

## THE FUNCTIONS OF A QUESTIONNAIRE

A questionnaire serves six key functions.

- (1) It translates the research objectives into specific questions that are asked of the respondents.
- (2) It standardizes those questions and the response categories so every participant responds to identical stimuli.
- (3) By its wording, question flow, and appearance, it fosters cooperation and keeps respondents motivated throughout the interview.
- (4) Questionnaires serve as permanent records of the research.
- (5) They speed up the process of data analysis. For instance, some companies use questionnaires that can be scanned by machines and quickly converted into raw data files.
- (6) They contain the information upon which reliability assessments such as test-retest or equivalent-form questions may be made, and they are used in follow-up validation of respondents' participation in the survey.

Given that it serves all of these functions, the questionnaire is a very important element in the research process. In fact, research has shown that questionnaire design directly affects the quality of the data collected. Even experienced viewers cannot compensate for questionnaire defects. The time and effort invested in developing a good questionnaire are well spent. As you will soon learn, questionnaire development is a systematic process in which the researcher contemplates various question formats, considers a number of factors characterizing the survey at hand, and ultimately words the various questions very carefully. Questionnaire design is really a process that requires the researcher to go through a series of interrelated steps.

## THE QUESTIONNAIRE DEVELOPMENT PROCESS

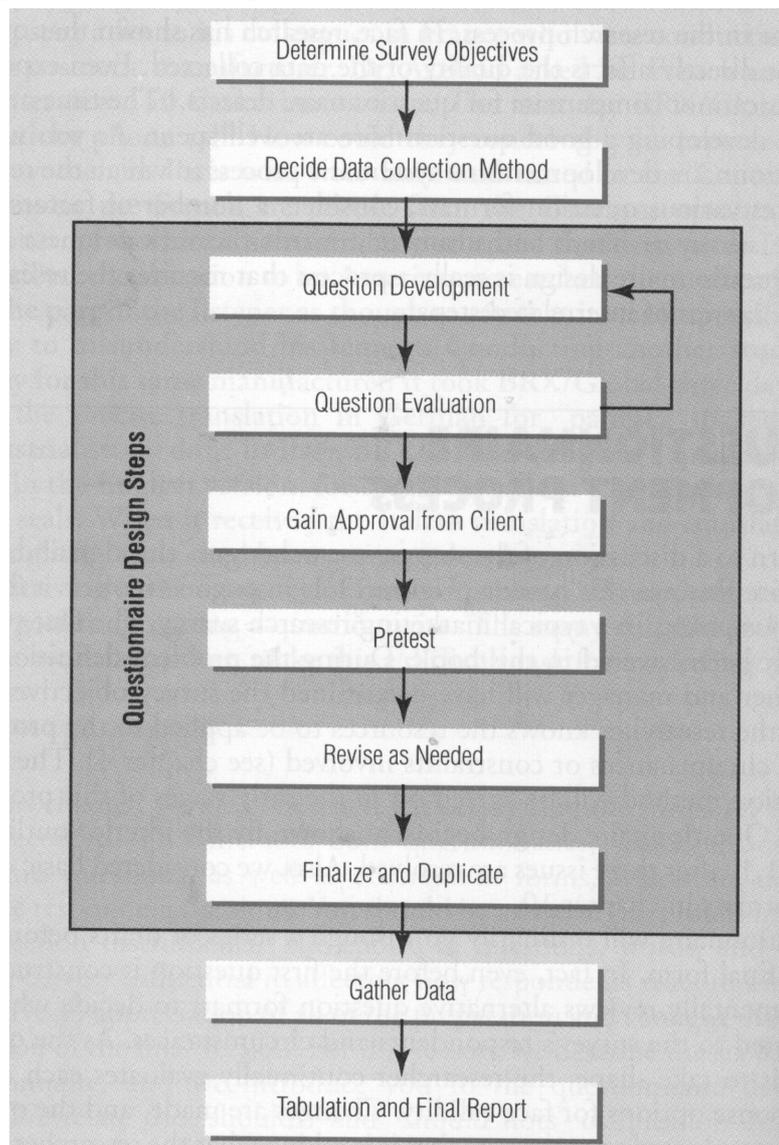
We now turn to a discussion of the steps a researcher goes through and how the questionnaire fits into this process. Following figure offers a flowchart of the various phases in a typical marketing research survey. The first two steps should already be covered by the researcher. During the problem definition phase, the researcher and manager will have determined the survey objectives for the study, and the researcher knows the resources to be applied to the project plus any special circumstances or constraints involved. The primary data collection method will be agreed on in the early stages of this process. Questionnaire design begins, as shown by the interior outlined box in Figure 1, after these issues are resolved.

A questionnaire will ordinarily go through a series of drafts before it is in acceptable final form. In fact, even before the first question is constructed, the researcher mentally reviews alternative question formats to decide which ones are best suited to the survey's respondents and circumstances. As the questionnaire begins to take shape, the researcher continually evaluates each question and its response options for face validity. Changes are made, and the question's wording is reevaluated to make sure that it is asking what the researcher intends. Also, the researcher strives to minimize **question bias**, defined as the ability of a question's wording or format to influence respondents' answers.

We will describe aspects of this iterative process in more detail in succeeding sections of this chapter. For now, it is important only that you realize that with a custom-designed research

study, the questions on the questionnaire, along with its instructions, introduction, and general layout, are systematically evaluated for potential error and revised accordingly. Generally, this evaluation takes place at the researcher's end, and the client will not be involved until after the questionnaire has undergone considerable development and evaluation by the researcher.

The client is given the opportunity to comment on the questionnaire during the client approval step, in which the client reviews the questionnaire and agrees that it covers all of the appropriate issues. This step is essential, and some research companies require the client to sign or initial a copy of the questionnaire as verification of approval. There are several good reasons for client approval of a proposed questionnaire. First, it serves as a check that the researcher is still in tune with the survey's objectives. The client may not appreciate all of the technical aspects of



questionnaire design, but he or she is virtually concerned with the survey's objectives, and can comment on the degree to which the questions on the questionnaire appear to address these objectives. Second, client approval ensures that the client will be apprised of the survey's progress. Third, approval and the initialed questionnaire ensure that the researcher is protected against the remote possibility that the manager will claim that the questions were incomplete or done incorrectly after the findings are revealed.

Following client approval, the questionnaire normally undergoes a pretest which is an actual field test using a very limited sample to reveal any difficulties that might still lurk in wording, instructions, administration, and so on. Revisions are based on the pretest results, and the questionnaire is finalized.

## DEVELOPING QUESTIONS

Developing a question's precise wording is not easy. We have claimed that developing questions for a questionnaire is an art. But just as there is good art and bad art, there are good questions and bad questions. In developing any question, the ultimate goal is to devise a way

to tap the person's true response without influencing him or her either overtly or subtly. Compounding this problem is the fact that the researcher will have only one chance to accomplish this goal, so the wording of each question is critical.

Unfortunately, there is far greater potential to generate unreliable or inaccurate responses than we care to admit. Following table illustrates how certain words cause problems in questionnaires.

