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# Guidelines for State Agency Customer Satisfaction Surveys

## CHAPTER 1

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**G**overnment at all levels is increasingly eager to demonstrate the value of its products and services. By asking service recipients, or customers, for their opinions, state and federal governments are joining the ranks of private companies that seek to maintain or improve a competitive edge. But in the public sector, the impetus to measure customer satisfaction is a desire to "reinvent" government so that it responds better to citizens' needs. What was once "good enough for government work" is now simply unacceptable.

This chapter discusses the origins and uses of customer satisfaction surveys and puts forth guidelines for the conduct of credible surveys by state agencies. Our study responds to the Legislature's requirement that we review and comment on the appropriateness, validity, and reliability of measures and data in performance reports by state agencies.<sup>1</sup> Initially, we asked the following questions:

- **To what extent are customer satisfaction surveys appropriate tools to measure the performance of state agencies?**
- **How should customer satisfaction surveys be conducted so that results are valid?**

To answer these questions, we reviewed literature on performance measurement, relevant sections of performance reports, other agency reports that include customer satisfaction data, and an array of technical publications that recommend specific methods and procedures for customer surveys. In addition, we talked with experts in survey research methods and obtained experts' feedback on a set of guidelines that we compiled from the literature and other published sources.

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**Customer satisfaction surveys can help to monitor state agencies' performance.**

## MEASURING CUSTOMER SATISFACTION

The general purpose of including customer satisfaction in performance reports is to document how well state agencies are progressing toward the goal of service improvement. By asking customers about their level of satisfaction on a regular schedule, using the same questions and similar procedures, agencies can produce a set of careful, consistent, quantitative measurements or ratings of their performance at various points in time. An example might be responses to a standard set of

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<sup>1</sup> *Minn. Stat.* §3.971, subd. 3. Valid measures are those that convey the true nature of what is reported. Reliable measures are those that would be the same if data were provided by different staff or by the same person at different points in time.

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## Performance reports require good quality information.

questions about the courtesy or timeliness of agency services, based on a random sample of individuals who used a particular program, with the object of making comparative measurements over time.<sup>2</sup> If similar, sound methods are used and a representative group of customers responds, findings can be safely generalized as the perception of most customers.

Customer satisfaction surveys are a form of "feedback" from those who have received services. But feedback may assume many forms, and the conclusions one can draw from feedback depend on the amount and type of controls one has placed over the collection of that feedback. For example, casual comments received from customers can offer insights that may help improve services, but only a rigorous, scientific, representative survey of the customer population can yield results that can be generalized to all customers.

A certain rigor is necessary for purposes of performance reports, which are a vehicle for ongoing accountability to the public and may be the basis of policy decisions.<sup>3</sup> Only scientific methods can provide the quality of information that agencies need to substantiate their claims of performance, for without such methods, results are subject to numerous uncontrolled sources of potential error such as we discuss below. Even when systematic, scientific methods are adhered to scrupulously, some error is inevitable in survey results, which always must be interpreted with caution. On the other hand, if surveys are properly conducted, they can economically produce appropriate, valid, reliable measures of performance that would otherwise not be available.

## GUIDELINES FOR CUSTOMER SATISFACTION SURVEYS

The following section explains the guidelines outlined in Figure 1.1. Generally, we think agencies should follow these guidelines in planning, constructing, and using customer satisfaction surveys as sources of performance data. We developed the guidelines based on those that are required or recommended by federal agencies, the legal system, practitioners, and researchers. Appendix A contains a list of several references that cover the principles of survey research in more depth.

### Plan

#### 1. Conduct customer satisfaction surveys for purposes that are clearly stated and designed to improve services to the public.

Customer satisfaction surveys are a tool for learning about agency services from customers' perspectives, and if done properly, can be a means of evaluating agencies' performance.<sup>4</sup> In the public sector, surveys should not be done merely to im-

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<sup>2</sup> Jerry Coffey (ed.), *Resource Manual for Customer Surveys* (Office of Management and Budget: Washington, D.C., October 1993), Sec. 2.1.

<sup>3</sup> *Minn. Stat.* §15.90.

<sup>4</sup> Coffey, *Resource Manual for Customer Surveys*, Sec. 2.1.

### **Figure 1.1: Guidelines for State Agency Customer Satisfaction Surveys**

#### **PLAN**

1. Conduct customer satisfaction surveys for purposes that are clearly stated and designed to improve services to the public.
2. Assign and supervise trained staff to be responsible for the survey.
3. Follow standard, scientifically valid methods to minimize errors and other potential problems.

#### **IDENTIFY CUSTOMERS**

4. Develop a list of those who received services that are the subject of the survey.
5. Select all customers from the list or select a random sample of customers large enough to provide accurate estimates of satisfaction.
6. Try to obtain responses from the greatest possible percentage of those selected and check to ensure that those who respond are representative of customers receiving services being studied.

#### **CONSTRUCT AND ASK QUESTIONS**

7. Write clear questions and response options.
8. Allow for various degrees of satisfaction or dissatisfaction.
9. Be neutral throughout.
10. Ask about several aspects of customer satisfaction during a specific time period.
11. Expect only moderate knowledge and recall of specific services.
12. Use efficient, well established data collection methods.
13. Treat respondents respectfully.
14. Encourage voluntary participation.
15. Confirm that respondents are customers.

#### **EDIT AND ARCHIVE DATA**

16. Make every attempt to ensure that data are technically error-free.
17. Justify any changes to original data.
18. Make it possible for others to independently confirm the results later.

#### **ANALYZE DATA AND RESULTS**

19. Objectively analyze all relevant, usable customer satisfaction data.
20. Attempt to explain unexpected or unusual results.
21. Ensure that published data are consistent with survey results.
22. Interpret results with the appropriate level of precision and express the proper degree of caution about conclusions that can be drawn from results.
23. Make note of possibly significant problems and limitations.
24. Provide basic descriptive information about how the survey was done.

prove public relations or to make an agency look or feel good. Rather they should provide sound direction about how to improve services to citizens, possibly by modifying ineffective services, or by upgrading a method of service delivery.

