Customer Satisfaction Surveys by State Agencies

CHAPTER 2

As we discussed in Chapter 1, government agencies at all levels are increasingly striving to measure their customers' satisfaction with products and services. They often use the results to inform management of the need for changes and to give staff specific direction as they go about their work. But, for purposes of monitoring how well government agencies are performing, systematic, well-grounded research is needed on a consistent basis over a period of years.

Ten of the 21 performance reports for 1994 include customer satisfaction data.

We reviewed all 21 of the first annual performance reports required by *Minn. Stat.*§15.91 and identified which agencies already have or plan to develop performance measures based on customer satisfaction. Ten of the 21 reports include previously collected customer satisfaction data that the agencies claim represents their actual performance in the past few years. Those data became the focus of our study. We asked the following questions:

- **How well have state agencies conducted surveys of customer satisfaction? Have they followed recommended methods?**

- **Do performance reports contain accurate, complete data on customers' level of satisfaction with agencies' products and services? Are the data properly analyzed and interpreted?**

Figure 2.1: State Agencies Using Customer Satisfaction Data in Performance Reports

- Transportation
- Pollution Control
- Employee Relations
- Natural Resources
- Trade and Economic Development
- Revenue
- Human Services
- Public Safety
- Finance
- Administration

Source: 1994 Annual Performance Reports.

To answer these questions, we interviewed staff from the agencies listed in Figure 2.1 and reviewed technical documents, questionnaires, and electronic data files that reflect customer satisfaction surveys that form the basis of selected performance measures in the 1994 reports.[1] To the extent

1 The term "survey" refers to the entire process of systematically planning, designing, collecting, and analyzing information from groups of individuals. The term "questionnaire" refers specifically to the set of questions asked of individuals in the survey.

possible, we independently calculated results and checked for possible discrepancies with what had been reported. In other cases where original data are not available, we examined summary reports that offer details of statistical analysis that go beyond what is provided in performance reports. Finally, we reviewed extensive literature and procedural manuals regarding surveys of customer satisfaction and talked with several experts in the field.

Our analysis focuses on customer satisfaction surveys used in the 1994 annual performance reports; it does not include all such surveys conducted by state agencies. Also, we are aware of but did not evaluate numerous new surveys of customer satisfaction that state agencies are planning to conduct and use in future performance reports. Nor did we review every survey that is cited in the performance reports. We focused on those that ascertained customers' opinions of state government agencies, their staff, products, services, or overall performance, or conditions over which the agencies exert some control.

In this chapter, we describe each of the ten agencies' performance-related customer satisfaction surveys and present key results. We critique the methods used to generate the results and, depending on the situation, suggest specific ways to address deficiencies. Our suggestions are based on the guidelines for survey research that are explained in Chapter 1.

In general, our results show that agencies are prone to encounter difficulties in conducting customer satisfaction surveys. Because of these procedural difficulties, the results are often seriously flawed. In other cases, state agencies may have obtained quite adequate customer satisfaction data but erred in analyzing and presenting it. We did not find a pattern of deliberate distortion but rather an inattention to accuracy.

We do not know if the problems we found with survey data are symptomatic of larger problems in agency performance reports. However, we think that readers of the reports should be cautious about accepting as valid and reliable all reported data in the performance reports at this early stage in their development. Through this study and the recommendations in Chapter 3, we hope that the quality of data in future performance reports will improve.

DEPARTMENT OF TRANSPORTATION

Since 1988, the Minnesota Department of Transportation (MnDOT) has systematically assessed state residents' level of satisfaction with selected aspects of the road system. It has contributed various questions to the University of Minnesota's annual statewide surveys and, more recently, commissioned its own statewide survey focusing on highway maintenance. In addition, MnDOT has fielded informal surveys to get feedback from commercial and noncommercial drivers at rest stops, businesses, and license stations.

