chapter 10

Surveys

>learning objectives

After reading this chapter, you should understand…

1. The process for selecting the appropriate and optimal communication approach.
2. What factors affect participation in communication studies.
3. The major sources of error in communication studies and how to minimize them.
4. The major advantages and disadvantages of the three communication approaches.
5. Why an organization might outsource a communication study.

There once was a demographic survey done to determine if money was connected to happiness, and Ireland was the only place where this did not turn out to be true.

Fiona Shaw, Irish actress and theater director
Henry and Associates has been asked by Albany Outpatient Laser Clinic Inc. to develop a survey to assess patient satisfaction. As part of the exploratory phase, Sara has been reviewing documentation provided by the clinic. Complaint letters were included in the documentation.

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

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. 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. But I was too cold to argue since they had left us standing in the snow until 7:10.

A fellow insisted on taking my glasses and medications with him "for a workup." As soon as he disappeared with my glasses a second admissions clerk 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. The clerk 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 admonished me to try and "get over that bad attitude." Then she told me to go fill out the form as best I could.
A very nice patient (hemorrhoids, no vision problems) 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 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. 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 couldn’t decide how to settle this issue.

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 further annoyed the admissions clerk. 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. 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 laser, he would probably cut 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.

Edna

> Characteristics of the Communication Approach

Research designs can be classified by the approach used to gather primary data. There are 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. The researcher determines the appropriate data collection approach largely by identifying the types of information needed—investigative questions the researcher must answer. As researchers we learn
much about opinions and attitudes by communication-based research; observation techniques are incapable of revealing such critical elements. This is also true of intentions, expectations, motivations, and knowledge. Information about past events is often available only through surveying or interviewing 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. 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 10-1 shows the relationship of these decisions to the research process detailed in Chapter 4. Part B indicates how the researcher's choice of a communication approach affects the following:

- The creation and selection of the measurement questions (to be explored in Chapters 11 and 12).
- Instrument design (to be discussed in Chapter 13), which incorporates attempts to reduce error and create participant-screening procedures.
Exhibit 10-2 Selecting a Communication Data Collection Method

- Sampling issues (explored in Chapters 14), which drive contact and callback 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 surveying methods are used).

In this chapter we focus on the choices the researcher must make once the communication approach has been chosen (Exhibit 10-2). We discuss the characteristics and applications of the various communication approaches as well as their individual strengths and weaknesses (summarized in Exhibit 10-5).

The communication approach involves surveying or interviewing people and recording their responses for analysis. A survey is a measurement process used to collect information during a highly...
structured interview—sometimes with a human interviewer and other times without. Questions are carefully chosen or crafted, sequenced, and precisely asked of each participant. The goal of the survey is to derive comparable data across subsets of the chosen sample so that similarities and differences can be found. When combined with statistical probability sampling for selecting participants, survey findings and conclusions are projectable to large and diverse populations.

The great strength of the survey as a primary data collecting approach is its versatility. Abstract information of all types can be gathered by questioning others. Additionally, 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, a computer, e-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 bad news for communication research is that all communication research has some error. Understanding the various sources of error helps researchers avoid or diminish such error.

Error in Communication Research

As depicted in Exhibit 10-3, there are three major sources of error in communication research: measurement questions and survey instruments, interviewers, and participants. Researchers cannot help a
business decision maker answer a research question if they (1) select or craft inappropriate questions, (2) ask them in an inappropriate order, or (3) use inappropriate transitions and instructions to elicit information. We will spend considerable time in Chapters 11, 12, and 13 discovering ways to avoid these sources of error.

**Interviewer Error**

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. Interviewer error, a major source of sampling error and response bias, is caused by numerous actions:

- **Failure to secure full participant cooperation (sampling error).** The sample is likely to be biased if interviewers do not do a good job of enlisting participant cooperation. While instrument error was evident in the Albany Clinic study, there is also a question of whether the distributor of the survey (the receptionist) contributed to the lack of data quality in the data collected from Edna. Toward the end of the communication, there is some doubt about the seriousness with which questions were answered. Stressing the importance of the information for the upcoming surgery and having a receptionist trained to serve as question interpreter/prober could reduce this type of error.

- **Failure to record answers accurately and completely (data entry error).** 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 verbatim answers as provided by the participant.

- **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 different definitions (of diseases) to different clinic patients completing the medical history would create 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. 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 interview on 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 to 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, directions, or verbal probes; by word emphasis and question rephrasing; by tone of voice; or by body language, facial reaction to an answer, or other nonverbal signals. These activities, whether intentional or merely due to carelessness, are widespread. This problem was investigated using a simple questionnaire and participants who then reported on the interviewers. The conclusion was “The high frequency of deviations from instructed behavior is alarming.”

- **Physical presence bias.** Interviewers can influence participants in unperceived subtle 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.\(^3\)

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

**Participant Error**

Three broad conditions must be met by participants to have a successful survey:

- 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 have adequate motivation to cooperate.