Agency managers must actively support the development of any credible survey and see that results are wisely used to improve customer service. Without such support and follow-up, the survey may be regarded by staff and customers as a costly exercise with little real benefit. At the outset, it should be made clear to all involved that the survey is one phase of a long-term effort to document and ultimately improve the level of customer service. In this sense, planning is a key component to adequately define agency priorities and design a suitable administrative process and questionnaire. Basic issues for planners include determining the scope of the survey, identifying the agency's customers for selected products and services, setting survey goals, developing measures of customer satisfaction, and deciding how to communicate results.

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**Care and training are needed to properly measure customer satisfaction.**

Planners must also anticipate the following basic procedures in assigning staff to the survey, as described below:

- (1) Develop a specific list or "sampling frame" from which to identify and/or sample from the population of customers;
- (2) Identify a method to collect data, usually by mail or phone, best suited to the agency's information needs;
- (3) Develop and pretest a set of standard questions;
- (4) Specify how customers will be selected from the customer list;
- (5) Devise methods to maximize the percentage of participants who complete the questionnaire;
- (6) Ensure that appropriate techniques are used to obtain high quality data from respondents;
- (7) Process the data accurately;
- (8) Statistically analyze and summarize data;
- (9) Explain the results of the analysis; and
- (10) Document procedures followed in the course of the survey, data processing, analysis, and presentation of results.

Some of these steps are best conducted by staff with statistical or survey research training; others amount to administrative duties that clerical staff can complete under routine supervision.

## 2. Assign and supervise trained staff to be responsible for the survey.

Everyone has ideas about how to conduct surveys, partly because so many occur in the public eye. The Gallup Poll, Minnesota Poll, and a flood of political surveys done in the summer and fall of election years, can make everyone feel like an expert. However, there is a science to planning a valid survey, designing questionnaires, processing, analyzing, and interpreting data, and presenting the results in technical reports, memos, and external documents such as performance reports. Fortunately, many state employees possess the skills needed to conduct and use valid surveys. Many have training in research design, quantitative methods, public opinion, statistics, marketing, and business communication.

In many cases the initial planning effort should include the advice of a consultant or staff member with experience in survey research methods. Technical advice may help to streamline the process and eliminate confusing, unintentionally biased, or unnecessary questions, improper methods, and errors of interpretation when data are analyzed. However, the focus of the survey and the general content of the questions best comes from program staff who are in a position to know first-hand about service delivery and customers. Then, when the agency has developed its questions, methods, and procedures, the need for technical advice should be reduced. In general, surveys should be managed actively by agency staff so that they can make maximum use of results at the least cost.

A practical approach used by some Minnesota agencies is to establish a "survey team" that is responsible for most of the planning work. The team develops a plan that identifies who will be responsible for each step in the survey process, including contracting with an outside consultant, if necessary. After the initial survey, some changes are only to be expected, but a routine method soon should be adopted so that results can be compared meaningfully from year to year in the future.

## 3. Follow standard, scientifically valid methods to minimize errors and other potential problems.

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### Survey error can and should be minimized.

All surveys involve potential errors that can introduce uncertainty or bias. For the results to be useful, error must be reduced where possible, or at the very least agencies should make users aware of its potential impact. There are two basic types of errors: sampling and nonsampling. **Sampling** errors occur for practical reasons when only a portion of the customer population is included in the study. Such errors are unavoidable but measurable. The magnitude of sampling error decreases as sample size increases; its effect can be estimated and is commonly known as the "margin of error."

**Nonsampling** errors are also likely to create problems, but they are difficult to identify and quantify. Common nonsampling errors include: noncoverage (not surveying the right customers); nonresponse bias (customers' failure to participate); measurement bias (misinterpreting questions); response bias (failing to answer truthfully); and technical errors in recording, coding, tabulating or analyzing data.<sup>5</sup> The techniques described in these guidelines and other sources are

5 Jane Lappin, Paula Figioni, and Suzanne Sloan, U.S. Department of Transportation *A Primer on Consumer Marketing Research: Procedures, Methods, and Tools* (Washington, D.C., March 1994), 24-26.

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**The methods  
for valid survey  
research are  
well established.**

designed to minimize but cannot eliminate such errors because they are often a function of human nature. For example, a customer may realize after completing a questionnaire that a wrong answer was checked, or a supervisor may have missed some data errors by a clerk.

Generally speaking, it is not difficult to avoid major, obvious errors--usually through random sampling--while others can be controlled or reduced to manageable proportions. In fact, the methods for valid survey research are well known and often repeated in books and manuals, although "pseudo surveys" can be found, such as those in Figure 1.2. What was once an academic specialty has now been demystified almost into a "cookbook" recipe. Two of the most practical step-by-step guides that we consulted are by the Office of Management and Budget and authors Priscilla Salant and Donald Dillman.<sup>6</sup> We relied heavily on these sources for the guidelines presented here.

## Identify Customers

### **4. Develop a list of those who have received services that are the subject of the survey.**

Those who received agency services are known as "customers" or "clients." After an agency decides which of its products or services it wishes to study, it must identify which particular groups or individuals actually received the selected products or services during the proposed study period, for example a fiscal year. However, some uncertainty about actual service recipients would not be surprising and could be resolved later by direct contact with probable customers.

Agencies may find that customer lists already exist in the form of mailing labels or logs of who ordered specific products or services. In other cases, agencies may need to develop customer lists by reviewing internal records. Ideally, such files include phone numbers, addresses, information on the types of products or services received, the date of service, and descriptive items such as geographic region. Agencies should be aware that such customer files may contain information that needs to be maintained in accordance with the Government Data Practices Act.

### **5. Select all customers from the list or select a random sample of customers large enough to provide accurate estimates of satisfaction.**

If the survey results for a sample are to represent the opinions of the specified population of customers, a sample of the correct size should be randomly drawn.<sup>7</sup> The sample size needed to produce information with certain levels of precision can be calculated statistically or estimated from a grid such as Figure 1.3. As shown, the sample size varies depending on the size of the population, the amount of sampling error that state agencies and policymakers can tolerate, the amount of

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<sup>6</sup> Coffey, *Research Manual for Customer Surveys*, and Priscilla Salant and Donald Dillman *How to Conduct Your Own Survey* (New York: John Wiley & Sons, 1994).