In an effort to coordinate the department's efforts to meet customers' needs, MnDOT last year hired two market research directors who previously worked for private businesses. Also, senior managers and a task force recently developed a unified set of measures that can be used to judge MnDOT's future performance. Now, customer satisfaction is among the department's critical measures of success as it attempts to optimize the state's investment in transportation.

In its 1994 performance report, MnDOT presents three measures that reflect public satisfaction with roads. These include the percentage of drivers who are satisfied with (1) travel time, (2) snow and ice removal, and (3) the appearance of roadsides. The measures are based on questions that have been included in two or three of the University of Minnesota's Center for Survey Research annual surveys, which we describe below.

We focused on the process of data collection through the University's surveys, the particular results that are included in MnDOT's 1994 performance report, and the way in which MnDOT presents its customer satisfaction data in the performance report. Also, we reviewed other measures of customer satisfaction that MnDOT has obtained and reported elsewhere, based on the University's surveys. These and the above three customer satisfaction measures correspond closely to MnDOT's recently developed "family" of performance measures for the state transportation system.[2]

Data Collection and Processing

Each fall since 1982, the University of Minnesota's Center for Survey Research has conducted telephone interviews with Minnesota adults who are representative of state residents as a whole. Government agencies, such as MnDOT, along with faculty members, nonprofit groups, and others, define and pay for a mixture of questions, which mainly concern public policy and social issues. In addition, the questionnaire includes standard questions such as income and age, that help to describe respondents and explain results.

Nonprofit, public organizations are attracted to the omnibus survey for two main reasons besides the economy of cost sharing. First, the University's Center for Survey Research specializes in public affairs rather than commercial interests. Second, survey sponsors receive professional assistance with question development and analysis of survey results. For example, the center's director is available to review news releases if survey sponsors wish to write them.

The survey research center first field-tests proposed questions, clarifies the questions if necessary in consultation with survey sponsors, handles all administrative procedures, and then processes the resulting data. On staff are about 25 trained interviewers, as well as a data collection manager, shift supervisors, and a data manager. The interviewing process begins with telephone calls to randomly selected households and random selection of one adult member of the household who should be interviewed, followed by a standard set of questions that take about 25 minutes to answer. Interviewers read the questions off computer screens and instantaneously key the responses into a computerized data base, while meantime, supervisors monitor the quality of up to one-fourth of the telephone interviews. Also, the supervisors call about 5 percent of the respondents later to verify that they were in fact interviewed.

2 Minnesota Department of Transportation, *Family of Measures* (St. Paul, February 1995), 5.

When the interviews are complete, the data base is transferred to a statistical analysis program that checks for obvious keying errors. Also, staff check personally for illogical data. Ultimately, survey sponsors receive tabulations of responses to their questions, as well as breakdowns of responses by various groups such as men and women. In addition, survey sponsors are free to receive the survey data on a computer disk so that they can conduct their own, more detailed analysis of results. In MnDOT's case, the cost of these services, obtained under contract, has ranged from roughly $5,000 to $7,000, depending on the number and type of questions asked each year. Typically, the cost per question is $850.

The University provides an overall tabulation of omnibus survey results in lengthy, annual, technical reports that include detailed information about sampling methods, administrative procedures, and data handling.[3] We examined these reports and concluded that:

- **By using the University's omnibus survey, MnDOT has obtained high quality information about Minnesotans' level of satisfaction with roads.**

MnDOT obtained high quality customer satisfaction data by contracting with the U of M.

The technical reports indicate that the survey research center routinely follows recommended methods for valid telephone surveys and that the responses, after statistical adjustments, may legitimately be used to represent the views of Minnesota's general public. Also, since almost all adult residents are users of the road system, it is appropriate in our view for MnDOT to gauge "customer" satisfaction by questioning the general public along the lines shown in Table 2.1. Such questions are clearly written and allow for a complete range of response from "very satisfied" to "not at all satisfied."

