the physician who was most familiar with my health. I said the admitting physician was an eye doctor and the physician most familiar with my health was a GP, and asked, which did she want the phone number for, the eye doctor or the GP? She became very angry then and admonished me to try and "get over that bad attitude." Then she told me to go over and sit somewhere and fill out the form as best I could.

A very nice patient (hemorrhoids, no vision problems) heard our conversation and offered to help me. She began reading the questionnaire and came to

the item "Past Medical History: Yes or No." She didn't think this made any sense, and neither did I, because everyone has a past medical history, and no one would answer no; but after a while we decided that it meant I should answer yes or no to all of the questions underneath, such as: Did I have diabetes? Did I have heart disease? When we came to "Have you ever had or been treated for a recent cold or the flu?" we could not decide if it meant, have I ever had the flu? Or have I had flu recently (I had flu six months ago, but is that "recent"?) so we asked the receptionist, and she became almost speechless and said she would get me some help.

After a while the "help" appeared—a nurse who wanted to measure my blood pressure and induce me to take a blue pill, which she said would be good for my "nerves." I refused and pointed out rather curtly that this was not a gulag but an admissions department, a place of business, for crying out loud, where they ought to be able to handle a little criticism from someone trained to elicit accurate information.

By then several nice people had pitched in to help me with the questionnaire. But this made it even harder to decide on the answers, because we understood so many of the questions differently and couldn't agree. When we came to "Are all your teeth intact?" One man thought it meant, "Do you have false teeth?" And another thought it meant, "Do you have any broken dentures?" But a woman who assured me her son is a dentist said it meant, "Do you have any loose teeth?" We decided to settle that by eeny-meany-miney-moe.

Then there was the question "Do you have limited motion of your neck?" and by then everyone was enjoying the incongruity of these questions. Of course I have limited motion of the neck. Doesn't everyone? We decided to save that question for later clarification.

After all of the yes-no questions there came various other stumpers, such as "Please list your current medications." The problem is, of course, that I have purple eye drops and yellow eye drops, but the young man had taken them away from me "for a workup," so I had no way of accurately answering the questions. I was pretty sure one of them was glucagon, so I guessed and put that down, but then I had second thoughts and scratched it out. (When I got home, I checked and it was betagan, not glucagon.)

There were four of us working on the questionnaire by then, and we were laughing and crowing and having a high time and discharging our anxieties, which got the admissions clerk very flustered and annoyed. So she called the anesthetist, a stuck-up young fellow who said he had written the questionnaire himself and had never had any problems with it. That is when I told him, if he had not had any problems with this questionnaire, this proved it was better to be lucky than smart.

He said he was going to overlook my "attitude" because he knew I was old and anxious about the coming operation, and I told him I was going to take my business somewhere else because of the bilaterality problem. "What is that?" he asked. I said, I have two eyes, and if anyone as dumb as him went after me with a knife, he would probably take the wrong eye.

I caught a cab and sent my neighbor back for my glasses. As your lawyer, I urge you not to further involve yourself with such fools.

Lovingly,

Edna

Characteristics of the Communication Approach

The researcher determines the data collection approach largely by identifying the types of information needed—investigative questions the researcher must answer—and the desired data type (nominal, ordinal, interval, or ratio) for each of these questions. The characteristics of the sample unit—specifically, whether a participant can articulate his or her ideas, thoughts, and experiences—also play a role in the decision. Part A of Exhibit 11–1 shows the relationship of these decisions to the research process detailed in Chapter 3. Part B indicates how the researcher's choice of a communication (versus an observation) approach affects the following:

- The creation and selection of the measurement questions.
- Sampling issues (previously explored in Chapter 7), which drive contact and call-back procedures.
- Instrument design (to be discussed in Chapter 12), which incorporates attempts to reduce error and create respondent-screening procedures.
- Data collection processes, which create the need for follow-up procedures (when self-administered instruments are used) and possible interviewer training (when personal or telephone interviewing methods are used).

Research designs can be classified by the *approach* used to gather primary data. There are really only two alternatives. We can *observe* conditions, behavior, events, people, or processes. Or we can *communicate* with people about various topics, including participants' attitudes, motivations, intentions, and expectations. In this chapter we focus on the choices the researcher must make once the communication approach has been chosen (Exhibit 11–2), by discussing the characteristics and applications of the various communication approaches as well as their individual strengths and weaknesses (summarized in Exhibit 11–4).

The communication approach differs significantly from the observation approach discussed in Chapter 13.

The **communication approach** involves surveying people and recording their responses for analysis. The great strength of the survey as a primary data collecting approach is its versatility. It does not require that there be a visual or other objective perception of the information sought by the researcher. Abstract information of all types can be gathered by questioning others. We seldom learn much about opinions and attitudes except by surveying. This is also true of intentions and expectations. Information about past events is often available only through surveying people who remember the events. Thus, the choice of a communication versus an observation approach may seem an obvious one, given the directions in which investigative questions may lead, as shown in Exhibit 11–2.

However, sometimes the investigative questions leave the option of choosing either approach. Surveying is more efficient and economical than observation. A few well-chosen questions can yield information that would take much more time and effort to gather by observation. A survey that uses the telephone, mail, or the Internet as the medium of communication can expand geographic coverage at a fraction of the cost and time required by observation.

The most appropriate applications for surveying are those where participants are uniquely qualified to provide the desired information. We expect such facts as age, income, and immediate family situation to be appropriate survey topics.

EXHIBIT 11–1 Data Collection Approach: Impact on the Research Process

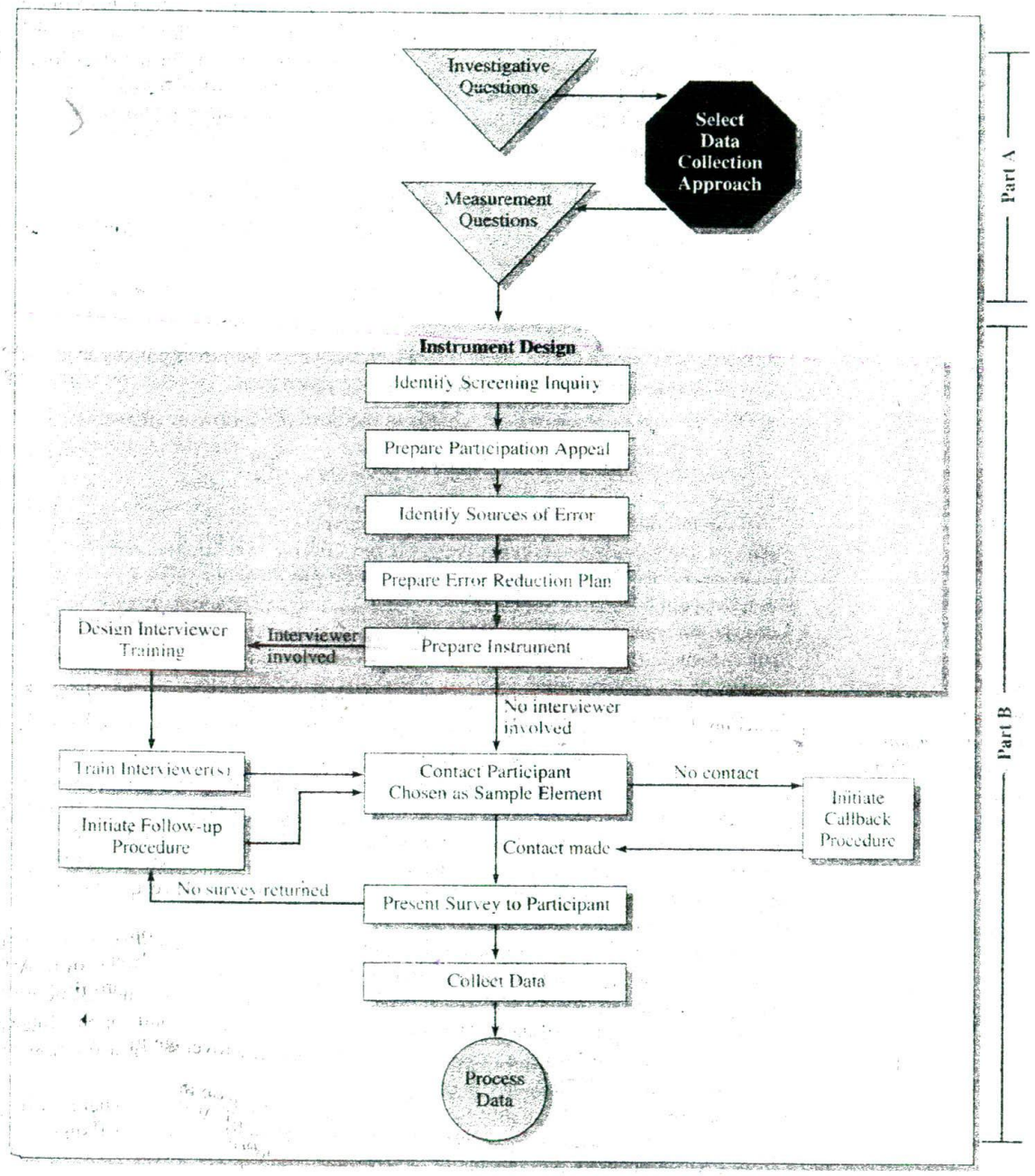
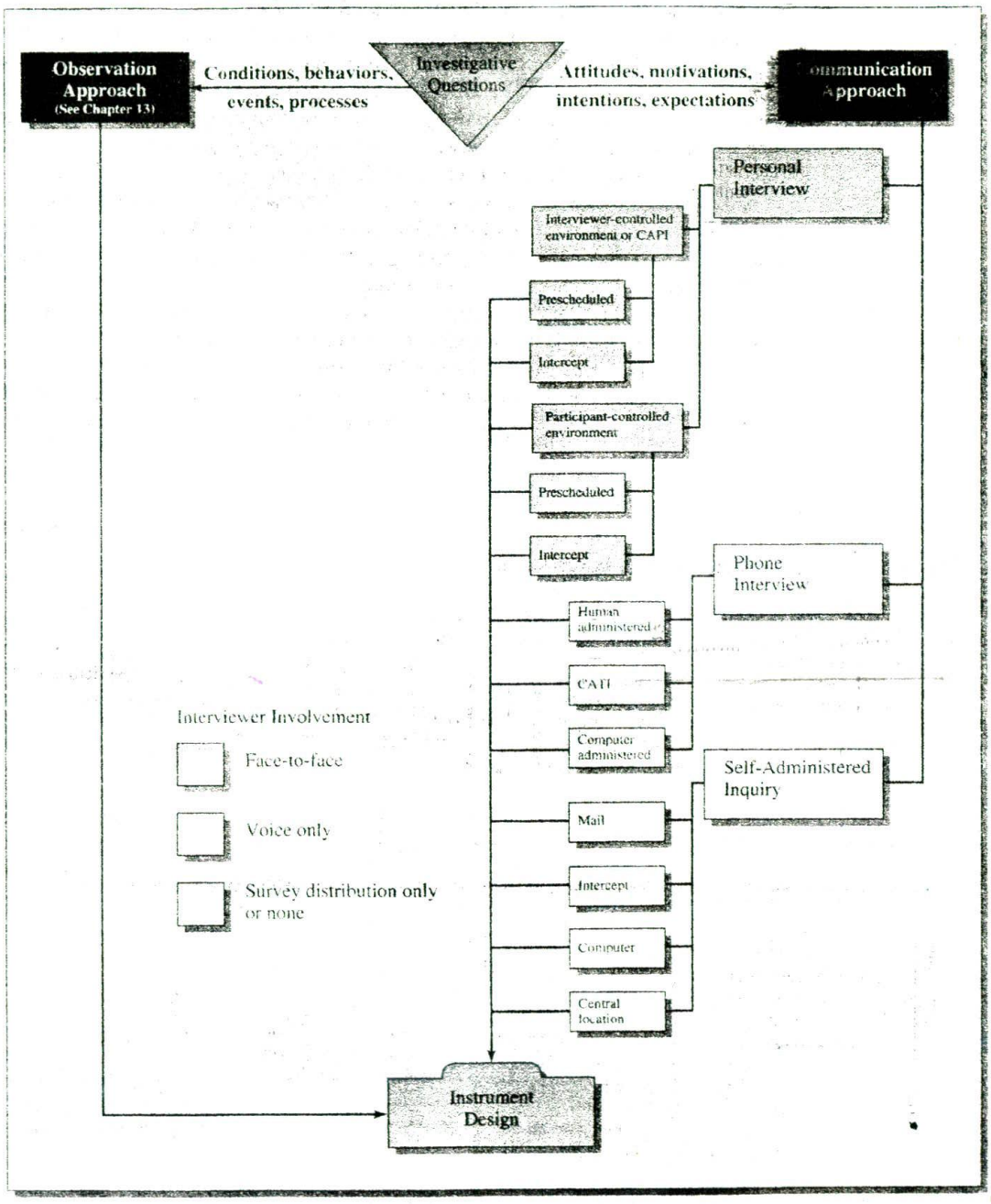