<sup>7</sup> The sample need not be purely random but should be taken according to a strict procedure that gives everyone a known chance to be included and precludes personal choice of potential respondents.

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**"Pseudo surveys" are popular but cannot be trusted.**

## **Figure 1.2: Examples of Pseudo Surveys**

### **Media-conducted "straw polls"**

The print and electronic media often encourage members of their audiences to write or phone to express their views. But even with hundreds or thousands of replies, these "straw polls" are usually unrepresentative, simply because people who would voluntarily choose to participate are likely to differ in important ways from the overall population. They may be more interested, informed, and concerned about the topic at hand and thus hold views different from those of the overall population. A prominent example occurred in 1980 when "ABC News" encouraged viewers to call (at a cost of fifty cents) to indicate whether they thought Jimmy Carter or Ronald Reagan had won the presidential debate.

### **Congressional questionnaires**

The questionnaires that members of Congress send to households within their congressional districts typically are addressed to "Postal Customer," and there is no sure way of knowing just who in the household actually completed the survey. Although thousands of these questionnaires may be returned to a congressional office, it is very difficult to ascertain whether the respondents' demographic characteristics and actual opinions on the issues are truly representative of the broader constituency. In some instances the questions themselves are loaded to guarantee responses compatible with the legislator's own predisposition and record.

### **Social advocacy efforts**

Examples include highly publicized surveys by Shere Hite and "Dear Abby" on marital relations. Hite distributed 100,000 extensive open-ended questionnaires to women's groups and to individual women who requested a questionnaire and received about 4,500 replies, a response rate of only 4.5 percent. Abby wrote: "Readers, I need your cooperation for an important survey. Questions: Have you ever cheated on your mate? How long have you been together? You need not sign your name, but please state your age and indicate whether you are male or female." She received more than 200,000 responses.

In both, the sampling method and the questions generated unrepresentative and misleading results, despite the large numbers of respondents. Hite claimed that 70 percent of women married five or more years were having extramarital affairs, while 15 percent of Abby's married female respondents claimed to have been unfaithful. Both surveys cannot be correct and, indeed, both are overwhelmingly likely to be wrong because of the pitfalls inherent in the sample selection and the actual questionnaires. Allowing citizens to select themselves into a survey guarantees biased results because of the motivations that lead people to participate in the first place.

Source: Asher, *Polling and the Public*, 1992.

**Figure 1.3: Sample Sizes Needed for Populations of Various Size**

<u>Population Size</u>	<u>For Sampling Error of:</u>		
	<u>± 3 Percentage Points</u>	<u>± 5 Percentage Points</u>	<u>± 10 Percentage Points</u>
100	92	80	49
<b>250</b>	<b>203</b>	<b>152</b>	<b>70</b>
500	341	217	81
750	441	254	85
1,000	516	278	88
2,500	748	333	93
5,000	880	357	94
10,000	964	370	95
25,000	1,023	378	96
50,000	1,045	381	96
100,000	1,056	383	96
1,000,000	1,066	384	96
100,000,000	1,067	384	96

Note: Sample sizes are shown for the 95 percent confidence level, referring to the likelihood that a sample of this size, drawn repeatedly from a population, contains the true population value within the sampling error specified.

Sample sizes are based on the number of completed, usable questionnaires, not the starting sample size. Figures assume maximum variation in responses and should be used if other information is not available.

How to read this table: For a population of 250 whose responses are expected to be evenly split (for example, 50 percent yes, 50 percent no), a sample of 152 is needed for results which carry a sampling error of  $\pm 5$  percentage points in 95 of 100 cases.

Source: Priscilla Salant and Donald Dillman, *How to Conduct Your Own Survey* (New York: John Wiley & Sons, 1994), 55.

certainty that is desired, and the variability of responses.<sup>8</sup> Interestingly, the laws of probability are such that a sample of about 1,000 is likely to be sufficient whether the population size is 10,000 or 100,000,000. At the other extreme, it hardly makes sense to sample a population of 100 or less. In these cases, the total population of designated customers should be surveyed.<sup>9</sup>

Sampling error can be defined as a measure of the likelihood that results are close to the true figure among the designated population, had they all been questioned. The extent of sampling error is estimated on the basis of the standard statistical error of the proportion of clients who respond in a certain way, for example, that

<sup>8</sup> Salant and Dillman, *How to Conduct Your Own Survey*, 55. Sample sizes generally are based on the assumption of a 95 percent confidence level (that results are within the range bracketed by sampling error), but higher or lower levels of confidence can be used.

<sup>9</sup> Surveys based on questionnaires that are sent to entire populations are usually termed a "census" but may be treated as though they were a sample from the population since in most cases, a substantial number will not respond. In such cases, the response rate should be reported as a percentage, but does not amount to a random sample of that proportion of customers.



they are satisfied. Figure 1.4 illustrates the amount of sampling error associated with simple random samples of various sizes, depending on the distribution of responses. As shown, smaller samples have higher sampling error.

**Figure 1.4: Sampling Error in Percentage Points by Distribution of Question Responses and Sample Size**

Distribution of Question Responses (Percent)	Size of Sample (N)				
	800	600	400	200	100
50/50	3.5	4.0	4.9	6.9	9.8
60/40	3.4	3.9	4.8	6.8	9.6
70/30	3.2	3.7	4.5	6.4	9.0
80/20	2.8	3.2	3.9	5.5	7.8
90/10	2.1	2.4	2.9	4.2	5.9

Note: The margin of error for a simple random sample of the size of the Minnesota State Survey is plus or minus 3.5 percentage points, when the distribution of question responses is in the vicinity of 50 percent. This sampling error presumes the conventional 95 percent degree of desired confidence, which means that in a sample of 800 households there is a 95 percent chance or better that if all households in Minnesota were surveyed, the results would not differ from the survey findings by more than 3.5 percentage points.

Sample sizes are based on the number of completed, usable questionnaires, not the starting sample size.