<b>PROBLEM WORDS IN QUESTIONNAIRE DESIGN</b>
<p><b><i>Problem Words And Reason For Difficulty</i></b></p> <p><b>All:</b> A “dead giveaway” word. Some people have a negative reaction to opinion questions that hinge on all-inclusive or all-exclusive words. They may be generally in agreement with a proposition, but nevertheless hesitate to accept the extreme idea of <i>all, always, each, every, never, nobody, only, none, or sure.</i></p> <p style="padding-left: 40px;"><i>Would you say that all cats have four legs?</i></p> <p style="padding-left: 40px;"><i>Is the mayor doing all he can for the city?</i></p> <p>It is correct, of course, to use an all-inclusive word if it correctly states the alternative. But you will usually find that such a word produces an overstatement.</p> <p><b>Always:</b> Another dead giveaway word.</p> <p style="padding-left: 40px;"><i>Do you always observe traffic signs?</i></p> <p style="padding-left: 40px;"><i>Is your boss always friendly?</i></p> <p><b>America, American</b> (name of country, religion): Be careful of two things with words like these. First, they may be heavily loaded emotional concepts. Answers may be given in terms of patriotism instead of the issue at hand. Second, these are very indefinite words referring to whole continents or parts of continents, to Native Americans, or even to that sometimes misused phrase – 100% Americans.</p> <p><b>Any:</b> The trouble with “any” is that it may mean “every,” “some,” or “one only” in the same sentence or question, depending on the way you look at it. Another difficulty with “any” is that when used in either the “every” or the “not any” context it becomes as much a dead giveaway word as are “every” and “none.”</p> <p><b>Anybody:</b> Words with the “any” root are subject to the same trouble as “any” itself. “Anybody” can mean everybody or some one person.</p> <p style="padding-left: 40px;"><i>Do you think that anybody could do this job?</i></p> <p style="padding-left: 80px;">“Sure, it’s so simple that anyone could do it.”</p> <p style="padding-left: 80px;">“Yes, probably Superman could.”</p> <p><b>Bad:</b> Experience indicates that people are generally less willing to criticize than they are to praise. Because it is difficult to get them to state their negative views, sometimes the critical side needs to be softened. For example, after asking <i>What things are good about your job?</i>, we may be wise not to apply the “bad” stigma but to ask <i>What things are not so good about it?</i></p> <p><b>Best:</b> This is a dead giveaway word. Few people do the <i>best</i> they can, for example.</p> <p><b>Could:</b> It should not be confused with “should” or “might.” “Could” means that something <i>can</i> be done.</p> <p><b>Country:</b> What is meant by this word—the nation as a whole, or rural areas?</p> <p><b>Daily:</b> Which is intended—five days a week, or all seven?</p> <p><b>Dinner:</b> Dinner, the main meal of the day, comes at noon for some families whereas in some areas, it is the evening meal. The question should not assume that it is either the one or the other.</p> <p><b>Ever:</b> Tends to be a dead giveaway. “Ever” is such a long time and so inclusive that it makes it seem likely that something may have happened during the time period of “ever.”</p> <p style="padding-left: 40px;"><i>Have you ever seen Seinfeld?</i></p> <p style="padding-left: 80px;">“Yes—I suppose I must have at some time or other.”</p> <p><b>Every:</b> Another dead giveaway. Putting forth <i>every</i> effort is pretty extreme, for example.</p> <p><b>Everybody:</b> Another dead giveaway. “Everybody” includes billions of people.</p> <p><b>Everything:</b> Another dead giveaway.</p> <p><b>Fair:</b> When used in the sense of “just” or “reasonable” it can be taken to mean “average.”</p> <p><b>Few:</b> We cannot assume that this word has definite limits. One person’s few is another’s several.</p> <p><b>Government:</b> It is sometimes used as a definite word meaning the U.S. federal government; sometimes as an inclusive term for federal, state, and local government; sometimes as an abstract idea; and sometimes as the party in power as distinct from the opposition party. The trouble is that the respondent does not always know which “government” is meant.</p> <p><b>It, Its:</b> These words necessarily refer to some antecedent, and it is best to repeat the full antecedent except where it is unmistakably clear.</p> <p><b>Just:</b> A word with conflicting meanings. “Just as much,” for example, may mean “only” as much or “fully” as much.</p>

**Know:** Knowing varies greatly in degree, from mere recognition to full information. Some respondents may hesitate to say they know something when they don't know it for sure or completely. A person may know a song without knowing the words.

**Less:** This word is usually used as an alternative to "more," where it may cause a minor problem. The phrase "more or less" has a special meaning all its own in which some respondents do not see an alternative. Thus, they may simply answer "yes, more or less" to a question such as

*Compared with a year ago, are you more or less happy in your job?*

The solution to this problem is to break up the "more or less" expression by introducing an extra word or so or to reverse the two:

*Compared with a year ago, are you more happy or less happy in your job?*

*Compared with a year ago, are you less or more happy in your job?*

**Like:** This word is a problem only because it is sometimes used to introduce an example. The problem with bringing an example into a question is that the respondent's attention may be directed toward the particular example and away from the general issue it is meant to illustrate. The choice of an example can affect the answers to the question – in fact, it may materially change the question, as in these two examples:

*Do you think that leafy vegetables like spinach should be in the daily diet?*

*Do you think that leafy vegetables like lettuce should be in the daily diet?*

Because many people do not like spinach, they would answer "no" to the first question.

**Might:** Do not think of this as synonymous with "could" or "should." Whereas "could" refers to whether something *can* be done, "might" refers to a *probability* that something *will* be done.

**More:** This word has more or less been discussed under the word "less." It is a problem for another reason also: When "more" is used in the comparative sense, it is usually advisable to indicate the basis for comparison—more than what?

*Are you finding question wording more complicated?*

**Most:** This word can introduce tricky double thoughts as shown by this question:

*Where would you be doing the most useful work?*

Which is meant—the most work that is useful or work that is the most useful?

**Much:** "Much" is an indefinite word. The "how much" type of question leads to unnecessarily wide variations in response—questions should be worded such that it is clear that the responses are expressed in specific terms of dollars, doughnuts, percents, fractions, and other measures.

**Never:** A dead giveaway word.

**Nobody:** This is yet another dead giveaway word. Nobody can use "nobody" with impunity.

**None:** This also can be a dead giveaway word.

**Now:** For a word that appears reasonably clear, "now" can be almost too definite in the sense of "right this minute," leading to situations like this:

*What kind of work are you doing now?*

*"I'm answering foolish questions."*

**Own:** This definite-sounding word is not always so definite. Some homeowners think that they will not own their homes until they pay off the mortgage. Some stockholders have no feeling of owning part of their company.

**Possible:** An alternative that uses "possible" in the ultimate sense ("as much as possible") is a dead giveaway.

**Quite:** This word is quite frequently misused. "Quite a little," for example, has no sensible meaning. If in a question the word "entirely" can be substituted for "quite" without changing the meaning, then "quite" is being properly used. However, in such proper use, "quite" may become a dead giveaway word.

**Saw, See, Seen:** These words are sometimes used in the sense of visiting someone, but they may be interpreted literally.

*When did you see your dentist last?*

*"Yesterday, on the golf course."*

**Service:** Here is another indefinite word. Try, for example, to put down exactly what you mean when you speak of the "service" of the electric utility company.