Thus, participants cause error in two ways: whether they respond (willingness) and how they respond.

**Participation-Based Errors** Three factors influence participation:\(^4\)

- 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 in personal and telephone surveys. 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 in which the interviewer instantly establishes credibility by adapting to the individual needs of the participant. For the survey that does not employ human interpersonal influence, convincing the participant that the experience will be enjoyable is the task of a prior notification device or the study’s written introduction.

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 of disclosure will vary based on the sponsor’s objectives. In personal or phone surveys the researcher will provide the interviewer with instructions for discovering what explanation is needed and supplying it. Usually, the interviewer states the purpose of the study, tells how the information will be used, and suggests what is expected of the participant. Participants should feel that their cooperation will be meaningful to themselves and to the survey results. When this is achieved, more participants will express their views willingly.

As depicted in Exhibit 10-4, the quality and quantity of information secured depend heavily on the ability and willingness of participants to cooperate. Potential participants often have reservations about being interviewed that must be overcome. They may suspect the interviewer has an illegitimate purpose. They may view the topic as too sensitive and thus the interview as potentially embarrassing or intrusive. Or they may feel inadequate or fear the questioning will belittle them. Previous encounters with businesses that have attempted to disguise their sales pitch or fund-raising activities as a research survey can also erode participants’ willingness to cooperate. In personal and phone interviews, participants often react more to their feelings about the interviewer than to the content of the questions.

At the core of a survey or interview is an interaction between two people or between a person and a questionnaire. In the interaction the participant is asked to provide information. While he or she has hope of some minimal personal reward—in the form of compensation for participation or enhanced
Factors Influencing Participant Motivation

- Prestige of research sponsor or agency
- Perceived importance of the topic
- Liking or compassion for interviewer
- Self-image as dutiful citizen
- Confirmation of self-importance
- Loneliness


status or knowledge—he or she has little hope of receiving any immediate or direct benefit from the data extracted. Thus, participant motivation is a responsibility of the researcher and the interviewer. Studies of reactions to many surveys show that participants can be motivated to participate in personal and phone 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. In intercept/self-administered studies, the interviewer's primary role is to encourage participation as the participant completes the questionnaire 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.

By failing to respond or refusing to respond, participants create a nonrepresentative sample for the study overall or for a particular item or question in the study. In surveys, 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. Many studies have shown that better-educated individuals and those more interested in the topic participate in 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.

Researchers are not without actions to avoid or diminish the error discussed above. We will explore these options in detail in Chapters 11 through 14. Despite its challenges, communicating with research participants—and the use of the survey—is the principal method of marketing research.

Response-Based Errors Response error is generated in two ways: when the participant fails to give a correct answer or fails to give the complete answer. The interviewer can do little about the
participant’s information level. Screening questions qualify participants when there is doubt about their ability to answer. The most appropriate applications for communication research are those where participants are uniquely qualified to provide the desired information. Questions can be used to inquire about characteristics of a participant, such as his or her household income, age, sexual preference, ethnicity, or family lifecycle stage. Questions can also be asked that reveal information exclusively internal to the participant. We include here items such as the participant’s lifestyle, attitudes, opinions, expectations, knowledge, motivations, and intentions.

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 participant is reporting secondhand data and the accuracy of the information declines.

In the study of MindWriter’s CompleteCare program, only those individuals who have experienced difficulty with their laptops and gone through the program have direct knowledge of the service process. Although some associates and family members are likely to have some secondhand knowledge of the experience, no one but the actual laptop owners is likely to give a clear picture of what works and what doesn’t with CompleteCare. The laser patient, Edna, on the other hand, had a totally different experience when she went for surgery to correct her vision. Answers to many questions on the patient survey might have been known by a caregiver, especially since Edna was 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 it would have been if given by Edna herself. Since inaccuracy is a correctable source of error, a family or group member should not be asked about
another member’s experience unless there is no other way to get the information directly. We should not depend on secondhand sources if a more direct source can be found.

Participants also cause error by responding in such a way as to unconsciously or consciously misrepresent their actual behavior, attitudes, preferences, motivations, or intentions (response bias). Participants create response bias when they modify their responses to be socially acceptable or to save face or reputation with the interviewer (social desirability bias), and sometimes even in an attempt to appear rational and logical.

One major cause of response bias is acquiescence—the tendency to be agreeable. On the participant’s part, acquiescence may be a result of lower cognitive skills or knowledge related to a concept or construct, language difficulties, or perceived level of anonymity. However, researchers can contribute to acquiescence by the speed with which they ask questions (the faster questions are asked, the more acquiescence) and the placement of questions in an interview (the later the question, the more acquiescence).

