CHAPTER 15
QUESTIONNAIRE DESIGN

LEARNING OUTCOMES

After studying this chapter, you should be able to

1. Explain the significance of decisions about questionnaire design and wording
2. Define alternatives for wording open-ended and fixed-alternative questions
3. Summarize guidelines for questions that avoid mistakes in questionnaire design
4. Describe how the proper sequence of questions may improve a questionnaire
5. Discuss how to design a questionnaire layout
6. Describe criteria for pretesting and revising a questionnaire and for adapting it to global markets

Chapter Vignette: J.D. Power Asks Consumers to Get Real

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Are you driving your dream car? Most of us can't, because we bump up against the practical reality that we can't pay for every great new feature. As car makers consider adding new features, they have to evaluate not only which ones appeal to consumers but also which ones will actually sell, considering their likely cost. J.D. Power and Associates recently addressed this issue in a survey of about seventeen thousand consumers.[1]

In the J.D. Power survey, consumers were asked whether they were familiar with twenty-two different emerging technologies. Then they were asked about their interest in each technology, rating their interest using a scale ("definitely interested," "probably interested," and so on). Next, the study indicated the likely price of each technology, and consumers were again asked their interest, given the price. The results ranked the features according to interest level, based on the percentage who indicated they were either definitely or probably interested in the feature.

Learning price information often changed consumers' interest levels. Night vision systems appealed to 72 percent of consumers, placing it in second place in the rankings. But when consumers learned the systems would likely add $1,500 to the price of a car, this technology dropped to a rank of 17, near the bottom. In contrast, HD radio ranked in sixteenth place until consumers saw a price tag of just $150. That price pushed the feature up to third place. Still, two features remained in the top five even with pricing information: run-flat tires and stability control. And three of the bottom-five features—a reconfigurable cabin, lane departure warning system, and smart sensing power-swing front doors—stayed in the bottom rankings. Automakers can use findings such as these to determine which features are price-sensitive and which might be appealing even at a higher price.

The J.D. Power survey shows how extremely useful information can be gathered with a questionnaire. It also shows how results can differ by exactly what question is asked and the amount of information provided. This chapter outlines a procedure for questionnaire design, which addresses concerns such as the wording and order of questions and the layout of the questionnaire.

Introduction

Each stage in the business research process is important and interdependent. The research questionnaire development stage is critically important as the information provided is only as good as the questions asked. However, the importance of question wording is easily, and far too often, overlooked.

Businesspeople who are inexperienced at research frequently believe that constructing a questionnaire is a simple task. Amateur researchers think a short questionnaire can be written in minutes. Unfortunately, newcomers who naively believe that good grammar is all a person needs to construct a questionnaire generally end up with useless results. Ask a bad question, get bad results.

Good questionnaire design requires far more than correct grammar. People don't understand questions just because they are grammatically correct. Respondents simply may not know what is being asked. They may be unaware of the business issue or topic of interest. They may confuse the subject with something else. The question may not mean the same thing to everyone interviewed. Finally, people may refuse to answer personal questions. Most of these problems can be minimized, however, if a skilled researcher composes the questionnaire.

Questionnaire Quality and Design: Basic Considerations

For a questionnaire to fulfill a researcher's purposes, the questions must meet the basic criteria of *relevance* and *accuracy*. To achieve these ends, a researcher who is systematically planning a questionnaire's design will be required to make several decisions—typically, but not necessarily, in the following order:

1. What should be asked?
2. How should questions be phrased?
3. In what sequence should the questions be arranged?
4. What questionnaire layout will best serve the research objectives?
5. How should the questionnaire be pretested? Does the questionnaire need to be revised?

This chapter provides guidelines for answering each question.

What Should Be Asked?

Certain decisions made during the early stages of the research process will influence the questionnaire design. The preceding chapters stressed good problem definition and clear research questions. This leads to specific research hypotheses that, in turn, clearly indicate what must be measured. Different types of questions may be better at measuring certain things than are others. In addition, the communication medium used for data collection—that is, telephone interview, personal interview, or self-administered questionnaire—must be determined. This decision is another forward linkage that influences the structure and content of the questionnaire. Therefore, the specific questions to be asked will be a function of previous decisions made in the research process. At the same time, the latter stages of the research process will also have an important impact on questionnaire wording and measurement. For example, when designing the questionnaire, the researcher should consider the types of statistical analysis that will be conducted.

Questionnaire Relevancy

TO THE POINT

How often misused words generate misleading thoughts.

—Herbert Spencer

A questionnaire is *relevant* to the extent that all information collected addresses a research question that will help the decision maker address the current business problem. Asking a wrong question or an irrelevant question is a common pitfall. If the task is to pinpoint store image problems, questions asking for political opinions are likely irrelevant. The researcher should be specific about data needs and have a rationale for each item requesting information. Irrelevant questions are more

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This chapter deals with asking questions in a way that best assures the data will be of high quality and actually address the issues involved in research questions in an unbiased fashion. By now, you are familiar with the survey instrument. Critique it from a standpoint of the learning objectives of this chapter. In particular, comment on the order of questions or on the presence of any leading or double-barreled items. What are the strengths and weaknesses of this questionnaire?

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than a nuisance because they make the survey needlessly long. In a study where two samples of the same group of businesses received either a one-page or a three-page questionnaire, the response rate was nearly twice as high for the one-page survey.[2]

Conversely, many researchers, after conducting surveys, find that they omitted some important questions. Therefore, when planning the questionnaire design, researchers must think about possible omissions. Is information on the relevant demographic and psychographic variables being collected? Would certain questions help clarify the answers to other questions? Will the results of the study provide the answer to the manager's problem?

Questionnaire Accuracy

Once a researcher decides what should be asked, the criterion of accuracy becomes the primary concern. *Accuracy* means that the information is reliable and valid. While experienced researchers generally believe that questionnaires should use simple, understandable, unbiased, unambiguous, and nonirritating words, no step-by-step procedure for ensuring accuracy in question writing can be generalized across projects. Obtaining accurate answers from respondents depends strongly on the researcher's ability to design a questionnaire that will facilitate recall and motivate respondents to cooperate. Respondents tend to be more cooperative when the subject of the research interests them. When questions are not lengthy, difficult to answer, or ego threatening, there is a higher probability of obtaining unbiased answers.

Question wording and sequence also substantially influence accuracy, which can be particularly challenging when designing a survey for technical audiences. The Department of Treasury commissioned a survey of insurance companies to evaluate their offering of terrorism insurance as required by the government's terrorism reinsurance program. But industry members complained that the survey misused terms such as "contract" and "high risk," which have precise meanings for insurers, and asked for policy information "to date," without specifying which date. These questions caused confusion and left room for interpretation, calling the survey results into question.[3]

Wording Questions

There are many ways to phrase questions, and many standard question formats have been developed in previous research studies. This section presents a classification of question types and provides some helpful guidelines for writing questions.

Open-Ended Response versus Fixed-Alternative Questions

The first decision in questionnaire design is based on the amount of freedom respondents have in answering. Should the question be open-ended, allowing the participants freedom to choose their manner of response, or closed, where the participants choose their response from an already determined fixed set of choices?

open-ended response questions
Questions that pose some problem and ask respondents to answer in their own words.

Open-ended response questions pose some problem or topic and ask respondents to answer in their own words. If the question is asked in a personal interview, the interviewer may probe for more information, as in the following examples:

What names of local banks can you think of?
What comes to mind when you look at this advertisement?
In what way, if any, could this product be changed or improved? I'd like you to tell me anything you can think of, no matter how minor it seems.
What things do you like most about working for Federal Express? What do you like least?
Why do you buy more of your clothing in Nordstrom than in other stores?
How would you describe your supervisor's management style?
Please tell us how our stores can better serve your needs.

fixed-alternative questions
Questions in which respondents are given specific, limited-alternative responses and asked to choose the one closest to their own viewpoint.

Open-ended response questions are free-answer questions. They may be contrasted with **fixed-alternative questions**—sometimes called *closed-ended questions*—which give respondents specific limited-alternative responses and ask them to choose the one closest to their own viewpoints. For example:

Did you use any commercial feed or supplement for livestock or poultry in 2010?

☐ *Yes* ☐ *No*

Would you say that the labor quality in Japan is higher, about the same, or not as good as it was 10 years ago?

☐ *Higher*
☐ *About the same*
☐ *Not as good*

Do you think the Renewable Energy Partnership Program has affected your business?

☐ *Yes, for the better*
☐ *Not especially*
☐ *Yes, for the worse*

How much of your welding supplies do you purchase from our Tier One *suppliers?*

☐ *All of it*
☐ *Most of it*
☐ *About one-half of it*
☐ *About one-quarter of it*
☐ *Less than one-quarter of it*

The Research Snapshot on the next page illustrates the use of a multifaceted survey to assess corporate reputation.

USING OPEN-ENDED RESPONSE QUESTIONS

Open-ended response questions are most beneficial when the researcher is conducting exploratory research, especially when the range of responses is not yet known. Respondents are free to answer with whatever is foremost in their minds. Such questions can be used to learn which words and phrases people spontaneously give to the free-response question. Such responses will reflect the flavor of the language that people use in talking about the issue and thus may provide guidance in the wording of questions and responses for follow up surveys.

Also, open-ended response questions are valuable at the beginning of an interview. They are good first questions because they allow respondents to warm up to the questioning process. They are also good last questions for a fixed-alternative questionnaire, when a researcher can ask the respondent to

RESEARCH SNAPSHOT

Corporate Reputations: Consumers Put Johnson & Johnson, Microsoft, and Google on Top

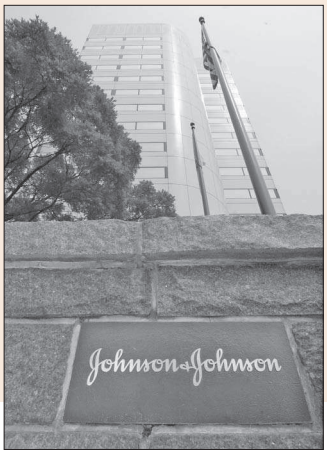
To report the reputations of well-known companies, the *Wall Street Journal* sponsors an annual research project. Harris Interactive has used the Harris Reputation Quotient (RQ) to assess the reputations of the 60 most visible companies in the U.S. since 1999. The Corporate Reputation Survey allows U.S. adults to provide their perceptions of corporations.

The study has two phases. In the first phase, the researchers identified the companies that were most "visible," meaning companies that people were most likely to think about—and therefore have an attitude toward. This phase avoided the problem of asking individuals to rate the qualities of a company they have never heard of. This research used open-ended questions asking respondents to name two companies they felt had the best reputation and two that had the worst. The researchers determined the number of times each company was mentioned and selected the 60 named most often for the second phase of the study.

The second phase was aimed at generating rankings of the corporations, so questions and answer choices needed to be more specific. The researchers identified six dimensions of a corporate reputation: products and services, financial performance, workplace environment, social responsibility, vision and leadership, and emotional appeal. Within these categories, they identified 20 attributes, such as whether respondents would trust the company if they had a problem with its goods or services, and how sincere its corporate communications were. In an online survey, each respondent was asked to rate one company on all 20 attributes. Then the respondent was invited (not required) to rate a second company. Each year, about 20,000 people participate in the study and more than 250 ratings were generated for each company. These responses were combined to create an overall rating for the company.

The top-ranked company for each of the first seven years of the survey was Johnson & Johnson. On the six dimensions of reputation, J&J was tops in emotional appeal and its goods and services, and it made the top five on the other dimensions. This honor is more than just good publicity; J&J also was the firm from which the largest share of people said they would "definitely purchase" products. However, Microsoft was named the top company in the 2006 study, followed by Google in 2007. In both years, Johnson & Johnson remained number two on the list of the reputations of the 60 most visible companies.

Source: Based on Alsop, Ronald, "Ranking Corporation Reputations," *Wall Street Journal* (December 6, 2005), http://online.wsj.com; "The Annual RQ 2007: The Reputations of the Most Visible Companies," Harris Interactive, Inc. (2008), http://www.harrisinteractive.com/services/pubs/HI_BSC_REPORT_AnnualRQ2007_Rankings.pdf; "The Annual RQ 2007: Methodological Overview," Harris Interactive, Inc. (2008), http://www.harrisinteractive.com/services/pubs/HI_BSC_REPORT_AnnualRQ2007_Methodology.pdf; "The 9th Annual RQ: Reputations of the 60 Most Visible Companies," Harris Interactive, Inc. (2008), http://www.harrisinteractive.com/News/MediaAccess/2008/HI_BSC_REPORT_AnnualRQ_USASummary07-08.pdf.



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expand in a manner that provides greater richness to the data. For example, an employee satisfaction survey may collect data with a series of fixed-alternative questions, then conclude with "Can you provide one suggestion on how our organization can enhance employee satisfaction?"

The cost of administering open-ended response questions is substantially higher than that of administering fixed-alternative questions because the job of editing, coding, and analyzing the data is quite extensive. As each respondent's answer is somewhat unique, there is some difficulty in categorizing and summarizing the answers. The process requires that an editor go over a sample of questions to develop a classification scheme. This scheme is then used to code all answers according to the classification scheme.

Another potential disadvantage of the open-ended response question is the possibility that interviewer bias will influence the answer. While most interviewer instructions state that answers are to be recorded verbatim, rarely does even the best interviewer get every word spoken by the respondent. Interviewers have a tendency to take shortcuts. When this occurs, the interviewer may well introduce error because the final answer may reflect a combination of the respondent's and interviewer's ideas.

In addition, articulate individuals tend to give longer answers to open-ended response questions. Such respondents often are better educated and from higher income groups and therefore may not be good representatives of the entire population. Yet, they may provide the most information.

USING FIXED-ALTERNATIVE QUESTIONS

In contrast, fixed-alternative questions require less interviewer skill, take less time, and are easier for the respondent to answer. This is because answers to closed questions are classified into

standardized groupings prior to data collection. Standardizing alternative responses to a question provides comparability of answers, which facilitates coding, tabulating, and ultimately interpreting the data.

However, when a researcher is unaware of the potential responses to a question, fixed-alternative questions obviously cannot be used. If the researcher assumes what the responses will be, but is in fact wrong, he or she will have no way of knowing the extent to which the assumption was incorrect. Sometimes this type of error comes to light after the questionnaire has been used. Researchers found cross-cultural misunderstandings in a survey of mothers called the Preschooler Feeding Questionnaire. By talking to a group of African-American mothers, a researcher at the University of Chicago determined that they had experiences with encouraging children to eat more and using food to calm children, but they used different language for these situations than the questionnaire used, so they misinterpreted some questions.[4]

Unanticipated alternatives emerge when respondents believe that closed answers do not adequately reflect their feelings. They may make comments to the interviewer or write additional answers on the questionnaire indicating that the exploratory research did not yield a complete array of responses. After the fact, little can be done to correct a closed question that does not provide the correct responses or enough alternatives. Therefore, a researcher may find exploratory research with open-ended responses valuable before writing a descriptive questionnaire. The researcher should strive to ensure that there are sufficient response choices to include almost all possible answers.