**Should:** This is one of the three words that should not, could not, might not be used as though synonymous.

**Such:** Beware of this word because it is often used to introduce examples. When we discussed "like" we pointed out that the particular example may supplant the general issue in the minds of respondents. "Would you use such a product to clean your carpet?" may deflect the respondent's attention from *this* product to another one.

**That, These, These:** are antecedent words. Do not use them except when you are reasonably sure that their This, Those antecedents are clear.

**Today:** This may be interpreted too literally, just as "now" may be.

*Are farmers getting a fair price for milk today?*

*"Do you mean right today? You know the price dropped this morning."*

**Trip:** This word needs to be qualified—"one-way trip" or "round-trip," for example.

**Where:** The frames of reference in answers to a "where" question may vary greatly.

*Where did you read that?*

*"In the New York Times."*

*"At home in front of the fire."*

*"In an advertisement."*

**You:** In most questions, "you" gives no trouble whatever. However, the word may sometimes have a collective meaning as in a question asked of computer repairpersons:

*How many computers did you repair last month?*

This question seemed to work all right until one repairperson in a large shop countered with, "Whom do you mean, me or the whole shop?" Sometimes "you" needs the emphasis of "you yourself," and sometimes it just isn't the right word to use, as in the aforementioned situation.

As we noted earlier, question bias occurs when the phrasing of a question influences a respondent to answer unreliably or with other than perfect accuracy. Ideally, every question should be examined and tested according to a number of crucial factors known to be related to question bias. For convenience, we discuss these factors as "shoulds" and "should nots." A summary can be found in following table:

### *Shoulds and Should Nots Regarding Question Development*

#### DESIRABLE QUALITIES OF QUESTION WORDING

1. *The question should be focused on a single issue or topic.*
2. *The question should be brief.*
3. *The question should be interpreted the same way by all respondents.*
4. *The question should use the respondent's core vocabulary.*
5. *The question should be a grammatically simple sentence if possible.*

#### ERRORS TO AVOID WHEN DEVELOPING QUESTIONS

1. *The question should not assume criteria that are not obvious.*
2. *The question should not be beyond the respondent's ability or experience.*
3. *The question should not use a specific example to represent a general case.*
4. *The question should not ask the respondent to recall specifics when only generalities will be remembered.*
5. *The question should not require the respondent to guess a generalization.*
6. *The question should not ask for details that cannot be related.*
7. *The question should not use words that overstate the condition.*
8. *The question should not have ambiguous wording.*
9. *The question should not be "double-barreled."*
10. *The question should not lead the respondent to a particular answer.*
11. *The question should not have "loaded" wording or phrasing.*

## The Five "Shoulds" of Question Wording

There are five "shoulds" of question wording: (1) The question should be focused on a single issue or topic; (2) the question should be brief; (3) the question should be interpreted the same way by all respondents; (4) the question should use the respondents core vocabulary; and (5) the question should be a grammatically simple sentence if possible. A discussion of these "shoulds" follows.

### 1. The Question Should Be Focused on a Single Issue or Topic

The researcher must stay focused on the specific issue or topic. For example, take the question "What type of hotel do you usually stay in when on a trip?" The focus of this question is hazy because it does not narrow down the type of trip or *when* the hotel is being used. For example, is it a business or a pleasure trip? Is the hotel at a place en route or at the final destination? A more focused version is "When you are on a family vacation and stay in a hotel at your destination, what type of hotel do you typically use?" As a second example, consider how "unfocused" the following question is: "When do you typically go to work?" Does this mean when do you leave home for work or when do you actually begin work once at your workplace? A better question would be: at what time do you ordinarily leave home for work?"

### 2. The Question Should Be Brief

Unnecessary and redundant words should always be eliminated, regardless of the data collection mode. This requirement is especially important when designing questions that will be administered verbally, such as over the telephone. Brevity will help the respondent to comprehend the central question and reduce the distraction of wordiness. Here is a question that suffers from a lack of brevity: "What are the considerations that would come to your mind while you are confronted with the decision to have some type of repair done on the automatic icemaker in your refrigerator assuming that you noticed it was not making ice cubes as well as it did when you first bought it?" A better, brief form would be "If your icemaker were not working right, how would you correct the problem?"

### 3. Question Should Be Interpreted the Same Way by All Respondents

All respondents should "see" the question identically. For example, the question "How many children do you have?" might be interpreted in various ways. One respondent might think of only those children living at home, where as another might include children from a previous marriage. A better question is "How many children under the age of 18 live with you in your home?"

### 4. Question Should Use the Respondent's Core Vocabulary

The core vocabulary is the everyday language respondents use to converse with others like themselves, but it does not include slang or jargon. Obviously, if a question includes words with which some but not all respondents are familiar, these words are a potential source of error for those who do not interpret them properly. Sometimes, the technical aspects of a product or marketing activity will slip into a question and violate the rule of using core vocabulary. For instance, "Did the premiums offered by the store attract you to it?" assumes that respondents know what premiums are and can relate them to being attracted to the store. So a better question would be "Was the offer of a free gift a reason for your last visit to The Village clothing store?"

### 5. The Question Should Be a Grammatically Simple Sentence if Possible

A simple sentence is preferred because it has only a single subject and predicate whereas

compound and complex sentences are busy with multiple subjects, predicates, objects, and complements. The more complex the sentence, the greater the potential for respondent error. There are more conditions to remember, and more information to consider simultaneously, so the respondent's attention may wane or he or she may concentrate on only one part of the question. To avoid these problems, the researcher should strive to use only simple sentence structure – even if two separate sentences are necessary to communicate the essence of the question. Take the question, "If you were looking for an automobile that would be used by the head of your household who is primarily responsible for driving your children to and from school, music lessons and friends' houses, how much would you and your spouse discuss the safety features of one of the car?" you took for a test drive?" A simple approach is, "Would you and your spouse discuss the safety features of a family car followed by (if yes), "Would you discuss safety 'very little,' 'some,' a good deal; or 'to a great extent'?"

## **The Eleven "Should Nots" of Question Wording**

There are more "should not" than "should" in question construction. In fact, there are 11. They are listed under "Errors to Avoid When Developing questions" in Table. A discussion of these "should not" follows.

### **1. The Question Should Not Assume Criteria That Are Not Obvious**

Questions frequently require respondents to make judgments, and adjustment assumes that certain criteria are being applied. But sometimes the criteria on which the judgments are to be made are not obvious, and danger exists in respondents' using criteria different from those assumed by the question designer. A frequently omitted criterion is the respondent's frame of reference. The question "How important do you think it is for a Circle K convenience store to have a well-lighted parking lot?" has the potential for respondents to think in terms of the needs of others rather than their own. Perhaps a respondent never goes to a Circle K after dark, but he or she thinks that those who do should have good lighting. The better approach is to phrase the question as, "How important is it for you that a Circle K store has a lighted parking lot?"

### **2. The Question Should Not Be Beyond the Respondent's Ability or Experience**

Questions should not transcend the respondent's experience. For example, it makes little sense to ask teenagers what type of family automobile they will purchase when they are married, just as it makes little sense to ask their parents about whether their teenagers would drink nonalcoholic beer at a party. Teenagers cannot predict this purchase decision accurately because they are not (usually) married and are unlikely to have bought a new automobile, and the conditions for a family automobile purchase are unknown. Similarly, most parents do not know what goes on at teenagers' parties, so their answers would be guesses at best.