Sometimes participants may not have an opinion on the topic of concern. Under this circumstance, their proper response should be “don’t know” or “have no opinion.” Some research suggests that most participants who chose the don’t-know response option actually possess the knowledge or opinion that the researcher seeks. Participants may choose the option because they may want to shorten the time spent in the participation process, may be ambivalent or have conflicting opinions on the topic, may feel they have insufficient information to form a judgment—even though they actually have taken a position—don’t believe that the response choices match their position, or don’t possess the cognitive skills to understand the response options. If they choose the don’t-know option for any of these reasons, studies suggest that probing for their true position will increase both reliability and validity of the data. However, forcing a participant to express some opinion he or she does not hold by withholding a don’t-know option makes it difficult for researchers to know the reliability of the answers.

Participants may also interpret a question or concept differently from what was intended by the researcher. This occurs when the researcher uses words that are unfamiliar to the participant. Thus, the individual answers a question that is different from the one the researcher intended to ask. This problem is reflected in Edna’s letter concerning the clinic’s survey.

Regardless of the reasons, each source of participant-initiated error diminishes the value of the data collected. It is difficult for a researcher to identify such occasions. Thus, communicated responses should be accepted for what they are—statements by individuals that reflect varying degrees of truth and accuracy.

Choosing a Communication Method

Once the sponsor or researcher has determined that surveying or interviewing is the appropriate data-collection approach, various means may be used to secure information from individuals. A researcher can conduct a semistructured interview or survey by personal interview or telephone or can distribute a self-administered survey by mail, fax, computer, e-mail, the Internet, or a combination of these. As noted in Exhibit 10-5, although there are commonalities among these approaches, several considerations are unique to each.

In the last two decades of the 20th century and the first decade of the 21st century, a revolution—albeit a quiet one—was under way in survey research. Driven by changing technology and the need to make research more responsible to the bottom line and ROI objectives, the paper-and-pencil survey standard of the prior 60 years was replaced by a new computerized standard. Whether it goes by the name of “computer-assisted data collection” (CADAC), “computer-assisted survey information collection” (CASIC), or “computer-assisted interviewing” (CAI), the trend is growing. Although less obvious in the public sector (the U.S. government is the largest survey researcher in the world, and paper-and-pencil approaches still hold prominence there), in the private sector of survey research with households and organizations, the computer’s influence on this methodology is far-reaching. It influences all the various data collection practices.
### Exhibit 10-5 Comparison of Communication Approaches

<table>
<thead>
<tr>
<th>Description</th>
<th>Self-Administered Survey</th>
<th>Telephone Survey</th>
<th>Survey via Personal Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Description</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A. Mailed, faxed, or couriered to be self-administered—with return mechanism generally included (denoted below as a).</td>
<td>People selected to be part of the sample are interviewed on the telephone by a trained interviewer.</td>
<td>People selected to be part of the sample are interviewed in person by a trained interviewer.</td>
</tr>
<tr>
<td></td>
<td>B. Computer-delivered via intranet, Internet, and online services—computer stores/forwards completed instruments automatically (denoted below as b).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. People are intercepted in a central location and studied via paper or computerized instrument—without interviewer assistance: e.g., restaurant and hotel comment cards (denoted below as c).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chapter 10 Surveys

249
Self-Administered Surveys

The self-administered questionnaire is ubiquitous in modern living. You have experienced service evaluations of hotels, restaurants, car dealerships, and transportation providers. 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 CompleteCare study, and the Albany Clinic study are examples of self-administered surveys. 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.

Evaluation of the Self-Administered Survey

Nowhere has the computer revolution been felt more strongly than in the area of the self-administered survey. Computer-delivered self-administered questionnaires (also labeled computer-assisted self-interviews, or CASIs) 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 following the completion of their order) 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 or e-mail inquiry looking for participants). The questionnaire and its managing software may be resident on the computer or its network, or both may be sent to the participant by mail—disk-by-mail (DBM) survey. A 2006 PEW-Internet study found that 73 percent of U.S. households are actively online, with 27 percent accessing the Internet wirelessly from a place other than home or work. Although women and men both use search engines and use the Internet for information, men are more likely to use the Internet for entertainment, while women use it for maintaining connections. Is it any wonder, then, that researchers have embraced computer-delivered self-administered surveys? See Exhibit 10-6.

Intercept surveys—at malls, conventions, state fairs, vacation destinations, even busy city street corners—may use a traditional paper-and-pencil questionnaire or a computer-delivered survey via a kiosk. The respondent participates without interviewer assistance, usually in a predetermined environment, such as a room in a shopping mall. All modes have special problems and unique advantages (as shown in Exhibit 10-5).

Because computer-delivered surveys, especially those delivered via the Internet, are in their infancy, much of what researchers know about self-administered surveys has been learned from experiments conducted with mail surveys and from personal experience. So as we explore the strengths and weaknesses of the various self-administered survey methods, we will start with this body of knowledge.