How to read this table:

The distribution of sample responses is represented by the proportion of people responding to any question with a particular answer. For a sample size of 800 and a 50/50 distribution of question responses, the sampling error is 3.5 percentage points. A more extreme distribution of question responses has a smaller error range. Suppose that 80 percent of the respondents answer "Yes" and 20 percent say "No." The sampling error in this case would be 2.8 percentage points. That is, each percentage would have a range of plus or minus 2.8 percentage points.

Source: University of Minnesota Center for Survey Research, 1995.

State agencies may tolerate more or less sampling error depending on how the survey information is to be used. If important decisions are to be based on the survey information, agencies should attempt to obtain a fairly close, precise estimate using (1) a 95 percent confidence level and (2) a sufficiently large sample size to produce sampling error of plus or minus 3 to 5 percentage points. For example, if agencies wish to obtain results that are within 3 percentage points of the actual figure among the population of clients, and they have no existing information about the extent of client satisfaction, they should obtain a random sample of 516 completed questionnaires out of a population of 1,000 to make their estimate with the confidence described above. In this case, about 52 percent of the population would be in the sample, but the percentage would be smaller if the population were larger or agencies chose a lower level of confidence and greater sampling error.

The number of customers that agencies choose to sample is also affected by the level of detail that agencies wish to use in presenting results. For example, a sample of 400 may be adequate to estimate the overall level of satisfaction of all customers, but not customers' level of satisfaction in each of several regions of the state. In such cases, each region should be separately identified in the sampling frame and the overall sample size increased so that an adequate number of respondents is surveyed per region.

In obtaining data from a representative group of those listed, it is also necessary to prescribe who should complete the questionnaire or interview. Usually the people obtaining services are the obvious choice, but it may take some screening questions to distinguish them from other members of a household. If the customer is an organization, someone within it must be designated, and substitutes should be discouraged from participating.

**6. Try to obtain responses from the greatest possible percentage of those selected and check to ensure that those who respond are representative of customers receiving services being studied.**

**Results are questionable when few respond.**

Two types of response rates are at issue: first, the overall rate of response to the questionnaire, and second, the number of responses to particular questions.<sup>10</sup> If few of the designated customers choose to respond, they are essentially self-selected, and the representativeness of results is questionable in either event. This is because the possibility of nonresponse bias is directly proportional to the rate of nonresponse. Nonresponse bias means that respondents could be systematically different from the rest of the customer population. The responses may be overly positive, overly negative, or simply not typical of the agency's customers. Perhaps those who respond have more time and motivation than other customers, for example, female retirees, those with a grudge, or those who have received exceptionally good service.

On the other hand, Fowler explains that:

If most of those selected provide data, sample estimates will be very good even if the nonrespondents are distinctive. For example, when the Bureau of the Census carries out the National Health Interview Survey, it is successful in completing interviews in nearly 95 percent of selected households. It is easy to show that even if the nonresponding 5 percent is very distinctive, the resulting samples are still very similar to the population as a whole. . . . At the other extreme, one occasionally will see reports of mail surveys in which 5 to 20 percent of the sample responded. In such instances, the final sample has little relationship to the original sampling process. Those responding are essentially self-selected. It is very unlikely that such procedures will provide any credible statistics about the characteristics of the population as a whole.<sup>11</sup>

To minimize response bias, representatives of federal agencies, including the Office of Management and Budget and General Accounting Office, told us they expect response rates of at least 70 or 75 percent, respectively. When sound

<sup>10</sup> Response rates are calculated roughly as the final number who completed questionnaires or interviews minus those who did not due to refusal, divided by the number of eligible participants.

<sup>11</sup> Floyd J. Fowler, Jr., *Survey Research Methods* (Beverly Hills, CA: Sage Publications, 1984), 48.

methods and design techniques are used, textbooks show that response rates of 60 to 70 percent may be achieved.<sup>12</sup> Other sources suggest as high a rate as 90 percent and as low a rate as 50 percent, excluding fund raising solicitations, mass mailings, and commercial or political appeals that may outwardly resemble legitimate surveys. The latter "pseudo surveys" are deemed successful by their sponsors if they prompt even a small percentage to respond.

But what level of response is needed? There is no absolute answer since every nonrespondent raises the risk of bias. Salant and Dillman explain in detail how to design questionnaires and implement surveys to achieve the highest possible response rate. They state:

A low response rate serves as a warning that nonresponse error might be a problem. Depending on who is surveyed and what method is used, anything under 60 - 70 percent should be a red flag--roughly 60 percent for a general-public mail survey, about 70 percent for a special-population telephone survey.

... One can reasonably expect a 60 percent (or even higher) response rate in a mail survey of the general population, given the use of personalized cover letters, attractive questionnaires, and follow-up contacts. In well organized surveys, similar rates can also be expected with other methods.<sup>13</sup>

Similarly, Singleton, Straits, and Straits explain that:

Obviously, the researcher should do everything possible to avoid such [sample] biases. With respect to incomplete sampling, this may entail several call-backs to not-at-home respondents, three or four mailings of questionnaires, or interview follow ups of respondents not returning questionnaires. Despite such efforts, however, in virtually all surveys some respondents designated for the sample ultimately will not be included. With probability sampling, the greater the proportion of this nonresponse, the greater the likelihood for bias. Therefore, it is very important to pay attention to response rates. For interview surveys, a response rate of 85 percent or more is quite good; 70 percent is minimally adequate; below 70 percent there is a serious chance of bias. In questionnaire [mail] surveys, response rates tend to be about 20 percent lower than in comparable interview surveys.<sup>14</sup>

Ferber and his colleagues likewise stress that quality control is necessary in all facets of a survey for without it, errors can occur with disastrous results. Concerning nonresponse bias, they write:

Failure to follow up nonrespondents can ruin an otherwise well-designed survey, for it is not uncommon for the initial response rate to most surveys to be under 50 percent. Plans must include returning to sample households where no one was home, attempting to persuade persons who are inclined to refuse and, in the case of mail surveys, contacting all or a subsample of the nonrespondents by telephone or personal visit to obtain a completed questionnaire. A low response rate does more damage in rendering a survey's results questionable than a small

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<sup>12</sup> See Don A. Dillman, *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley & Sons, 1978) and Salant and Dillman *How to Conduct Your Own Survey*.