EXHIBIT 11–2 Selecting a Communication Data Collection Method

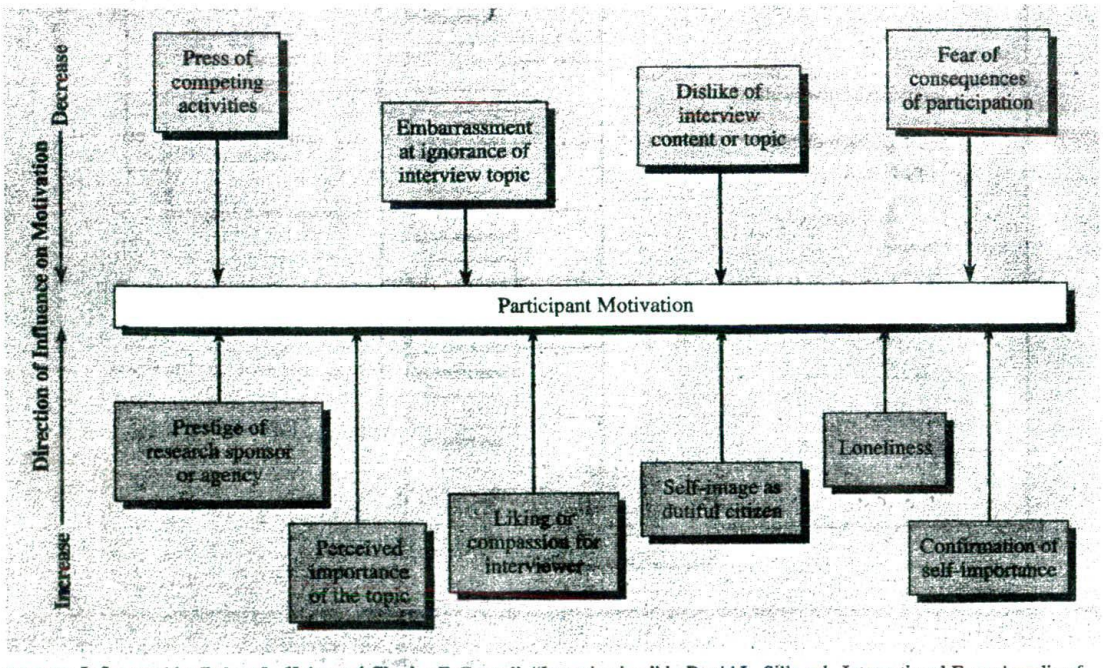


Questions can be used to inquire about subjects that are exclusively internal to the participant. We include here items such as attitudes, opinions, expectations, and intentions. Such information can be made available to the researcher if the right questions are asked of participants. It becomes, finally, a matter of whether to ask direct or indirect questions in order to collect the most meaningful data.

The communication approach has its shortcomings, however. Its major weakness, depicted in Exhibit 11–3, is that the quality and quantity of information secured depends heavily on the ability and willingness of participants to cooperate. Often, people refuse an interview or fail to reply to a mail- or computer-delivered survey. There may be many reasons for this unwillingness to cooperate. Certain people at certain times fail to see any value in participation; they may be suspicious of or fear the interview experience for some reason; or they may view the topic as too sensitive and thus the interview as potentially embarrassing or intrusive. Previous encounters with marketers who have attempted to disguise their sales pitch as a research survey can also erode participants' willingness to cooperate.

Even if individuals agree to participate, they may not possess the knowledge being sought. If we ask participants to report on events that they have not personally experienced, we need to assess the replies carefully. If our purpose is to learn what the participant *understands* to be the case, it is legitimate to accept the answers given. But if our intent is to learn what the event or situation *actually was,* we must recognize that the

EXHIBIT 11–3 Factors Influencing Participant Motivation



SOURCE: Influenced by Robert L. Kahn and Charles F. Cannell, "Interviewing," in David L. Sills, ed., International Encyclopedia of the Social Sciences, 8, p. 153. Copyright © 1968 by Crowell Collier and Macmillan, Inc.

participant is reporting secondhand data and the accuracy of the information declines. We should not depend on these secondhand sources if a more direct source can be found. A family or group member should be asked about another member's experience only when there is no other way to get the information directly.

In the MindWriter study, only those individuals who have experienced difficulty with their laptops and gone through the CompleteCare program have direct knowledge of the service process. Although some associates and family members are likely to have some secondhand knowledge of their experience, no one but the actual laptop owners are likely to give Jason or Myra as clear a picture of what works and what doesn't with CompleteCare. Aunt Edna, on the other hand, had a totally different experience when she went in for laser surgery to correct her vision problem. Answers to many of the questions on the patient survey might have been known by a caregiver, especially since Edna was over 80 years old and experiencing eye problems serious enough to warrant surgery. And the clinic's admissions department could have been confident that such information was as accurate as if given by Edna herself.

Sometimes a participant may not have an opinion on the topic of concern. Under these circumstances, their proper response should be "don't know" or "have no opinion." Too often, participants feel obliged to express some opinion even if they do not have one. In those cases, it is difficult for researchers to know how true or reliable the answers are.

Participants may also interpret a question or concept differently from what was intended by the researcher. This occurs when the individual answers a question that is different from the one being asked. Also, a participant may intentionally mislead the researcher by giving false information. It is difficult for a researcher to identify these occasions. Thus, survey responses should be accepted for what they are—statements by individuals that reflect varying degrees of truth. Despite these weaknesses, communicating with research participants is a principal method of management research.

Choosing a Communication Method

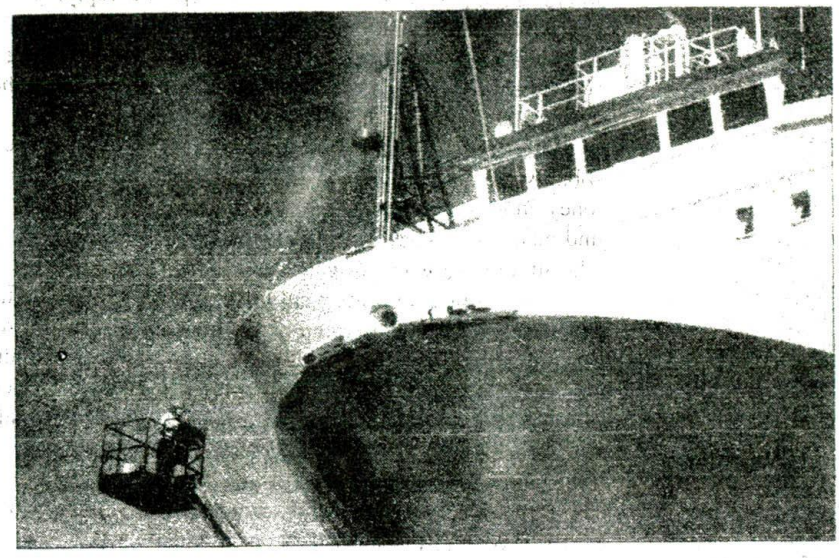
Once the researcher has determined that surveying is the appropriate data collection approach, various means may be used to secure information from individuals. A researcher can conduct a survey by personal interview, telephone, mail, computer, or a combination of these. As noted in Exhibit 11–4, while there are commonalities among these approaches, several considerations are unique to each.

Personal Interviewing

A **personal interview** (i.e., face-to-face communication) is a two-way conversation initiated by an interviewer to obtain information from a participant. The differences in the roles of interviewer and participant are pronounced. They are typically strangers, and the interviewer generally controls the topics and patterns of discussion. The consequences of the event are usually insignificant for the participant. The participant is asked to provide information and has little hope of receiving any immediate or direct benefit from this cooperation. With her poor eyesight and the problems of question clarity that Edna experienced at the Albany Outpatient Laser Clinic, a personal interview, rather than the intercept/self-administered questionnaire, might have been a preferable communication method.

Exhibit 11.4 Comparison of Communication Approaches

	Personal Interviews	Telephone Interviews	Self-Administered Surveys
Description	People selected to be part of the sample are interviewed in person by a trained interviewer.	People selected to be part of the sample are interviewed on the telephone by a trained interviewer.	Questionnaires are: (a) Mailed, faxed, or couriered to be self-administered—with return mechanism generally included; (b) Computer-delivered via intranet, Internet, and online services—computer stores/ forwards completed instruments automatically; (c) People intercepted/studied via paper or computerized instrument in central location—without interviewer assistance.
Advantages	• Good cooperation from respondents. • Interviewer can answer questions about survey, probe for answers, use follow-up questions, and gather information by observation. • Special visual aids and scoring devices can be used. • Illiterate and functionally illiterate respondents can be reached. • Interviewer can prescreen respondent to ensure he/she fits the population profile. • CAPI—computer-assisted personal interviewing: Responses can be entered into a portable microcomputer to reduce error and cost.	• Lower costs than personal interview. • Expanded geographic coverage without dramatic increase in costs. • Uses fewer, more highly skilled interviewers. • Reduced interviewer bias. • Fastest completion time. • Better access to hard-to-reach respondents through repeated callbacks. • Can use computerized random-digit dialing. • CATI—computer-assisted telephone interviewing: Responses can be entered directly into a computer file to reduce error and cost.	• Allows contact with otherwise inaccessible respondents (e.g., CEOs). • Incentives may be used to increase response rate. • Often lowest-cost option. • Expanded geographic coverage without increase in costs (a). • Requires minimal staff (a). • Perceived as more anonymous (a). • Allows respondents time to think about questions (a). • More complex instruments can be used (b). • Fast access to the computer-literate (b). • Rapid data collection (b,c). • Respondent who cannot be reached by phone (voice) may be accessible (b,c). • Sample frame lists viable locations rather than prospective respondents (b,c). • Visuals may be used (b,c).
Disadvantages	• High costs. • Need for highly trained interviewers. • Longer period needed in the field collecting data. • May be wide geographic dispersion. • Follow-up is labor intensive. • Not all respondents are available or accessible. • Some respondents are unwilling to talk to strangers in their homes. • Some neighborhoods are difficult to visit. • Questions may be altered or respondent coached by interviewers.	• Response rate is lower than for personal interview. • Higher costs if interviewing geographically dispersed sample. • Interview length must be limited. • Many phone numbers are unlisted or not working, making directory listings unreliable. • Some target groups are not available by phone. • Responses may be less complete. • Illustrations cannot be used.	• Low response rate in some modes. • No interviewer intervention available for probing or explanation (a). • Cannot be long or complex (a). • Accurate mailing lists needed (a). • Often respondents returning survey represent extremes of the population—skewed responses (a). • Anxiety among some respondents (b). • Directions/software instruction needed for progression through the instrument (b). • Computer security (b). • Need for low-distraction environment for survey completion (c).



A harbormaster in Finland hired Rubinstein Consulting to help with a human resource problem. When a shift ended, workers deserted their posts, abandoning tools and expensive machinery wherever they stood. Rubinstein chose in-depth personal interviews among current and potential workers to understand the problem and identify a plausible new recruiting plan. The research revealed that older workers had an entitlement mentality: A job was their right. Rubinstein's research also discovered that younger workers, especially those exiting mandatory military service, would be enticed by the salaries but also would want to prove themselves. These workers would be far more dedicated to both company and job—expecting no job to be for a lifetime and anxious to perform. The new recruiting plan that Rubinstein devised for targeting younger workers promised potentially higher worker turnover but delivered much higher productivity and lower costs in the area of damaged equipment.
www.rubinsteinconsulting.fi

Evaluation of the Personal Interview

There are real advantages as well as clear limitations to personal interviewing. The greatest value lies in the depth of information and detail that can be secured. It far exceeds the information secured from telephone and self-administered studies via intercepts (e.g., in malls or, as with Edna, in a doctor's office), mail surveys, or computer (both intranet and Internet). The interviewer can also do more things to improve the quality of the information received than with another method.

The absence of assistance in interpreting questions in the Albany clinic study was a clear weakness that would have been improved by the presence of an interviewer. Interviewers can note conditions of the interview, probe with additional questions, and gather supplemental information through observation. Edna was obviously in good spirits and very relaxed after she and her fellow patients had critiqued the questionnaire. This attitude would have been observed and noted by an interviewer. Of course, we're hopeful that the interviewer would correctly interpret laughter as a sign of humor and not as a negative attitude, as did the admissions clerk.