Costs

Self-administered surveys of all types typically cost less than surveys via personal interviews. This is true of mail surveys, as well as of both computer-delivered and intercept surveys. 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 those that employ interviewer-participant interaction) eliminate the cost of printing surveys, a significant cost of both mail studies and personal interviewing employing paper-and-pencil surveys. The most significant cost savings with computer-delivered surveys involve the much lower cost of pre- and postnotification (often done by mail or phone when other self-administered surveys are involved), as well as the lower per-participant survey delivery cost of very large studies.

Sample Accessibility

One asset to using mail self-administered surveys is that researchers can contact participants who might otherwise be inaccessible. Some groups, such as major corporate executives and physicians, are
Exhibit 10-6 The Web as a Survey Research Venue

<table>
<thead>
<tr>
<th>Web Advantages</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short turnaround of results; results are tallied as participants complete surveys.</td>
<td>A soft-drink manufacturer got results from a Web survey in just five days.</td>
</tr>
<tr>
<td>Ability to use visual stimuli.</td>
<td>Portfolio's tourism office used eye-tracking tracking to enhance its website and improve its approach and firm and</td>
</tr>
<tr>
<td></td>
<td>One recent advertising agency is conducting a Web survey to test its advertisement</td>
</tr>
<tr>
<td></td>
<td>LiveWorld has developed a packaging study showing more than 75 inches of labels</td>
</tr>
<tr>
<td>Ability to do numerous surveys over time.</td>
<td>A printer manufacturer did seven surveys in six months during the development of one</td>
</tr>
<tr>
<td></td>
<td>An agricultural equipment manufacturer did a study using two-way paper pads provided;</td>
</tr>
<tr>
<td>Participants feel anonymous.</td>
<td>Anonymity was the necessary ingredient for a study on impotence conducted by a</td>
</tr>
<tr>
<td>Shortened turnaround from questionnaire draft to execution of survey.</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Web Disadvantages (and emerging solutions)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiting the right sample is costly and time-consuming; unlike phone and mail sample frames, no lists exist. (Firms like Greenfield Online and Survey Samples Inc. now provide samples built from panels of Internet users who have indicated an interest in participating in online surveys.)</td>
<td>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 acts, and website visits. It drew a sample of 600 for the research. It cost more than $50,000 to set up the list.</td>
</tr>
<tr>
<td>Converting surveys to the Web can be expensive. (Firms like Qualtric Labs with its SurveyPro software and Aplan with its Perseus software for wireless surveys and intranet surveys have made the process of going from paper to Internet much easier.)</td>
<td>LiveWorld's teen study cost $50,000 to $100,000 to set up, plus additional fees with each focus group or survey. The total price tag was several hundred thousand dollars.</td>
</tr>
<tr>
<td>It takes technical as well as research skill to field a Web survey. (Numerous firms now offer survey hosting services.)</td>
<td>A 10- to 15-minute survey can take up to five days of technical expertise to field and test.</td>
</tr>
<tr>
<td>While research is more compatible with numerous browsers, the technology isn't perfect. (Some survey hosting services use initial survey screen questions that identify the browser and system specifications and deliver the survey in the format most compatible with the participant's system.)</td>
<td>A well-known business magazine did a study among a recruited sample only to have the survey abort on question 20 of a longer study.</td>
</tr>
</tbody>
</table>

Source: 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).
Radio and Research

Is what you hear on the radio really the latest and trendiest? Program managers say it is if you believe the research. Radio stations are now mostly owned by large chains. A single market-share point shift can shift millions of dollars in revenue. So programmers increasingly rely on research to help pick the songs, arrange the order of songs, and determine how many spins a single song gets. Stations rely on two major types of research: play analysis and phone surveys. Play analysis involves tracking songs that are actually being aired on stations countrywide. Eight-second song "hooks" are recorded from more than 1,000 stations and then cataloged by artist and title, station, and time of day. Researchers study the data for patterns, and radio chains sell the data to any station willing to pay. Phone surveys are used to test individual titles and artists. Using hooks of 25 to 30 songs, participants are asked to respond to the song indicating recognition, liking, and wear-out. Established musicians and producing companies are also asked to pay upward of $20,000 per song to perform such tests on unknown artists. So do you hear the best and the newest or only the comfortable tried-and-true?

www.clearchannel.com

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. Additionally, the computer-delivered survey can often reach samples that are identified in no way other than their computer and Internet use, such as the users of a particular online game or those who have shopped with a particular online retailer.