### **3. The Question Should Not Use a Specific Example to Represent a General Case**

The danger in using a specific example to measure a broader situation lies in the possibility that the respondent will concentrate only on that example. The question "Do you recall any advertising for Sears in the last week such as the inserts that are sometimes placed in your newspaper?" will cause some respondents to concentrate only on the newspaper inserts, but the intent of the question is to ask about all advertising. A better version is "Did you notice any newspaper, television, radio, or mailed advertising for Sears in the last week?" See the word "like" in Table of Problem Words.

#### **4. The Question Should Not Ask the Respondent to Recall Specifics when Only Generalities Will Be Remembered**

Sometimes a question designer forgets that people do not have perfect memory, and the detail requested in the question is beyond the respondent's abilities to reconstruct what actually happened. For instance, "How much was the price per gallon of gasoline when you last bought some at a convenience store?" certainly will require some respondents to think back several months, and it is very unlikely that they will recall the exact price per gallon. A more appropriate way to ask this question is to tap the generalities that the respondent will remember. For example, "The last time you bought gasoline at a convenience store, do you recall it costing more, less, or about the same per gallon as at *a* gasoline station?"

#### **5. The Question Should Not Require the Respondent to Guess a Generalization**

When asked to respond to a question involving a generality, respondents may be inclined to respond with what they think "must" have happened or what "should" happen. This encourages guessing. Although guesses may be accurate, they are more likely to be inaccurate. Consider these two examples: "When you buy fresh fish at the supermarket, do you worry about its freshness?" and "If you bought a new 35-millimeter automatic focus camera at a catalog showroom store, would you ask the store clerk about its warranty?" Both of these encourage the respondent to answer in the affirmative by tapping into generalizations. One generalization is that freshness is virtually always assessed when buying seafood, and the other is that a common concern of buyers of expensive cameras should be the warranty. A strategy for avoiding the generalization factor is to require specificity from the respondent. For instance, with the fresh fish example, the question might be posed as, "In the last five times you bought fresh fish at the supermarket, how many times did you worry about its freshness?" For the camera question, it would be advantageous to use a likelihood scale: "Would you be 'unlikely,' 'somewhat likely,' 'likely,' or 'extremely likely' to ask the clerk about the camera's warranty?"

#### **6. The Question Should Not Ask for Details That Cannot Be Related**

Marketers sometimes ask for information that is impossible to remember forgetting that consumers have more important things to worry about than consumption. If Sunbeam Bread were interested in knowing whether Sunbeam customers compare prices with other brands, a question might be developed as follows, "How many and what brands of bread did you compare to Sunbeam before deciding to buy Sunbeam?" Few respondents will be able to supply this detailed information accurately. Probably the only accurate information Sunbeam could obtain is whether respondents recall comparing prices, so the question should be phrased "Do you recall comparing the price of Sunbeam with another brand of bread before deciding to buy Sunbeam?"

#### **7. The Question Should Not Use Words That Overstate the Condition**

Avoid using words that overstate conditions. It is better to present the question in a neutral tone rather than in a positive or a negative tone. Here is an example that might be found in a survey conducted for Ray-Ban sunglasses. An overstated question might ask, "How much do you think you would pay for a pair of sunglasses that will protect your eyes from the sun's harmful ultraviolet rays, which are known to cause blindness?" As you can see, the overstatement concerns the effects of ultraviolet rays, and because of this overstatement, respondents will be compelled to think about how much they would pay for something that can prevent their blindness and not about how much they would pay for the sunglasses. A more toned-down and acceptable question wording would be, "How much would you pay for sunglasses that will protect your eyes from the sun's rays?"

## 8. The Question Should Not Have Ambiguous Wording

Ambiguity in wording allows respondents to apply their own situations, experiences, or interpretations to them. Two forms of ambiguous wording can occur: First, the question designer might use a word that has several legitimate connotations for any one respondent. For example, a Society for the Prevention of Cruelty to Animals survey may ask, "When your puppy has an accident, do you discipline it?" There are two ambiguous words in this question. An "accident" could mean urinating on the floor, or spilling water out of the feeding dish, or any number of different mishaps. The definition of "discipline" is vague, and as you can imagine, the nature and severity of canine discipline can vary greatly. A series of questions would be needed to reduce the ambiguity by specifying the types of accidents and nature of the discipline applied. Second, the question designer might inadvertently select a word that has different interpretations for different subgroups of respondents. For example, ambiguous questions are evident in regional differences in the use of words. Let's say Oscar Mayer wants to perform a survey on the use of meats in sandwiches. A type of sandwich that is called a "grinder" in New England is referred to as a "submarine," a "hero," "hoagie," or a "poor boy" in other parts of the United States. New Englanders cannot relate to a "poor boy" any more than someone living in New Orleans can relate to a "grinder." Obviously, Oscar Mayer would need to be concerned about the regional ambiguity of these words.

## 9. The Question Should Not Be "Double-Barreled"

A **"double-barreled" question** is really two different questions posed in one question. With two questions posed together, it is difficult for a respondent to answer either one directly. Here is an example for a 'Toys-R-Us' survey. "Did you know that Toys-R-Us sells mainly educational toys, and it is the only American toy retailer selling toys in Japan?" The first question concerns the educational aspects of these toys, whereas the second concerns the international nature of the company. Double-barreled questions are improved by either breaking them into two separate questions, or by specifying one question as a condition of the other. For instance, "Did you know that Toys- R -Us is the only American toy retailer in Japan?" and "Did you know these toys are primarily educational?" could be used.

## 10. The Question Should Not Lead the Respondent to a Particular Answer

A **leading question** is worded in such a way as to give the respondent a clue as to how to answer. Therefore, it biases responses. Consider the question used by Alreck and Settle to illustrate a leading question: "Don't you see some dangers in the new policy?" Obviously, the respondent is led to expect that there are dangers in the new policy and, therefore, will likely respond with some of these dangers. Rephrasing the question as "Do you see any danger in the new policy?" a much more objective request of the respondent. Here the respondent is free—that is, not led—to respond "yes" or "no."

## 11. The Question Should Not Have "Loaded" Wording or Phrasing

Leading questions direct the respondent to answer in a predetermined way. **By contrast, a loaded question** is more subtle. Identifying this type of bias in a question requires more judgment, because a loaded question has buried in its wording elements that allude to universal beliefs or rules of behavior. It may even apply emotionalism or touch on a person's inner fears. For example, a company marketing mace for personal use may use the question, "Should people be allowed to protect themselves from harm by using Mace as self-defense?" Obviously, most respondents will agree with the need to protect oneself from harm, and self-defense is an acceptable and well-known legal defense. Eliminating the loaded aspect of this question would result in the question "Do you think carrying a Mace product is acceptable for people who are worried about being attacked?" Following table illustrates how questions may

be worded to intentionally bias results.

### ***The Science of Wording Questions to Create Intentional Bias!***

A young monk was once rebuffed by his superior when he asked if he could smoke while he prayed. Ask a different question, a friend advised. Ask if you can pray while you smoke.