Respondents may check off obvious alternatives, such as *salary* or *health benefits* in an employee survey, if they do not see *opportunities for advancement,* the choice they would prefer. Also, a fixed-alternative question may tempt respondents to check an answer that is more prestigious or socially acceptable than the true answer. Rather than stating that they do not know why they chose a given product, they may select an alternative among those presented, or as a matter of convenience, they may select a given alternative rather than think of the most correct response.

Most questionnaires mix open-ended and closed questions. As we have discussed, each form has unique benefits. In addition, a change of pace can eliminate respondent boredom and fatigue.

Types of Fixed-Alternative Questions

Earlier in the chapter a variety of fixed-alternative questions were presented. Here we identify and categorize the various types.

simple-dichotomy (dichotomous) question
A fixed-alternative question that requires the respondent to choose one of two alternatives.

The **simple-dichotomy (dichotomous) question** requires the respondent to choose one of two alternatives. The answer can be a simple "yes" or "no" or a choice between "this" and "that." For example:

Did you have any overnight travel for work-related activities last month?

☐ *Yes* ☐ *No*

determinant-choice question
A fixed-alternative question that requires the respondent to choose one response from among multiple alternatives.

Several types of questions provide the respondent with *multiple-choice alternatives*. The **determinant-choice question** requires the respondent to choose one—and only one—response from among several possible alternatives. For example:

Please give us some information about your flight. In which section of the aircraft did you sit?

☐ *First class*
☐ *Business class*
☐ *Coach class*

frequency-determination question
A fixed-alternative question that asks for an answer about general frequency of occurrence.

The **frequency-determination question** is a determinant-choice question that asks for an answer about the general frequency of occurrence. For example:

How frequently do you watch MTV?

☐ *Every day*
☐ *5–6 times a week*
☐ *2–4 times a week*
☐ *Once a week*
☐ *Less than once a week*
☐ *Never*

Attitude rating scales, such as the Likert scale, semantic differential, Stapel scale, and so on, are also fixed-alternative questions. These scales were discussed in Chapter 14.

The **checklist question** allows the respondent to provide multiple answers to a single question. The respondent indicates past experience, preference, and the like merely by checking off items. In many cases the choices are adjectives that describe a particular object. A typical checklist question might ask the following:

checklist question

A fixed-alternative question that allows the respondent to provide multiple answers to a single question by checking off items.

Please check which, if any, of the following sources of information about investments you regularly use.

- ☐ *Personal advice of your broker(s)*
- ☐ *Brokerage newsletters*
- ☐ *Brokerage research reports*
- ☐ *Investment advisory service(s)*
- ☐ *Conversations with other investors*
- ☐ *Web page(s)*
- ☐ *None of these*
- ☐ *Other (please specify)* _____

A major problem in developing dichotomous or multiple-choice alternatives is establishing the response alternatives. Alternatives should be **totally exhaustive**, meaning that all the response options are covered and that every respondent has an alternative to check. The alternatives should also be **mutually exclusive**, meaning there should be no overlap among categories and only one dimension of an issue should be related to each alternative. So, there is a response category for everyone, but only a single response category for each individual. In other words, a place for everything and everything in its place! The following listing of income groups illustrates common errors:

totally exhaustive

A category exists for every respondent in among the fixed-alternative categories

mutually exclusive

No overlap exists among the fixed-alternative categories

- ☐ *$10,000–$30,000*
- ☐ *$30,000–$50,000*
- ☐ *$50,000–$70,000*
- ☐ *$70,000–$90,000*
- ☐ *$90,000–$110,000*
- ☐ *Over $110,000*

Which category would a respondent with an annual income of $30,000 check? How many people with incomes of $30,000 will be in the second group, and how many will be in the third group? Researchers have no way to determine the answer. This is an example of failing to have mutually exclusive response categories. The question also is not totally exhaustive, as there is no category for those earning less than $10,000 to check. Also, few people relish being in the lowest category. To negate the potential bias caused by respondents' tendency to avoid an extreme category, researchers often include a category lower than the lowest expected answers. The following response categories address the totally exhaustive and mutually exclusive issues.

- ☐ *Less than $10,000*
- ☐ *$10,000–$29,999*
- ☐ *$30,000–$49,999*
- ☐ *$50,000–$69,999*
- ☐ *$70,000–$89,999*
- ☐ *$90,000–$109,999*
- ☐ *Over $110,000*

While this example makes the totally exhaustive and mutually exclusive categories rather clear, it can actually become quite challenging. Consider the preceding frequency-determination question regarding MTV. With a question such as this, it can become difficult to establish response categories that meet these rules.

Phrasing Questions for Self-Administered, Telephone, and Personal Interview Surveys

The means of data collection—telephone interview, personal interview, self-administered questionnaire—will influence the question format and question phrasing. In general, questions for

telephone in particular, as well as Internet and mail surveys, must be less complex than those used in personal interviews. Questionnaires for telephone and personal interviews should be written in a conversational style. It is particularly important that telephone surveys use easy to understand response categories. Exhibit 15.1 illustrates how a question may be revised for a different medium.

EXHIBIT 15.1
Reducing Question Complexity by Providing Fewer Responses for Telephone Interviews

Mail Form:

How satisfied are you with your community?

1 Very satisfied
2 Quite satisfied
3 Somewhat satisfied
4 Slightly satisfied
5 Neither satisfied nor dissatisfied
6 Slightly dissatisfied
7 Somewhat dissatisfied
8 Quite dissatisfied
9 Very dissatisfied

Revised for Telephone:

How satisfied are you with your community? Would you say you are very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, or very dissatisfied?

Very satisfied	1
Somewhat satisfied	2
Neither satisfied nor dissatisfied	3
Somewhat dissatisfied	4
Very dissatisfied	5

Source: Dillman, Don A., *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley & Sons, 1978), p. 209. Reprinted with permission.

In a telephone survey about attitudes toward police services, the questionnaire not only asked about general attitudes such as how much respondents trust their local police officers and whether the police are "approachable," "dedicated," and so on, but also provided basic scenarios to help respondents put their expectations into words. For example, the interviewer asked respondents to imagine that someone had broken into their home and stolen items, and that the respondent called the police to report the crime. The interviewer asked how quickly or slowly the respondent expected the police to arrive.[5]

When a question is read aloud, remembering the alternative choices can be difficult. Consider the following question from a personal interview:

> *There has been a lot of discussion about the potential health risks to nonsmokers from tobacco smoke in public buildings, restaurants, and business offices. How serious a health threat to you personally is the inhaling of this secondhand smoke, often called* passive smoking: *Is it a very serious health threat, somewhat serious, not too serious, or not serious at all?*
>
> 1. *Very serious*
> 2. *Somewhat serious*
> 3. *Not too serious*
> 4. *Not serious at all*
> 5. *(Don't know)*

The last portion of the question was a listing of the four alternatives that serve as answers. This listing at the end is often used in interviews to remind the respondent of the alternatives, since they are not presented visually. The fifth alternative, "Don't know," is in parentheses because, although the interviewer knows it is an acceptable answer, it is not read. The researcher only uses this response when the respondent truly cannot provide an answer.

The data collection technique also influences the layout of the questionnaire. Layout will be discussed later in the chapter.

RESEARCH SNAPSHOT

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What to Do with the Clubhouse?

Mathematician Jennifer Lewis Priestley helps the managers of golf and country clubs collect and interpret data. One club showed her a member survey containing the following question:

We need to make some decisions about our clubhouse. The clubhouse itself is too small and requires substantial physical improvement, and it's been a long time since we undertook a major redecorating project. Do you favor

a. remodeling the current clubhouse?
b. building a new clubhouse?
c. doing nothing?

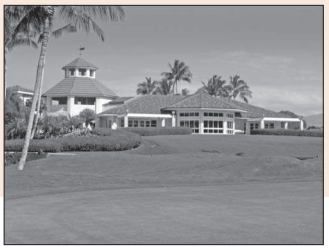
The wording of the question and the answer choices are biased in favor of action. The question criticizes the current clubhouse and places the question in the context of "a long time since we undertook a major redecorating project." To select choice *c*, the respondent would have to disregard the premise of the question.

To eliminate the bias and include neutral wording so that the responses could more accurately represent the members' opinions, Priestley recommended some changes:

Considering the current clubhouse, which of the following statements most closely reflects your views?

a. The current clubhouse should remain the same.
b. The current clubhouse should be remodeled (size will remain the same).
c. The current clubhouse should be remodeled and expanded.
d. The club needs a new clubhouse (current clubhouse torn down).

Source: Based on Priestley, Jennifer Lewis, "Determining What Your Marketing Members Want," *Club Management* (October 2004), http://infotrac.galegroup.com.



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Guidelines for Constructing Questions

Developing good business research questionnaires is a combination of art and science. Few hard-and-fast rules exist in guiding the development of a questionnaire. Fortunately, research experience has yielded some guidelines that help prevent the most common mistakes. The Research Snapshot above illustrates problems with question wording in a simple descriptive research project.

Avoid Complexity: Use Simple, Conversational Language

Words used in questionnaires should be readily understandable to all respondents. The researcher usually has the difficult task of adopting the conversational language of people at the lower education levels without talking down to better-educated respondents. Remember, not all people have the vocabulary of a college graduate. In fact, in the U.S., less than 25 percent of the population has a bachelor's degree.

Respondents can probably tell an interviewer whether they are married, single, divorced, separated, or widowed, but providing their *marital status* may present a problem. The technical jargon of top corporate executives should be avoided when surveying retailers or industrial users. "Brand image," "positioning," "marginal analysis," and other corporate language may not have the same meaning for, or even be understood by, a store owner-operator in a retail survey. The vocabulary used in the following question from an attitude survey on social problems probably would confuse many respondents:

> *When effluents from a paper mill can be drunk and exhaust from factory smokestacks can be breathed, then humankind will have done a good job in saving the environment. . . . Don't you agree that what we want is zero toxicity: no effluents?*

Besides being too long and confusing, this question is leading. Survey questions should be short and to the point. Like this:

> *The stock market is too risky to invest in these days.*

TO THE POINT

I don't know the rules of grammar. . . . If you're trying to persuade people to do something, or buy something, it seems to me you should use their language, the language they use every day, the language in which they think. We try to write in the vernacular.

—David Ogilvy

Avoid Leading and Loaded Questions

leading question
A question that suggests or implies certain answers.

Leading and loaded questions are a major source of bias in question wording. A **leading question** suggests or implies certain answers. A study of the dry cleaning industry asked this question:

> *Many people are using dry cleaning less because of improved wash-and-wear clothes. How do you feel wash-and-wear clothes have affected your use of dry cleaning facilities in the past 4 years?*
>
> ☐ *Use less* ☐ *No change* ☐ *Use more*

It should be clear that this question leads the respondent to report lower usage of dry cleaning. The potential "bandwagon effect" implied in this question threatens the study's validity. *Partial mention of alternatives* is a variation of this phenomenon:

> *Do accounting graduates who attended state universities, such as Washington State University, make better auditors?*

loaded question
A question that suggests a socially desirable answer or is emotionally charged.

A **loaded question** suggests a socially desirable answer or is emotionally charged. Consider the following question from a survey about media influence on politics:[6]

> *What most influences your vote in major elections?*
>
> ☐ *My own informed opinion*
> ☐ *Major media outlets such as CNN*
> ☐ *Newspaper endorsements*
> ☐ *Popular celebrity opinions*
> ☐ *Candidate's physical attractiveness*
> ☐ *Family or friends*
> ☐ *Video advertising (television or Web video)*
> ☐ *Other*

The vast majority of respondents chose the first alternative. Although this question is not overly emotionally loaded, many people could be reluctant to say they are swayed by the media or advertising as opposed to their independent mindset. In fact, a research question dealing with what influences decisions like these may best be done by drawing some inference based on less direct questioning.

Certain answers to questions are more socially desirable than others. For example, a truthful answer to the following classification question might be painful:

> *Where did you rank academically in your high school graduating class?*
>
> ☐ *Top quarter*
> ☐ *2nd quarter*
> ☐ *3rd quarter*
> ☐ *4th quarter*

When taking personality or psychographic tests, respondents frequently can interpret which answers are most socially acceptable even if those answers do not portray their true feelings. For example, which are the socially desirable answers to the following questions on a self-confidence scale?

> *I feel capable of handling myself in most social situations.*
>
> ☐ *Agree* ☐ *Disagree*
>
> *I fear my actions will cause others to have low opinions of me.*
>
> ☐ *Agree* ☐ *Disagree*

Invoking the status quo is a form of loading that results in bias because most people tend to resist change.[7] An experiment conducted in the early days of polling illustrates the unpopularity of change.[8] Comparable samples of respondents were simultaneously asked two questions about presidential succession. One sample was asked:

> *Would you favor or oppose adding a law to the Constitution preventing a president from succeeding himself more than once?*

The other sample was asked:

> *Would you favor or oppose changing the Constitution in order to prevent a president from succeeding himself more than once?*

About half of respondents answered negatively to the first question. For the second question, about two out of three respondents answered negatively. Thus, the public would rather add to than change the Constitution.

The field of political research is fraught with bias. Consider the question asked by the National Republican Senatorial Committee (www.nrsc.org) on a survey:

> *Should foreign terrorists caught in the future or currently being held in U.S. detainment facilities be given the same legal rights and privileges as U.S. Citizens?*

Clearly, the authors are asking for a "No" response. A pro-Democrat pollster might word the question something like this:[9]

> *Do you believe it is acceptable for the United States to detain potentially innocent battlefield detainees without legal representation and to inhumanely interrogate them by means that violate the Geneva Convention and the United Nations Convention against torture?*

Obviously, this question is likewise biased toward a no response.

A more straightforward question might ask:

> *Does the presumption of innocence apply to suspected enemy combatants?*

Asking respondents "how often" they use a product or visit a store leads them to generalize about their habits, because there usually is some variance in their behavior. In generalizing, a person is likely to portray an *ideal* behavior rather than an *average* behavior. For instance, brushing your teeth after each meal may be ideal, but busy people may skip a brushing or two. An introductory **counterbiasing statement** or preamble to a question that reassures respondents that their "embarrassing" behavior is not abnormal may yield truthful responses:

counterbiasing statement

An introductory statement or preamble to a potentially embarrassing question that reduces a respondent's reluctance to answer by suggesting that certain behavior is not unusual.