Interviewers also have more control than with other kinds of interrogation. They can prescreen to ensure the correct participant is replying, and they can set up and control interviewing conditions. They can use special scoring devices and visual materials, as is done with **computer-assisted personal interviewing (CAPI).** Interviewers also can adjust the language of the interview as they observe the problems and effects the interview is having on the participant.

With such advantages, why would anyone want to use any other survey method? Probably the greatest reason is that personal interviewing is costly, in terms of both money and time. A personal interview may cost anywhere from a few dollars to several hundred dollars for an interview with a hard-to-reach person. Costs are particularly high if the study covers a wide geographic area or has stringent sampling requirements. An exception to this is the **intercept interview** that targets participants in centralized locations such as shoppers in retail malls. Intercept interviews reduce costs associated with the need for several interviewers, training, and travel. Product and service demonstrations also can be coordinated, further reducing costs. Their cost-effectiveness, however, is offset when representative sampling is crucial to the study's outcome. Exhibit 11–5 offers some helpful tips when intercept interviews are an appropriate research design. The intercept interview would have been a possibility in the Albany clinic study, although more admissions clerks would likely have been needed if volunteers were not available to perform this task.

Costs have risen rapidly in recent years for most communication methods because changes in the social climate have made personal interviewing more difficult. Many people today are reluctant to talk with strangers or to permit visits in their homes. Interviewers are reluctant to visit unfamiliar neighborhoods alone, especially for evening interviewing. Finally, results of personal interviews can be affected adversely by interviewers who alter the questions asked or in other ways bias the results. As Edna and her friends discussed the Albany clinic survey, they each applied their own operational definitions to the concepts and constructs being asked. This confusion created a bias that might have been eliminated by a well-trained interviewer. Interviewer bias is discussed in more depth later in this chapter. If we are to overcome these deficiencies, we must appreciate the conditions necessary for interview success.

Requirements for Success Three broad conditions must be met in order to have a successful personal interview:

MANAGEMENT Tip

- The participant must possess the information being targeted by the investigative questions.
- The participant must understand his or her role in the interview as the provider of accurate information.
- The participant must perceive adequate motivation to cooperate.

The interviewer can do little about the participant's information level. Screening questions can qualify participants when there is doubt about their ability to answer. This is the study designer's responsibility.

Increasing Participation[1]

Interviewers can influence respondents in many ways. An interviewer can explain what kind of answer is sought, how complete it should be, and in what terms it should be

EXHIBIT 11–5 Tips on Intercept Survey Design

MANAGEMENT Tip

1. When screening for multiple studies at the same time, make your questionnaire distinctive:
   - Use colored paper.
   - Use paper with a distinctive color or pattern edge.
2. Make surveys clipboard-friendly:
   - Never print questions on both sides of the paper.
   - Keep font style and point size legible in inconsistent and dim light.
   - Confine your questionnaire to four pages or less.
3. Write the "respondent approach" section to include answers to the following often-asked questions:
   - What's the study about?
   - What's in it for me if I participate?
   - How long will it take?
4. Limit the number of screening questions to avoid participant termination:
   - Keep screening question(s) to the point. Ask only for critical data.
   - Build screening questions on facts, not assumptions or generalities.
   - If you need to speak with the primary purchaser, don't specify gender, family status, or age in the screeners.
5. Keep screening question(s) safe from respondents' eyes:
   - Choose normal, not bold, type style.
   - Put in parentheses or use another separation device.
6. Don't overuse skip patterns: The more cumbersome the patterns, the more likely they won't be followed consistently or effectively.
7. Don't force the interviewer to remember responses to questions on previous pages in order to ask questions on the current page.
8. Tally where respondents terminate the screening process or survey:
   - Include a horizontal string of question numbers at the bottom of each page so the interviewer can circle the number of the next question after termination.

SOURCE: www.quirks.com/CGI-BIN/SM40i.exe?docid=3000:58911&%70assArticleId=52; E. B. Feltser, "Pain-Free Mall Intercepts," *Quirk's Marketing Research Review*, November 1996.

expressed. Interviewers can even do some coaching in the interview, although this can be a biasing factor.

Participant motivation is a responsibility of the interviewer. Studies of reactions to many surveys show that participants can be motivated to participate in personal interviews and, in fact, can even enjoy the experience. In one study, more than 90 percent of participants said the interview experience was interesting, and three-fourths reported they were willing to be interviewed again.[2] In intercept/self-administered studies, the interviewer's

primary role is to encourage participation as the participant completes the survey on his or her own. Taking away Edna's glasses, along with the natural anxiety associated with eye surgery, would not have encouraged Edna's participation. However, the "required" nature of the information (we assume surgery would not commence without prior completion of the questionnaire) guaranteed Edna's participation, no matter how grudgingly given.

Increasing Participants' Receptiveness As depicted in Exhibit 11–4, a variety of forces affect participant motivation in an interview. Many of these involve the interviewer. At first, it may seem easy to question another person about various topics, but research interviewing is not so simple. What we do or say as interviewers can make or break a study. Participants often react more to their feelings about the interviewer than to the content of the questions. It is also important for the interviewer to ask the questions properly, record the responses accurately, and probe meaningfully. To achieve these aims, the interviewer must be trained to carry out those procedures that foster a good interviewing relationship.

The first goal in an interview is to establish a friendly relationship with the participant. Three factors will help with participant receptiveness.

- The participant must believe that the experience will be pleasant and satisfying.
- The participant must believe that answering the survey is an important and worthwhile use of his or her time.
- The participant must dismiss any mental reservations that he or she might have about participation.

Whether the experience will be pleasant and satisfying depends heavily on the interviewer. Typically, participants will cooperate with an interviewer whose behavior reveals confidence and who engages people on a personal level. Effective interviewers are differentiated not by demographic characteristics but by these interpersonal skills. By confidence, we mean that most participants are immediately convinced they will want to participate in the study and cooperate fully with the interviewer. An engaging personal style is one where the interviewer instantly establishes credibility by adapting to the individual needs of the participant.

For the participant to think that answering the survey is important and worthwhile, some explanation of the study's purpose is necessary, although the amount will vary. It is the interviewer's responsibility to discover what explanation is needed and to supply it. Usually, the interviewer should state the purpose of the study, tell how the information will be used, and suggest what is expected of the participant. Participants should feel that their cooperation would be meaningful to themselves and to the survey results. When this is achieved, more participants will express their views willingly.

Participants often have reservations about being interviewed that must be overcome. They may suspect the interviewer is a disguised salesperson, or has an illegitimate purpose. In addition, they may also feel inadequate or fear the questioning will embarrass them. Techniques for the successful interviewing of participants in environments they control—particularly their homes—follow.

The Introduction The participant's first reaction to the request for an interview is at best a guarded one. Interviewer appearance and action are critical in forming a good first impression. Interviewers should immediately identify themselves by name and organization and provide any special identification. Introductory letters or other information confirms the study's legitimacy. In this brief but critical period, the interviewer must display friendly intentions and stimulate the participant's interest.

The interviewer's introductory explanations should be no more detailed than necessary. Too much information can introduce a bias. However, some participants will demand more detail. For them, the interviewer might explain the objective of the study, its background, how the participant was selected, the confidential nature of the interview (if it is), and the benefits of the research findings. Researchers must be prepared to deal with questions such as: "How did you happen to pick me?"; "Who gave you my name?"; "I don't know enough about this"; "Why don't you go next door?"; and "Why are you doing this study?"[3]

The home interview typically involves two stages. The first occurs at the door when the introductory remarks are made, but this is not a satisfactory location for many interviews. In trying to secure entrance, the interviewer will find it more effective to suggest the desired action rather than to ask permission. "May I come in?" can be easily countered with a participant's "No." "I would like to come in and talk with you about X" is likely to be more successful.

If the Participant Is Busy or Away If it is obvious that the participant is busy, it may be a good idea to give a general introduction and try to stimulate enough interest to arrange an interview at another time. If the designated participant is not at home, the interviewer should briefly explain the proposed visit to the person who is contacted. It is desirable to establish good relations with intermediaries since their attitudes can help in contacting the proper participant. Interviewers contacting participants door to door often leave calling or business cards with their affiliation and a number where they can be reached to reschedule the interview.

Establishing a Good Relationship The successful interview is based on rapport—meaning a relationship of confidence and understanding between interviewer and participant. Interview situations are often new to participants, and they need help in defining

SNAPSHOT

Personal Interviews Provide Relief

Bayer Consumer Care inherited Aleve, a long-duration over-the-counter painkiller, from Procter & Gamble in 1996. Since its launch in 1994, P&G hadn't been able to move Aleve beyond a 6 percent market share. Bayer chose CLT Research Associates to identify potential Aleve users. CLT conducted in-home interviews with a random sample of 800 men and women aged 18–75 who had used a non-prescription pain reliever in the past year. The research revealed that 24 percent of those interviewed could be defined as *pain-busters* (heavy users of analgesics who were likely to try new products to gain relief). More than one-third of those identified as pain-busters had tried Aleve. Bayer's task was to use the research to identify a strategy to get pain-busters to choose Aleve when they faced their analgesic-stocked medicine cabinet.

First, Moskowitz Jacobs, Inc., had 249 respondents rate various statements about Aleve. Statements that promised "control over pain" or "freedom to do the things you want" were discovered as important emotional triggers for consumers interested in minimizing the number of pills they took to relieve pain—Aleve's differential advantage. Next Bayer managers analyzed syndicated data from Mediascope, Nielsen Panel Data, MRI, and Simmons and conducted a series of focus groups moderated by Viewpoints Consulting, Inc., to flesh out findings. The sum of this research revealed Aleve users were more likely to suffer from arthritis and back pain than the average analgesic user. This helped Bayer define the benefit of Aleve as "liberation from tough pain, making a dramatic difference in the quality of life." The resulting "Dramatic Difference" ad campaign boosted the subsequent year's sales by 16 percent, with a rise in market share to 7 percent, its highest ever.

www.aleve.com

www.cltresearch.com

www.smrb.com

http://acnielsen.com

their roles. The interviewer can help by conveying that the interview is confidential (if it is) and important and that the participant can discuss the topics with freedom from censure, coercion, or pressure. Under these conditions, the participant can obtain much satisfaction in "opening up" without pressure being exerted.

Gathering the Data To this point, the communication aspects of the interviewing process have been stressed. Having completed the introduction and established initial rapport, the interviewer turns to the technical task of gathering information. The interview centers on a prearranged question sequence. The technical task is well defined in studies with a structured survey procedure (in contrast to an exploratory interview situation). The interviewer should follow the exact wording of the questions, ask them in the order presented, and ask every question that is specified. When questions are misunderstood or misinterpreted, they should be repeated.

A difficult task in interviewing is to make certain the answers adequately satisfy the question's objectives. To do this, the interviewer must learn the objectives of each question from a study of the survey instructions or by asking the research project director. It is important to have this information well in mind because many first responses are inadequate even in the best-planned studies.

The technique of stimulating participants to answer more fully and relevantly is termed **probing.** Since it presents a great potential for bias, a probe should be neutral and appear as a natural part of the conversation. Appropriate probes (those that when used will elicit the desired information while injecting a limited amount of bias) should be specified by the designer of the data collection instrument. There are several different probing styles:

MANAGEMENT



- **A brief assertion of understanding and interest.** With comments such as "I see" or "yes" or "uh-huh," the interviewer can tell the participant that the interviewer is listening and is interested in more.
- **An expectant pause.** The simplest way to suggest to the participant to say more is a pause along with an expectant look or a nod of the head. This approach must be used with caution. Some participants have nothing more to say, and frequent pausing could create some embarrassing silences and make them uncomfortable, reducing their willingness to participate further.
- **Repeating the question.** This is particularly useful when the participant appears not to understand the question or has strayed from the subject.
- **Repeating the participant's reply.** The interviewer can do this while writing it down. Such repetition often serves as a good probe. Hearing thoughts restated often promotes revisions or further comments.
- **A neutral question or comment.** Such comments make a direct bid for more information. Examples are: "How do you mean?" "Can you tell me more about your thinking on that?" "Why do you think that is so?" "Anything else?"[4]
- **Question clarification.** When the answer is unclear or is inconsistent with something already said, the interviewer may suggest the participant failed to understand fully. Typical of such probes is, "I'm not *quite* sure I know what you mean by that—could you tell me a little more?" or "I'm sorry, but I'm not sure I understand. Did you say previously that . . . ?" It is important that the interviewer take the blame for failure to understand so as not to appear to be cross-examining the participant.