*Surveys are sometimes conducted simply to further the interests of their sponsors. By carefully wording questions, enough bias is introduced so that survey results may be predetermined... always supporting the sponsor's interest. Consider the following examples:*

*If you are conducting a survey, consider the impact of the following word choices on how you might respond to a survey question:*

*The legislation would generate more revenue vs. The legislation would generate more taxes.*

*Are you in favor of the MX missile? vs. Are you in favor of the Peacekeeper?*

*Are you in favor of abortion? vs. Are you in favor of Pro-Choice?*

*Are you in favor of welfare? vs. Are you in favor of public assistance?*

*Are you in favor of a Department of War? vs. Are you in favor of a Department of Defense?*

*Should the president have the line item veto to prevent waste? vs. Should the president have the line item veto or not?*

*Microsoft commissioned a survey that showed overwhelming support to include its browser, Explorer, into Windows software. But what was the question asked of respondents? It was a 350-word question that mostly argued for including Explorer with Windows. The "question" did not mention one argument against including Explorer with Windows. Some experienced researchers, after reviewing the survey, concluded that what was remarkable is that 15 percent of the respondents actually brought themselves to disagree.*

*How we select the wording for our questions has a great deal to do with how people will respond to our questions. Good research should be based on questions that are clear and unbiased.*

As you can see, the phrasing of each question should be examined almost microscopically to guard against the various sources of question bias error. Seasoned researchers develop a sixth sense about the pitfalls we have just described; however, because the researcher can become caught up in the research process, slips do occur. This danger explains why many researchers use "experts" to review drafts of their questionnaires. For example, it is common for the questionnaire to be designed by one employee of the research company and then given to another employee who understands questionnaire design for a thorough inspection for question bias as well as face validity.

## **QUESTIONNAIRE ORGANIZATION**

### **The Introduction**

The introduction is very important in questionnaire design. The **introduction** serves five functions:

1. Identification of the surveyor/sponsor
2. Purpose of the survey
3. Explanation of respondent selection
4. Request for participation/provide incentive
5. Screening of respondent

If the introduction is written to accompany a mail survey, it is normally referred to as a **cover letter**. If the introduction is to be verbally presented to a potential respondent, as in the case

of a personal interview, it may be referred to as the **opening comments**. Of course, each survey and its target respondent group is unique, so a researcher cannot use a standardized introduction. In this section, we discuss the five functions to be provided by the introduction.

First, it is not only common courtesy, but it is also expected that you will introduce yourself at the beginning of a conversation. Some research companies opt for the direct approach with a statement such as, "Hello, my name is \_\_\_\_\_, and I am a telephone interviewer working with Nationwide Opinion Research Company here in Milwaukee. I am not selling anything." Here, the researcher has identified himself or herself and the prospective respondent has been made aware that this is a bona fide survey and not a sales pitch. Additionally, the "sponsor" of the survey should be identified. There are two options with respect to sponsor identity. The sponsor may be "undisguised" or "disguised." With an **undisguised survey**, the sponsoring company is identified, but with a **disguised survey**, the sponsor's name is not divulged to respondents. The choice of which approach to take rests with the survey's objectives or with the researcher and client who agree whether disclosure of the sponsor's name or true intent can in some way influence respondents' answers. Another reason for disguise is to prevent alerting competitors to the survey. However, there is growing concern that *all* respondents should be debriefed as to the true sponsor of the research. /

Second, the purpose of the survey should be described clearly and simply. In a cover letter, the purpose may be expressed in one or two sentences: "We are conducting a survey on personal computer presentation graphics packages used by successful executives such as yourself." Note that respondents aren't interested in the specific purposes of the survey. Rather, they are interested in knowing the subject you will address as you ask them questions. Consider a bank having a survey conducted by a marketing research firm. The actual purpose of the survey is to determine the bank's image relative to that of its competitors. However, the research firm needs only say, "We are conducting a survey on customers' perceptions of financial institutions in this area." This satisfies the respondent and does not divulge the name of the bank. Also, it doesn't bore the prospective respondent with details of the actual purpose of the survey.

Third, prospective respondents must be made aware of how and why they were selected. Just a short sentence to answer the respondent's question of "Why me?" will suffice. Telling them that they were "selected at random" usually is sufficient. Of course, you should be ethical and tell them the actual method that was used. If their selection wasn't random, you should inform them as to which method was used.

Fourth, you must ask for their participation. "Will you please take five minutes to complete the attached questionnaire and mail it back to us in the postage-paid, preaddressed envelope provided?" If you are conducting a personal interview or a telephone interview, you might say something like "I would now like to ask you a few questions about your experiences with automotive repair shops. OK?" You should be as brief as possible yet let the respondent know that you are getting ready for him or her to participate by answering questions. This is also the appropriate time to say something that will reduce the probability that the respondent will refuse to participate in the survey. There are various incentives that may be used by the researcher to encourage participation. Offering a monetary incentive, a sample of a product, or a copy of study results are examples. A more complete list is found in chapter 14, which deals with non-response error and how it can be minimized. Other incentives encourage respondent participation by letting them know the importance of their participation: "You are one of a select few, randomly chosen, to express your view on how the proposed tax increase should be spent." Or the topic itself can be highlighted for importance: "It is important that the people let our elected representatives know their wishes."

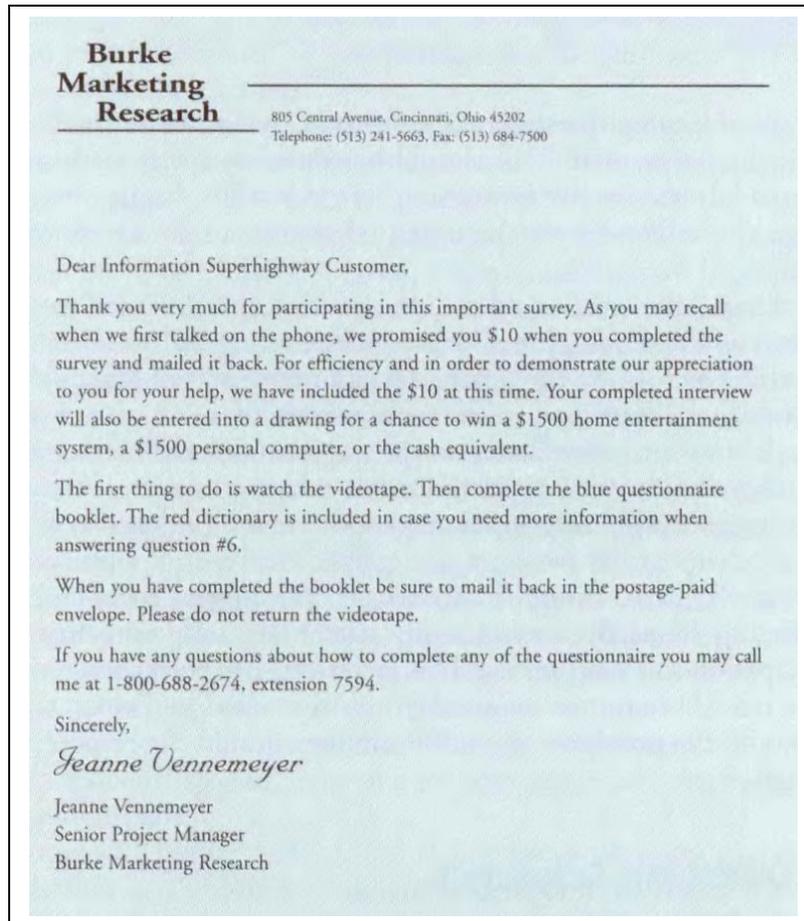
Other forms of incentives address respondent anxieties concerning privacy. Here again, there are methods that tend to reduce these anxieties and, therefore, increase participation. The first is **anonymity**, in which the respondent is assured that neither the respondent's name nor any identifying designation will be associated with his or her responses. The second method is **confidentiality**, which means that the respondent's name is known by the researcher, but it is not divulged to a third party, namely the client. Anonymous surveys are most appropriate in data collection modes where the respondent responds directly on the questionnaire. Any self-administered survey qualifies for anonymity as long as the respondent does not indicate his or her identity and provided the questionnaire does not have any covert identification tracing mechanism. However, when an interviewer is present, appointments and/or call-backs are usually necessary, so there typically is an explicit designation of the respondent's name, address, telephone number, and so forth on the questionnaire. In this case, confidentiality may be required. Often, questionnaires have a call-back notation area for the interviewer to make notes indicating, for instance, whether the phone is busy, the respondent is not at home, or a time at which to call back when the respondent will be available. Here, the respondent will ordinarily be assured of confidentiality, and it is vital that the researcher guard against the loss of that confidentiality.