> *Some people have time to brush three times daily but others do not. How often did you brush your teeth yesterday?*

If a question embarrasses the respondent, it may elicit no answer or a biased response. This is particularly true with respect to personal or classification data such as income or education. The problem may be mitigated by introducing the section of the questionnaire with a statement such as this:

> *To help classify your answers, we'd like to ask you a few questions. Again, your answers will be kept in strict confidence.*

A question statement may be leading because it is phrased to reflect either the negative or the positive aspects of an issue. To control for this bias, the wording of attitudinal questions may be reversed for 50 percent of the sample. This **split-ballot technique** is used with the expectation that two alternative phrasings of the same question will yield a more accurate total response than will a single phrasing. For example, in a study on small-car buying behavior, one-half of a sample of imported-car purchasers received a questionnaire in which they were asked to agree or disagree with the statement "Small U.S. cars are cheaper to maintain than small imported cars." The other half of the import-car owners received a questionnaire in which the statement read "Small imported cars are cheaper to maintain than small U.S. cars."

split-ballot technique

Using two alternative phrasings of the same question for respective halves of a sample to elicit a more accurate total response than would a single phrasing.

All of these illustrations are meant as examples of one questionnaire flaw, writing questions in a manner that leads participants to respond in a way that does not accurately reflect their feelings, attitudes, or behaviors. The business researcher should read all the questions and insure that each does not contain bias.

Avoid Ambiguity: Be as Specific as Possible

Items on questionnaires often are ambiguous because they are too general. Consider such indefinite words as *often, occasionally, regularly, frequently, many, good,* and *poor.* Each of these words has many different meanings. For one consumer, *frequent* reading of *Fortune* magazine may be reading

all 25 issues in a year, while another might think 12, or even 6 issues a year is frequent. Earlier, we used the following question as an example of a checklist question:

Please check which, if any, of the following sources of information about investments you regularly use.

What exactly does *regularly* mean? It can certainly vary from respondent to respondent. How exactly does *hardly any* differ from *occasionally*? Where is the cutoff? It is much better to use specific time periods whenever possible.

A brewing industry study on point-of-purchase advertising (store displays) asked their distributors:

How often does the company shut down production for sanitary maintenance?

- ☐ *Annually (once a year)*
- ☐ *Semiannually (once every six months)*
- ☐ *Quarterly (about every three months)*
- ☐ *At least once monthly*
- ☐ *Less frequently (less often than once a year)*

Here the researchers clarified the terms *permanent, semipermanent,* and *temporary* by defining them for the respondent. However, the question remained somewhat ambiguous. Beer marketers often use a variety of point-of-purchase devices to serve different purposes—in this case, what is the purpose? In addition, analysis was difficult because respondents were merely asked to indicate a preference rather than a *degree* of preference. Thus, the meaning of a question may not be clear because the frame of reference is inadequate for interpreting the context of the question.

A student research group asked this question:

What media do you rely on most?

- ☐ *Television*
- ☐ *Radio*
- ☐ *Internet*
- ☐ *Newspapers*

This question is ambiguous because it does not provide information about the context. "Rely on most" for what—news, sports, entertainment? When—while getting dressed in the morning, driving to work, at home in the evening? Knowing the specific circumstance can affect the choice made.

Each of these examples shows how a question can be ambiguous and interpreted differently by different individuals. While we might not be able to completely eliminate ambiguity, by using words or descriptions that have universal meaning, replacing terms with specific response categories, and defining the situation surrounding the question, we can improve our business research questionnaires.

Avoid Double-Barreled Items

double-barreled question
A question that may induce bias because it covers two issues at once.

A question covering several issues at once is referred to as a **double-barreled question** and should always be avoided. Making the mistake of asking two questions rather than one is easy—for example, "Do you feel our hospital emergency room waiting area is clean and comfortable?" What do we learn from this question? If the respondent responds positively, we could likely infer that our waiting area is clean and comfortable. However, if the response is negative, is it because the room is not clean, or not comfortable? Or both? Certainly for a manger to make improvements it is important to know which element needs attention. When multiple questions are asked in one question, the results may be exceedingly difficult to interpret.

One of the questions we presented earlier when discussing fixed-alternative questions provides a good example of a double-barreled question:

Did your plant use any commercial feed or supplement for livestock or poultry in 2010?

☐ *Yes* ☐ *No*

Here, the question could actually be thought of as a "double-double-barreled" question. Both *commercial feed or supplement* and *livestock or poultry* are double barreled. Interpreting the answer to this question would be challenging.

The following comment offers good advice regarding double-barreled questions:

> *Generally speaking, it is hard enough to get answers to one idea at a time without complicating the problem by asking what amounts to two questions at once. If two ideas are to be explored, they deserve at least two questions. Since question marks are not rationed, there is little excuse for the needless confusion that results [from] the double-barreled question.*[10]

A researcher is well served to carefully examine any survey question that includes the words *and* or *or*. While sometimes words such as these may be used to reinforce or clarify a question, they are often a sign of a double-barreled question. If you have two (or three) questions, ask them separately, not all together.

Avoid Making Assumptions

Consider the following question:

> *Should General Electric continue to pay its outstanding quarterly dividends?*
>
> ☐ *Yes* ☐ *No*

This question has a built-in assumption: that people believe the dividends paid by General Electric are outstanding. By answering "yes," the respondent implies that the program is, in fact, outstanding and that things are fine just as they are. When a respondent answers "no," he or she implies that GE should discontinue the dividends. The researchers should not place the respondent in that sort of bind by including an implicit assumption in the question.

Another frequent mistake is assuming that the respondent had previously thought about an issue. For example, the following question appeared in a survey concerning Jack-in-the-Box: "Do you think Jack-in-the-Box restaurants should consider changing their name?" Respondents have not likely thought about this question beforehand. Most respondents answered the question even though they had no prior opinion concerning the name change. Research that induces people to express attitudes on subjects they do not ordinarily think about is rather meaningless.

TOTHEPOINT

"How am I to get in?" asked Alice again, in a louder tone. "Are you to get in at all?" said the Footman, "That's the first question, you know."

—Lewis Carroll, *Alice's Adventures in Wonderland*

Avoid Burdensome Questions That May Tax the Respondent's Memory

A simple fact of human life is that people forget. Researchers writing questions about past behavior or events should recognize that certain questions may make serious demands on the respondent's memory. Writing questions about prior events requires a conscientious attempt to minimize the problems associated with forgetting.

In many situations, respondents cannot recall the answer to a question. For example, a telephone survey conducted during the 24-hour period following the airing of the Super Bowl might establish whether the respondent watched the Super Bowl and then ask, "Do you recall any commercials on that program?" If the answer is positive, the interviewer might ask, "What brands were advertised?" These two questions measure *unaided recall,* because they give the respondent no clue as to the brand of interest.

If the researcher suspects that the respondent may have forgotten the answer to a question, he or she may rewrite the question in an *aided-recall* format—that is, in a format that provides a clue to help jog the respondent's memory. For instance, the question about an advertised beer in an aided-recall format might be "Do you recall whether there was a brand of beer advertised on that program?" or "I am going to read you a list of beer brand names. Can you pick out the name of the beer that was advertised on the program?" While aided recall is not as strong a test of attention or memory as unaided recall, it is less taxing to the respondent's memory.

Telescoping and squishing are two additional consequences of respondents' forgetting the exact details of their behavior. *Telescoping error* occurs when respondents believe that past events

happened more recently than they actually did. For instance, most people will estimate that they have changed the oil in their car more recently than they actually have. The opposite effect, *squishing error,* occurs when respondents think that recent events took place longer ago than they really did. A solution to this problem may be to refer to a specific event that is memorable—for example, "How often have you gone to a sporting event since the World Series?" Because forgetting tends to increase over time, the question may concern a recent period: "How often did you watch HBO on cable television last week?" During pretesting or the questionnaire editing stage, the most appropriate time period can be determined.

In situations in which "I don't know" or "I can't recall" is a meaningful answer, simply including a "don't know" response category may solve the question writer's problem.

Make Certain Questions Generate Variance

We want our variables to vary! It is important that the response categories provided cover the breadth of possibilities (totally exhaustive), but also critical that they yield variance across respondents. In many ways, if all of the respondents check the same box, we have not generated usable information.

For example, the U.S. census uses the following age categories:

Under 5 years
5 to 9 years
10 to 14 years
15 to 19 years
20 to 24 years
25 to 29 years
. . . .
. . . .
. . . .
95 to 99 years
100 years and over

While these five-year age categories do capture the range of ages and provide rather detailed census information regarding the general population, what would happen if they were used for a survey of undergraduate students? In many institutions, 95 percent or more of the respondents would fall into two groups. What might be more appropriate and provide better information in a study of undergraduates?

When we discussed measurement issues in Chapter 13, we noted that there were benefits from constructing scaled responses with a larger number of response categories rather than fewer. In general, this is a good rule, with seven- or ten-point scales likely providing greater variance than three- or four-point scales. In practice, it is also often better to use a scaled response than a dichotomous response form. For example, our earlier example of a simple-dichotomy (dichotomous) question asked:

Did you have any overnight travel for work-related activities last month?

☐ *Yes* ☐ *No*

While the respondent could likely answer this question and we may simply desire to place respondents into either the "did travel" or "did not travel" category, we really do not gain much information from this question. It fails to discriminate at all between employees that travel once a month, twice a month, or were gone for 25 days last month. It is likely that these employees have different attitudes and needs regarding business travel. A better approach might be to create multiple categories (0, 1–5, 6–10, 11–15, 16–20, 21–25, 26+ nights) or ask for a specific number of nights away on business travel. From this, we could always recode the respondents into the nominal data categories of yes/no if needed. However, if we collect yes/do data to begin with, we cannot make more detailed distinctions later.

In other situations, we might need to change the wording of a question to increase variance. If we were using a Likert scale (Strongly Disagree to Strongly Agree), it might be better to ask the

customer to respond to the statement "Edward Jones provides *excellent* advice for investors" rather than "Edward Jones provides *good* advice for investors." The point is not to generate a specific score, but to create variance which allows us to examine investors with different attitudes.

It is important for our questions to generate variance. In a perfect world, our questions would result in something close to a normal distribution.

What Is the Best Question Sequence?

The order of questions, or the question sequence, may serve several functions for the researcher. If the opening questions are interesting, simple to comprehend and easy to answer, respondents' cooperation and involvement can be maintained throughout the questionnaire. Asking easy-to-answer questions teaches respondents their role and builds their confidence.

A mail survey among department store buyers drew an extremely poor return rate. A substantial improvement in response rate occurred, however, when researchers added some introductory questions seeking opinions on pending legislation of great importance to these buyers. Respondents continued on to complete all the questions, not only those in the opening section.

In their attempt to "warm up" respondents toward the questionnaire, student researchers frequently ask demographic or classification questions at the beginning of the survey. This generally is not advisable, because asking for personal information such as income level or education may embarrass or threaten respondents. Asking these questions at the end of the questionnaire usually is better, after rapport has been established between respondent and interviewer.

Order bias can result from a particular answer's position in a set of answers or from the sequencing of questions. In political elections in which candidates lack high visibility, such as elections for county commissioners and judges, the first name listed on the ballot often receives the highest percentage of votes. For this reason, many election boards print several ballots so that each candidate's name appears in every possible position on the ballot.

order bias

Bias caused by the influence of earlier questions in a questionnaire or by an answer's position in a set of answers.

Order bias can also distort survey results. For example, suppose a questionnaire's purpose is to measure levels of awareness of several charitable organizations. If Big Brothers and Big Sisters is always mentioned first, the American Red Cross second, and the American Cancer Society third, Big Brothers and Big Sisters may receive an artificially high awareness rating because respondents are prone to yea-saying (by indicating awareness of the first item in the list).

Asking specific questions before asking about broader issues is a common cause of order bias. For example, people who are first asked, "Are you satisfied with your marriage?" will respond differently to a follow-up question that asks, "Are you satisfied with your life?" than if the questions are asked in the reverse order. Generally, researchers should ask general questions before specific questions. This procedure, known as the **funnel technique**, allows the researcher to understand the respondent's frame of reference before asking more specific questions about the level of the respondent's information and the intensity of his or her opinions.

funnel technique

Asking general questions before specific questions in order to obtain unbiased responses.

Consider how later answers might be biased by previous questions in this questionnaire on environmental pollution:

Please consider each of the following issues. Circle the number for each that best indicates your feelings about the severity of that issue as an environmental problem:

Issue	*Not At All A Problem*				*Very Severe Problem*
Air pollution from automobile exhausts	*1*	*2*	*3*	*4*	*5*
Air pollution from open burning	*1*	*2*	*3*	*4*	*5*
Air pollution from industrial smoke	*1*	*2*	*3*	*4*	*5*
Air pollution from foul odors	*1*	*2*	*3*	*4*	*5*
Noise pollution from airplanes	*1*	*2*	*3*	*4*	*5*
Noise pollution from cars, trucks, motorcycles	*1*	*2*	*3*	*4*	*5*
Noise pollution from industry	*1*	*2*	*3*	*4*	*5*

Not surprisingly, researchers found that the responses to the air pollution questions were highly correlated—in fact, almost identical. What if the first issue was *foul odors* instead of *automobile exhaust*? Do you think it would affect the remaining responses?

RESEARCH SNAPSHOT

What Citizens (Don't) Know about Climate Change

Climate change as a result of global warming has frequently been featured in the news, especially in stories related to science and technology. Scientists at the Massachusetts Institute of Technology's Laboratory for Energy and the Environment (LFEE) have dedicated themselves to researching a variety of approaches to slow down climate change. The scientists recognize, however, that these innovations have a cost, so their use will depend partly on public interest in the problem and demand for solutions. As a result, LFEE conducted an online survey, which it sent to a national panel.

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One challenge for the study was that before researchers could gauge citizens' willingness to pay for new technologies, they needed to know whether most people were even aware of the energy alternatives. They asked, "Have you heard of or read about any of the following in the past year? Check all that apply," followed by a list of ten technologies for mitigating climate change. Only three technologies—more efficient cars, solar energy, and nuclear energy—were checked by a majority of respondents. Seventeen percent admitted to not hearing about any of the technologies, a number that the researchers acknowledge may be too low, because some people might want to appear better informed than they are.

Perhaps lack of interest is a factor as well. Another question gave respondents a list of 22 issues and asked them to choose the most important. The environment was ranked thirteenth. In a question asking respondents to rank the importance of specific environmental problems however, "global warming" was in sixth place, trailing water pollution, destruction of ecosystems, and toxic waste.