<sup>13</sup> Salant and Dillman, *How to Conduct Your Own Survey*, 22, 43.

<sup>14</sup> Royce A. Singleton, Jr., Bruce C. Straits, and Margaret Miller Straits *Approaches to Social Research* (New York: Oxford University Press, 1993), 172.

sample, since there is no valid way of scientifically inferring the characteristics of the population represented by the nonrespondents.<sup>15</sup>

Based on testing, Dillman has found that procedures are now available to assure response rates of at least 50 percent for virtually all survey populations, and we agree, based on the literature we reviewed and the experts we consulted.<sup>16</sup> Among the many techniques that contribute to high response rates are: minimizing the length of questionnaires; keeping questions clear, simple, and easy to answer; including a stamped, self-addressed reply envelope; assuring confidentiality; attractively formatting questionnaires; avoiding vague, open-ended questions; and mailing reminder notes to nonrespondents.<sup>17</sup> In addition, customers are more likely to respond when they are familiar with the subject of the survey, have recently used particular services, and see an opportunity to improve or maintain those services by their participation. In the case of state agencies, there is every reason to believe that customers, if accurately identified, will want to state their opinions, given a well designed questionnaire, neutral approach, assurance of legitimacy, and a sense of sincere interest.

**Respondents  
should be  
representative  
of customers in  
general.**

Ultimately, the agency should demonstrate that those who responded are reasonably similar to the customer population as a whole or that data have been adjusted to correct for known differences. To do so, agencies need to calculate the percentage of respondents and the customer population in various, relevant categories such as geographic location, gender, and age. If the respondents turn out to be more than a few percentage points different from the population, it may still be possible to offset those differences by giving more weight statistically to some respondents than others.

## Construct and Ask Questions

### 7. Write clear questions and response options.

It is difficult but by no means impossible to translate technical, complex questions into terms that customers can understand. Otherwise, the risk is that results will not be meaningful which, in light of the time and money spent on surveys, would be an unfortunate waste of scarce resources. Dangers in question wording include emotional or "loaded" language, as shown by Figure 1.5, as well as boring, dense, clinical, unfriendly, or unnecessary questions. Respondents must understand precisely what is being asked and feel welcome to answer. Agencies may need an outside reviewer to help them avoid jargon, stay focused on the topic, and phrase questions simply, particularly in phone surveys. Ideally, the flow of questions will encourage respondents to complete questionnaires in 25 minutes or less.

Another equally important aspect of question construction is the categories of response that are offered. Sometimes open-ended questions are used to obtain comments and specific answers, but questions best suited for performance measures

<sup>15</sup> Robert Ferber, Paul Sheatsley, Anthony Turner, and Joseph Waksberg, *What Is a Survey?* (Washington, D.C.: American Statistical Association, 1980), 15.

<sup>16</sup> Don A. Dillman, "The Design and Administration of Mail Surveys," *Annual Review of Sociology*, 17 (1991): 234.

<sup>17</sup> Salant and Dillman, *How to Conduct Your Own Survey*, Chapter 7.

**Figure 1.5: Examples of Loaded Survey Questions****National Right to Work Committee**

Are you in favor of allowing construction union czars the power to shut down an entire construction site because of a dispute with a single contractor, thus forcing even more workers to knuckle under to union agents?

**Committee Against Government Waste**

Were you aware that a good part of why America has been leaning toward nuclear weapons is due to inflated prices of conventional weapons parts?

**American Farmland Trust**

Do you endorse the idea that a greater number of smaller farms should be encouraged to relieve the growing burden being placed on large farms to fulfill our agricultural needs?

**Sierra Club**

Our nation is still blessed with millions of acres of public lands, including roadless wilderness areas, forests and range lands. Land developers, loggers, and mining and oil companies want to increase their operations on these public lands. Do you think these remaining pristine areas of your public lands should be protected from such exploitation?

**Fairness in Media**

Do you feel that all of the TV networks are in serious danger of losing the public's confidence and trust because they hire so many liberal Democratic activists as top corporate executives who formerly worked for Ted Kennedy, Walter Mondale, Gary Hart, George McGovern, Mario Cuomo, Jimmy Carter and the National Democratic Party?

**U.S. English**

English is the language of the United States by custom, although not by law. In order to avoid the political upheavals over language that have torn apart Canada, Belgium, Sri Lanka (Ceylon), India, and other nations, would you favor legislation designating English the official language of the United States?

**American Freedom Coalition**

Congress is paying for an army of lawyers and is spending over \$5.3 million tax dollars to persecute Colonel North. Do you agree with this use of your tax money?

Source: Asher, *Polling and the Public*.

are closed-ended, including several specific options. Possible categories may be based on an ordered set of responses measuring the degree of customer satisfaction, the adequacy of agency performance, or the quality of a product or service in light of customer expectations or requirements. For ease of response, agencies generally should select a few types of response categories and ask respondents to use them throughout the survey.

When satisfactory questions and response options are finally developed, it is also important for agencies to use them exactly from survey to survey. Even the slightest change in wording could elicit different responses that would make it impossible to compare results over time.

### **8. Allow for various degrees of satisfaction or dissatisfaction.**

Although it is important to ask clear, simple questions that have only one obvious meaning, it is equally important to allow respondents to express a range of opinion from one extreme to the other. Also, agencies must allow for the possibility that respondents have no opinion or are not sure how to respond to even the clearest questions. Otherwise, there is a risk of muddling informed opinions with others that have no meaningful basis.

If agencies deny respondents a full range of response categories, it will also be difficult to learn much from the results later. For example, by asking simply whether or not services were satisfactory, results may be limited primarily to the "yes" category. This could include those who are uncertain but inclined to give the benefit of the doubt, those who are pleased beyond measure, those who found services barely adequate, those who weighed the facts and found themselves more satisfied than not, and others. Preferably agencies will channel such a variety of responses into those categories that have been shown to be most useful in studies of customer satisfaction. These categories are: "very satisfied" (5), "somewhat satisfied" (4), "neither satisfied nor dissatisfied" (3), "somewhat dissatisfied" (2), and "very dissatisfied" (1).<sup>18</sup> Also, if agencies were to adopt standard response categories, readers of performance reports would gain a clear, consistent understanding of the term "satisfaction," which now varies within and among agencies.