Fifth, respondents are screened for their appropriateness to take part in the survey. Whether you screen respondents depends on the research objectives. If the survey's objective is to determine the factors used by consumers to select an automobile dealer for the purpose of purchasing a new car, you may want to screen out those who have never purchased a new car or those who have not purchased a new car within the last, say, two years. "Have you purchased a new car within the last two years?" For all those who answer "no," the survey is terminated with a polite "Thank you for your time." Some would argue that you should put the screening question early on so as to not waste the time of the researcher or the respondent. This should be considered with each survey. We place it here as last because we have found it awkward to begin a conversation with a prospective respondent without first taking care of the first four items we just discussed.

As you can see, the creation of the introduction should entail just as much care and effort as the development of the questions on the questionnaire. The first words heard or read by the prospective respondent will largely determine whether he or she will take part in the survey. It makes sense, therefore, for the researcher to labor over a cover letter or opening until it has a maximum chance of eliciting the respondent's cooperation to take part in the survey. If the researcher is unsuccessful in persuading prospective respondents to take part in the survey, all of his or her work on the questionnaire itself will have been in vain. Following table shows a cover letter used by Bruke Marketing Research. In this study, telephone calls were first made to solicit participation to a mail survey. This technique has been shown to increase response rate. Also, notice the strong incentives used by Burke, the explicit instructions, and the provision of an 800 number should the respondents have any questions.

## Cover Letters Provide Several Functions

In the cover letter shown here, Burke Marketing Research provides additional information and an incentive to encourage response. If a research project is very important, research firms will go to great lengths to increase the response rate. In this example, Burke has used a method referred to as "prenotification." Potential respondents were called and told about a forthcoming survey and were provided with a description of the incentive to participate in the survey. What you see here is the cover letter that arrived at the respondent's home a few days later. Notice that the respondent is reminded that he or she had a phone conversation with Burke. Also, notice that the \$10 incentive check has been provided to "demonstrate appreciation." An additional incentive is provided if the respondent completes the interview. Explicit instructions are provided, and even an 800 number is made available should the respondent have any questions. No doubt, the survey resulted in a very high response rate, which significantly reduced nonresponse error.



## Typical Question Sequence

Each research objective gives rise to a question or a set of questions. As a result, questions are usually developed on an objective-by-objective basis. However, to facilitate the questioning process, the organization of these sets of questions should follow some understandable logic. A commonly seen sequence of questions found in questionnaires is presented in following table. As we discussed in the previous section, the first few questions are normally **screening questions**, which will determine whether the potential respondent qualifies to participate in the survey based on certain selection criteria that the researcher has deemed essential. For instance, if a mall-intercept approach is used in a survey being conducted for Arm & Hammer baking soda, screening questions might be used to qualify respondents who buy the cooking ingredients for their family, do most of the cooking, and make a baked food item at least once a month. Of course, not all surveys have screening questions. A survey of all charge account customers for a department store, for example, may not require screening questions. This is true because, in a sense, all potential respondents

have already been qualified by virtue of having charge accounts with the store.

QUESTION TYPE	QUESTION LOCATION	QUESTIONNAIRE ORGANIZATION EXAMPLES	RATIONALE
Screens	First questions asked	"Have you shopped at the Gap in the past month?" "Is this your first visit to this store?"	Used to select the respondent types desired by the researcher to be in the survey
Warm-ups	Immediately after any screens	"How often do you go shopping?" "On what days of the week do you usually shop?"	Easy to answer; shows respondent that survey is easy to complete; generates interest
Transitions (statements)	Prior to major sections of questions or changes in question format	"Now, for the next few questions, I want to ask about your family's TV viewing habits." "Next, I am going to read several statements and, after each, I want you to tell me if you agree or disagree with this statement."	Notifies respondent that the subject or format of the following questions will change
Complicated and difficult-to-answer questions	Middle of the questionnaire; close to the end	"Rate each of the following 10 stores on the friendliness of their salespeople on a scale of 1 to 7." "How likely are you to purchase each of the following items in the next three months?"	Respondent has committed himself or herself to completing the questionnaire; can see (or is told) that there are not many questions left
Classification and demographic questions	Last section	"What is the highest level of education you have attained?"	Questions that are "personal" and possibly offensive are placed at the end of the questionnaire

Once the individual is qualified by the screening questions, the next questions may serve a "warm-up" function. **Warm-ups** are simple and easy-to-answer questions that may or may not pertain to the research objectives. These questions really perform the task of heightening the respondent's interest while making the person feel that the questions can be answered easily and quickly. Here, a warm-up may be "Have you baked anything in the past month?"

**Transitions** are typically statements made to let the respondent know that changes in question topic or format are forthcoming. A statement such as "Now I would like to ask you a few questions about your family's TV viewing habits", is an example of a transition statement. Such statements aid in making certain that the respondent understands the line of questioning. Transitions include "**skip**" questions to determine which question or set of questions will be asked next. Using our Arm & Hammer baking soda example, a transition question may be "When you bake a cake, do you usually do it from scratch or do you use a box mix?" If the person responds that he or she uses a box mix, questions asking more details about baking from scratch are not appropriate, and the questionnaire will instruct the respondent (or the interviewer, if one is being used) to skip over or to bypass those questions. "Skip" questions are tricky. It's a wise idea to check them over several times before finalizing a questionnaire.

Deeper in the questionnaire you will find the most complicated and difficult-to-answer questions. Scaled-response questions such as semantic differential scales, Likert-type response scales, or other questions that require some degree of mental activity such as evaluation, voicing opinions, recalling past experience indicating intentions, or responding to "what if" questions are found here. There are at least two reasons for this placement. First, by the time the respondent has arrived at these questions, he or she has answered several relatively easy questions and is now caught up in a responding mode in which he or she feels

some sort of commitment. Even though the questions in this section require more mental effort, the person will feel more compelled to complete the questionnaire than to break it off. Second, if the questionnaire is self-administered, the respondent will see that only a few sections of questions remain to be answered. That is, once he or she is through the present difficult section, the respondent will be finished. If the survey is being administered by an interviewer, the questionnaire will typically have prompts included for the interviewer to notify the respondent that the interview is in its last stages. Also, experienced interviewers can sense when respondents' interest levels sag, and they may voice their own prompts, if permitted, to keep the respondent on task.