All of these questions presented respondents with a list of alternatives to check. What precautions should the survey have taken to minimize the chance that the order of alternatives influenced respondents' opinions that some items were familiar or important?

Source: Based on "U.S. Public in the Dark on Climate Change Issues," *Bulletin of the American Meteorological Society* 86, no. 6 (June 2005), http://firstsearch.oclc.org; Herzog, Howard J., Thomas E. Curry, David M. Reiner, and Stephen Ansolabehere, "Climate Change Poorly Understood, Not a High Priority, Shows MIT Public Survey," *Energy and Environment*, (December 2004), 7–8, accessed at http://lfee.mit.edu.

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With attitude scales, there also may be an *anchoring effect*. The first concept measured tends to become a comparison point from which subsequent evaluations are made. Randomization of items on a questionnaire susceptible to the anchoring effect helps minimize order bias.

A related problem is bias caused by the order of alternatives on closed questions. To avoid this problem, the order of these choices should be rotated if producing alternative forms of the questionnaire is possible. Unfortunately, business researchers rarely print alternative questionnaires to eliminate problems resulting from order bias. With Internet surveys, however, reducing order bias by having the computer randomly order questions and/or response alternatives is quite easy. With complete randomization, question order is random and respondents see response alternatives in different positions.

filter question

A question that screens out respondents who are not qualified to answer a second question.

Asking a question that does not apply to the respondent or that the respondent is not qualified to answer may be irritating or cause a biased response because the respondent wishes to please the interviewer or to avoid embarrassment. Including a **filter question** minimizes the chance of asking questions that are inapplicable. Asking a human resource manager "How would you rate the third party administrator (TPA) of your employee health plan?" may elicit a response even though the organization does not utilize a TPA. The respondent may wish to please the interviewer with an answer. A filter question such as "Does your organization use a third party administrator (TPA) for your employee health plan?" followed by "If you answered *Yes* to the previous question, how would you rate your TPA on . . . ?" would screen out the people who are not qualified to answer. If embedded in the questionnaire, this would create the need for a *skip question* for those that did not use a TPA as discussed below.

pivot question

A filter question used to determine which version of a second question will be asked.

Another form of filter question, the **pivot question**, can be used to obtain income information and other data that respondents may be reluctant to provide. For example,

"Is your total family income over or under $50,000?" IF UNDER, ASK, "Is it over or under $25,000?" IF OVER, ASK, "Is it over or under $75,000?"

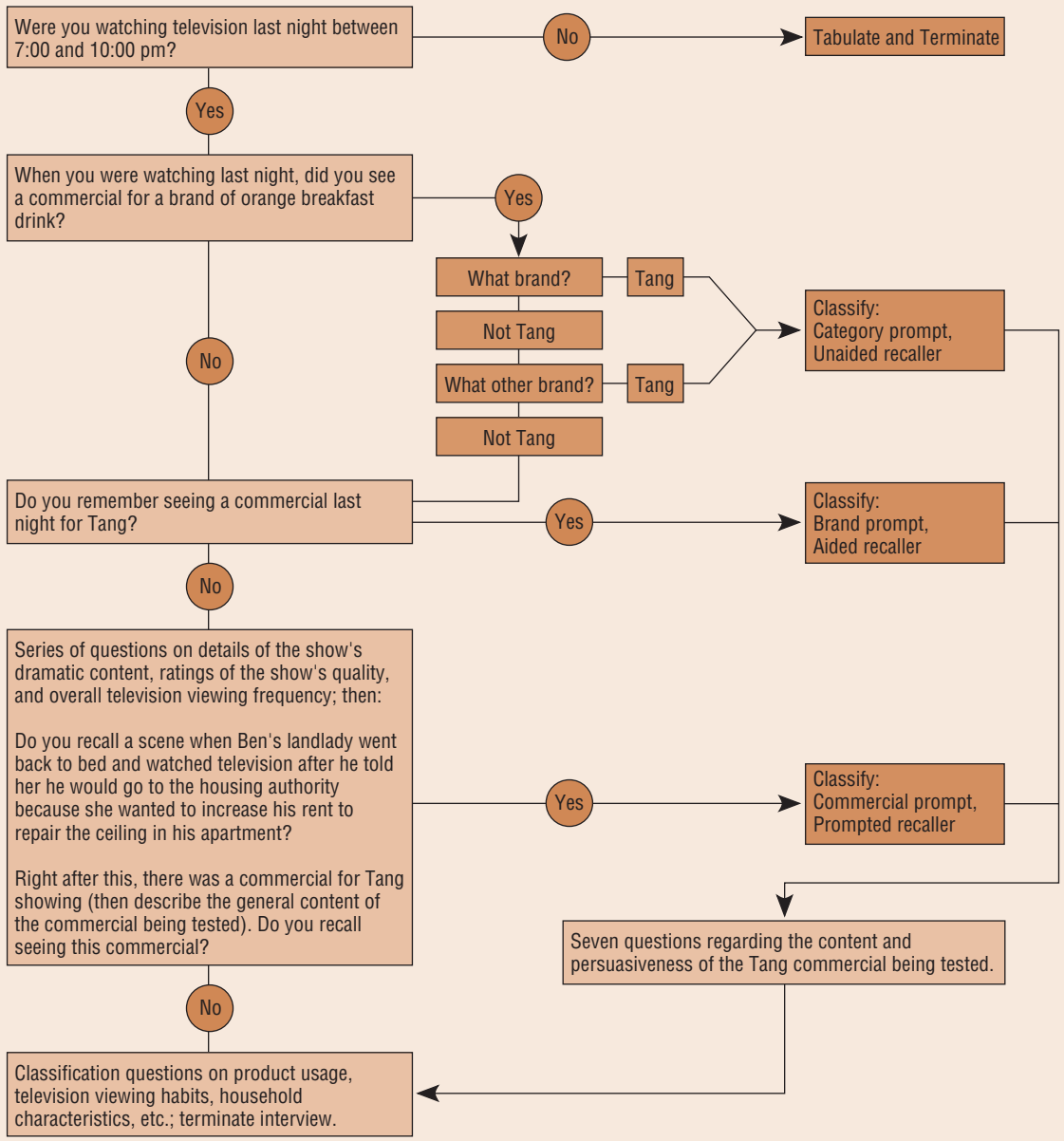
__Under $25,000
__$25,001–$50,000
__$50,001–$75,000
__Over $75,000

Exhibit 15.2 gives an example of a flowchart plan for a questionnaire. Structuring the order of the questions so that they are logical will help to ensure the respondent's cooperation and eliminate confusion or indecision. The researcher maintains legitimacy by making sure that the respondent can comprehend the relationship between a given question (or section of the questionnaire) and the overall purpose of the study. Furthermore, a logical order may aid the individual's memory. Informational and transitional comments explaining the logic of the questionnaire may ensure that the respondent continues. Here are two examples:

We have been talking so far about general shopping habits in this city. Now I'd like you to compare two types of grocery stores—regular supermarkets and grocery departments in wholesale club stores.

So that I can combine your answers with those of other plant managers who are similar to you, I need some personal information about you. Your answers to these questions—just as all of the others you've answered—are confidential, and you will never be identified individually. Thanks for your help so far. If you'll answer the remaining questions, it will help me analyze all your answers.

EXHIBIT 15.2 **Flow of Questions to Determine the Level of Prompting Required to Stimulate Recall**



Source: "General Foods Corporation: Tang Instant Breakfast Drink (B)," © 1978 F. Stewart DeBruicker and Harvey N. Singer, The Wharton School, University of Pennsylvania. Reprinted with permission.

What Is the Best Layout?

Good layout and physical attractiveness are crucial in mail, Internet, and other self-administered questionnaires. For different reasons, a good layout in questionnaires designed for personal and telephone interviews is also important.

Traditional Questionnaires

Exhibit 15.3 shows a page from a telephone questionnaire. The layout is neat and organized, and the instructions for the interviewer (all boldface capital letters) are easy to follow. The responses "It depends," "Refused," and "Don't Know" are enclosed in a box to indicate that these answers are acceptable but responses from the five-point scale are preferred.

Often rate of return can be increased by using money that might have been spent on an incentive to improve the attractiveness and quality of the questionnaire. Mail questionnaires should never be overcrowded. Margins should be of decent size, white space should be used to separate blocks of print, and the unavoidable columns of multiple boxes should be kept to a minimum. A question should not begin on one page and end on another page. Splitting questions may cause a respondent to read only part of a question, to pay less attention to answers on one of the pages, or to become confused.

Questionnaires should be designed to appear as short as possible. Sometimes it is advisable to use a booklet form of questionnaire rather than stapling a large number of pages together. In situations in which it is necessary to conserve space on the questionnaire or to facilitate data entry or tabulation of the data, a multiple-grid layout may be used. The **multiple-grid question** presents several similar questions and corresponding response alternatives arranged in a grid format. For example,

multiple-grid question
Several similar questions arranged in a grid format.

Airlines often offer special fare promotions, but they may require connecting flights. On a vacation trip, how often would you take a connecting flight instead of a nonstop flight if you could save $100 a ticket, but the connecting flight was longer?

	Never	*Rarely*	*Sometimes*	*Often*	*Always*
Complete trip is one hour longer?	☐	☐	☐	☐	☐
Complete trip is two hours longer?	☐	☐	☐	☐	☐
Complete trip is three hours longer?	☐	☐	☐	☐	☐

Experienced researchers have found that the title of a questionnaire should be phrased carefully. In self-administered and mail questionnaires, a carefully constructed title may capture the respondent's interest, underline the importance of the research ("Nationwide Study of Blood Donors"), emphasize the interesting nature of the study ("Study of Internet Usage"), appeal to the respondent's ego ("Survey of Top Executives"), or emphasize the confidential nature of the study ("A Confidential Survey of Physicians"). At the same time, the researcher should take steps to ensure that the wording of the title will not bias the respondent in the same way that a leading question might.

By using several forms, special instructions, and other tricks of the trade, the researcher can design the questionnaire to facilitate the interviewer's job of following interconnected questions. Exhibits 15.4 and 15.5 on pages 354–356 illustrate portions of telephone and personal interview questionnaires. Note how the layout and easy-to-follow instructions for interviewers in questions 1, 2, and 3 of Exhibit 15.4 help the interviewer follow the question sequence.

Instructions are often capitalized or printed in bold to alert the interviewer that it may be necessary to proceed in a certain way. For example, if a particular answer is given, the interviewer or respondent may be instructed to skip certain questions or go to a special sequence of questions. To facilitate coding, question responses should be precoded when possible, as in Exhibit 15.4.

Exhibit 15.5 illustrates some other useful techniques that are possible with personal interviews. Questions 3 and 6 instruct the interviewer to hand the respondent a card bearing a list of alternatives. Cards may help respondents grasp the intended meaning of the question and remember all the brand names or other items they are being asked about. Also, questions 2, 3, and 6 instruct the interviewer that rating of the banks will start with the bank that has been checked in red pencil on

EXHIBIT 15.3 **Layout of a Page from a Telephone Questionnaire**

5. Now I'm going to read you some types of professions. For each one, please tell me whether you think the work that profession does, on balance, has a very positive impact on society, a somewhat positive impact, a somewhat negative impact, a very negative impact, or not much impact either way on society. First . . . **(START AT X'D ITEM. CONTINUE DOWN AND UP THE LIST UNTIL ALL ITEMS HAVE BEEN READ AND RATED.)**

						(DO NOT READ)		
START HERE:	**Very Positive Impact**	**Some-what Positive Impact**	**Some-what Negative Impact**	**Very Negative Impact**	**Not Much Impact**	**It Depends**	**Refused**	**Don't Know**
[ ] Members of Congress	1	2	3	4	5	0	X	Y (24)
[X] Business executives	1	2	3	4	5	0	X	Y (25)
[ ] Physicians	1	2	3	4	5	0	X	Y (26)
[ ] Political pollsters—that is, people who conduct surveys for public officials or political political candidates	1	2	3	4	5	0	X	Y (27)
[ ] Researchers in the media—that is, people in media such as television, newspapers, magazines, and radio, who conduct surveys about issues later reported in the media	1	2	3	4	5	0	X	Y (28)
[ ] Telemarketers—that is, people who sell products or services over the phone	1	2	3	4	5	0	X	Y (29)
[ ] Used car salesmen	1	2	3	4	5	0	X	Y (30)
[ ] Market researchers—that is, people who work for commercial research firms who conduct surveys to see what the public thinks about certain kinds of consumer products or services	1	2	3	4	5	0	X	Y (31)
[ ] Biomedical researchers	1	2	3	4	5	0	X	Y (32)
[ ] Public-opinion researchers—that is, people who work for commercial research firms who conduct surveys to see what the public thinks about important social issues	1	2	3	4	5	0	X	Y (33)
[ ] College and university professors	1	2	3	4	5	0	X	Y (34)
[ ] Attorneys	1	2	3	4	5	0	X	Y (35)
[ ] Members of the clergy	1	2	3	4	5	0	X	Y (36)
[ ] Journalists	1	2	3	4	5	0	X	Y (37)

EXHIBIT 15.4 Telephone Questionnaire with Skip Questions

1. Did you take the car you had checked to the Standard Auto Repair Center for repairs?

   −1 Yes **(SKIP TO Q. 3)** −2 No

2. **(IF NO, ASK:)** Did you have the repair work done?

   −1 Yes −2 No

   ↓ ↓

   1. Where was the repair work done? _____

   2. Why didn't you have the repair work done at the Standard Auto Repair Center? _____

   1. Why didn't you have the car repaired? _____

3. **(IF YES TO Q. 1, ASK:)** How satisfied were you with the repair work? Were you . . .

   −1 Very satisfied

   −2 Somewhat satisfied

   −3 Somewhat dissatisfied

   −4 Very dissatisfied

   (IF SOMEWHAT OR VERY DISSATISFIED:) In what way were you dissatisfied? _____

4. **(ASK EVERYONE:)** Do you ever buy gas at the 95th Street Standard Center?

   −1 Yes −2 No **(SKIP TO Q. 6)**

5. **(IF YES, ASK:)** How often do you buy gas there?

   −1 Always

   −2 Almost always

   −3 Most of the time

   −4 Part of the time

   −5 Hardly ever

6. Have you ever had your car washed there?

   −1 Yes −2 No

7. Have you ever had an oil change or lubrication done there?

   −1 Yes −2 No

Source: Reprinted with permission from the Council of American Survey Research, http://www.casro.org.

the printed questionnaire. The name of the red-checked bank is not the same on every questionnaire. By rotating the order of the check marks, the researchers attempted to reduce order bias caused by respondents' tendency to react more favorably to the first set of questions.