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**Questionnaires  
should be  
designed with  
care.**

### **9. Be neutral throughout.**

Just as the wording of a question may influence the response, the wording of the cover letter, questionnaire title, graphic images, and instructions can influence how customers respond, or whether they even return the questionnaire or complete a phone interview. Some of the same guidelines used for constructing questions--simple, neutral, relevant, and interesting--also apply here. Surveys should include a cover letter or other introduction that establishes the need for the questionnaire and its legitimacy by briefly describing the survey's purpose and tying the purpose to the intended respondent. Also, surveys should provide a name, address, and phone number of someone who can be contacted personally if desired. The questionnaire title should use clear, neutral, non-specialized language that is likely to interest the respondent in the project. Graphic images or logos should not suggest a specific opinion or position, and instructions should be carefully worded. Agencies should specifically avoid suggestions to the effect that they are already doing a good job, cannot do better without added resources, or have done things already to make customers happy.

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<sup>18</sup> Susan J. Devlin, H. K. Dong, and Marbue Brown, "Selecting a Scale for Measuring Quality," *Marketing Research* 5 (1992): 12-17. Several other sources in the bibliography contain research that may help agencies create a response scale or response options to fit their needs.

## **10. Ask about several aspects of customer satisfaction during a specific time period.**

There are many different indicators of customer satisfaction, such as satisfaction with access, facilities, communications, personnel, types of services provided, service outcomes, and overall satisfaction.<sup>19</sup> Surveys may focus on one or more aspect of satisfaction but cannot reasonably address every facet of the topic. If planners choose to focus the survey on access, indicators might include appropriateness of hours of operation or waiting time. A focus on personnel might include indicators about time spent with clients, competence, and courtesy. Regarding the services provided, timeliness or the appropriateness of user fees might be useful indicators.<sup>20</sup>

Generally speaking, it is not recommended practice simply to ask customers about their overall satisfaction because the results are not likely to yield much information that agencies can use to improve services. Granted, it is worth knowing how many customers say they are generally satisfied, but it is better to dig more deeply into potential problem areas. Program managers should design questions that indirectly identify what they must do to increase customers' level of satisfaction. For example, they may need to increase the speed and courtesy with which services are provided although customers may be satisfied overall and with the qualifications and accuracy of staff.

At some point in the survey, customers should be told the time period for which they are to rate services or products, such as "within the last year," "last visit," or "last book ordered." Also the time period should be clear. For example, "last winter" should be defined in terms of given months in a particular year.

## **11. Expect only moderate knowledge and recall of specific services.**

It is important to remember that government services are not likely to be uppermost in respondents' minds. Thus agencies should avoid asking for exact responses, such as how satisfied customers were with a service on a given date. Exact answers may look more precise, but are not likely to be correct except for respondents who can recall or keep records of their experiences in great detail.

Ideally, surveys ask customers to assess services soon after use, when memories are fresh. Thus, some agencies continually distribute questionnaires to all or some customers for a certain service, and customers return information throughout the year. In other cases, agencies conduct surveys quarterly, yearly, or at other intervals. Asking customers to recall a service from the distant past increases the likelihood that they will not remember the service, confuse it with something else, or generally have insufficient knowledge to reliably rate satisfaction.

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<sup>19</sup> Office of the Comptroller General, Evaluation and Audit Branch *Your Guide to Measuring Client Satisfaction* (Ottawa: August 1992), 4, 10.

<sup>20</sup> Ibid., 10.

## 12. Use efficient, well established data collection methods.

Phone interviews or mail questionnaires are typically used to collect customer satisfaction information.<sup>21</sup> Phone interviews usually yield higher response rates and faster results but generally require more resources--trained interviewers, a central location, and an accurate list of customers' phone numbers, among other things. Mail surveys are less expensive but usually require longer periods for questionnaire completion. Otherwise, the two methods of survey administration are quite similar, and the same basic principles apply.

Differences between the two methods are largely due to the visual demands of the mail questionnaire in contrast to the listening requirements of the phone survey. For a mail questionnaire, the size and length of the form, arrangement of items and amount of white space, use of graphics, size of type, and even color of the paper are important factors.<sup>22</sup> For phone interviews, questions must be brief and simply structured. Interviewers must read all items and be trained and supervised to ensure careful, consistent delivery. In either case, agencies should pretest questionnaires with a small group of customers before finalization.

## 13. Treat respondents respectfully.

All researchers must respect respondents' wishes and rights to privacy. Ideally, everyone immediately returns questionnaires, but some people do not, in which case state agencies should never try to coerce responses. Some techniques that help to maximize customer response are matters of courtesy, such as minimizing the number of questions and avoiding unnecessary questions. Also, since questionnaires often request information that could be sensitive, most respondents do not want to be personally identified. If questionnaires for some reason seek private or confidential data concerning individuals, agencies should follow the requirements of *Minn. Stat.* §13.04, subd. 2.

Although the identity of individual respondents is irrelevant when discussing overall results, survey administrators need to keep track of who responded so that they can follow-up with nonrespondents.<sup>23</sup> Thus, questionnaires often include a code number that staff can cross-reference to a master list for mailing reminder notes. For ethical reasons, staff must never specifically discuss who has or has not responded or any other personal information obtained from the survey, especially income or other sensitive information, except, if necessary, among the project team. As a practical matter, the individual identity of respondents is incidental to state agencies' need to hear from representative groups of customers.

## 14. Encourage voluntary participation.

In the private sector, it is not uncommon to provide small, tangible rewards as incentives to return questionnaires. For example, questionnaires sometimes come

<sup>21</sup> The alternative, face-to-face interviews or intercepts are expensive, require special timing, and may pose personal security risks, so are not often used. Other questionnaires are distributed in person, for example, after training sessions.

<sup>22</sup> Salant and Dillman, *How to Conduct Your Own Survey*, Chapter 7.