The last section of a questionnaire is reserved for **classification questions**. The word "classification" is used because these questions are normally used to classify respondents into various groups for purposes of analysis. For instance, the researcher may want to classify respondents into categories based on age, gender, income level, and so on. Therefore, demographic items are normally placed here. This placement is industry tradition, and it embodies the strategy of placing questions that may cause respondents to break off the survey at the end of the interview. Some respondents will consider certain demographic questions "personal," and they may refuse to give answers to questions about the highest level of education they attained or about their income level. In these cases, if the respondent refuses to answer, the refusal comes at the very end of the questioning process. If it occurred at the very beginning, the interview would begin with a negative vein, perhaps causing the person to think that the survey will be asking any number of personal questions. As a result, the respondent may very well refuse to take part in the survey at that point.

### **Approaches to Question Flow**

The flow of questions we have just described is generally used by questionnaire designers, but there are at least three specific approaches to questionnaire organization that we can describe: the funnel approach, the work approach, and the sections approach. The **funnel approach** uses a wide-to-narrow or general-to-specific flow of questions that places inquiries at the beginning of a topic on the questionnaire that are general in nature, and those requiring more specific and detailed responses later on. The **work approach** is employed when the researcher realizes that respondents will need to apply different mental effort to groups of questions. When questions tap responses that are deeper than simple recall, respondents must apply a higher degree of concentration in answering them. Difficult questions are customarily placed deep in the questionnaire. Scaled-response questions are often placed here because their forms are complicated and require respondents to work harder than when answering simple format questions. As we just noted, when the respondent encounters the work questions, he or she should be caught up in the responding mode or otherwise committed to completing the questionnaire. If this is the case, the respondent will be more inclined to expend the extra effort necessary to answer them. Perhaps the simplest format is to arrange the questions in logical sets on the questionnaire, referred to as the **sections approach**. Sometimes the objectives define the sections, but in other instances, question formats are used for this demarcation. For example, with our Arm & Hammer survey, we could have separate sections of questions for baking cakes, baking pies, baking cookies, baking from scratch, baking with box mixes, and so forth. Elsewhere on the questionnaire, the researcher may want to know respondents' opinions of baking by conventional oven, baking by microwave, and how well Arm & Hammer brand baking soda performs—all of these items can be placed in a single section in which the respondent is instructed to indicate his or her agreement with each statement along a seven-point, agree—disagree scale.

Which approach is best? There is no single questionnaire format that fits all cases. In fact, the

three approaches we have just described are not mutually exclusive, and there is no reason a researcher cannot use a combination of approaches in a single questionnaire. In fact, a researcher may find that the survey topics influence the placement or approach used in question flow. To illustrate this, we have included following table describes how "sensitive" questions can be handled.

### ***How to Ask Sensitive Questions***

*Occasionally a market researcher finds that a client wants sensitive information from consumers. To gather this information, sensitive questions must be asked of respondents. Here are a few examples.*

*Goodyear wants to know how much over the speed limit drivers typically drive.*

*Colgate toothpaste wants to know who brushes daily.*

*Lady Stetson wants to know if its fragrance is sexy to men.*

*Jockey wants to know about respondents' use of pantyhose.*

*H&R Block wants to know who cheats on their income tax.*

*Swatch wants to know how much peer pressure is involved with wearing its watches.*

*Sandals All Inclusive Resorts of Jamaica wants to know if singles are looking for a romantic adventure.*

*Bufferin wants to know if people abuse the use of aspirin.*

How does a researcher ask these sensitive questions? Here are four options:

- *Hide the sensitive question among a group of more innocent questions.*
- *State the behavior or attitude is not unusual before asking the question.*
- *Phrase the question to ask how others might feel or act.*
- *Present the responses in categories that the respondent simply checks without verbalizing the behavior.*

As we indicated earlier, designing a questionnaire is a blend of creativity and adherence to simple, commonsense guidelines. The most important principle to keep in mind, though, is to design the questionnaire's flow of questions so as to make it respondent-friendly by minimizing the amount of effort necessary to respond to it while maximizing the probability that each respondent will fill it out reliably, accurately, and completely. To achieve these results, the researcher selects logical response formats, provides clear directions, makes the questionnaire appearance visually appealing, and numbers all sections plus all items in each section.

## **PRECODING THE QUESTIONNAIRE**

A final task in questionnaire design is **precoding** questions, which is the placement of numbers on the questionnaire to facilitate data entry after the survey has been conducted. Precodes are included as long as they are not confusing to respondents or interviewers.

The logic of precoding is simple once you know the ground rules. The primary objective of precoding is to associate each possible response with a unique number or letter. Ordinarily, a number is preferred for two reasons. First, numbers are easier and faster to keystroke into a computer file. Second, computer tabulation programs are more efficient when they process numbers. Following table illustrates code designations for selected questions. When words such as "yes" and "no" are used as literal response categories, precodes are normally placed alongside each response and in parentheses. With scaled-response questions in which numbers are used as the response categories, the numbers are already on the questionnaire, so there is no need to use precodes for these questions.

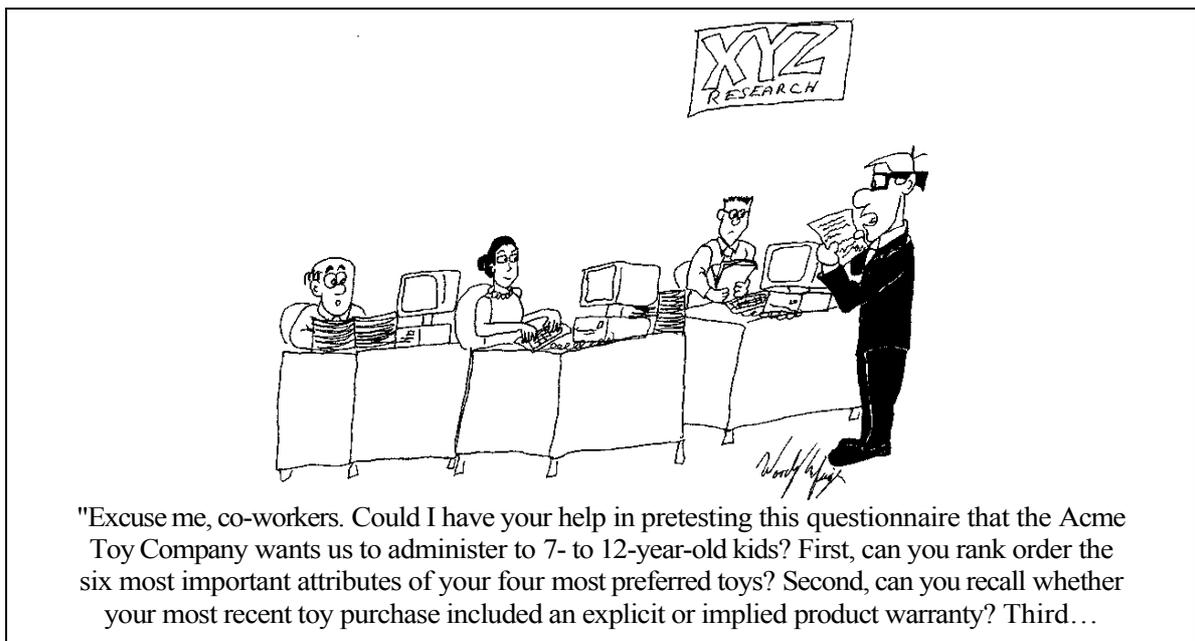


defined as a separate question for data analysis purposes.