Exhibit 15.6 on page 356 illustrates a series of questions that includes a *skip question*. Either skip instructions or an arrow drawn pointing to the next question informs the respondent which question comes next.

Layout is extremely important when questionnaires are long or require the respondent to fill in a large amount of information. In many circumstances, using headings or subtitles to indicate groups of questions will help the respondent grasp the scope or nature of the questions to be asked. Thus, at a glance, the respondent can follow the logic of the questionnaire.

EXHIBIT 15.5 Personal Interview Questionnaire

"Hello, my name is _____ . I'm a Public Opinion Interviewer with Research Services, Inc. We're making an opinion survey about banks and banking, and I'd like to ask you . . ."

1. What are the names of local banks you can think of offhand? (INTERVIEWER: List names in order mentioned.)
   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____

2. Thinking now about the experiences you have had with the different banks here in Boulder, have you ever talked to or done business with . . . (INTERVIEWER: Insert name of bank checked in red below.)
   a. Are you personally acquainted with any of the employees or officers at _____?
   b. (If YES) Who is that? _____
   c. How long has it been since you have been inside _____?

   (INTERVIEWER: Now go back and repeat 2–2c for all other banks listed.)

	(2) Talked		(2a and 2b) Know Employee Or Officer		(2c) Been in Bank in:				
	Yes	No	No	Name	Last Year	1–5	5-Plus	No	DK
Arapahoe National Bank	1	2	1	_____	1	2	3	4	5
First National Bank	1	2	1	_____	1	2	3	4	5
Boulder National Bank	1	2	1	_____	1	2	3	4	5
Security Bank	1	2	1	_____	1	2	3	4	5
United Bank of Boulder	1	2	1	_____	1	2	3	4	5
National State Bank	1	2	1	_____	1	2	3	4	5

3. (HAND BANK RATING CARD) On this card there are a number of contrasting phrases or statements—for example, "Large" and "Small." We'd like to know how you rate (NAME OF BANK CHECKED IN RED BELOW) in terms of these statements or phrases. Just for example, let's use the terms "fast service" and "slow service." If you were to rate a bank #1 on this scale, it would mean you find their service "very fast." On the other hand, a 7 rating would indicate you feel their service is "very slow," whereas a 4 rating means you don't think of them as being either "very fast" or "very slow." Are you ready to go ahead? Good! Tell me then how you would rate (NAME OF BANK CHECKED IN RED) in terms of each of the phrases or statements on that card. How about (READ NEXT BANK NAME)? . . . (INTERVIEWER: Continue on until respondent has evaluated all six banks.)

	Arapahoe National	First National	Boulder National	Security Bank	United Bank	National State
a. Service	_____	_____	_____	_____	_____	_____
b. Size	_____	_____	_____	_____	_____	_____
c. Business vs. Family	_____	_____	_____	_____	_____	_____
d. Friendliness	_____	_____	_____	_____	_____	_____
e. Big/Small Business	_____	_____	_____	_____	_____	_____
f. Rate of Growth	_____	_____	_____	_____	_____	_____
g. Modernness	_____	_____	_____	_____	_____	_____
h. Leadership	_____	_____	_____	_____	_____	_____
i. Loan Ease	_____	_____	_____	_____	_____	_____
j. Location	_____	_____	_____	_____	_____	_____
k. Hours	_____	_____	_____	_____	_____	_____
l. Ownership	_____	_____	_____	_____	_____	_____
m. Community Involvement	_____	_____	_____	_____	_____	_____

National State Bank 6
Other (Specify) _____
DK/Wouldn't 9

(*continued*)

EXHIBIT 15.5 Personal Interview Questionnaire (*continued*)

4. Suppose a friend of yours who has just moved to Boulder asked you to recommend a bank. Which local bank would you recommend? Why would you recommend that particular bank?

Arapahoe National	1
First National	2
Boulder National	3
Security Bank	4
United Bank of Boulder	5
National State Bank	6
Other (Specify) _____	
DK/Wouldn't	9

5. Which of the local banks do you think of as: (INTERVIEWER: Read red-checked item first, then read each of the other five.)
   the newcomer's bank? _____
   the student's bank? _____
   the Personal Banker bank? _____
   the bank where most C.U. faculty and staff bank? _____
   the bank most interested in this community? _____
   the most progressive bank? _____

6. Which of these financial institutions, if any, (HAND CARD 2) are you or any member of your immediate family who lives here in this home doing business with now?

Bank	1
Credit Union	2
Finance Company	3
Savings and Loan	4
Industrial Bank	5
None of these	6
DK/Not sure	7

   (IF NONE, Skip to 19.)

7. If a friend asked you to recommend a place where he or she could get a loan with which to buy a home, which financial institution would you probably recommend? (INTERVIEWER: Probe for specific name.) Why would you recommend (INSTITUTION NAMED)?
   Would Recommend: _____
   _____

Wouldn't	0
DK/Not Sure	9

Source: Reprinted with permission from the Council of American Survey Research, http://www.casro.org.

EXHIBIT 15.6
Example of a Skip Question

1. If you had to buy a computer tomorrow, which of the following three types of computers do you think you would buy?
   1 Desktop—Go to Q. 3
   2 Laptop—Go to Q. 3
   3 Palm-sized (PDA)

2. (If "Palm-sized" on Q. 1, ask): What brand of computer do you think you would buy?

3. What is your age?

Internet Questionnaires

Layout is also an important issue for questionnaires appearing on the Internet. A questionnaire on a Web site should be easy to use, flow logically, and have a clean look and overall feel that motivate the respondent to cooperate from start to finish. Many of the guidelines for layout of paper questionnaires apply to Internet questionnaires. There are, however, some important differences.

With *graphical user interface* (GUI) software, the researcher can exercise control over the background, colors, fonts, and other visual features displayed on the computer screen so as to create an attractive and easy-to-use interface between the computer user and the Internet survey. GUI software allows the researcher to design questionnaires in which respondents click on the appropriate answer rather than having to type answers or codes.

There are a large number of Web publishing software packages (e.g., WebSurveyor, FrontPage, etc.) and Web survey host sites (such as **www.zoomerang.com** and **www.surveymonkey.com**) to assist a researcher with Internet data collection. However, several features of a respondent's computer may influence the appearance of an Internet questionnaire. For example, discrepancies between the designer's and the respondent's computer settings for screen configuration (e.g., 1,024 × 768 pixels versus 1,280 × 800 pixels) may result in questions not being fully visible on the respondent's screen, misaligned text, or other visual problems. The possibility that the questionnaire the researcher/designer constructs on his or her computer may look different from the questionnaire that appears on the respondent's computer should always be considered when designing Internet surveys. One sophisticated remedy is to use the first few questions on an Internet survey to ask about operating system, browser software, and other computer configuration issues so that the questionnaire that is delivered is as compatible as possible with the respondent's computer. A simpler solution is to limit the horizontal width of the questions to 70 characters or less, to decrease the likelihood of wrap-around text.

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Web-based software can generally adjust to a user's browser and make for a neat appearance.

LAYOUT ISSUES

Even if the questionnaire designer's computer and the respondents' computers are compatible, a Web questionnaire designer should consider several layout issues. The first decision is whether the questionnaire will appear page by page, with individual questions or groups of questions on separate screens (Web pages), or on a scrolling basis, with the entire questionnaire appearing on a single Web page that the respondent scrolls from top to bottom. The *paging layout* (going from screen to screen) greatly facilitates skip patterns. Based on a respondent's answers to filter questions, the computer can automatically insert relevant questions on subsequent pages. If the entire questionnaire appears on one page (the *scrolling layout*), the display should advance smoothly, as if it were a piece of paper being moved up or down. The scrolling layout gives the respondent the ability to read any portion of the questionnaire at any time, but the absence of page boundaries can cause problems. For example, suppose a Likert scale consists of 15 statements in a grid-format layout, with the response categories Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree at the beginning of the questionnaire. Once the respondent has scrolled down beyond the first few statements, he or she may not be able to see both the statements at the end of the list and the response categories at the top of the grid simultaneously. Thus, avoiding the problems associated with splitting questions and response categories may be difficult with scrolling questionnaires.

When a scrolling questionnaire is long, category or section headings are helpful to respondents. It is also a good idea to provide links to the top and bottom parts of each section, so that users can navigate through the questionnaire without having to scroll through the entire document.[11]

Whether a Web survey is page-by-page or scrolling format a **push button** with a label should clearly describe the actions to be taken. For example, if the respondent is to go to the next page, a large arrow labeled "NEXT" might appear in color at the bottom of the screen.

push button

In a dialog box on an Internet questionnaire, a small outlined area, such as a rectangle or an arrow, that the respondent clicks on to select an option or perform a function, such as submit.

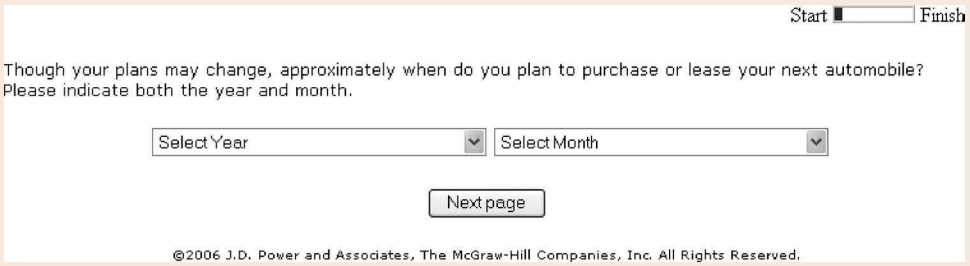
Decisions must be made about the use of color, graphics, animation, sound, and other special features that the Internet makes possible. One point to remember is that, although sophisticated graphics are not a problem for most people with powerful computers and high speed Internet, many respondents' computers and/or Internet connections are not powerful enough to deliver complex graphics at a satisfactory speed.

With a paper questionnaire, the respondent knows how many questions he or she must answer. Because many Internet surveys offer no visual clues about the number of questions to be asked, it is important to provide a **status bar** or some other visual indicator of questionnaire length. For example, including a partially filled rectangular box as a visual symbol and a statement such as "The status bar at top right indicates approximately what portion of the survey you have completed" increases the likelihood that the respondent will finish the entire sequence of questions. Exhibit 15.7 on the next page shows a question from an online survey that uses a simple and

status bar

In an Internet questionnaire, a visual indicator that tells the respondent what portion of the survey he or she has completed.

EXHIBIT 15.7
Question in an Online Screening Survey for Joining a Consumer Panel



Source: J.D. Power and Associates, "JDPowerPanel," https://ia.jdpa.com/20/survey/onsurvey.phtml, accessed March 9, 2006.

motivating design. The survey presents one question at a time for simplicity. So that respondents can see their progress toward the end of the questionnaire, a gauge in the upper right corner fills from left to right as the respondent proceeds from Start to Finish.

An Internet questionnaire uses dialog boxes to display questions and record answers. Exhibit 15.8 portrays four common ways of displaying questions on a computer screen. Many Internet questionnaires require the respondent to activate his or her answer by clicking on the **radio button** for a response. Radio buttons work like push buttons on automobile radios: Clicking on an alternative response deactivates the first choice and replaces it with the new response. A **drop-down box**, such as the one shown in Exhibit 15.8, is a space-saving device that allows the researcher to provide a list of responses that are hidden from view until they are needed. A general statement, such as "Please select" or "Click here," is shown initially. Clicking on the downward-facing arrow makes the full range of choices appear.

radio button
In an Internet questionnaire, a circular icon, resembling a button, that activates one response choice and deactivates others when a respondent clicks on it.

drop-down box
In an Internet questionnaire, a space-saving device that reveals responses when they are needed but otherwise hides them from view.

Checklist questions may be followed by **check boxes**, several, none, or all of which may be checked by the respondent. **Open-ended boxes** are boxes in which respondents type their answers to open-ended questions. Open-ended boxes may be designed as *one-line text boxes* or *scrolling text boxes*, depending on the breadth of the expected answer. Of course, open-ended questions require that respondents have both the skill and the willingness to keyboard lengthy answers on the computer. Some open-ended boxes are designed so that respondents can enter numbers for frequency response, ranking, or rating questions. For example,

check boxes
In an Internet questionnaire, small graphic boxes, next to answers, that a respondent clicks on to choose an answer; typically, a check mark or an **X** appears in the box when the respondent clicks on it.

open-ended boxes
In an Internet questionnaire, boxes where respondents can type in their own answers to open-ended questions.

> *Below you will see a series of statements that might or might not describe how you feel about your career. Please rate each statement using a scale from 1 to 5, where 1 means "Totally Disagree," 2 means "Somewhat Disagree," 3 means "Neither Agree nor Disagree," 4 means "Somewhat Agree," and 5 means "Totally Agree." Please enter your numeric answer in the box provided next to each statement. Would you say that . . .*
>
> *A lack of business knowledge relevant to my field/career could hurt my career advancement.*
>
> *My career life is an important part of how I define myself.*
>
> *I am seriously considering a change in careers.*

Pop-up boxes are message boxes that can be used to highlight important information. For example, pop-up boxes may be use to provide a privacy statement, such as the following:

pop-up boxes
In an Internet questionnaire, boxes that appear at selected points and contain information or instructions for respondents.

> *IBM would like your help in making our Web site easier to use and more effective. Choose to complete the survey now or not at all.*

Clicking on Privacy Statement opens the following pop-up box:

> *Survey Privacy Statement*
>
> *This overall Privacy Statement verifies that IBM is a member of the TRUSTe program and is in compliance with TRUSTe principles. This survey is strictly for market research purposes. The information you provide will be used only to improve the overall content, navigation, and usability of ibm.com.*

EXHIBIT 15.8
Alternative Ways of Displaying Internet Questions

Radio button

Last month, did you purchase products or services over the Internet?

- ○ **Yes**
- ○ **No**

How familiar are you with Microsoft's Xbox video game player?

Know Extremely Well	Know Fairly Well	Know a Little	Know Just Name	Never Heard of
○	○	○	○	○

Drop-down box, closed position

In which country or region do you currently reside?

Click Here ▼

Drop-down box, open position

In which country or region do you currently reside?

Click Here ▼

Click Here
United States
Asia/Pacific (excluding Hawaii)
Africa
Australia or New Zealand
Canada
Europe
Latin America, South America, or Mexico
Middle East
Other

Check box

From which location(s) do you access the Internet? Select all that apply.

- ☐ Home
- ☐ Work
- ☐ Other Location

Please indicate which of the following Web sites you have ever visited or used. (CHOOSE ALL THAT APPLY.)