A specific type of response that requires persistent probing is the "I don't know" answer. This is a satisfactory response if the participant really does not know. But too

often "I don't know" means the participant does not understand, wants time to think, or is trying to evade the question. The interviewer can best probe this type of reply by using the expectant pause or by making some reassuring remark such as, "We are interested in your ideas about this."[5]

Recording the Interview While the methods used in recording will vary, the interviewer usually writes down the answers of the participant. Some guidelines can make this task more efficient. First, record responses as they occur. If you wait until later, you lose much of what is said. If there is a time constraint, the interviewer should use some shorthand system that will preserve the essence of the participant's replies without converting them into the interviewer's paraphrases. Abbreviating words, leaving out articles and prepositions, and using only keywords are good ways to do this.

Another technique is for the interviewer to repeat the response while writing it down. This helps to hold the participant's interest during the writing and checks the interviewer's understanding of what the participant said. Normally the interviewer should start the writing when the participant begins to reply. The interviewer also should record all probes and other comments on the questionnaire in parentheses to set them off from responses.

Study designers sometimes create a special interview instrument for recording participant answers. This may be integrated with the interview questions or may be a separate document. In such instances the likely answers are anticipated, allowing the interviewer to check participant answers or to record ranks or ratings. However, all interview instruments must permit the entry of unexpected responses.

Selection and Training The job requirements for interviewers include some college experience, good communication skills, flexible schedules, willingness to tolerate intermittent work hours, and mobility. These requirements result in an interviewer profile that is largely composed of college-educated white females who have few child-care responsibilities.[6] Little research evidence suggests that other profiles would increase performance or reduce error except in studies where the question directly involves ethnicity or religion or where volunteer interviewers are used. The former would imply that matching for race or religion should be considered, and the latter cautions against the use of volunteers because of attrition, recording error, and training-related problems.

Field interviewers receive varying degrees of training, ranging from brief written instructions to extensive sessions. Commercial research firms often provide lower levels of training, while governmental, educational, and similar research organizations provide more extensive training. Evidence supports the value of training. In one widely cited study, intensive training produced significant improvements in interviewer performance. The training effect was so great that performance of individual interviewers before training was a poor predictor of post-training performance.[7]

Written instructions should be provided in all studies. Instructions should cover at least the general objectives of the study and mention something about the problems encountered in tests of the interview procedure and how they were solved. In addition, most questions should be discussed separately, giving the interviewer some insight into the purpose of the question, examples of adequate and inadequate responses, and other suggestions such as how to probe for more information. Definitions of concepts or constructs should be included so interviewers can explain and interpret in a standardized manner.

Several sources suggest an interview training program should accomplish the following:

MANAGEMENT Tip

- Provide new interviewers with the principles of measurement; give them an intellectual grasp of the data collection function and a basis for evaluating interviewing behavior.
- Provide practice in introductions and introductory materials.
- Teach the techniques of interviewing.
- Teach wording and "skip" instructions to help with a smooth and consistent flow of questions.
- Teach how to probe.
- Provide experience in recording answers of different types and on different scales.
- Provide the opportunity for practice and evaluation by conducting interviews under controlled conditions.
- Offer careful evaluation of interviews, especially at the beginning of actual data collection. Such evaluation should include a review of interview protocols.[8]

Interview Problems

In personal interviewing, the researcher must deal with bias and cost. While each is discussed separately, they are interrelated. Biased results grow out of three types of error: sampling error, nonresponse error, and response error.

Nonresponse Error In communication studies, **nonresponse error** occurs when the responses of participants differ in some systematic way from the responses of nonparticipants. This occurs when the researcher (1) cannot locate the person (the predesignated sample element) to be studied or (2) is unsuccessful in encouraging that person to participate. This is an especially difficult problem when you are using a probability sample of subjects. If the researcher must interview predesignated persons, the task is to find them. Failure to locate a predesignated participant can be due to inaccessibility. In central cities, getting access to the participant can be a problem, as apartment security and locations that produce safety problems for nighttime follow-up may complicate household access.[9] In suburban areas, gated developments prohibit free access to interviewees. One study of nonresponse found that only 31 percent of all first calls (and 20 percent of all first calls in major metropolitan areas) were completed.

Solutions to reduce errors of nonresponse include:

MANAGEMENT Tip

- Establishing and implementing callback procedures.
- Creating a nonresponse sample and weighting results from this sample.
- Substituting another individual for the missing nonparticipant.

Callbacks. The most reliable solution to nonresponse problems is to make **callbacks.** If enough attempts are made, it is usually possible to contact most target participants, although unlimited callbacks are expensive.[10] An original contact plus three callbacks should usually secure about 85 percent of the target participants. Yet in one study, 36 percent of central city residents still were not contacted after three callbacks.[11] One way to improve the productivity of callbacks is to vary them by time of day and day of the week. Sometimes neighbors can suggest the best time to call.

Weighting. Another approach that has been used successfully is to treat all remaining nonparticipants as a new subpopulation after a few callbacks. A random sample is then drawn from this group, and every effort is made to complete this sample with a 100

percent response rate. Findings from this nonparticipant sample can then be weighted into the total population estimate.[12] In a survey in which central city residents are underrepresented, we can weight the results of interviews that are completed with such residents to give them full representation in the results. The weakness of this approach is that weighted returns often differ from those that would be secured if successful callbacks were made. Thus, an unknown but possibly substantial bias is introduced. Weighting for nonresponse after only one contact attempt will probably not overcome nonresponse bias, but participant characteristics converge on their population values after two to three callbacks.[13]

Substitution. A third way to deal with the nonresponse problem is to substitute someone else for the missing participant, but this is dangerous. "At home" participants are likely to differ from "not at home" persons in systematic ways. One study suggested that "not at home" persons are younger, better educated, more urban, and have a higher income than the average.[14]

If one must substitute, it is better for the interviewer to ask others in the household about the designated participant. This approach has worked well "when questions are objective, when informants have a high degree of observability with respect to participants, when the population is homogeneous, and when the setting of the interview provides no clear-cut motivation to distort responses in one direction or another."[15]

Response Error When the data reported differ from the actual data, **response error** occurs. Response error can occur during the interview (created by either the interviewer or participant) or during preparation of data for analysis.

Participant-initiated error occurs when the participant fails to answer fully and accurately—either by choice or because of inaccurate or incomplete knowledge. One study found that participants typically underestimated cash and other liquid assets by as much as 25 to 50 percent. Other data, such as income and purchases of consumer durables, are more accurately reported. Participants also have difficulty in reporting fully and accurately on topics that are sensitive or involve ego matters. Consistent control or elimination of this bias is a problem that has yet to be solved. The best advice is to use trained interviewers who are knowledgeable about such problems.

Interviewer error is also a major source of response bias. From the introduction to the conclusion of the interview, there are many points where the interviewer's control of the process can affect the quality of the data. Study designers should strive to eliminate several different kinds of error evolving from the interview techniques just discussed.

MANAGEMENT Tip

- **Failure to secure full participant cooperation.** The sample loses credibility and is likely to be biased if interviewers do not do a good job of enlisting participant cooperation. Certainly there is a question about the quality of the data collected from Edna during the Albany clinic study. Toward the end of the communication, there is some doubt about the seriousness with which questions were answered. Stressing the importance of the information to the upcoming surgery and having a receptionist trained to serve as question interpreter/prober could reduce this type of error.
- **Failure to consistently execute interview procedures.** The precision of survey estimates will be reduced and there will be more error around estimates to the extent that interviewers are inconsistent in ways that influence the data. In the Albany clinic study, providing differing concept or construct definitions to different clinic patients would have created bias.
- **Failure to establish appropriate interview environment.** Answers may be systematically inaccurate or biased when interviewers fail to appropriately train and

motivate participants or fail to establish a suitable interpersonal setting.[16] Since the Albany clinic study asked for factual rather than attitudinal data, interviewer-injected bias would have been limited. If the clinic had required the admissions clerk (who insulted Edna by referring to her negative attitude) to also conduct a postsurgery study of patient satisfaction, the results of the latter study may have been influenced by interviewer bias.

- **Falsification of individual answers or whole interviews.** Perhaps the most insidious form of interviewer error is cheating. Surveying is difficult work, often done by part-time employees, usually with only limited training and under little direct supervision. At times, falsification of an answer to an overlooked question is perceived as an easy solution to counterbalance the incomplete data. This easy, seemingly harmless first step can be followed by more pervasive forgery. It is not known how much of this occurs, but it should be of constant concern to research directors as they develop their data collection design and those organizations that outsource survey projects.
- **Inappropriate influencing behavior.** It is also obvious that an interviewer can distort the results of any survey by inappropriate suggestions, word emphasis, tone of voice, body language, and question rephrasing. These activities, whether premeditated or merely due to carelessness, are widespread. This problem was investigated using a simple structured questionnaire and planted participants who then reported on the interviewers. The conclusion was "the high frequency of deviations from instructed behavior is alarming."[17]
- **Failure to record answers accurately and completely.** Error may result from an interview recording procedure that forces the interviewer to summarize or interpret participant answers or that provides insufficient space to record answers as provided by the participant.
- **Physical presence bias.** Interviewers can influence participants in unperceived ways. Older interviewers are often seen as authority figures by young participants, who modify their responses accordingly. Some research indicates that perceived social distance between interviewer and participant has a distorting effect, although the studies do not fully agree on just what this relationship is.[18]

In light of the numerous studies on the various aspects of interview bias, the safest course for researchers is to recognize that there is a constant potential for response error.

Costs While professional interviewers' wage scales are typically not high, interviewing is costly, and these costs continue to rise. Much of the cost results from the substantial interviewer time taken up with administrative and travel tasks. Participants are often geographically scattered, and this adds to the cost. Repeated contacts (recommended at six to nine per household) are expensive. In recent years, some professional research organizations have attempted to gain control of these spiraling costs. Interviewers have typically been paid an hourly rate, but this method rewards inefficient interviewers and often results in field costs exceeding budgets.[19] The U.S. Bureau of the Census and the National Opinion Research Center have experimented with production standards and a formula pay system that provide an incentive for efficient interviewers. This approach has cut field costs about 10 percent and has improved the accuracy of the forecasts of fieldwork costs.

A second approach for reducing field costs has been to preschedule personal interviews. Telephone calls to set up appointments for interviews are reported to reduce personal calls by 25 percent without reducing cooperation rates.[20] Telephone screening is

also valuable when a study is concerned with a rare population. In one such case, where blind persons were sought, it was found that telephone screening of households was one-third the cost of screening on a face-to-face basis.[21]

A third means of reducing high field costs is to use self-administered questionnaires. In one study, a personal interview was conducted in the household with a self-administered questionnaire left for one or more other members of the household to complete. In this study, the cost per completed case was reduced by half when compared to conducting individual personal interviews. A comparison between a personal interview and a self-administered questionnaire seeking the same data showed that there was generally sufficient similarity of answers to enable them to be combined.[22]

Telephone Interviewing

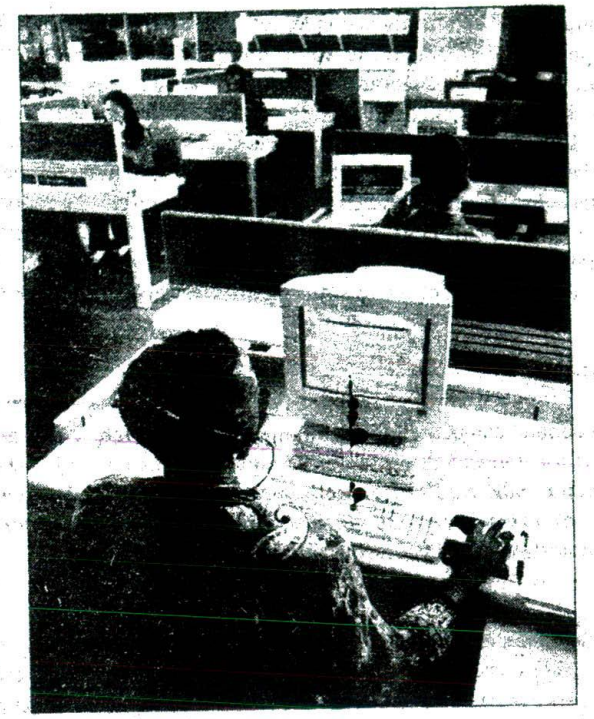
The telephone can be helpful in arranging personal interviews and screening large populations for unusual types of participants. Studies have also shown that making prior notification calls can improve the response rates of mail surveys. However, the **telephone interview** makes its greatest contribution in survey work as a unique mode of communication to collect information from participants.