Time Constraints

Although intercept studies still pressure participants for a relatively quick response, 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 survey employing the telephone or in a personal interview. Computer-delivered studies, especially those accessed via e-mail links to the Internet, often have time limitations on both access and completion once started. And once started, computer-delivered studies usually cannot be interrupted by the participant to seek information not immediately known. One recent computer-delivered study sponsored by Procter & Gamble, however, asked of participants (who used skin moisturizers) the actual duration of time that the participant spent applying the product to various skin areas following a bath or shower. These questions came in the middle of a fairly lengthy survey. The participant was encouraged to discontinue the survey, time his or her moisturizer application following the next bath or shower, and return to the survey via a link and personal code with detailed responses.²⁻¹

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. Computer-delivered surveys still enjoy that same perceived anonymity, although increased concerns about privacy may erode this perception in the future.²⁻²

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 delivered more than a 70 percent response to a questionnaire calling for 158 answers. Several early studies of computer-delivered surveys show that participants indicate some level of enjoyment with the process, describing the surveys as interesting and amusing. The novelty of the process, however, is expected to decline with experience, and recent declines in Web and e-mail survey response rates seem to be supporting this expectation.

Maximizing Participation in the Self-Administered Survey

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

- The wrong address, e-mail or postal, can result in nondelivery or nonreturn.
- The envelope or fax cover sheet may look like junk mail and be discarded without being opened, or the subject line on e-mail may give the impression of spam and not encourage that the e-mail be opened.
- Lack of proper instructions for completion may lead to nonresponse.
- The wrong person may open the envelope or receive the fax or e-mail and fail to call it to the attention of the right person.
- A participant may find no convincing explanation or inducement for completing the survey and thus discard it.
- A participant may temporarily set the questionnaire aside or park it in his or her e-mail in-box and fail to complete it.
- The return address may be lost, so the questionnaire cannot be returned.

Thus, efforts should be directed toward maximizing the overall probability of response. One approach, the Total Design Method (TDM), suggests minimizing the burden on participants by designing questionnaires that:

- Are easy to read.
- Offer clear response directions.
- Include personalized communication.
- Provide information about the survey via advance notification.
- Encourage participants to respond.

More than 200 methodological articles have been published on efforts to improve response rates. Few approaches consistently showed positive response rates. However, several practical suggestions emerge from the conclusions:

- Preliminary or advance notification of the delivery of a self-administered questionnaire increases response rates.
- Follow-ups or reminders after the delivery of a self-administered questionnaire increase response rates.
- Clearly specified return directions and devices (e.g., response envelopes, especially postage-stamped) improve response rates.
- Monetary incentives for participation increase response rates.
- Deadline dates do not increase response rates but do encourage participants to respond sooner.
- A promise of anonymity, although important to those who do respond, does not increase response rates.
- An appeal for participation is essential.
Self-Administered Survey Trends

Computer surveying is surfacing at trade shows, where participants complete questionnaires 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 gives 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 surveys 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 questionnaires is no longer a promise of the future—it's here.

The Web-based questionnaire, a measurement instrument both delivered and collected via the Internet, has the power of computer-assisted telephone interview 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 software products are wizard 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 Chapters 11, 12, and 13. With fee-based services, you are guided (often online) through problem formulation, questionnaire design, question content, response strategy, and wording and sequence of questions. The supplier's 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. PC Magazine reviewed six packages containing well-designed user interfaces and advanced data preparation features. 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. A Web survey is much less expensive than conventional survey research. Although fees are based on the number of completions, the cost of a sample of 100 might be one-sixth that 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.

The computer-delivered survey has made it possible to use many of the suggestions for increasing participation. Once the computer-delivered survey is crafted, the cost of redelivery via computer is very low. Preliminary notification via e-mail is both more timely and less costly than notification for surveys done by phone or mail. The click of a mouse or a single keystroke returns a computer-delivered study. Many computer-delivered surveys use color, even color photographs, within the survey structure. This is not a cost-effective option with paper surveys. And video clips—never an option with a
Are Cell Phones and Smartphones Ready for Research?

According to a 2008 National Institutes of Health study of 13,083 U.S. households, about 18.4 percent of adults live in wireless-phone-only households. This number is more than four times the number of such households in early 2004. Among households that had both landlines and mobile phones, the 2008 study revealed that 14.5 percent received "all or almost all" calls via their mobile phones even if they had a landline. With landline phone coverage on decline in many developed countries, researchers are using sampling techniques and survey design to address issues and take advantage of the opportunities that wireless phones offer.

According to Andy Peytchev, PhD, survey methodologist with Research Triangle Institute (RTI International) in North Carolina, multimethod phone studies, where some participants are reached via landlines and others via cell phones, are becoming the norm rather than the exception to achieve a national probability sample. Landline data can be weighted according to census population parameters. But not all problems can be fixed by weighting. "Youth landline responses versus youth cell phone responses, for example, are different. We don't know exactly why, just that they are different. You would have potential for undercoverage errors if you just used cell phones or landlines."