- ☐ E*Trade's Web site
- ☐ Waterhouse's Web site
- ☐ Merrill Lynch's Web site
- ☐ Fidelity's Web site
- ☐ Schwab's Web site
- ☐ Powerstreet
- ☐ Yahoo! Finance
- ☐ Quicken.com
- ☐ Lycos Investing
- ☐ AOL's Personal Finance
- ☐ None of the above

Open-ended, one-line box

What company do you think is the most visible sponsor of sports?

Open-ended, scrolling text box

What can we do to improve our textbook?

In some cases, respondents can learn more about how to use a particular scale or get a definition of a term by clicking on a link, which generates a pop-up box. One of the most common reasons for using pop-up boxes is *error trapping,* a topic discussed in the next section.

Chapter 14 described graphic rating scales, which present respondents with a graphic continuum. On the Internet, researchers can take advantage of scroll bars or other GUI software features to make these scales easy to use. For example, the graphic continuum may be drawn as a measuring rod with a plus sign on one end and a minus sign on the other. The respondent then moves a small rectangle back and forth between the two ends of the scale to scroll to any point on the continuum. Scoring, as discussed in Chapter 14, is in terms of some measure of the length (millimeters) from one end of the graphic continuum to the point marked by the respondent.

Finally, researchers should include a customized thank-you page at the end of an Internet questionnaire, so that a brief thank-you note pops onto respondents' screens when they click on the Submit push button.[12]

SOFTWARE THAT MAKES QUESTIONNAIRES INTERACTIVE

Computer code can be written to make Internet questionnaires interactive and less prone to errors. The writing of software programs is beyond the scope of this discussion. However, several of the interactive functions that software makes possible should be mentioned here.

Internet software allows the branching off of questioning into two or more different lines, depending on a particular respondent's answer, and the skipping or filtering of questions. Questionnaire-writing software with skip and branching logic is readily available. Most of these programs have *hidden skip logic* so that respondents never see any evidence of skips. It is best if the questions the respondent sees flow in numerical sequence. However, some programs number all potential questions in numerical order, and the respondent sees only the numbers on the questions he or she answers. Thus, a respondent may answer questions 1 through 11 and then next see a question numbered 15 because of the skip logic.

variable piping software
Software that allows variables to be inserted into an Internet questionnaire as a respondent is completing it.

Software can systematically or randomly manipulate the questions a respondent sees. **Variable piping software** allows variables, such as answers from previous questions, to be inserted into unfolding questions. Other software can randomly rotate the order of questions, blocks of questions, and response alternatives from respondent to respondent.

error trapping
Using software to control the flow of an Internet questionnaire—for example, to prevent respondents from backing up or failing to answer a question.

forced answering software
Software that prevents respondents from continuing with an Internet questionnaire if they fail to answer a question.

Researchers can also use software to control the flow of a questionnaire. Respondents can be blocked from backing up, or they can be allowed to stop in mid-questionnaire and come back later to finish. A questionnaire can be designed so that if the respondent fails to answer a question or answers it with an incorrect type of response, an immediate error message appears. This is called **error trapping.** With **forced answering software**, respondents cannot skip over questions as they do in mail surveys. The program will not let them continue if they fail to answer a question. The software may insert a boldfaced error message on the question screen or insert a pop-up box instructing the respondent how to continue. For example, if a respondent does not answer a question and tries to proceed to another screen, a pop-up box might present the following message:

> *You cannot leave a question blank. On questions without a "Not sure" or "Decline to answer" option, please choose the response that best represents your opinions or experiences.*

The respondent must close the pop-up box and answer the question in order to proceed to the next screen.

interactive help desk
In an Internet questionnaire, a live, real-time support feature that solves problems or answers questions respondents may encounter in completing the questionnaire.

Some designers include an **interactive help desk** in their Web questionnaire so that respondents can solve problems they encounter in completing a questionnaire. A respondent might e-mail questions to the survey help desk or get live, interactive, real-time support via an online help desk.

Some respondents will leave the questionnaire Web site, prematurely terminating the survey. In many cases sending an e-mail message to these respondents at a later date, encouraging them to revisit the Web site, will persuade them to complete the questionnaire. Through the use of software and cookies, researchers can make sure that the respondent who revisits the Web site will be able to pick up at the point where he or she left off.

Once an Internet questionnaire has been designed, it is important to pretest it to ensure that it works with Internet Explorer, Mozilla Firefox, Safari, Opera, Maxthon, and other browsers.

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Pretesting the CAHPS Hospital Survey

The federal government's Centers for Medicare and Medicaid Services (CMS) is supposed to make information about hospital performance available to the public so that patients can compare hospitals and make informed choices about health-care services. An important aspect of hospital performance is whether patients feel satisfied with the care they receive. Many hospitals have used surveys to measure patient satisfaction, but comparing hospitals requires that all facilities use the same survey. So, CMS has spent several years creating and modifying a questionnaire, the Consumer Assessment of Health Providers and Systems (CAHPS) Hospital Survey, and similar questionnaires for other health-care providers.

Considering that the CAHPS Hospital Survey is being made available to all U.S. hospitals and the data will be made public, the researchers developing the survey have put it through extensive pretesting, with public comment invited at each stage of the process. The first version of the survey, consisting of 68 questions, was given to a sample of 18 individuals drawn from the general population, who were then interviewed to discuss how they interpreted the questions. Based on their reactions, the researchers modified the survey to make it clearer and then tested it on 13 more people. Almost half the interviews were conducted in Spanish. This process resulted in a draft survey with 66 items.

Next, the 66-item survey underwent pilot testing with almost 50,000 patients at hospitals in three states. Hospitals were selected to represent a cross-section of hospital types in those states. The researchers verified that a representative sample of the population completed the survey, and they analyzed the data to assess which questions best predicted satisfaction levels. Based on these analyses, the questionnaire was reduced to 32 items. That questionnaire was tested at several more hospitals and reviewed by the National Quality Forum. Based on this feedback, seven items were deleted and then two items were restored to the questionnaire. Finally, the resulting 27-item survey was ready for use nationwide.

Source: Goldstein, Elizabeth, Marybeth Farquhar, Christine Crofton, Charles Darby, and Steven Garfinkel, "Measuring Hospital Care from the Patients' Perspective: An Overview of the CAHPS Hospital Survey Development Process," *Health Services Research* (December 2005), http://galenet.galegroup.com; "CAHPS Surveys and Tools to Advance Patient-Centered Care," U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality (AHRQ), http://www.cahps.ahrq.gov, last updated February 28, 2006; "CAHPS Survey Products," AHRQ, http://www.cahps.ahrq.gov, last updated March 6, 2006; Hays, Ron D. and Julie Brown, "Field Testing: What It Is and How We Do It," *CAHPS Connection* (December 2005), http://www.cahps.ahrq.gov.

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Some general-purpose programming languages, such as Java, do not always work with all browsers. While more compatible then ever, different browsers still have different peculiarities, thus a survey that works perfectly well with one may not function at all with another.[13]

How Much Pretesting and Revising Are Necessary?

Many novelists write, rewrite, revise, and rewrite again certain chapters, paragraphs, or even sentences. The researcher works in a similar world. Rarely—if ever—does he or she write only a first draft of a questionnaire. Usually the questionnaire is written, revised, shared with others for feedback, then revised again. After that, it is tried out on a group, selected on a convenience basis, that is similar in makeup to the one that ultimately will be sampled. Although the researcher should not select a group too divergent from the target market—for example, selecting business students as surrogates for businesspeople—pretesting does not require a statistical sample. The pretesting process allows the researcher to determine whether respondents have any difficulty understanding the questionnaire and whether there are any ambiguous or biased questions. This process is exceedingly beneficial. Making a mistake with 25 or 50 subjects can avoid the potential disaster of administering an invalid questionnaire to several hundred individuals. For a questionnaire investigating teaching-students' experience with Web-based instruction, the researcher had the questionnaire reviewed first by university faculty members to ensure the questions were valid, then asked 20 teaching students to try answering the questions and indicate any ambiguities they noticed. Their feedback prompted changes in the format and wording. Pretesting was especially helpful because the English-language questionnaire was used in a school in the United Arab Emirates, where English is spoken but is not the primary language.[14]

preliminary tabulation
A tabulation of the results of a pretest to help determine whether the questionnaire will meet the objectives of the research.

Tabulating the results of a pretest helps determine whether the questionnaire will meet the objectives of the research. A **preliminary tabulation** often illustrates that, although respondents can easily comprehend and answer a given question, that question is inappropriate because it does not provide relevant information to help solve the business problem. Consider the following example from a survey among distributors of power-actuated tools such as stud drivers concerning the percentage of sales to given industries:

Please estimate what percentage of your fastener and load sales go to the following industries:

— % heating, plumbing, and air conditioning
— % carpentry
— % electrical
— % maintenance
— % other (please specify)

The researchers were fortunate to learn that asking the question in this manner made it virtually impossible to obtain the information actually desired. The categories are rather vague, a high percentage may fall into the *Other* category, and most respondents' answers did not total 100 percent. As a result, the question had to be revised. In general, getting respondents to add everything correctly is a difficult task, and virtually impossible if they can not see all the categories (not a good idea for a telephone survey!). Pretesting difficult questions such as these is essential.

What administrative procedures should be implemented to maximize the value of a pretest? Administering a questionnaire exactly as planned in the actual study often is not possible. For example, mailing out a questionnaire is quite expensive and might require several weeks that simply cannot be spared. Pretesting a questionnaire in this manner would provide important information on response rate, but may not point out why questions were skipped or what questions are ambiguous or confusing. Personal interviewers can record requests for additional explanation or comments that indicate respondents' difficulty with question sequence or other factors. This is the primary reason why interviewers are often used for pretest work. Self-administered questionnaires are not reworded to be personal interviews, but interviewers are instructed to observe respondents and ask for their comments after they complete the questionnaire. When pretesting personal or telephone interviews, interviewers may test alternative wordings and question sequences to determine which format best suits the intended respondents.

No matter how the pretest is conducted, the researcher should remember that its purpose is to uncover any problems that the questionnaire may cause. Thus, pretests typically are conducted to answer questions about the questionnaire such as the following:

- Can the questionnaire format be followed by the interviewer?
- Does the questionnaire flow naturally and conversationally?
- Are the questions clear and easy to understand?
- Can respondents answer the questions easily?
- Which alternative forms of questions work best?

Pretests also provide means for testing the sampling procedure—to determine, for example, whether interviewers are following the sampling instructions properly and whether the procedure is efficient. Pretests also provide estimates of the response rates for mail surveys and the completion rates for telephone surveys.

Usually a questionnaire goes through several revisions. The exact number of revisions depends on the researcher's and client's judgment. The revision process usually ends when both agree that the desired information is being collected in an unbiased manner.

Designing Questionnaires for Global Markets

Now that business research is being conducted around the globe, researchers must take cultural factors into account when designing questionnaires. The most common problem involves translating a questionnaire into other languages. A questionnaire developed in one country may be

TIPS OF THE TRADE

- There must be a very close correspondence between the research objectives and the questions on the survey:
  - Match up each research objective or hypothesis with a question or questions on the survey. Similarly, match up each survey question with a research objective. Are you sure you will have the information to address the research objective and/or test the research hypothesis? If not, you need more questions. If you have questions that do not link directly with a research objective or hypothesis, why is it included? Shorter surveys enhance response rates, but there is no benefit if you do not gather all the important information.
- Think of open-ended response questions as an essay exam; think of fixed-alternative questions as a multiple-choice exam. An essay exam can be developed in much less time than a multiple-choice exam, but takes much longer to grade. Similarly, an open-ended questionnaire is faster to develop, but takes much longer to edit, code, and interpret.
- It is important to minimize the cognitive complexity of questions, particularly for telephone surveys. Keep the response categories consistent and straightforward, as it is very difficult for the respondent to understand and remember the response choices when they are hearing them on the phone. A ten-point scale works very well in this situation.
- More sensitive or potentially embarrassing questions and the collection of demographic information should be at the end of the questionnaire. Asking these questions at the end of the questionnaire, after rapport has been established, enhances the probability of the participant responding. Do not start the survey with these questions.
- Always evaluate your questionnaire in regard to these issues:
  - Make certain you have totally exhaustive and mutually exclusive response categories.
  - Avoid technical terminology and jargon; use simple language.
  - Avoid leading questions.
  - Avoid ambiguity.
  - Avoid double-barreled questions; if you have two questions, ask two separate questions, rather than roll them into one.
  - Avoid making assumptions of the respondents.
  - Minimize respondent cognitive load; use consistent measurement scales and specify time frames that are easy to recall.
  - Make sure variables vary; questions and response categories should ensure that there will be a reasonable distribution of responses. An increased number of scale points often helps achieve this.

difficult to translate because equivalent language concepts do not exist or because of differences in idiom and vernacular. Although Spanish is spoken in both Mexico and Venezuela, one researcher found out that the Spanish translation of the English term *retail outlet* works in Mexico but not in Venezuela. Venezuelans interpreted the translation to refer to an electrical outlet, an outlet of a river into an ocean, or the passageway onto a patio.

Counting on an international audience to speak a common language such as English does not necessarily bridge these gaps, even when the respondents actually do speak more than one language. Cultural differences incorporate many shades of meaning that may not be captured by a survey delivered in a language used primarily for, say, business transactions. In a test of this idea, undergraduate students in 24 countries completed questionnaires about attitudes toward school and career. Half received the questionnaire in English, and half in their native language. The results varied, with country-to-country differences being smaller when students completed the questionnaire in English.[15]

International researchers often have questionnaires back translated. **Back translation** is the process of taking a questionnaire that has previously been translated from one language to another and having it translated back again by a second, independent translator. The back translator is often a person whose native tongue is the language that will be used for the questionnaire. This process can reveal inconsistencies between the English version and the translation. For example, when a soft-drink company translated its slogan "Baby, it's cold inside" into Cantonese for research in Hong Kong, the result read "Small Mosquito, on the inside, it is very cold." In Hong Kong, *small mosquito* is a colloquial expression for a small child. Obviously the intended meaning of the advertising message had been lost in the translated questionnaire.[16]

back translation

Taking a questionnaire that has previously been translated into another language and having a second, independent translator translate it back to the original language.

Literacy rates also influences the designs of self-administered questionnaires and interviews. Knowledge of the literacy rates in foreign countries, especially those that are just developing modern economies, is vital.