Evaluation of the Telephone Interview

Of the advantages that telephone interviewing offers, probably none ranks higher than its moderate cost. One study reports that sampling and data collection costs for telephone surveys can run from 45 to 64 percent lower than comparable personal interviews.[23] Much of the savings comes from cuts in travel costs and administrative savings from training and supervision. When calls are made from a single location, the researcher may use fewer yet more skilled interviewers. Telephones are especially economical when callbacks to maintain probability sampling are involved and participants are widely scattered. Long-distance service options make it possible to interview nationally at a reasonable cost.

With the widespread use of computers, telephone interviewing can be combined with immediate entry of the responses into a data file by means of terminals, personal computers, or voice data entry. This brings added savings in time and money. **Computer-assisted telephone interviewing (CATI)** is used in research organizations throughout the world. A CATI facility consists of acoustically isolated interviewing carrels organized around supervisory stations. The telephone interviewer in each carrel has a personal computer or terminal that is networked to the phone system and to the central data-processing unit. A software program that prompts the interviewers with introductory statements, qualifying questions, and precoded questionnaire items drives surveying. These materials appear on the interviewers' monitors. CATI works with a telephone number management system to select numbers, dial the sample, and enter responses. One facility, the Survey Research Center at the University of Michigan, consists of 60 carrels with 100 interviewers working in shifts from 8 A.M. to midnight (EST) to call nationwide. When fully staffed, it produces more than 10,000 interview hours per month.[24]

Another means of securing immediate response data is the **computer-administered telephone survey.** Unlike CATI, there is no interviewer. A computer calls the phone number, conducts the interview, places data into a file for later tabulation, and terminates the contact. The questions are voice-synthesized, and the participant's answer and computer timing trigger continuation or disconnect. This mode is often compared to the self-administered questionnaire (discussed later in the chapter) and offers the advantage



RTI International Call Center Services employs over 400 interviewers, institutional contactors, quality control monitors, team leaders and supervisors in its two state-of-the-art call centers located in Greenville and Raleigh, North Carolina. The call centers typically conduct between 10 and 30 different data collection efforts concurrently, with staff members completing over 100,000 telephone interviews annually. Call center staff come from all walks of life—many are students or others who work as interviewers part-time in the evenings and on weekends. RTI International conducts rigorous training with all telephone staff on standardized interviewing techniques, strategies for gaining participant cooperation, and the use of its computer-assisted telephone interviewing system. www.rti.org

of participant privacy. One study showed that the *noncontact* rate for the electronic survey mode is similar to other telephone interviews when a random phone list is used. It also found that rejection of this mode of data collection affects the *refusal* rate (and thus nonresponse bias) because people hang up more easily on a computer than on a human.[25] The **noncontact rate** is a ratio of potential but unreached contacts (no answer, busy, answering machine, and disconnects but not refusals) to all potential contacts. The **refusal rate** refers to the ratio of participants who decline the interview to all potential contacts.

When compared to either personal interviews or mail surveys, the use of telephones brings a faster completion of a study, sometimes taking only a day or so for the fieldwork. When compared to personal interviewing, it is also likely that interviewer bias, especially bias caused by the physical appearance, body language, and actions of the interviewer, is reduced by using telephones.

Almost 94 percent of U.S. households have telephone service.[26] Access to participants through low-cost, efficient means has made telephone interviewing a very attractive alternative for marketing, public opinion, and academic researchers.

Finally, behavioral norms work to the advantage of telephone interviewing. If someone is present, a ringing phone is usually answered, and it is the caller who decides the purpose, length, and termination of the call.[27] New technology, notably caller identification systems where the receiver can decide whether a call is answered based on caller identity, is expected to increase the noncontact rate associated with telephone surveys.

There are also disadvantages to using the telephone for research. A skilled researcher will evaluate the use of a telephone survey to minimize the effect of these disadvantages.

MANAGEMENT Tip

- Inaccessible households (no telephone service).
- Inaccurate or nonfunctioning numbers.
- Limitation on interview length (fewer measurement questions).
- Limitations on use of visual or complex questions.
- Ease of interview termination.
- Less participant involvement.
- Distracting physical environment.

Inaccessible Households Even given the passage of the Telecommunications Act of 1996, meant to ensure that all Americans would possess telephone service, 18.4 percent of households with incomes below the poverty line are still without telephone service.[28] Usage rates are not as high in households composed of single adults, less educated and poorer minorities, and individuals employed as nonprofessional, nonmanagerial workers.[29] Additionally, 20 percent of American households move each year, generating many obsolete numbers and new households for which numbers have not yet been published. Also, it is estimated that about 22 percent of all household phone numbers are unlisted.[30] Meanwhile, the number of inaccessible individuals continues to increase as cellular and wireless phone use increases, as many of these numbers are unlisted. These variations in participant availability by phone can be a source of bias.

Inaccurate or Nonfunctioning Numbers Another source says the highest incidence of nonlisting is in the West, in large metropolitan areas, among nonwhites, and for persons between 18 and 34 years of age.[31] Several methods have been developed to overcome the deficiencies of directories; among them are techniques for choosing phone numbers by using random-digit dialing or combinations of directories and random-digit dialing.[32] **Random dialing procedures** normally require choosing phone exchanges or exchange blocks and then generating random numbers within these blocks for calling.[33] However, increasing demand for multiple phone lines by both households and individuals has generated new phone area codes and local exchanges. This too increases the inaccuracy rate.

Limitation on Interview Length A limit on interview length is another disadvantage of the telephone, but the degree of this limitation depends on the participant's interest in the topic. Ten minutes has generally been thought of as ideal, but interviews of 20 minutes or more are not uncommon. Interviews ran for one and a half hours in one long-distance survey.[34]

Limitations on Use of Visual or Complex Questions In telephone interviewing, it is difficult to use maps, illustrations, visual aids, complex scales, or measurement techniques (however, in some instances, these might be supplied via fax or e-mail prior to the prescheduled interview). The medium also limits the complexity of the survey and the use of visualization techniques possible with personal interviewing. For example, in personal interviews, participants are sometimes asked to sort or rank an array of cards containing different responses to a question. For participants who

cannot visualize a scale or other measurement device that the interview is attempting to describe, one solution has been to employ a nine-point scaling approach and to ask the respondent to visualize it by using the telephone dial or keypad.[35]

Ease of Interview Termination Some studies suggest that the response rate in telephone studies is lower than for comparable face-to-face interviews. One reason is that participants find it easier to terminate a phone interview. Telemarketing practices may also contribute. Public reaction to investigative reports of wrongdoing and unethical behavior within telemarketing activities places an added burden on the researcher, who must try to convince a participant that the phone interview is not a pretext for soliciting contributions or selling products.

Less Participant Involvement Telephone surveys can result in less thorough responses, and those interviewed by phone find the experience to be less rewarding than a personal interview. Participants report less rapport with telephone interviewers than with personal interviewers. Given the growing costs and difficulties of personal interviews, it is likely that an even higher share of surveys will be by telephone in the future. Thus, it behooves management researchers using telephone surveys to attempt to improve the enjoyment of the interview. One authority suggests:

> We need to experiment with techniques to improve the enjoyment of the interview by the participant, maximize the overall completion rate, and minimize response error on specific measures. This work might fruitfully begin with efforts at translating into verbal messages the visual cues that fill the interaction in a face-to-face interview: the smiles, frowns, raising of eyebrows, eye contact, etc. All of these cues have informational content and are important parts of the personal interview setting. We can perhaps purposefully choose those cues that are most important to data quality and participant trust and discard the many that are extraneous to the survey interaction.[36]

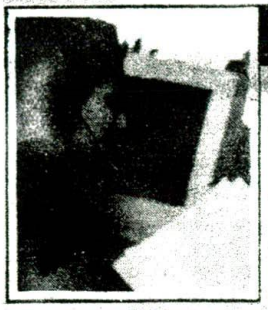
Distracting Physical Environment Speculation has also surfaced in regard to the increasing practice of substituting one's home or office phone with cellular and wireless phones. In regard to telephone surveys, this raises concerns about the changing environment in which such surveys might be conducted, the resulting quality of data collected under possibly distracting circumstances, and the possible increase in refusal rates.

Telephone Interview Trends

Future trends in telephone interviewing bear watching. Answering machines and multiline households will affect sampling. So will the variations among the 60 telephone companies' services and the degree of cooperation that will be extended to researchers. There is also concern for the ways in which random-digit dialing can be made to deal with nonworking and ineligible numbers.[37]

Answering machines could pose potentially complex response-rate problems since they are estimated to have substantial penetration in American households. Previous research discovered that most answering-machine households are accessible; the subsequent contact rate was greater in answering-machine households than in no-machine households and about equal with busy-signal households. Other findings suggested that (1) individuals with answering machines were more likely to participate, (2) machine use was more prevalent on weekends than on weekday evenings, and (3) machines were more commonplace in urban than in rural areas.

Voice-mail options offered by local phone service providers have less market penetration but are gaining increasing acceptance. Questions about the sociodemographics



SNAPSHOT A Zap-Attack on Telephone Surveys

Privacy concerns have been fueling a decline in telephone survey participation for the last decade, but a product introduced late in 2001 may have even further-reaching ramifications for this type of research. The TeleZapper, by Privacy Technologies, Inc., uses technology to detect predictive-dialer computers' in-coming calls, disconnects the call before contact is made between the caller and the potential participant, and then sends a signal to the dialer that the phone number is disconnected. When the predictive dialer hears the signal tone, it disconnects and removes the number from the call list. While the device was intended to "zap" unwanted calls from telemarketers, Privacy Technologies claims that calls from other organizations that use predictive-dialer computers (charitable organizations, opinion and political pollsters, as well as marketing researchers) also will be zapped.

One saving grace for researchers is the $49.95 price. To many, the price may outweigh the inconvenience of the disruptive call. But to others, the price may seem a small investment in protection against marketing "scams." Another bright spot for researchers is that not all use predictive dialers—manually dialed calls to a potential research participant cannot be zapped.

www.privacytechnologies.com

of users and nonusers and the relationship of answering-machine/voice-mail technology to the rapid changes in the wireless market remain to be answered.[38] Caller identification technology, the assignment of facsimile machines or computer modems to dedicated phone lines, and technology that identifies computer-automated dialers and sends a disconnect signal in response are all expected to have an impact on the noncontact rate of phone interviews.

Self-Administered Surveys

The **self-administered questionnaire** has become ubiquitous in modern living. Service evaluations of hotels, restaurants, car dealerships, and transportation providers furnish ready examples. Often a short questionnaire is left to be completed by the participant in a convenient location or is packaged with a product. User registrations, product information requests in magazines, warranty cards, the MindWriter repair study, and the Albany clinic study are self-administered. Self-administered **mail surveys** are delivered not only by the U.S. Postal Service, but also via fax and courier service. Other delivery modalities include *computer-delivered* and *intercept* studies.

Computer-delivered self-administered questionnaires use organizational intranets, the Internet, or online services to reach their participants. Participants may be targeted (as when BizRate, an online e-business rating service, sends an e-mail to a registered e-purchaser to participate in a survey) or self-selecting (as when a computer screen pop-up window offers a survey to an individual who clicks on a particular website or when a potential participant responds to a postcard inquiry looking for participants). A 2001 Gartner Research Dataquest® survey found that 61 percent of U.S. households are actively online and, once connected, 91 percent are likely to continue their Internet subscription.[39] Is it any wonder, then, why computer-delivered self-administered surveys have caught the fancy of business? See Exhibit 11–6.

Intercept studies may use a traditional paper questionnaire or a computer-delivered survey. The respondent participates without interviewer assistance usually in a predetermined environment such as a shopping mall. All modes have special problems and unique advantages (see Exhibit 11–4).