Cell phone surveys offer unique challenges. Many participants want to know why they are being contacted on their cell phone. So RTI International has changed its standard phone introduction. Interviewers inform cell phone participants that they know they are being contacted via their cell phone and why. RTI International also offers cell phone respondents an incentive to continue the survey that is sufficient to show its appreciation and recognize the cost of cell phone minute charges. Cell phone surveys also require additional questions. RTI International trains its interviewers to inquire, "Are you driving right now?" If participants are driving, surveyors ask for an alternative time to contact the participant, and then disconnect the call. Interviewers may also ask cell phone participants whether they are in a safe place.

Little research has been done on self-administered smartphone surveys, but Peytchev is interested in the opportunities. Smartphone surveys can include images—both those the participants take and share and those shared by the researcher. But Peytchev cautions, "Images can distort the meaning of the question. Everything you present to the participant is seen as information." And images collected from participants have to be analyzed and interpreted. Some RTI experiments have revealed that participants are reluctant to complete text-box responses and that if such a response device is included, cell phone participants are more likely to choose nonsense answers to avoid texting. This adds a new twist to survey research on the age-old issue of just what questions to ask.

www.rti.org; www.cdc.gov/nchs/

mail survey—are possible with a computer-delivered survey. In addition, e-currencies have simplified the delivery of monetary and other incentives. However, employing all the stimulants for participation cannot overcome 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.

While web- and e-mail-based self-administered surveys have certainly caught the lion’s share of business attention in the last few years, the tried-and-true methods of telephone and personal interviews still have their strengths—and their advocates in the research community.

Survey via Telephone Interview

The telephone survey is still the workhorse of survey research. With the high level of telephone service penetration in the United States and the European Union, access to participants through low-cost, efficient means has made telephone interviewing a very attractive alternative for researchers. Nielsen Media Research uses thousands of calls each week to determine television viewing habits, and Arbitron does the same for radio listening habits. Pollsters working with political candidates use telephone surveys to assess the power of a speech or a debate during a hotly contested campaign. Numerous firms...
field phone omnibus studies each week. Individual questions in these studies are used to capture every-
thing from people's feeling about the rise in gasoline prices to the power of a celebrity spokesperson in 
an advertising campaign or the latest teenage fashion trend.

**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 costs for comparable personal interviews. 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

---

**Profile**

RTI International Call Center Services employs hundreds of interviewers, institutional contractors, quality control monitors, 
team leaders, and supervisors in its state-of-the-art call center in Raleigh, North Carolina. The call center typically conducts 
between 10 and 30 different data collection efforts concurrently, and operates seven days per week using the latest in voice-
over-Internet-protocol technology as well as sophisticated call systems. 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
especially economical when callbacks to maintain precise sampling requirements are necessary and participants are widely scattered. Long-distance service options make it possible to interview nationally at a reasonable cost.

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. The computer-assisted telephone interview (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 interviewer with introductory statements, qualifying questions, and precoded questionnaire items drives the survey. These materials appear on the interviewer's monitor. 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 human 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 answers and computer timing trigger continuation or disconnect. Several modes of computer-administered surveys exist, including touch-tone data entry (TDE); voice recognition (VR), which recognizes a limited vocabulary—usually yes/no responses; and automatic speech recognition (ASR) for recognizing and recording a wide range of verbal responses. CATI is often compared to the self-administered questionnaire and offers the advantage of enhanced participant privacy. One study showed that the noncontact rate for this electronic survey mode is similar to that for 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 error) 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 or voice mail, and disconnects but not refusals) to all potential contacts.

The refusal rate refers to the ratio of contacted participants who decline the interview to all potential contacts. New technology, notably call-filtering systems in which the receiver can decide whether a call is answered based on caller identity, is expected to increase the noncontact rate associated with telephone surveys. The 2003 CMOR Respondent Cooperation and Industry Image Study reported that although survey refusal rates have been growing steadily over several years, the rate "took a sharper than usual increase" this year. The study also noted that "positive attitudes [about participating in surveys] are declining, while negative perceptions are increasing."26

When compared to either personal interviews or mail self-administered 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.

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

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:

- Inaccessible households (no telephone service or no/low contact rate).
- 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.
In several polls related to the public's understanding of the Do Not Call registry, Harris Interactive found that although the registry was working to reduce undesired telemarketing calls (91 percent reported fewer or no calls), there was still confusion about whether survey calls were restricted. In one study, Harris found that 42 percent of U.S. adults erroneously thought registering for the national Do Not Call registry would ban telephone survey calls as well. Five years later, Harris found that 63 percent of those who actually registered did not know whether survey researchers were allowed to call, while only 24 percent knew that registration would not block survey calls. Since the Do Not Call registry was established, 70 percent of those who are registered have been surveyed by phone. But many (29 percent) still do not know that registration expires and must be renewed. What's the true measure of success of this program? That fully 96 percent have renewed or will renew their registration.

www.harrisinteractive.com

There are now more than 50 million consumer phone numbers in the National Do Not Call Registry — and it's growing every day. To complicate matters, almost half of all Americans incorrectly believe that telephone survey calls are now banned by the Do Not Call rules.