Summary

1. Explain the significance of decisions about questionnaire design and wording. Good questionnaire design is a key to obtaining accurate survey results. The specific questions to be asked will be a function of the type of information needed to answer the manager's questions and the communication medium of data collection. Relevance and accuracy are the basic criteria for judging questionnaire results. A questionnaire is *relevant* if no unnecessary information is collected and the information needed for solving the business problem is obtained. *Accuracy* means that the information is reliable and valid.

2. Define alternatives for wording open-ended and fixed-alternative questions. Knowing how each question should be phrased requires some knowledge of the different types of questions possible. Open-ended response questions pose some problem or question and ask the respondent to answer in his or her own words. Fixed-alternative questions require less interviewer skill, take less time to complete, and are easier to answer. In fixed-alternative questions the respondent is given specific limited alternative responses and asked to choose the one closest to his or her own viewpoint. Standardized responses are easier to code, tabulate, and interpret. Care must be taken to formulate the responses so that they do not overlap and cover all the possibilities. Respondents whose answers do not fit any of the fixed alternatives may be forced to select alternatives that do not communicate what they really mean. Open-ended response questions are especially useful in exploratory research or at the beginning or end of a questionnaire. They make a questionnaire more expensive to analyze because of the uniqueness of the answers. Also, interviewer bias can influence the responses to such questions.

3. Summarize guidelines for questions that avoid mistakes in questionnaire design. Some guidelines for questionnaire construction have emerged from research experience. The language should be simple to allow for variations in educational level. Researchers should avoid leading or loaded questions, which suggest answers to the respondents, as well as questions that induce them to give socially desirable answers. Respondents have a bias against questions that suggest changes in the status quo. Their reluctance to answer personal questions can be reduced by explaining the need for the questions and by assuring respondents of the confidentiality of their replies. The researcher should carefully avoid ambiguity in questions. Another common problem is the double-barreled question, which asks two questions at once. Finally, researchers need to examine the question to ensure that it will provide variance in responses.

4. Describe how the proper sequence of questions may improve a questionnaire. Question sequence can be very important to the success of a survey. The opening questions should be designed to capture respondents' interest and keep them involved. General questions should precede specific ones. In a series of attitude scales the first response may be used as an anchor for comparison with the other responses. The order of alternatives on closed questions can affect the results. Filter questions are useful for avoiding unnecessary questions that do not apply to a particular respondent. Such questions may be put into a flowchart for personal or telephone interviewing. Personal questions, demographics, and categorical questions should be placed at the end of the questionnaire.

5. Discuss how to design a questionnaire layout. The layout of a mail or other self-administered questionnaire can affect its response rate. An attractive questionnaire encourages a response, as does a carefully phrased title. Internet questionnaires present unique design issues. Decisions must be made about the use of color, graphics, animation, sound, and other special layout effects that the Internet makes possible.

6. Describe criteria for pretesting and revising a questionnaire and for adapting it to global markets. Pretesting helps reveal errors while they can still be corrected easily. A preliminary tabulation may show that, even if respondents understand questions, the responses are not relevant to the business problem. Often, the most efficient way to conduct a pretest is with interviewers to generate quick feedback. International business researchers must take cultural factors into account when designing questionnaires. The most widespread problem involves translation into another language. International questionnaires are often back translated to insure the original concepts are correctly translated.

Key Terms and Concepts

back translation, *363*
check boxes, *358*
checklist question, *341*
counterbiasing statement, *345*
determinant-choice question, *340*
double-barreled question, *346*
drop-down box, *358*
error trapping, *360*
filter question, *350*
fixed-alternative questions, *338*
forced answering software, *360*
frequency-determination question, *340*
funnel technique, *349*
interactive help desk, *360*
leading question, *344*
loaded question, *344*
multiple-grid question, *352*
mutually exclusive, *341*
open-ended boxes, *358*
open-ended response questions, *338*
order bias, *349*
pivot question, *350*
pop-up boxes, *358*
preliminary tabulation, *362*
push button, *357*
radio button, *358*
simple-dichotomy (dichotomous) question, *340*
split-ballot technique, *345*
status bar, *357*
totally exhaustive, *341*
variable piping software, *360*

Questions for Review and Critical Thinking

1. Evaluate and comment on the following questions, taken from several questionnaires. Do they follow the rules discussed in this chapter?
   a. A university computer center survey on SPSS usage:

      How often do you use SPSS statistical software? Please check one.

      ☐ *Infrequently (once a semester)*
      ☐ *Occasionally (once a month)*
      ☐ *Frequently (once a week)*
      ☐ *All the time (daily)*

   b. A survey of advertising agencies:

      Do you understand and like the Federal Trade Commission's new corrective advertising policy?

      ____*Yes* ____*No*

   c. A survey on a new, small electric car:

      Assuming 90 percent of your driving is in town, would you buy this type of car?

      ____*Yes* ____*No*

      If this type of electric *car had the same initial cost as a current "Big 3" full-size, fully equipped car, but operated at one-half the cost over a five-year period, would you buy one?*

      ____*Yes* ____*No*

   d. A stusdent survey:

      Since the beginning of this semester, approximately what percentage of the time do you get to campus using each of the forms of transportation available to you per week?

      ___*% Walk* ___*% Bicycle* ___*% Public transportation*
      ___*% Motor vehicle*

   e. A survey of motorcycle dealers:

      Should the company continue its generous cooperative advertising program?

   f. A government survey of gasoline retailers:

      Suppose the full-service pump selling price for regular gasoline is 232.8 cents per gallon on the first day of the month. Suppose on the 10th of the month the price is raised to 234.9 cents per gallon, and on the 25th of the month it is reduced to 230.9 cents per gallon. In order to provide the required data you should list the accumulator reading on the full-service regular gasoline pump when the station opens on the 1st day, the 10th day, and the 25th day of the month and when the station closes on the last day of the month.

   g. An anti-gun-control group's survey:

      Do you believe that private citizens should have the right to own firearms to defend themselves, their families, and their property from violent criminal attack?

      ____*Yes* ____*No*

   h. A survey of the general public:

      In the next year, after accounting for inflation, do you think your real personal income will go up or down?

      1. *Up*
      2. *(Stay the same)*
      3. *Down*
      4. *(Don't know)*

   i. **ETHICS** A survey of the general public:

      Some people say that companies should be required by law to label all chemicals and substances that the government states are potentially harmful. The label would tell what the chemical or substance is, what dangers it might pose, and what safety procedures should be used in handling the substance. Other people say that such laws would be too strict. They say the law should require labels on only those chemicals and substances that the companies themselves decide are potentially harmful. Such a law, they say, would be less costly for the companies and would permit them to exclude those chemicals and substances they consider to be trade secrets. Which of these views is closest to your own?

      1. *Require labels on all chemicals and substances that the government states are potentially harmful.*
      2. *(Don't know)*
      3. *Require labels on only those chemicals and substances that companies decide are potentially harmful.*

2. The following question was asked of a sample of television viewers:

   We are going to ask you to classify the type of fan you consider yourself to be for different sports and sports programs.

   - *Diehard Fan: Watch games, follow up on scores and sports news multiple times a day*

- *Avid Fan: Watch games, follow up on scores and sports news once a day*
- *Casual Fan: Watch games, follow up on scores and sports news occasionally*
- *Championship Fan: Watch games, follow up on scores and sports news only during championships or playoffs*
- *Non-Fan: Never watch games or follow up on scores*
- *Anti-Fan: Dislike, oppose, or object to a certain sport*

Does this question do a good job of avoiding ambiguity?

3. How might the wording of a question about income influence respondents' answers?
4. What is the difference between a *leading question* and a *loaded question?*
5. Design one or more open-ended response questions to measure reactions to a magazine ad for a Xerox photocopier.
6. Evaluate the layout of the filter question that follows:

Are you employed either full time or part time?

Mark (x) one. ☐ Yes ☐ No

If yes: How many hours per week are you usually employed? *Mark (x) one.*

☐ Less than 35 ☐ 35 or more

What is the zip code at your usual place of work?

_____

7. Develop a checklist of things to consider in questionnaire construction.
8. It has been said that surveys show that consumers hate advertising, but like specific ads. Comment.
9. Design a complete questionnaire:
   a. To evaluate a new fast-food fried chicken restaurant.
   b. To measure consumer satisfaction with an airline.
   c. For your local Big Brothers and Big Sisters organization to investigate awareness of and willingness to volunteer time to this organization.
   d. For a bank located in a college town to investigate the potential for attracting college students as checking account customers.
10. The Apple Assistance Center is a hotline to solve problems for users of Macintosh computers and other Apple products. Design a short (postcard-size) consumer satisfaction/service quality questionnaire for the Apple Assistance Center.
11. **'NET** Visit the following Web site: **http://www.history.org**. What type of questions might be asked in a survey to evaluate the effectiveness of this Web site in terms of being informative and in terms of being an effective sales medium?
12. A client tells a researcher that she wants a questionnaire that evaluates the importance of 30 product characteristics and rates her brand and 10 competing brands on these characteristics. The researcher believes that this questionnaire will induce respondent fatigue because it will be far too long. Should the researcher do exactly what the client says or risk losing the business by suggesting a different approach?
13. **ETHICS** Go to **http://www.nrsc.org** and look at one of the available surveys. Usually, these involve a short questionnaire about its political position. It also includes a "Support Reply Form," a solicitation for donations. Is this approach ethical?
14. **'NET** Visit Mister Poll at **http://www.misterpoll.com**, where you will find thousands of user-contributed polls on every imaginable topic from the controversial to the downright zany. What you find will depend on when you visit the site. However, you might find something such as a movie poll, where you pick your favorite film of the season. Evaluate the questions in the poll.
15. Try to find two friends that know the same foreign language. Write 10 Likert questions that measure how exciting a retail store environment is to shop in. Have one of your friends interpret the question into the foreign language. Have the other take the translation and state each question in English. How similar is the translated English to the original English? Comment.

Research Activity

1. Design eight questions that assess how effective an undergraduate college business course has been.

Case 15.1 Agency for Health Care Research and Quality

At the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality (AHRQ) developed a survey to measure hospital employees' attitudes about patient safety in their facilities.[17] The survey is designed to help hospitals ensure safety by creating an environment in which employees share information, improve safety when problems are identified, and if necessary, change the way employees deliver care. The AHRQ suggests that hospitals use the survey to identify areas needing improvement and repeat its use to track changes over time.

The survey is shown in Case Exhibit 15.1–1.

Questions

1. Evaluate the questionnaire. Can you suggest any improvements?
2. Will this survey meet its objectives? Explain.

CASE EXHIBIT 15.1–1 **AHRQ Hospital Questionnaire**

HOSPITAL SURVEY ON PATIENT SAFETY CULTURE

INSTRUCTIONS

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 10 to 15 minutes to complete.

- *An "event" is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.*
- *"Patient safety" is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.*

SECTION A: Your Work Area/Unit

In this survey, think of your "unit" as the work area, department, or clinical area of the hospital where you spend *most* of your work time or provide *most* of your clinical services.

What is your primary work area or unit in this hospital? Mark ONE answer by filling in the circle.

○ a. Many different hospital units/No specific unit

○ b. Medicine (non-surgical)
○ c. Surgery
○ d. Obstetrics
○ e. Pediatrics
○ f. Emergency department
○ g. Intensive care unit (any type)
○ h. Psychiatry/mental health
○ i. Rehabilitation
○ j. Pharmacy
○ k. Laboratory
○ l. Radiology
○ m. Anesthesiology
○ n. Other, please specify: _____

Please indicate your agreement or disagreement with the following statements about your work area/unit. Mark your answer by filling in the circle.

Think about your hospital work area/unit…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. People support one another in this unit	①	②	③	④	⑤
2. We have enough staff to handle the workload	①	②	③	④	⑤
3. When a lot of work needs to be done quickly, we work together as a team to get the work done	①	②	③	④	⑤
4. In this unit, people treat each other with respect	①	②	③	④	⑤
5. Staff in this unit work longer hours than is best for patient care	①	②	③	④	⑤
6. We are actively doing things to improve patient safety	①	②	③	④	⑤
7. We use more agency/temporary staff than is best for patient care	①	②	③	④	⑤
8. Staff feel like their mistakes are held against them	①	②	③	④	⑤
9. Mistakes have led to positive changes here	①	②	③	④	⑤
10. It is just by chance that more serious mistakes don't happen around here	①	②	③	④	⑤
11. When one area in this unit gets really busy, others help out	①	②	③	④	⑤
12. When an event is reported, it feels like the person is being written up, not the problem	①	②	③	④	⑤

(*continued*)

CASE EXHIBIT 15.1–1 **AHRQ Hospital Questionnaire** (*continued*)

SECTION A: Your Work Area/Unit (continued)

Think about your hospital work area/unit…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
13. After we make changes to improve patient safety, we evaluate their effectiveness	①	②	③	④	⑤
14. We work in "crisis mode" trying to do too much, too quickly	①	②	③	④	⑤
15. Patient safety is never sacrificed to get more work done	①	②	③	④	⑤
16. Staff worry that mistakes they make are kept in their personnel file	①	②	③	④	⑤
17. We have patient safety problems in this unit	①	②	③	④	⑤
18. Our procedures and systems are good at preventing errors from happening	①	②	③	④	⑤

SECTION B: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report. Mark your answer by filling in the circle.

	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	①	②	③	④	⑤
2. My supervisor/manager seriously considers staff suggestions for improving patient safety	①	②	③	④	⑤
3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	①	②	③	④	⑤
4. My supervisor/manager overlooks patient safety problems that happen over and over	①	②	③	④	⑤

SECTION C: Communications

How often do the following things happen in your work area/unit? Mark your answer by filling in the circle.

Think about your hospital work area/unit…	Never ▼	Rarely ▼	Some-times ▼	Most of the time ▼	Always ▼
1. We are given feedback about changes put into place based on event reports	①	②	③	④	⑤
2. Staff will freely speak up if they see something that may negatively affect patient care	①	②	③	④	⑤
3. We are informed about errors that happen in this unit	①	②	③	④	⑤
4. Staff feel free to question the decisions or actions of those with more authority	①	②	③	④	⑤
5. In this unit, we discuss ways to prevent errors from happening again	①	②	③	④	⑤
6. Staff are afraid to ask questions when something does not seem right	①	②	③	④	⑤

(*continued*)

CASE EXHIBIT 15.1–1 **AHRQ Hospital Questionnaire** (*continued*)

SECTION D: Frequency of Events Reported

In your hospital work area/unit, when the following mistakes happen, *how often are they reported?*
Mark your answer by filling in the circle.