EXHIBIT 11–6 The Web as a Research Venue[40]

Web Attractions	Example
Short turnaround of results; results are tallied as respondents complete surveys.	A soft drink manufacturer got results from a Web survey in just five days.
Ability to use visual stimuli.	Florida's tourism office used eye movement tracking to enhance its website and improve its billboard and print ads.
Ability to do numerous surveys over time.	A printer manufacturer did seven surveys in six months during the development of one of its latest products.
Ability to attract participants who wouldn't participate in another research project, including international respondents.	An agricultural equipment manufacturer did a study using two-way pagers provided free to farmers to query users about its equipment—respondents usually unavailable by phone or PC.
Respondents feel anonymous.	Anonymity was the necessary ingredient for a study on impotence conducted by a drug manufacturer.
Shortened turnaround from survey draft to execution of survey.	A Hewlett-Packard survey using Greenfield Online's *QuickTake* took two weeks to write, launch, and field—not the standard three months using non-Web venues.
Experiences unavailable by other means.	• One major advertising agency is conducting Web research using virtual supermarket aisles that respondents wander through, reacting to client products and promotions. • LiveWorld has developed a packaging study showing more than 75 images of labels and bottle designs.
Web Drawbacks	
Recruiting the right sample is costly and time-consuming; unlike phone and mail sample frames, no lists exist.	TalkCity, working for Whitton Associates and Fusion5, set up a panel of 3,700 teens for a survey to test new packaging for a soft drink using phone calls, referrals, e-mail lists, banner ads, and website visits. It drew a sample of 600 for the research. It cost more than $50,000 to set up the list.
Converting surveys to the Web can be expensive.	LiveWorld's teen study cost $50,000–$100,000 to set up, with additional fees with each focus group or survey. The total price tag was several hundred thousand dollars.
It takes technical as well as research skill to field a Web survey.	A 10–15 minute survey can take up to five days of technical expertise to field and test.
While research is more compatible with numerous browsers, the technology isn't perfect.	A well-known business magazine did a study among a recruited sample only to have the survey abort on question 20 of a larger study.

Much of what researchers know about self-administered surveys has been learned from experiments conducted with mail surveys and personal experience. So as we explore the strengths and weaknesses of the various self-administered methods, we will start with this body of knowledge.

Costs

Self-administered surveys of all types typically cost less than personal interviews. This is true of mail surveys, as well as of computer-delivered and intercept studies, too. Telephone and mail costs are in the same general range, although in specific cases either may be lower. The more geographically dispersed the sample, the more likely it is that self-administered surveys via computer or mail will be the low-cost method. A mail or computer-delivered study can cost less because it is often a one-person job. And computer-delivered studies (including CAPI and CATI studies) eliminate the cost of printing surveys, a significant cost of both mail studies and personal interviewing.

Sample Accessibility

Another asset to using mail is that researchers can contact participants who might otherwise be inaccessible. Some people, such as major corporate executives and physicians, are difficult to reach in person or by phone, as gatekeepers (secretaries, office managers, and assistants) limit access. But researchers can often access these special participants by mail or computer. When the researcher has no specific person to contact—say, in a study of corporations—the mail or computer-delivered survey may be routed to the appropriate participant.

Careful Consideration

While intercept studies still pressure participants for a relatively quick turnaround, in a mail survey the participant can take more time to collect facts, talk with others, or consider replies at length than is possible in a telephone or personal interview. Computer-delivered studies, especially those accessed via e-mail links to the Internet, usually have time limitations on both access and completion once started. And once started, computer-delivered studies cannot be easily interrupted by the participant to seek information not immediately known.

Anonymity

Mail surveys are typically perceived as more impersonal, providing more anonymity than the other communication modes, including other methods for distributing self-administered questionnaires.

Topic Coverage

A major limitation of self-administered surveys concerns the type and amount of information that can be secured. Researchers normally do not expect to obtain large amounts of information and cannot probe deeply into topics. Participants will generally refuse to cooperate with a long and/or complex mail, computer-delivered, or intercept questionnaire unless they perceive a personal benefit. Returned mail questionnaires with many questions left unanswered testify to this problem, but there are also many exceptions. One general rule of thumb is that the participant should be able to answer the questionnaire in no more than 10 minutes—similar to the guidelines proposed for telephone studies. On the other hand, one study of the general population found more than a 70 percent response to a questionnaire calling for 158 answers.[41]

Nonresponse Error

Another major weakness of the self-administered study is nonresponse error. Many studies have shown that better-educated participants and those more interested in the topic answer mail surveys. A high percentage of those who reply to a given survey have usually replied to others, while a large share of those who do not respond are habitual nonparticipants.[42] Mail surveys with a return of about 30 percent are often considered "satisfactory," but there are instances of response rates that exceed 70 percent.[43] In either case, there are many nonresponders, and we usually know nothing about how those who answer differ from those who do not answer.

Reducing Nonresponse Error

The research literature is filled with ways to improve mail survey returns and much of this knowledge may be applied to other modes of delivering self-administered surveys. Seemingly every possible variable has been studied. Over 200 methodological articles have been published on efforts to improve mail response rates. Two review articles concluded that few variables consistently showed positive response rates.[44] Several practical suggestions emerge from the conclusions.[45]

Follow-Ups Follow-ups, or reminders, are very successful in increasing response rates. Since each successive follow-up produces more returns, the very persistent (and well-financed) researcher can potentially achieve an extremely high total response rate. However, the value of additional information thus obtained must be weighed against the costs required for successive contacts.

Preliminary Notification There is evidence that advance notification, particularly by telephone, is effective in increasing response rates; it also serves to accelerate the rate of return. However, follow-ups are a better investment than preliminary notification.

Concurrent Techniques

1. *Questionnaire Length.* Although common sense suggests that short questionnaires should obtain higher response rates than longer questionnaires, research evidence does not support this view.
2. *Survey Sponsorship.* There is little experimental evidence concerning the influence of survey sponsorship on response rates; however, the sparse evidence that does exist suggests that official or "respected" sponsorship increases response rates.
3. *Return Envelopes.* The inclusion of a stamped, return envelope encourages response because it simplifies questionnaire return.
4. *Postage.* Many tests regarding postage are reported in the literature, but few studies have tested the same variables. The existing evidence shows that expedited delivery is very effective in increasing response rates. Findings do not show a significant advantage for first class over third class, for commemorative stamps over ordinary postage, for stamped mail over metered mail, or for multiple small denomination stamps over single larger denomination stamps.
5. *Personalization.* Personalization of the mailing has no clear-cut advantage in terms of improved response rates. Neither personal inside addresses nor individually signed cover letters significantly increased response rates; personally typed cover letters proved to be somewhat effective in most but not all cases cited. The one study that tested the use of a titled signature versus one without a title did show a significant advantage in favor of the title.
6. *Cover Letters.* The influence of the cover letter on response rates has received almost no experimental attention, although the cover letter is considered an inte-

gral part of the mail survey package. It is the most logical vehicle for persuading individuals to respond, yet the few studies that are reported offer no insights as to its formulation.

7. *Anonymity.* Experimental evidence shows that the promise of anonymity to participants, either explicit or implied, has no significant effect on response rates.
8. *Size, Reproduction, and Color.* The few studies that examined the effects of questionnaire size, method of reproduction, and color found no significant difference in response rates.
9. *Money Incentives.* A monetary incentive sent with the questionnaire is very effective in increasing response rates. Larger sums bring in added response, but at a cost that may exceed the value of the added information.
10. *Deadline Dates.* The few studies that tested the impact of deadline dates found that they did not increase the response rate; however, they did serve to accelerate the rate of questionnaire return.

Researchers are equivocal about these suggestions and conclusions because "the manipulation of one or two techniques independently of all others may do little to stimulate response."[46] The computer-delivered survey, however, has made the collective execution of many of these suggestions more attractive. Once the computer-delivered survey is crafted, the cost of redelivery via computer—thereby decreasing nonresponse error—is very low. Preliminary notification via e-mail is also accomplished in a more timely and less costly way than by phone or mail. The return mechanism for the computer-delivered study is usually the click of a mouse or a single keystroke. Personalization of the survey cover letter—the e-mail that links the respondent to the survey—is easily accomplished. The computer also makes the use of color within a survey, even color photographs, a viable option—one not often considered with paper surveys due to cost. And video clips—never an option with a mail survey—are possible with a computer-delivered survey. Even the delivery of monetary and other incentives has been simplified with the use of e-currencies. However, employing all the stimulants for participation that have been researched cannot overcome a participant's inability to complete an Internet survey due to technology snafus. These glitches are likely to continue to plague participation as long as researchers and participants use different computer platforms, operating systems, and software.

Efforts should be directed toward the more important question of maximizing the overall probability of response. The Total Design Method (TDM), consisting of two parts, is proposed to meet this need.[47] First, the researcher must identify the aspects of the survey process that affect the response rate, either qualitatively or quantitatively. Each aspect must be shaped to obtain the best response. Second, the researcher must organize the survey effort so the design intentions are carried out in detail. The results achieved in 48 surveys using TDM showed response rates of 50 to 94 percent, with a median response rate of 74 percent.[48] TDM procedures suggest minimizing the burden on participants by designing surveys that:

MANAGEMENT Tip

- Are easy to read.
- Offer clear response directions.
- Include personalized communication.
- Provide information about the survey in a cover letter (or via advance notification).
- Are followed by researcher contacts to encourage response.[49]

Maximizing the Mail Survey

MANAGEMENT Tip

To maximize the overall probability of response, attention must be given to each point of the survey process where the response may break down.[50] For example:

- The wrong address and wrong postage can result in nondelivery or nonreturn.
- The envelope or fax cover sheet may look like junk mail and be discarded without being opened.
- Lack of proper instructions for completion may lead to nonresponse.
- The wrong person may open the envelope or receive the fax and fail to call it to the attention of the right person.
- A participant may find no convincing explanation for completing the survey and thus discard it.
- A participant may temporarily set the questionnaire aside and fail to complete it.
- The return address may be lost so the questionnaire cannot be returned.

Efforts to overcome these problems will vary according to the circumstances, but some general suggestions can be made for mail surveys and, by extension, for self-administered questionnaires using different delivery modes. With a questionnaire, a cover letter and return mechanism should be sent. Incentives, such as dollar bills, coins, or gift coupons, often are attached to the letter in commercial studies. Follow-ups are usually needed to get the maximum response. Opinions differ about the number and timing of follow-ups; in general, the timing of follow-ups should be adapted for different delivery modes. TDM uses the follow-ups described below:

1. **One week later**—A preprinted postcard is sent to all recipients thanking them for returns and reminding others to complete and mail the questionnaire.
2. **Three weeks after the original mailing**—A new questionnaire is sent, along with a letter telling nonparticipants that the questionnaire has not been received and repeating the basic appeal of the original letter.
3. **Seven weeks after the original mailing**—A third cover letter and questionnaire are sent by certified mail to the remaining nonparticipants.

An appeal for cooperation is essential and may be altruistic or more expedient. The former is often found when the questionnaire is short, easy to complete, and does not require much effort from a participant. Anonymity may or may not be mentioned. A brief letter emphasizes the "Would you do me a favor?" approach. Often a token is sent to symbolize the researcher's appreciation. Sometimes this is not powerful enough. Then an appeal must stress how important the problem is to a group with which the participant identifies.

The cover letter should also convey that the participant's help is needed to solve a problem. Researchers are portrayed as reasonable people making a reasonable appeal for help. They are intermediaries between the person asked for help and an important issue. The total effect must be personalized to convey to participants that they are important to the study. The standard is to make the appeal comparable in appearance and content to what one would expect in a business or professional letter.

Finally, a mixed model can be used to improve response. One study compared the use of "drop-off" delivery of a self-administered questionnaire to a mail survey.[51] Under the drop-off system, a lightly trained survey taker personally delivered the questionnaires to target households and returned in a couple of days for the completed instrument. Response rates for the drop-off system were typically above 70 percent—much higher than for comparable mail surveys. In addition, the cost per completed questionnaire was from 18 to 40 percent lower than for mail surveys.

Beyond a higher response rate and lower cost per response, the drop-off delivery gives greater control over sample design, permits thorough identification of the participants' geographic location, and allows the researcher to eliminate those who fall outside a predefined sample frame (persons of the wrong age, income, or other characteristics). Additional information also can be gathered by observation on the visits. However, the cost advantage is probably restricted to studies where participants can be reached with little travel.

Drop-off delivery has much in common with intercept studies that employ self-administered completion of a questionnaire. The researcher can encourage the selected participant to complete the questionnaire, stressing the importance of his or her participation and the ease of completion, and then indicate the procedure for returning it. These activities are likely to increase response rates and reduce nonresponse error.

Self-Administered Survey Trends

Computer surveying is surfacing at trade shows, where participants complete surveys while making a visit to a company's booth. Continuous tabulation of results provides a stimulus for attendees to visit a particular exhibit as well as giving the exhibitor detailed information for evaluating the productivity of the show. This same technology easily transfers to other situations where large groups of people congregate.