The future of telephone survey work is in doubt. But there is no doubt that viable, accurate data collection alternatives exist.

Call Harris Interactive today to learn more — we'll be happy to answer the phone.

In accessible Households

Approximately 94 percent of all U.S. households have access to telephone service. On the surface, this should make telephone surveys a prime methodology for communication studies. However, several factors reduce such an enthusiastic embrace of the methodology. Rural households and households with incomes below the poverty line remain underrepresented in telephone studies, with phone access below 75 percent. More households are using filtering devices and services to restrict access, including caller ID, privacy manager, Tele-Zapper, and unlisted numbers (estimated between 22 and 30 percent of all household phone numbers). Meanwhile, the number of inaccessible individuals continues to increase as cellular/wireless phone use increases. From 1985 to 2007, the number of U.S.
Many of these numbers are unlisted or possess screening or filtering services. Additionally, people's use of phone modems to access the Internet makes household lines ring busy for long periods of time. Recent FCC filings indicate that fewer than 15 percent of U.S. households have second telephone lines, required for simultaneous Internet access. Effective May 2004 federal wireless local-number portability legislation made it possible for subscribers to take their wired phone number to their wireless phone service (or the reverse) or to shift their wireless service between carriers without losing their wireless number. Thus, the guidelines for identifying the physical location of a phone by its number—and, in turn, the location of its owner—no longer apply.

These causes of variations in participant availability by phone can be a source of bias. A random dialing procedure is designed to reduce some of this bias. Random dialing normally requires choosing phone exchanges or exchange blocks and then generating random numbers within these blocks for calling. Of course, just reaching a household doesn't guarantee its participation.

Inaccurate or Nonfunctioning Numbers

One source says the highest incidence of unlisted numbers is in the West, in large metropolitan areas, among nonwhites, and for persons between 18 and 34 years of age. Several methods have been developed to overcome the deficiencies of directories; among them are techniques for choosing phone numbers by using random dialing or combinations of directories and random dialing. 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 survey, 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. One telephone survey sponsored by Kraft lasted approximately 30 minutes. It was designed to judge the willingness of sample issue recipients to subscribe to a prototype magazine, Food & Family. The survey also measured the effectiveness of the sample issue of the magazine to deliver purchase intent for Kraft products featured in the recipes contained therein. In another study, interviews ran for one and a half hours in a survey of long-distance services.

Limitations on Use of Visual or Complex Questions

The telephone survey limits the complexity of the survey and the use of complex scales or measurement techniques that is possible with personal interviewing, CASI, or WWW surveys. 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 participant to visualize it by using the telephone dial or keypad. In telephone interviewing it is difficult to use maps, illustrations, and other visual aids. In some instances, however, interviewers have supplied these prior to a prescheduled interview via fax, e-mail, or the Internet.

Ease of Interview Termination

Some studies suggest that the response rate in telephone studies is lower than that 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 (labeled frugging—fund-raising under the guise of research) or selling products (labeled sugging—sales under the guise of research).

Less Participant Involvement

Telephone surveys can result in less thorough responses, and persons 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 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.41

Changes in the Physical Environment

Replacement of home or office phones with cellular and wireless phones also raises concerns. In regard to telephone surveys, researchers are concerned about the changing environment in which such surveys might be conducted, the resulting quality of data collected under possibly distracting circumstances—at a busy intersection, in the midst of weekly shopping in a congested grocery aisle, at the local high school basketball tournament—and the possible increase in refusal rates.

Telephone Survey Trends

Future trends in telephone surveying bear watching. Answering machines or voice-mail services pose potentially complex response rate problems since they are estimated to have substantial penetration in American households. Previous research discovered that most such 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 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.42 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.

The variations among the 60 telephone companies' services and the degree of cooperation that will be extended to researchers are also likely to affect noncontact rates. There is also concern about the ways in which random dialing can be made to deal with nonworking and ineligible numbers.43 But arguably no single threat poses greater danger than the government-facilitated Do Not Call registry initiated in 2003 by the Federal Trade Commission.44 More than 107.4 million U.S. household and cell numbers are now registered.45 Although currently survey researchers are exempt from its restrictions, customer confusion about the distinction between research and telemarketing is likely to cause an increase in the nonresponse rate. Telemarketers might be the catalyst, but legitimate research will suffer.
Voice Adds Depth to Survey

Do telephone surveys and interviews fit in today's Web-survey dominant research landscape? Anderson Analytics, a Stamford (CT) business intelligence and marketing research company, recently teamed up with BigEars, a New Zealand-based company specializing in fully automated telephone surveys and interviews, to conduct a survey among college students about their cell phones. The hybrid study employed both an online survey and the automated telephone survey method.