	Never	Rarely	Some-times	Most of the time	Always
1. When a mistake is made, but is *caught and corrected before affecting the patient*, how often is this reported?	①	②	③	④	⑤
2. When a mistake is made, but has *no potential to harm the patient*, how often is this reported?	①	②	③	④	⑤
3. When a mistake is made that *could harm the patient*, but does not, how often is this reported?	①	②	③	④	⑤

SECTION E: Patient Safety Grade

Please give your work area/unit in this hospital an overall grade on patient safety. Mark ONE answer.

○ A Excellent	○ B Very Good	○ C Acceptable	○ D Poor	○ E Failing

SECTION F: Your Hospital

Please indicate your agreement or disagreement with the following statements about your hospital.
Mark your answer by filling in the circle.

Think about your hospital…	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Hospital management provides a work climate that promotes patient safety	①	②	③	④	⑤
2. Hospital units do not coordinate well with each other	①	②	③	④	⑤
3. Things "fall between the cracks" when transferring patients from one unit to another	①	②	③	④	⑤
4. There is good cooperation among hospital units that need to work together	①	②	③	④	⑤
5. Important patient care information is often lost during shift changes	①	②	③	④	⑤
6. It is often unpleasant to work with staff from other hospital units	①	②	③	④	⑤
7. Problems often occur in the exchange of information across hospital units	①	②	③	④	⑤
8. The actions of hospital management show that patient safety is a top priority	①	②	③	④	⑤
9. Hospital management seems interested in patient safety only after an adverse event happens	①	②	③	④	⑤
10. Hospital units work well together to provide the best care for patients	①	②	③	④	⑤
11. Shift changes are problematic for patients in this hospital	①	②	③	④	⑤

SECTION G: Number of Events Reported

In the past 12 months, how many event reports have you filled out and submitted? Mark ONE answer.

- ○ a. No event reports
- ○ b. 1 to 2 event reports
- ○ c. 3 to 5 event reports
- ○ d. 6 to 10 event reports
- ○ e. 11 to 20 event reports
- ○ f. 21 event reports or more

(*continued*)

CASE EXHIBIT 15.1–1 **AHRQ Hospital Questionnaire** (*continued*)

SECTION H: Background Information

This information will help in the analysis of the survey results. Mark ONE answer by filling in the circle.

1. How long have you worked in this hospital?
   - ○ a. Less than 1 year
   - ○ b. 1 to 5 years
   - ○ c. 6 to 10 years
   - ○ d. 11 to 15 years
   - ○ e. 16 to 20 years
   - ○ f. 21 years or more
2. How long have you worked in your current hospital work area/unit?
   - ○ a. Less than 1 year
   - ○ b. 1 to 5 years
   - ○ c. 6 to 10 years
   - ○ d. 11 to 15 years
   - ○ e. 16 to 20 years
   - ○ f. 21 years or more
3. Typically, how many hours per week do you work in this hospital?
   - ○ a. Less than 20 hours per week
   - ○ b. 20 to 39 hours per week
   - ○ c. 40 to 59 hours per week
   - ○ d. 60 to 79 hours per week
   - ○ e. 80 to 99 hours per week
   - ○ f. 100 hours per week or more
4. What is your staff position in this hospital? Mark ONE answer that best describes your staff position.
   - ○ a. Registered Nurse
   - ○ b. Physician Assistant/Nurse Practitioner
   - ○ c. LVN/LPN
   - ○ d. Patient Care Assistant/Hospital Aide/Care Partner
   - ○ e. Attending/Staff Physician
   - ○ f. Resident Physician/Physician in Training
   - ○ g. Pharmacist
   - ○ h. Dietician
   - ○ i. Unit Assistant/Clerk/Secretary
   - ○ j. Respiratory Therapist
   - ○ k. Physical, Occupational, or Speech Therapist
   - ○ l. Technician (e.g., EKG, Lab, Radiology)
   - ○ m. Administration/Management
   - ○ n. Other, please specify: _____
5. In your staff position, do you typically have direct interaction or contact with patients?
   - ○ a. YES, I typically have direct interaction or contact with patients.
   - ○ b. NO, I typically do NOT have direct interaction or contact with patients.
6. How long have you worked in your current specialty or profession?
   - ○ a. Less than 1 year
   - ○ b. 1 to 5 years
   - ○ c. 6 to 10 years
   - ○ d. 11 to 15 years
   - ○ e. 16 to 20 years
   - ○ f. 21 years or more

SECTION I: Your Comments

Please feel free to write any comments about patient safety, error, or event reporting in your hospital.

THANK YOU FOR COMPLETING THIS SURVEY.

Source: Agency for Healthcare Research and Quality, "Hospital Survey on Patient Safety Culture," http://www.ahrq.gov/qual/hospculture/.

Case 15.2 Canterbury Travels

Hometown, located in the north central United States, had a population of about fifty thousand. There were two travel agencies in Hometown before Canterbury Travels opened its doors.

Canterbury Travels was in its second month of operations. Owner Roxanne Freeman had expected to have more business than she actually had. She decided that she needed to conduct a survey to determine how much business Hometown offered. She also wanted to learn whether people were aware of Canterbury Travels. She thought that this survey would determine the effectiveness of her advertising.

The questionnaire that Roxanne Freeman designed is shown in Case Exhibit 15.2–1.

Questions

1. Critically evaluate the questionnaire.
2. Will Canterbury Travels gain the information it needs from this survey?
3. Design a questionnaire to satisfy Roxanne Freeman's information needs.

CASE EXHIBIT 15.2–1 Travel Questionnaire

The following questionnaire pertains to a project being conducted by a local travel agency. The intent of the study is to better understand the needs and attitudes of Hometown residents toward travel agencies. The questionnaire will take only 10 to 15 minutes to fill out at your convenience. Your name will in no way be connected with the questionnaire.

1. Have you traveled out of state? _____Yes _____No
2. If yes, do you travel for:
   Business Both
   Pleasure
3. How often do you travel for the above?

0–1 times per month	0–1 times per year
2–3 times per month	2–3 times per year
4–5 times per month	4–5 times per year
6 or more times per month	6 or more times per year

4. How do you make your travel arrangements?
   Airline Travel agency
   Other (please specify) _____
5. Did you know that travel agencies do not charge the customer for their services?
   _____Yes _____No
6. Please rate the following qualities that would be most important to you in the selection of a travel agency:

	Good				**Bad**
Free services (reservations, advice, and delivery of tickets and literature)	_____	_____	_____	_____	_____
Convenient location	_____	_____	_____	_____	_____
Knowledgeable personnel	_____	_____	_____	_____	_____
Friendly personnel	_____	_____	_____	_____	_____
Casual atmosphere	_____	_____	_____	_____	_____
Revolving charge account	_____	_____	_____	_____	_____
Reputation	_____	_____	_____	_____	_____
Personal sales calls	_____	_____	_____	_____	_____

7. Are you satisfied with your present travel agency?

	Very satisfied				**Very dissatisfied**
Holiday Travel	_____	_____	_____	_____	_____
Leisure Tours	_____	_____	_____	_____	_____
Canterbury Travels	_____	_____	_____	_____	_____
Other _____	_____	_____	_____	_____	_____

8. If not, what are you dissatisfied with about your travel agency?

	Good				**Bad**
Free services (reservations, advice, and delivery of tickets and literature)	_____	_____	_____	_____	_____
Convenient location	_____	_____	_____	_____	_____
Knowledgeable personnel	_____	_____	_____	_____	_____
Friendly personnel	_____	_____	_____	_____	_____
Casual atmosphere	_____	_____	_____	_____	_____
Revolving charge account	_____	_____	_____	_____	_____
Reputation	_____	_____	_____	_____	_____
Personal sales calls	_____	_____	_____	_____	_____

(*continued*)

CASE EXHIBIT 15.2–1 Travel Questionnaire (*continued*)

9. Did you know that there is a new travel agency in Hometown?
   _____Yes _____No

10. Can you list the travel agencies in Hometown and their locations?
    _____
    _____
    _____

11. Do you use the same travel agency repeatedly?

	0–1 times per month	2–3 times per month	4–5 times per month	6 or more times per month	0–1 times per year	2–3 times per year	4–5 times per year	6 or more times per year
Holiday Travel								
Leisure Tours								
Canterbury Travels								
Other (please specify)								

12. Have you visited the new travel agency in Hometown?
    _____Yes _____No
13. If yes, what is its name? _____
14. How do you pay for your travel expenses?
    Cash Company charge
    Check Personal charge
    Credit card Other _____
15. Which of these have you seen advertising for?
    Holiday Travel
    Canterbury Travels
    Other _____
16. Where have you seen or heard the advertisement you describe above?
17. Would you consider changing travel agencies?
    _____Yes _____No

The following are some personal questions about you that will be used for statistical purposes only. Your answers will be held in the strictest confidence.

18. What is your age?
    19–25 46–55
    26–35 56–65
    36–45 Over 65
19. What is your sex?
    Male Female
20. What is your marital status?
    Single Divorced
    Married Widowed
21. How long have you lived in Hometown?
    0–6 months 5–10 years
    7–12 months 11–15 years
    1–4 years Over 15 years
22. What is your present occupation?
    Business and professional Laborer
    Salaried and semiprofessional Student
    Skilled worker
23. What is the highest level of education you have completed?
    Elementary school 1–2 years of college
    Junior high school 3–4 years of college
    Senior high school More than 4 years of college
    Trade or vocational school
24. What is your yearly household income?
    $0–$5,000 $25,001–$40,000
    $5,001–$10,000 $40,001–$60,000
    $10,001–$15,000 $60,000 and above
    $15,001–$25,000

Case 15.3 McDonald's Spanish Language Questionnaire

The questions in Case Exhibit 15.3–1, about a visit to McDonald's, originally appeared in Spanish and were translated into English.

Questions

1. What is the typical process for developing questionnaires for markets where consumers speak a language other than English?
2. Find someone who speaks Spanish and have him or her back translate the questions that appear in Case Exhibit 15.3–1. Are these Spanish-language questions adequate?

CASE EXHIBIT 15.3–1 **McDonald's Questionnaire**

AQUI SE EMPIEZA →	**1. En general, ¿qué tan satisfecho/a quedó con su visita a este McDonald's hoy?**	☹ NADA SATISFECHO/A	1	2	3	4	5 MUY SATISFECHO/A ☺
	2. Su visita fue..... Adentro (**A**) o en el Drive-thru (**DT**)	A Adentro			DT Drive-thru		
	3. Su visita fue..... Durante el Desayuno (**D**), Almuerzo (**A**), Cena (**C**)	D Desayuno			A Almuerzo		A Cena
	4. Su visita fue..... Entre semana (**E**) o Fin de semana (**F**)	E Entre semana			F Fin de semana		
COMIDA	5. ¿Quedó satisfecho/a con la comida que recibio hoy?	S Si			N No		
	Si NO, ¿cuál fue el problema? Favor de rellenar el(los) círculo(s) apropiado(s).	Sandwich / platillo frío			◄		
		Apariencia desagradable			☐		
		Mal sabor de la comida			☐		
		Pocas papas en la bolsa / caja			☐		
		Papas / tortitas de papa frías			☐		
		Papas no bien saladas			☐		
		Bebida aguada / de mal sabor			☐		

Case 15.4 Schönbrunn Palace in Vienna

The Schönbrunn Palace in Vienna was constructed in the eighteenth century during the reign of the Hapsburgs. Today this former summer residence of the imperial family is one of Austria's top tourist attractions.

The questions in Case Exhibit 15.4–1, about a visit to the Schönbrunn Palace, originally appeared in German and were translated into English.

Questions

1. What is the typical process for developing questionnaires for markets where consumers speak a different language?
2. Find someone who speaks German and have him or her back translate the questions that appear in Case Exhibit 15.4–1. Are these German questions adequate?

CASE EXHIBIT 15.4–1 Schönbrunn Palace Questionnaire

Befragung der Besucher **Schloß Schönbrunn**

Land/Staat _____ **Bundesland (nur für Ö)** _____

Alter _____ Jahre **Geschlecht** ¤ männlich ¤ weiblich

Heutiges Datum ___ . ___ . 199__ **Uhrzeit** _____

- **Waren Sie heute zum ersten Mal im Schloß Schönbrunn?**
  ¤ ja ¤ nein, zum ___. Mal
- **Welche Tour haben Sie gemacht?**
  ¤ *Grand Tour* (40 Räume)
  ¤ *Imperial Tour* (22 Räume)
- **Welche Art von Führung haben Sie gewählt?**
  ¤ *Schönbrunn Führung (Angebot des Schlosses)*
  ¤ *eigener Reiseführer (Reisegruppe, Fremdenführer)*
  ¤ *Tonbandführer (Audioguide) in* _____ *Sprache*
  ¤ *keinerlei Führung*
- **Falls Sie an einer Führung teilgenommen haben:**
  Wie finden Sie Ihren Führer bzw. Ihre Führerin?
  ¤ sehr freundlich ¤ eher freundlich ¤ eher unfreundlich ¤ sehr unfreundlich
  weil ... _____
- **Bei Verwendung eines Tonbandführers (Audioguide):**
  Wie finden Sie die angebotenen Audioguides?
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Wie ist Ihr Gesamteindruck vom Schloß Schönbrunn alles in allem?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Wie ist Ihr Eindruck vom Personal im Schloß?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Wie gut finden Sie sich im Schloß Schönbrunn/Park zurecht (Hinweisschilder, kennt man sich gut aus, findet man die Kassen, Toiletten, den Ausgang, etc.)?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Fühlten Sie sich nach dem Besuch gut informiert über das Schloß und seine Geschichte?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
- **Wurden Sie bei der Besichtigung gestört?**
  durch (andere) Gruppen:
  ¤ sehr stark ¤ etwas ¤ kaum ¤ gar nicht
  durch Einzelbesucher:
  ¤ sehr stark ¤ etwas ¤ kaum ¤ gar nicht
- **Wie finden Sie die Art, wie die Räume dargestellt werden (Einrichtung, Möblierung, Beleuchtung, Dekoration, etc.)?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Haben Sie nach dem Besuch im Schloß Schönbrunn eine lebendige Vorstellung vom einstigen Leben bei Hof?**
  ¤ ja ¤ etwas ¤ kaum ¤ nein
  weil ... _____
- **Was würden Sie noch gerne über das Schloß erfahren?**

  _____
- **Wie finden Sie die Eintrittspreise?**
  ¤ viel zu teuer ¤ etwas zu teuer ¤ angemessen ¤ günstig
- **Wie finden Sie das Angebot im Museumshop?**
  ¤ sehr gut ¤ eher gut ¤ eher schlecht ¤ sehr schlecht
  weil ... _____
- **Was könnte Ihrer Meinung nach noch verbessert werden?**

  _____

  _____

  _____

  _____

Vielen Dank für Ihren Besuch und Ihre Anregungen!