Companies are now using intranet capabilities to evaluate employee policies and behavior. Ease of access to electronic mail systems makes it possible for both large and small organizations to use computer questioning with both internal and external participant groups. Many techniques of traditional mail surveys can be easily adapted to computer-delivered questionnaires (e.g., follow-ups to nonparticipants are more easily executed and are less expensive).

It is not unusual to find registration procedures and full-scale surveying being done on World Wide Web sites. University sites are asking prospective students about their interests, and university departments are evaluating current students' use of online materials. A short voyage on the Internet reveals organizations using their sites to evaluate customer service processes, build sales-lead lists, evaluate planned promotions and product changes, determine supplier and customer needs, discover interest in job openings, evaluate employee attitudes, and more. Advanced and easier-to-use software for designing Web surveys is here.

If you understand HTML standards and Web-survey programming, you will find a very useful Web-Survey Tutorial at http:// www.researchinfo com.

The **Web-based questionnaire** has the power of CATI systems, but without the expense of network administrators, specialized software, or additional hardware. As a solution for Internet or intranet websites, you need only a personal computer and Web access. Most products are browser-driven with design features that allow custom survey creation and modification.

Two primary options are proprietary solutions offered through research firms and off-the-shelf software designed for researchers who possess the knowledge and skills we describe here and in Chapter 12. With fee-based services, you are guided (often online) through problem formulation, questionnaire design, question content, response strategy, and wording and sequence of questions. Their staff generates the questionnaire HTML code, hosts the survey at their server, and provides data consolidation and reports. Off-the-shelf software is a strong alternative. At this writing, *PC Magazine* has reviewed six packages containing well-designed user interfaces and advanced data preparation features.[52] The advantages of these software programs are:

- Questionnaire design in a word processing environment.
- Ability to import questionnaire forms from text files.
- A coaching device to guide you through question and response formatting.

- Question and scale libraries.
- Automated publishing to a Web server.
- Real-time viewing of incoming data.
- Ability to edit data in a spreadsheet-type environment.
- Rapid transmission of results.
- Flexible analysis and reporting mechanisms.

Ease of use is not the only influence pushing the popularity of Web-based instruments. Cost is a major factor. It is much less expensive than conventional survey research. Although fees are based on the number of completions, a sample of 100 might cost one-sixth of a conventional telephone interview. Bulk mailing and e-mail data collection have also become more cost-effective because any instrument may be configured as an e-mail questionnaire.

Selecting an Optimal Method

The choice of a communication method is not as complicated as it might first appear. By comparing your research objectives with the strengths and weaknesses of each method, you will be able to choose one that is suited to your needs. The summary of advantages and disadvantages of personal interviews, telephone interviews, and self-administered questionnaires presented in Exhibit 11–4 should be useful in making such a comparison.

When your investigative questions call for information from hard-to-reach or inaccessible participants, the telephone interview, mail- or computer-delivered survey should be considered. However, if data must be collected very quickly, the mail survey would likely be ruled out because of lack of control over the returns. Alternatively, you may decide your objective requires extensive questioning and probing; then the personal interview should be considered.

If none of the choices turns out to be a particularly good fit, it is possible to combine the best characteristics of two or more alternatives into a *mixed mode*. Although this decision will incur the costs of the combined modes, the flexibility of tailoring a method to your unique needs is often an acceptable trade-off.

In the MindWriter study, Jason plans to insert a postcard questionnaire (a self-administered study delivered via courier) in each laptop returned by the CompleteCare repair service. Not all customers will return their questionnaires, creating nonresponse bias. The postcard format doesn't permit much space for encouraging customer response. Alerting customers to the importance of returning the response card by phone (to announce impending courier delivery of a repaired laptop) might improve the research design. Participants would not be in the best frame of mind if they received a damaged laptop; dissatisfaction could lead to a decreased response rate and an increase in call center contacts. Combining the study with standard procedures for verifying delivery by the courier might also be needed.

Jason and Myra's proposal contains a follow-up procedure—telephoning nonparticipants to obtain their answers when response cards are not returned. This will likely decrease nonresponse error. Where most of the study participants are answering measurement questions without assistance, telephone interviewing creates the possibility of interviewer bias at an unknown level for at least part of the data.

In the Albany clinic study, the researcher could have taken several actions to improve the quality of the data. Distributing the questionnaire to the patient's eye doc-

tor or to the patient (by mail) prior to arrival would have increased the accuracy of identifying medications, diagnoses, hospitalizations, and so forth. The patient's eye doctor was in the best position to encourage compliance with the collection process but was not consulted. Having the patient bring the completed questionnaire to the admissions procedure, where the admissions clerk could review the completed instrument for accuracy and completeness, would have given the researcher the opportunity to clarify any confusion with the questions, concepts, and constructs. Finally, pretesting the instrument with a sample of patients would have revealed difficulties with the process and operational definitions. Edna's concerns could have been eliminated before they surfaced.

Ultimately, all researchers are confronted by the practical realities of cost and deadlines. As Exhibit 11–4 suggests, on the average, personal interviews are the most expensive communication method and take the most field time unless a large field team is used. Telephone interviews are moderate in cost and offer the quickest option, especially when CATI is used. Questionnaires administered by mail are the least expensive, although these traditionally require a longer data collection period. When your desired sample is available via the Internet, emerging Internet surveying may prove to be the least expensive communication method with the most rapid (simultaneous) data availability. The use of the computer to select participants and reduce coding and processing time will continue to improve the cost-to-performance profiles of these methods in the future.

Most of the time, an optimal method will be apparent. However, managers' needs for information often exceed their internal resources. Such factors as specialized expertise, a large field team, unique facilities, or a rapid turnaround prompt managers to seek assistance from research vendors of survey-related services.

Outsourcing Survey Services

Commercial suppliers of research services vary from full-service operations to specialty consultants. When confidentiality is likely to affect competitive advantage, the manager or staff will sometimes prefer to bid only a phase of the project. Alternatively, the organization's staff members may possess such unique knowledge of a product or service that they must fulfill a part of the study themselves. Regardless, the exploratory work, design, sampling, data collection, or processing and analysis may be contracted separately or as a whole. Most organizations use a *request for proposal (RFP)* to describe their requirements and seek competitive bids (see Appendix C).

Research firms also offer special advantages that their clients do not typically maintain in-house. Centralized-location interviewing, focus group facilities, or computer-assisted telephone facilities may be particularly desirable for certain research needs. A professionally trained staff with considerable experience in similar management problems is another benefit. Data-processing and statistical analysis capabilities are especially important for some projects. Other vendors have specially designed software for interviewing and data tabulation.[53] Panel suppliers provide another type of research service with emphasis on longitudinal survey work.[54] By using the same participants over time, **panels** can track trends in attitudes toward issues or products, product adoption or consumption behavior, and a myriad of other research interests. Suppliers of panel data can secure information from personal and telephone interviewing techniques as well as from the mail and mixed modes. Diaries are a common means of chronicling events of research interest by the panel members. These are mailed back to the research organization. Point-of-sale terminals and scanners aid electronic data collection for panel-type participant groups. And mechanical devices placed in the homes of panel members may be used to evaluate media usage.

SUMMARY

1 The communication approach involves questioning or surveying people and recording their responses for analysis. Communication is accomplished via personal interviews, telephone interviews, or self-administered surveys, with each method having its specific strengths and weaknesses. The optimal communication method is the one that is instrumental for answering your research question and dealing with the constraints imposed by time, budget, and human resources. The opportunity to combine several survey methodologies makes the use of the mixed mode desirable in many projects.

2 Successful communication requires that we seek information the participant can provide and that the participant understand his or her role and motivated to play that role. Motivation, in particular, is a task for the interviewer. Good rapport with the participant should be established quickly, and then the technical process of collecting data should begin. The latter often calls for skillful probing to supplement the answers volunteered by the participant. Simplicity of directions and instrument appearance are additional factors to consider in encouraging response in self-administered communication studies.

3 Two factors can cause bias in interviewing. One is nonresponse. It is a concern with all types of surveys. Some studies show that first calls often secure less than 20 percent of the designated participants. Various methods are useful for increasing this representation, the most effective being making callbacks until an adequate number of completed interviews has been secured. The second factor is response error, which occurs when the participant fails to give a correct or complete answer. The interviewer also can contribute to response error. The interviewer can provide the main solution for both of these two types of errors.

4 The major advantages of personal interviewing are the ability to explore topics in great depth, achieve a high degree of interviewer control, and provide maximum interviewer flexibility for meeting unique situations. However, this method is costly and time-consuming, and its flexibility can result in excessive interviewer bias.

Telephone interviewing has become much more popular in recent years because of the diffusion of telephone service in American households and the low cost of this method compared with personal interviewing. Long-distance telephone interviewing has grown. There are also disadvantages to telephone interviewing. Many phone numbers are unlisted, and directory listings become obsolete quickly. There is also a limit on the length and depth of interviews conducted using the telephone.

The self-administered questionnaire can be delivered by the U.S. Postal Service, facsimile, a courier service, a computer, or intercept. Computer-delivered self-administered questionnaires use organizational intranets, the Internet, or online services to reach their participants. Participants may be targeted or self-selecting. Intercept studies may use a traditional questionnaire or a computerized instrument in environments where interviewer assistance is minimal.

5 Outsourcing survey services offers special advantages to managers. A professionally trained research staff, centralized-location interviewing, focus group facilities, and computer-assisted facilities are among them. Specialty firms offer software and computer-based assistance for telephone and personal interviewing as well as for mail and mixed modes. Panel suppliers produce data for longitudinal studies of all varieties.

KEY TERMS

callbacks 332
communication approach 319
computer-administered telephone survey 335
computer-assissted personal interviewing (CAPI) 326
computer-assisted telephone interviewing (CATI) 335
intercept interview 326
interviewer error 333
mail surveys 339
noncontact rate 336
nonresponse error 332
panels 347
participant-initiated error 333
personal interview 323
probing 330
random dialing procedures 337
refusal rate 336
response error 333
self-administered questionnaire 339
survey 319
telephone interview 335
Web-based questionnaire 345

EXAMPLES

Company	Scenario	Page
Albany Outpatient Laser Clinic Inc.*	A preprocedure self-administered study of patient issues and attitudes.	BRTL and throughout
Bayer Consumer Care	Used personal interviews, phone interviews, and syndicated data to reposition Aleve; resulting ad campaign increased market share by 7 percent, a major feat in the highly competitive analgesic category.	329
BizRate	An independent company that uses purchaser panels (computer-delivered self-administered surveys) to evaluate e-business customer service.	339
CLT Research Associates	Conducted more than 800 in-home personal interviews in the Aleve respositioning research.	329
Gartner Research	A full-service research firm whose Dataquest service provides global market intelligence for the IT and telecom industries.	339
Greenfield Online	A provider of computer-delivered surveying for Hewlett-Packard's study of printer performance.	340
Hewlett-Packard	Used Greenfield Online's QuickTake Web survey to shorten the turnaround time for data collection.	340
LiveWorld	Prepared a 10–15 minute computer-delivered packaging survey employing 75 images of bottle shapes and label designs as visualization techniques.	340
MindWriter*	A descriptive study of customer satisfaction with the CompleteCare servicing center for laptops.	322
Moskowitz Jacobs, Inc.	Conducted phone surveys to help Bayer identify emotional triggers for the new ad campaign to reposition Aleve.	329
Privacy Technologies, Inc.	Introduced an electronic device that rejects in-coming calls from predictive dialers used by telephone researchers.	339
RTI International	Annually fields 100,000 telephone interviews in its two state-of-the-art CATI facilities.	336
Rubinstein Consulting	Used personal interviews to determine an alternative recruiting program for a harbormaster in Finland.	325

TalkCity	Developed an online teen panel using phone solicitation, referrals, purchased e-mail lists, banner ads, and website visits from which it drew a sample of 600 teens for a soft drink packaging study.	340
Viewpoints Consulting, Inc.	Used focus groups to identify that Aleve users represented a distinct segment of the pain-relief market.	329

*Due to the confidential and proprietary nature of most research, the names of some companies have been changed.

DISCUSSION QUESTIONS

Terms in Review

1. Distinguish among response error, interviewer error, and nonresponse error.
2. How do environmental factors affect response rates in personal interviews? How can we overcome these environmental problems?