It is becoming less common, however, for precodes to appear on the final questionnaire as the research industry moves further into the high-technology side of questionnaire design and administration. There is no need for precodes to appear on the questionnaire, for instance, with a CATI (computer-assisted telephone interview) system or a questionnaire that will be scanned because the coding has been taken care of by the computer programs themselves.

## PERFORMING THE PRETEST OF THE QUESTIONNAIRE

Before finalizing the questionnaire, one final evaluation should be conducted on the entire questionnaire. Such an evaluation uses a pretest to ensure that the questions will accomplish what is expected of them. A **pretest** involves conducting a dry run of the survey on a small, representative set of respondents in order to reveal questionnaire errors before the survey is launched. As following figure illustrates, it is very important that pretest *participants* are in fact representative, that is, selected from the target population under study. Before the questions are administered, participants are informed of the pretest, and their cooperation is requested in spotting words, phrases, instructions, question flow, or other aspects of the questionnaire that appear confusing, difficult to understand, or otherwise a problem.



Normally, from 5 to 10 respondents are involved in a pretest, and the researcher looks for common problem themes across this group. For example, if only one pretest respondent indicates some concern about a question, the researcher probably would not attempt modification of its wording, but if three mention the same concern, the researcher would be alerted to the need to undertake a revision. Ideally, when making revisions, researchers should place themselves in the respondent's shoes and ask the following questions: "Is the meaning of the question clear?" "Are the instructions understandable?" "Are the terms precise?" and "Are there any loaded or charged words?" However, because researchers can never completely replicate the respondent's perspective, a pretest is extremely valuable.

## DESIGNING OBSERVATION FORMS

You should recall that a survey is only one of the ways primary information can be gathered. Another means is through observation. As we indicated in our discussion on qualitative research techniques in chapter 8 there is one class of qualitative research in which a human observer watches some episode of behavior and takes notes on what he or she sees. The remainder of this chapter describes some considerations and guidelines pertaining to recording observations. First, we discuss why it is important to develop a useful structure or categorization scheme for the observations, and then we contrast the build-up and break-down approaches to developing observation categorization systems.

### Structuring Observational Studies

Let us do some role playing to help you understand the importance of structuring observational studies. Let us assume that you are working part-time for a marketing research company that is being used by Minute Maid orange juice to do an observational study on how consumers buy juice in the grocery store. When you come to work, your supervisor tells you to go to the nearby Kroger grocery store. She has arranged with the Kroger store manager for you to dress as a clerk so you will not be conspicuous to shoppers.

You begin your observations by selecting a shopper as she enters the store. This shopper happens to be a woman about in her early thirties, and she has two children with her, both of whom are girls, aged about seven and three. The seven-year-old girl walks alongside her mother, and the three-year-old girl sits in the child seat of the grocery cart being pushed by the mother. Your shopper starts shopping with the normal flow of shoppers, and stops at the vegetable bins. She picks up an orange. Now, you are thinking that the observation might be relevant, so you make a note. As you do, she puts it back down and picks up another, apparently squeezing it to determine its freshness. She does this several more times before selecting a total of six oranges that she places in her cart. She moves on, selecting various other items, and finally arrives at the aisle with juices. She immediately picks out a large Welch's grape juice bottle and puts it in her cart. She picks up a can of V-8 Light and seems to read the label with interest. Meanwhile, the seven-year-old girl picks up a can of Donald Duck orange juice and asks the mother to buy it. The mother says no, puts the V-8 Light and Donald Duck cans back, and moves on. You make a note of this episode.

Now, you notice that she has arrived at the dairy products. After selecting low-fat milk, she reaches for a carton of Tropicana orange juice. When she does, the three-year-old girl begins crying because the seven-year-old girl has grabbed her doll. The mother turns, and sternly tells the seven-year-old girl to stop. The older child gives the doll back to the little one who stops crying. Your shopper then continues on, apparently forgetting about the Tropicana she was about to pick up. You make a note of this incident.

Last, when she passes the frozen foods, your shopper stops and buys a container of Sealtest brand rocky road flavor ice cream. As she puts it in her cart, you notice her spot the frozen fruit juices. She looks back at the dairy counter and seems to think for a minute. Then, she picks up the largest frozen Minute Maid orange juice container in that section of the frozen foods and puts it in her cart. You make a note of this event. By the end of your day observing shoppers in that Kroger grocery store, you have followed 20 shoppers on their trips, and you have about a dozen pages of scribbled notes from your observations.

How do you structure your observational study so you can summarize your observations into a coherent report? Certainly, the first task would be to group them into logical categories. One scheme you might begin with is to group them by the type of juice bought: (1) fresh oranges, (2) bottled, (3) canned, (4) refrigerated fresh, and (5) frozen. Then, for each one of

these, you might identify alternative approaches to selection of a brand such as: (1) picked brand immediately, (2) picked brand after inspecting others, (3) inspected but did not buy, or (4) did not stop at this area. A separate categorical scheme would be the shopping party. Was it one shopper, two adults, one adult and child(ren), or some other grouping, and what were the sexes and apparent ages of the shoppers? Did they use a shopping cart, a carry basket, or neither?

### **Build-Up and Break-Down Approaches**

Your work in creating this categorization system might be referred to as the **"build-up" approach** in which you must perform the observations first, and then the categories for reporting them are built on these observations. An opposite method might be called the **"break-down" approach** in which the categories are created before the observer goes into the field, and they are provided on an observation record form. This approach requires the researcher to think through and map out all of the relevant behaviors before the actual observation phase is undertaken.

In general, a break-down approach is better than a build-up method for at least three reasons. First, it offers consistency. That is, because the form has specific observation categories, some comment should be on each category for every shopper observed. Without the form, observations are vulnerable to observer distraction or fatigue. Second, it offers structure. In other words, the observer does not make random or arbitrary comments. Instead, the observations are structured, and even though the researcher is working with qualitative data, there is some inherent logic to the categories that will help make sense out of the multitude of observations when they are analyzed. Third, it offers completeness. If the observation form designer has done all of the necessary planning, the form will have a thorough inventory of all of the relevant behaviors. In this way, the researcher will not be concerned about the differences among observers when they are left on their own to decide what to itemize in their notes or what to leave out of their records. Differences among observers will be minimized.

Source:

Burns, Alvin C., & Bush, Ronald F. (2000). *Marketing Research*. (3rd ed.). (pp. 344 – 366, 370 – 373). New Jersey, USA: Prentice Hall.