<sup>23</sup> If the survey promises anonymity, this means that survey administrators cannot connect a specific survey with a particular respondent, which precludes follow-up efforts.



with cash, checks, coupons, or stamps on the assumption that recipients will feel obligated to return the favor. In fact, such incentives often help to improve response rates which are otherwise depressed by the commercial nature of such surveys. However, this may not be practical or desirable for state agencies.

Overall, the best way to generate response is to design surveys on the assumption that questionnaire recipients are most likely to respond if they expect that the perceived benefits of doing so will outweigh the perceived costs of responding.<sup>24</sup> Thus, voluntary responses can be obtained by making questionnaires easy to complete, interesting to fill out, and worthy of trust. Likewise, a simple, personal appeal to customers is helpful, telling them that a legitimate questionnaire or phone call is forthcoming, and that their participation is valuable and important but not officially required.

### **15. Confirm that respondents are customers.**

Customer lists should include customers for selected products and services, but occasionally someone on the list does not belong, is an infrequent user of services, or does not fit some other criteria for inclusion. For these reasons, it is always a good idea to determine that the respondent is qualified to answer survey questions. For example, state agencies may wish to focus on a certain regulated group that used a product or report. In this case, the first few questions should establish that the respondent represents the group and has direct knowledge of how the product or report was used. Also, when asking about multiple services, questionnaires should include as a response option "do not use this service," or similar wording, to avoid influencing nonusers to give satisfaction ratings.

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**Satisfaction ratings should come only from actual service users.**

## **Edit and Archive Data**

### **16. Make every attempt to ensure that data are technically error-free.**

Potential errors in data processing should be considered even at the point of designing and administering questionnaires. In fact, some phone surveys rely upon computerized systems to record a coded response for each answer as it is given. A significant advantage of such systems is that the computer automatically guides interviewers to ask the correct question and prevents obvious mistakes when out-of-range numbers are inadvertently keyed. Similar systems can be designed after mail questionnaires are completed and received, in the interest of correcting errors before they affect results.

Computers and database or statistical software are not always necessary in processing customer satisfaction data, but the use of these tools is highly recommended. Once staff enter all the codes corresponding to survey responses, various statistical analyses can be conducted for different combinations of questions and subsets of respondents, and data can be displayed graphically using commonly available software. But if the answers are not properly recorded and checked at the outset, the results can be invalid. Thus, time spent editing or cleaning-up survey data before analysis usually is time well spent. Essentially this involves checking each individual questionnaire or electronic record of individual

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<sup>24</sup> Dillman, "Design and Administration of Mail Surveys," 233.

responses to see that answers in combination make logical sense, that respondents skipped certain items appropriately, are qualified to respond, and gave one clear response per question.

### **17. Justify any changes to original data.**

Sometimes in reviewing questionnaires it becomes clear that some respondents did not understand certain questions, that a response category should be added due to write-in responses, or that entire questions are ill-conceived. Or perhaps a customer later calls and wants to change an answer. In such cases, agencies should disregard truly erroneous answers, create additional categories of responses, drop questions entirely, and add information if necessary. However, staff should document any such changes to the original data in a project file and follow a set of standard practices in making revisions.

### **18. Make it possible for others to independently confirm the results later.**

It is fundamental that research should be repeatable by others using the same methods. In the case of data used in performance reports, press releases, or other public documents, it is also quite likely that state agencies will be called upon to prove their claims. Other considerations are that new staff may be assigned to conduct customer satisfaction surveys, and the data may be analyzed later by someone unfamiliar with the original project. As a result, it is critical to maintain project files containing enough information so that the original results can be replicated and future data can be similarly processed and analyzed. If such files are developed routinely and recommended procedures followed throughout the survey, there should be no difficulty with others' subsequent attempts to confirm or expand upon the results.

**Others should be able to confirm survey results independently.**

Among the items needed by others as they later attempt to confirm results are:

- (1) Completed questionnaires or the equivalent in electronic form;
- (2) Cover letter, introductory letter and/or instructions to respondents;
- (3) Tabulations and/or computer output showing results;
- (4) Documentation of customer lists, respondent and population characteristics, survey administration, data processing, and analysis; and
- (5) Reports or memos explaining results.

## **Analyze Data and Results**

### **19. Objectively analyze all relevant, usable customer satisfaction data.**

After data have been collected, recorded, and corrected if necessary, it is incumbent on state agencies to make full use of the information. Statistical analysis is not necessary but may be useful and efficient if the number of completed question-

naires is large, or the agency wishes to know how responses vary among subsets of the sample or customer population. For example, there may be important differences in satisfaction by region, type of service user, or season. By analyzing the data along such lines, agencies may indirectly find the key to increasing satisfaction in the future.

By planning data analysis at the beginning of the survey, even before customers are contacted, agencies can anticipate which factors are likely to influence satisfaction levels, ask the necessary questions, and conduct data analysis accordingly. Also, planners should anticipate what type of statistics analysts should produce--for example, percentages, medians, or averages--and which responses constitute "satisfaction." Advance planning of data analysis also helps to avoid asking unnecessary questions, while keeping the process open and honest. Otherwise, it may be tempting to ignore certain questions that reveal dissatisfaction. Of course, as explained above, some questions may not prove to be as useful as expected but, if so, this should be documented as the reason for dropping them.

## **20. Attempt to explain unexpected or unusual results.**

Results that are difficult to explain or unanticipated should be addressed. While it is possible that respondents simply misunderstood a particular question, other options are more likely. First, state agencies should ask what they might have done to influence customers' level of satisfaction. A second possibility is that circumstances changed, rather than the agency, since opinion surveys are sensitive to events. For example, a natural disaster could disrupt state functions with a predictable decline in service quality, or an unexpected legislative appropriation may account for sudden improvement. In cases such as these, where obvious external factors are important, agencies should note them along with other plausible explanations.

In performance reports, the Department of Finance requires state agencies to identify key factors that influence the likelihood of achieving program goals, discuss past performance, plans to achieve targeted future levels of performance, and other factors affecting performance.<sup>25</sup> We suggest that agencies make use of these narrative sections to attempt to explain unexpected or unusual results as objectively as possible, without belaboring every possibility. The main emphasis should be on recognizing significant departures from what has been true historically or was projected to occur, particularly when the agency has good reason to know what might have influenced customers' responses.