The BigEars operates much like a Web-based survey tool. The difference is that the respondent answers over the phone, typically via an 800 number. "By eliminating the human interviewer from the call, we allow the caller to participate whenever it suits them, rather than when it suits us," shared Tom Anderson, managing partner of Anderson Analytics.

The survey results indicated that the main advantage of using telephone surveys is its ability to encourage longer and more robust responses to open-ended questions. According to Mark Forsyth, managing director of BigEars, "Talking isn't work." Answers given to open-ended questions over the phone were 15 percent longer than answers typed in the parallel online survey. In addition, the voice recording offered opportunities for in-depth qualitative analysis; emotion and inflection in individual voice clips were used to examine the outliers in the study. "Being able to listen to the actual voices of the students, rather than simply coding or reading their responses, allows for a whole new dimension of analysis and confidence in the findings" said Tom Anderson.

"With this new hybrid methodology, if you want reaction to an event or transaction, such as a visit to a store, you can capture your data immediately, while it's fresh in the person's mind," said Jesse Chen, senior consultant and developer at Anderson Analytics. "Some people are more comfortable on the Web, and some are more comfortable on the phone—by catering to these differences you can broaden participation."

So how do college students feel about their cell phones? You can see the top-line report at http://www.andersonanalytics.com/reports/AndersonAnalyticsBigEars.ppt.

www.andersonanalytics.com; www.yourbigears.com

> Survey via Personal Interview

A survey via personal interview is a two-way conversation between a trained interviewer and a participant. With her poor eyesight and the problems of question clarity, a personal interview, rather than the intercept/self-administered questionnaire, might have been a preferable communication method for Edna at the Albany Outpatient Laser Clinic.

Evaluation of the Personal Interview Survey

There are real advantages as well as clear limitations to surveys via personal interview. 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 mail or computer (both intranet and Internet). The interviewer can also do more things to improve the quality of the information received than is possible 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.

Human interviewers also have more control than other kinds of communication studies. 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 a computer-assisted personal interview (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 survey via 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 survey via intercept interview that targets participants in centralized locations such as retail malls or, as with Edna, in a doctor’s office. 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. The intercept survey 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. You will find tips on intercept surveys on the text website.

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 strangers to visit in their homes. Interviewers are reluctant to visit unfamiliar neighborhoods alone, especially for evening interviewing. Finally, results of surveys via 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, identified as one of the three major sources of error in Exhibit 10-3, was discussed earlier in this chapter. If we are to overcome these deficiencies, we must appreciate the conditions necessary for interview success.
Selecting an Optimal Survey 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 10-5 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 survey, 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 survey via 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 hybrid survey. 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 Henry plans to insert a postcard questionnaire (a self-administered survey delivered via courier) in each laptop returned by the CompleteCare repair service. But this plan is not without problems. 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 courier delivery of a repaired laptop) might improve the research design, but it would be too costly when 10,000 units are processed monthly. 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. Jason’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. When 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 doctor 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 10-5 suggests, on the average, surveys via personal interview are the most expensive communication method and take the most field time unless a large field team is used. Telephone surveys are moderate in cost and offer the quickest option, especially when CATI is used. Questionnaires administered by e-mail or the Internet are the least expensive. When your desired sample is available via the Internet, the Internet survey 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 this method 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 the sample RFP in Appendix A).

Research firms also offer special advantages that their clients do not typically maintain in-house. Centralized-location interviewing 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. Panel suppliers provide another type of research service, with emphasis on longitudinal survey work. By using the same participants over time, a panel 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, the Web, and mixed-modes surveys. 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. ACNielsen, Yankelovich Partners, The Gallup Organization, and Harris Interactive all manage extensive panels.

>summary

1 The communication approach involves surveying or interviewing 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 be 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 surveys. Some studies show that the first contact often secures 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 have 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 self-administered questionnaire can be delivered by the U.S. Postal Service, facsimile, a courier service, a computer, or an 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.

Telephone interviewing remains popular because of the diffusion of telephone service in 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 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.

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**

- communication approach 242
- computer-administered telephone survey 257
- computer-assisted personal interview (CAPI) 262
- computer-assisted self-interview (CASI) 250
- computer-assisted telephone interview (CATI) 257
- disk-by-mail (DBM) survey 250
- intercept interview 262
- interviewer error 244
- mail survey 250
- noncontact rate 257
- nonresponse error 246
- panel 264
- random dialing 259
- refusal rate 257
- response error 246
- self-administered questionnaire 250
- survey 242
- survey via personal interview 261
- telephone survey 255
- Web-based questionnaire 254

**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 president 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?
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. The communication approach (self-administered, telephone, personal interview, and/or mixed).
- b. The purpose: Fact finding, awareness, relationship building, and/or change.
- c. Participant motivation.
- d. Minimization of response and nonresponse error.

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

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

How might Apple use the survey methodology to evaluate the success of its iPad?