Making Research Decisions

3. Assume you are planning to interview shoppers in a shopping mall about their views on increased food prices and what the federal government should do about them. In what different ways might you try to motivate shoppers to cooperate in your survey?
4. In recent years, in-home personal interviews have grown more costly and more difficult to complete. Suppose, however, you have a project in which you need to talk with people in their homes. What might you do to hold down costs and increase the response rate?
5. In the following situations, decide whether you would use a personal interview, telephone survey, or self-administered questionnaire. Give your reasons.
   a. A survey of the residents of a new subdivision on why they happened to select that area in which to live. You also wish to secure some information about what they like and do not like about life in the subdivision.
   b. A poll of students at Metro University on their preferences among three candidates who are running for presidency of the student government.
   c. A survey of 58 wholesale grocery companies, scattered over the eastern United States, on their personnel management policies for warehouse personnel.
   d. A survey of financial officers of the Fortune 500 corporations to learn their predictions for the economic outlook in their industries in the next year.
   e. A study of applicant requirements, job tasks, and performance expectations as part of a job analysis of student work-study jobs on a college campus of 2,000 students, where 1,500 are involved in the work-study program.
6. You decide to take a telephone survey of 40 families in the 721-exchange area. You want an excellent representation of all subscribers in the exchange area. Explain how you will carry out this study.
7. You plan to conduct a mail survey of the traffic managers of 1,000 major manufacturing companies across the country. The study concerns their company policies regarding the payment of moving expenses for employees who are transferred. What might you do to improve the response rate of such a survey?
8. A major corporation agrees to sponsor an internal study on sexual harassment in the workplace. This is in response to concerns expressed by its female employees. How would you handle the following issues:
   a. Sample selection.
   b. The communication approach (self-administered, telephone, personal interview, and/or mixed).

c. The purpose: Fact finding, awareness, relationship building, and/or change.
d. Minimization of response and nonresponse error.

Bringing Research to Life

9. Define the appropriate communication study for Albany Outpatient Laser Clinic.

From Concept to Practice

10. Using Exhibit 11–1 as your guide, graph the communication study you designed in question 9.

WWW Exercises

Visit our website for Internet exercises related to this chapter at www.mhhe.com/business/cooper8

CASES*

CUMMINS ENGINES

DATA DEVELOPMENT, INC.

INQUIRING MINDS WANT TO KNOW—NOW!

MASTERING TEACHER LEADERSHIP

NCR: TEEING UP A NEW STRATEGIC DIRECTION

RAMADA DEMONSTRATES ITS PERSONAL BEST

STURGEL DIVISION

THE CATALYST FOR WOMEN IN FINANCIAL SERVICES

*All cases indicating a video icon are located on the Instructor's Videotape Supplement. All nonvideo cases are in the case section of the textbook. All cases indicating a CD icon offer a data set, which is located on the accompanying CD.

REFERENCE NOTES

1. One of the top research organizations in the world is the Survey Research Center of the University of Michigan. The material in this section draws heavily on the *Interviewer's Manual*, rev. ed. (Ann Arbor, Survey Research Center, University of Michigan, 1976); and Floyd J. Fowler, Jr., *Survey Research Methods* (Beverly Hills, CA: Sage Publications, 1988), Chapter 7.
2. Robert L. Kahn and Charles F. Cannell, *The Dynamics of Interviewing* (New York: Wiley, 1957), pp. 45–51.
3. Survey Research Center, *Interviewer's Manual*, p. 8.
4. Ibid., pp. 15–16.
5. Ibid., p. 17.
6. Fowler, *Survey Research Methods*, p. 112.
7. S. A. Richardson, B. S. Dohrenwend, and D. Klein, *Interviewing: Its Forms and Functions* (New York: Basic Books, 1965), pp. 328–58.
8. Reprinted by special permission from Charles F. Cannell and Robert L. Kahn, "Interviewing," in *The Handbook of Social Psychology*, 2nd ed., vol. 2, eds. G. Lindzey and E. Aronson (Reading, MA: Addison-Wesley, 1968). See also, Fowler, *Survey Research Methods*, p. 115; and P. J. Guenzel, T. R. Berkmans, and Charles F. Cannell, *General Interviewing Techniques* (Ann Arbor: Institute for Social Research, University of Michigan, 1983).
9. In one study, 5.5 percent of white participants and 11 percent of nonwhite respondents were still not contacted after six calls. See W. C. Dunkleberg and G. S. Day, "Nonresponse Bias and Callbacks in Sample Surveys," *Journal of Marketing Research*, May 1974, Table 3.
10. Ibid.
11. Fowler, *Survey Research Methods*, p. 50.
12. C. H. Fuller, "Weighting to Adjust for Survey Nonresponse," *Public Opinion Quarterly*, Summer 1974, pp. 239–46.
13. Dunkleberg and Day, "Nonresponse Bias," Table 3.
14. Ibid., pp. 160–68.
15. Eleanore Singer, "Agreement between Inaccessible Respondents and Informants," *Public Opinion Quarterly*, Winter 1972–73, pp. 603–11.
16. Fowler, Survey Research Methods, p. 111.
17. B. W. Schyberger, "A Study of Interviewer Behavior," *Journal of Marketing Research*, February 1967, p. 35.

18. B. S. Dohrenwend, J. A. Williams, Jr., and C. H. Weiss, "Interviewer Biasing Effects: Toward a Reconciliation of Findings," *Public Opinion Quarterly*, Spring 1969, pp. 121–29.
19. Seymour Sudman, *Reducing the Costs of Surveys* (Chicago: Aldine, 1967), p. 67.
20. Ibid., p. 59.
21. Ibid., p. 63.
22. Ibid., p. 53.
23. Robert M. Groves and Robert L. Kahn, *Surveys by Telephone* (New York: Academic Press, 1979), p. 223.
24. Institute for Social Research, *ISR Newsletter* (Ann Arbor: University of Michigan, 1991–92), p. 3.
25. Michael J. Havice, "Measuring Nonresponse and Refusals to an Electronic Telephone Survey," *Journalism Quarterly*, Fall 1990, pp. 521–30.
26. Mark Cooper, "Ensuring Telephone Access in the Digital Age: A Report by the Center for Media Education," Center for Media Education, February 25, 1998 (http://www.cme.org/telephoneaccess.html).
27. See, for example, J. H. Frey, Jr., *Survey Research by Telephone* (Beverly Hills, CA: Sage Publications, 1983).
28. Cooper, ibid. (http://www.cme.org/telephoneaccess.html).
29. See, for example, Groves and Kahn, *Surveys by Telephone*.
30. R. W. Graves, "An Empirical Comparison of Two Telephone Sample Designs," *Journal of Marketing Research*, November 1978, p. 622.
31. G. J. Glasser and G. D. Metzger, "National Estimates of Nonlisted Telephone Households and Their Characteristics," *Journal of Marketing Research*, August 1975, p. 360.
32. G. J. Glasser and G. D. Metzger, "Random Digit Dialing as a Method of Telephone Sampling," *Journal of Marketing Research*, February 1972, pp. 59–64; and Seymour Sudman, "The Uses of Telephone Directories for Survey Sampling," *Journal of Marketing Research*, May 1973, pp. 204–7.
33. A block is defined as an exchange group composed of the first four or more digits of a seven-digit number, such as 721-0, 721-1, and so forth.
34. Sudman, *Reducing the Costs of Surveys*, p. 65.
35. J. J. Wheatley, "Self-Administered Written Questionnaires or Telephone Interviews," *Journal of Marketing Research*, February 1973, pp. 94–95.
36. Groves and Kahn, *Surveys by Telephone*, p. 223.
37. Paul J. Lavrakas, *Telephone Survey Methods: Sampling, Selection, and Supervision*, 2nd ed. (Thousand Oaks, CA: Sage Publications, 1993), p. 16.
38. Peter S. Tuckel and Barry M. Feinberg, "The Answering Machine Poses Many Questions for Telephone Survey Researchers," *Public Opinion Quarterly*, Summer 1991, pp. 200–217.
39. "Gartner Dataquest Survey Shows 61 Percent of U.S. Households Actively Using the Internet," Gartner Inc., press release, August 30, 2001 (http://www4.gartner.com/5_about/press_releases/2001/pr20010829b.html).
40. These examples are drawn from the personal experience of the authors, as well as from Noah Shachtman, "Why the Web Works as a Market Research Tool," *AdAge.com*, Summer 2001 (http://adage.com/tools2001).
41. Don A. Dillman, *Mail and Telephone Surveys* (New York: Wiley, 1978), p. 6.
42. D. Wallace, "A Case for and against Mail Questionnaires," *Public Opinion Quarterly*, Spring 1954, pp. 40–52.
43. Don A. Dillman, "Increasing Mail Questionnaire Response in Large Samples of the General Public," *Public Opinion Quarterly*, Summer 1972, pp. 254–57.
44. Leslie Kanuk and Conrad Berenson, "Mail Surveys and Response Rates: A Literature Review," Journal of Marketing Research, November 1975, pp. 440–53; and Arnold S. Linsky, "Stimulating Responses to Mailed Questionnaires: A Review," *Public Opinion Quarterly* 39 (1975), pp. 82–101.
45. Kanuk and Berenson, "Mail Surveys," p. 450. Reprinted from the *Journal of Marketing Research*, published by the American Marketing Association.
46. Dillman, *Mail and Telephone Surveys*, p. 8.
47. Ibid., p. 12.
48. Ibid., pp. 22–24.
49. Total Design Method (http://survey.sesrc.wsu.edu/tdm.htm), February 4, 2000. Don Dillman is Professor of Sociology and Rural Sociology and Deputy Director of Research and Development of the Social and Economic Sciences Research Center at Washington State University.
50. Dillman, *Mail and Telephone Surveys*, pp. 160–61.
51. C. H. Lovelock, Ronald Stiff, David Cullwick, and Ira M. Kaufman, "An Evaluation of the Effectiveness of Drop-Off Questionnaire Delivery," *Journal of Marketing Research*, November 1976, pp. 358–64.
52. Nelson King, "[Web-based Surveys] How They Work," *PC Magazine*, January 18, 2000 (http://www.pcmag.com).
53. There are a number of sources for research services, some of which are annotated. For current listings, consult the latest edition of the *Marketing Services Guide & The American Marketing Association Membership Directory* (Chicago: American Marketing Association); *Consultants and Consulting Organizations Directory* (Detroit: Gale Research Corporation); or the research section of *Marketing News*.
54. A list of panel vendors is provided by Duane Davis, *Business Research for Decision Making*, 4th ed. (Belmont, CA: Wadsworth, 1996), p. 283.

REFERENCES FOR SNAPSHOTS AND CAPTIONS

Aleve

Sara Eckel, "Road to Recovery," *American Demographics*, March 2001, p. s8.

Privacy Technologies

"Frequently Asked Questions," Privacy Technologies, Inc., January 3, 2001 (http://www.telezapper.com/faq.htm#3).

"Product Literature," Privacy Technologies, Inc., January 3, 2001 (http://www.privacytechnologies.com/product.asp).

RTI International

Interview with Tim Gabel, director of computing, RTI International, December 17, 2001.

Rubinstein Consulting

Interview with Amil Rubinstein, project manager, Rubinstein Consulting, December 5, 1999.

CLASSIC AND CONTEMPORARY READINGS

Arksey, Hilary, and Peter T. Knight. *Interviewing for Social Scientists: An Introductory Resource with Examples*. Thousand Oaks, CA: Sage Publications, 1999. Covers design, improvization, success rates, specialized contexts, and transforming findings into results.

Dexter, Louis A. *Elite and Specialized Interviewing*. Evanston, IL: Northwestern University Press, 1970. Discusses the techniques and problems of interviewing "people in important or exposed positions."

Dillman, Don A. *Mail and Telephone Surveys*. New York: Wiley, 1978. A classic on mail and telephone surveys.

Dillman, Don A. *Mail and Internet Surveys: The Tailored Design Method*. New York: Wiley, 1999. The Tailored Design Method, which expands on the Total Design Concept of Dillman's classic work, takes advantage of computers, electronic mail, and the Internet to better our understanding of survey requirements.

Fowler, Floyd J., Jr. *Survey Research Methods*. 2nd ed. Thousand Oaks, CA: Sage Publications, 1993. An excellent overview of all aspects of the survey process.

Groves, R. M., et al. *Telephone Survey Methodology*. New York: Wiley, 1989. An important reference on telephone data-collection techniques.

Lavrakas, Paul J. *Telephone Survey Methods: Sampling, Selection, and Supervision*. 2nd ed. Thousand Oaks, CA: Sage Publications, 1993. This specialized work takes an applied perspective of interest to students and managers. Chapters 3, 5, and 6 on supervision are particularly useful.

Nesbary, Dale, K. *Survey Research and the World Wide Web*. Needham Heights, MA: Allyn & Bacon, 2000. Screen shots from Windows and FrontPage, e-mail survey construction, and Internet orientation for survey research.