## **21. Ensure that published data are consistent with survey results.**

The public trust requires that state agencies avoid any attempt to disguise unfavorable results or draw misleading conclusions from surveys. Also, such practices are contrary to professional ethics which demand that public opinion researchers challenge any interpretations that do not seem consistent with the data available.<sup>26</sup> Thus, it is essential that public reports contain the same data as shown by surveys

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<sup>25</sup> Department of Finance, *Annual Performance Report Instructions* (St. Paul, June 1994), 15, 17, 34.

<sup>26</sup> American Association for Public Opinion Research, *Code of Professional Ethics and Practices* (Ann Arbor, MI, 1991), iii.

and that the text of reports matches the interpretation of data analysts who typically summarize results in internal memos and technical documents.

Also, it is important at a very basic level to ensure that published data on customer satisfaction are accurate and consistent with survey results and previous reports, if any. Data should be double-checked to avoid typographical errors. Each bit of customer satisfaction data should correspond directly to what was found.

**22. Interpret results with the appropriate level of precision and express the proper degree of caution about conclusions that can be drawn from results.**

As stated above, all data are subject to error, which limits the certainty with which analysts can make conclusions. Although every possible precaution may have been taken, it is still important to avoid false impressions about the precision of measurement. Because of practical limitations of sample surveys, it is a good idea to caution readers about the margin of error, if applicable, and other possible sources of error.<sup>27</sup> Also, it is important to avoid the impression that surveys definitely prove agencies' case. At best, surveys can provide support for the agencies' claims of performance but, as explained above, other factors may be relevant. In addition, state agencies should cautiously present specific results. In most cases, rounding to the nearest percentage point is better than reporting percentages to several significant digits, which convey a false sense of precision. For example, 88.35 percent should be rounded to 88 percent.

**23. Make note of possibly significant problems and limitations.**

Despite extensive planning and pretesting, there may be inherent limitations on the usefulness of survey information, and agencies must note any that are likely to have a significant effect on readers' interpretation of results. Limitations often are a function of inadequate sampling, customer lists, time and financial constraints, unanticipated events, and the desire to fit existing data to a specific use, in this case, performance reports. Possibly the response rate was low and the representativeness of the sample could not be checked, or client lists turned out to be rather inaccurate. Possibly limits on time meant that the cut-off date for responses was set too early, or that data reflect only partial information, for some customers and not others, for certain periods. If the results nevertheless have some value, such limitations should be frankly disclosed. Otherwise, if problems are insurmountable, state agencies should avoid using such data as performance measures.

**24. Provide basic descriptive information about how the survey was done.**

The American Association for Public Opinion Research code of professional ethics and practices includes a set of standards for minimal disclosure of essential

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**Survey results  
should be  
interpreted  
cautiously.**

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<sup>27</sup> The *New York Times* and *Washington Post* are noted for the way in which they explain sampling error in polls. Also, they include the following disclaimer: "In addition to sampling error, the practical difficulties of conducting any survey of public opinion may introduce other sources of error into the poll." See Herbert Asher, *Polling and the Public: What Every Citizen Should Know* (Washington, D.C.: Congressional Quarterly, Inc., 1992), 93.

### Figure 1.6 American Association for Public Opinion Research Minimal Disclosure Standards

1. Who sponsored the survey, and who conducted it.
2. The exact wording of questions asked, including the text of any preceding instruction or explanation to the interviewer or respondent that might reasonably be expected to affect the response.
3. A definition of the population under study, and a description of the sampling frame used to identify this population.
4. A description of the sample selection procedure, giving a clear indication of the method by which the respondents were selected by the researcher, or whether the respondents were entirely self-selected.
5. Size of sample and, if applicable, completion rates and information on eligibility criteria and screening procedures.
6. A discussion of the precision of the findings, including, if appropriate, estimates of sampling error, and a description of any weighting or estimating procedures used.
7. Which results are based on parts of the sample, rather than on the total sample.
8. Method, location, and dates of data collection.

Source: American Association for Public Opinion Research. *Code of Professional Ethics and Practices* (Ann Arbor, MI: September 1991), 4-5.

**Some basic facts about procedures are necessary for readers to understand survey results.**

information about surveys, as shown in Figure 1.6.<sup>28</sup> These standards require that some discussion of survey planning and administration should be included in any public report of results, including performance reports. Among other items, agencies should include the exact wording of questions; a definition of the population under study and an explanation of how respondents were selected to participate; the size of the final sample; response (or completion) rates; sampling error; and the survey method, location, and dates of data collection. Although it may seem cumbersome to provide such information, we note that it is standard practice for newspaper polls and that the University of Minnesota's Center for Survey Research routinely provides much more detail in its reports.<sup>29</sup> Also, the Department of Finance in its most recent instructions for performance reports requires basic information on how and when data were collected and where they can be obtained, as well as detailed information and explanation of data sources and methods.<sup>30</sup>

<sup>28</sup> American Association for Public Opinion Research. *Code of Professional Ethics and Practices*, 4-5.

<sup>29</sup> For example, see Rossana Armson, *Minnesota State Survey: Results and Technical Report* (Minneapolis: University of Minnesota, January 1995).

<sup>30</sup> Department of Finance, *Performance Report Instructions*, 16.

## SUMMARY

This chapter has presented a set of 24 guidelines for survey research that, if followed by state agencies, would help ensure that customer satisfaction data in performance reports and other public documents is as credible as possible. These guidelines view customer satisfaction surveys as valuable tools for improving service as well as potentially valid sources of performance information. To maximize the benefits of customer satisfaction surveys, agencies should carefully plan and administer a series of standard questions, demonstrate that respondents are reasonably representative of the customer population, do what is possible to avoid errors, objectively analyze and thoroughly report the results, document procedures, and ultimately make it possible for themselves or others later to replicate the results.

Some steps that are recommended to increase the validity and reliability of survey results--such as follow up calls to increase response rates or checking on the representativeness of a sample--contribute to the costs of conducting surveys. But we think these additional costs, which are marginal at best, are well worth incurring. By taking these cautionary steps, agencies may well protect the original value of their whole effort to measure customer satisfaction.