At the same time, it is important to recognize that even the best opinion surveys are not error-free. For practical reasons, they rely on samples of people who represent the total population, which always leaves a chance that sample results may differ from what the total population would have said if they were asked. For the omnibus surveys that MnDOT has helped to sponsor, Table 2.1 shows that sampling error, overall, is plus or minus 3.0 to 3.5 percentage points, so that a result of 19 percent could possibly be as low as 15.5 or as high as 22.5. In addition, there is a five percent chance that the true result could fall outside this range. Also, as we discussed in Chapter 1, surveys are subject to incalculable variations in human accuracy in providing and recording answers even to the clearest questions.

Data Analysis and Presentation

For the most part, MnDOT limits its analysis of omnibus survey data to the tables and statistical tests that are routinely provided by the University's Center for Survey Research. Each year, staff spend about a week reviewing the computer output, graphing results, and writing a short report.[4] To the extent that questions are repeated over the years, the trend in responses also is mentioned.

3 Armson, Rossana, *Minnesota State Survey: Results and Technical Report* (Minneapolis: University of Minnesota, annual).

4 See Minnesota Department of Transportation, *Public Attitudes and Opinions about Transportation in Minnesota, Report of the [Annual] Statewide Omnibus Survey* (St. Paul, April 1989, March 1990, March 1991, undated 1992, January 1993, April 1994, and April 1995).

Table 2.1: Minnesota Department of Transportation Customer Satisfaction Questions in University's State Surveys, 1988-94

	Percent "Very Satisfied" or "Somewhat Satisfied"						
Fall	1988	1989	1990	1991	1992	1993	1994
Fiscal Year	1989	1990	1991	1992	1993	1994	1995
"How satisfied are you with _______: very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?"							
"The time it takes you to travel to the places you want to go?"	90			90			
"Snow and ice removal along major highway routes?"			92			91	94
"The appearance of roadsides along major highway routes?"			89			87	
"The condition of Minnesota's roads?"	80		82			68	
"The amount of work that is being done to improve Minnesota's highway system?"	80				80		
"That Minnesota's most important transportation needs are being met?"					76		
"The safety of Minnesota's roads?"	87						
	Percent "Very Satisfactory" or "Somewhat Satisfactory"						
"Is the information you receive about winter road conditions very satisfactory, somewhat satisfactory, not very satisfactory, or not at all satisfactory?"			91			90	
Number of respondents	1,209	804	822	825	805	808	805
Sampling error (% points)	±3.0	±3.5	±3.5	±3.5	±3.5	±3.5	±3.5
Response rate	77%	70%	72%	79%	71%	69%	68%

Source: University of Minnesota Center for Survey Research, Technical Reports of Annual State Omnibus Survey.

In reviewing MnDOT's annual reports concerning the omnibus survey, its 1994 performance report, and the survey research center's technical reports, we found that:

- **MnDOT has not always reported omnibus survey results accurately and completely.**

We found that the performance report often provides so-called "actual performance" data for years when relevant questions actually were not asked. For example, a table in the report purports to show percentages of drivers who said they were satisfied with travel time in fiscal years 1992, 1993, and 1994 although MnDOT asked this question only in fiscal years 1989 and 1992.[5] Similarly, the

5 Minnesota Department of Transportation, *1994 Annual Performance Report* (St. Paul, September 1994), 75.

performance report includes data for so-called "actual" customer satisfaction with snow and ice removal in fiscal years 1992, 1993, and 1994, although when the report was released, the question had been asked only in fiscal years 1991 and 1994. In addition, MnDOT presents "actual" data on public satisfaction with roadside appearance as though the question had been asked in fiscal years 1992 and 1993. The fact is that the item appeared on the omnibus survey only in fiscal years 1991 and 1994.

MnDOT's performance report shows "actual" data for some years when surveys were not conducted.

When asked about such discrepancies, MnDOT told us that staff interpolated what the results might have been if the same questions were asked annually because they did not want to leave blanks in data tables. Also, they said they were reluctant to include real data preceding fiscal year 1992 because the standard performance report format did not leave space for earlier years.

We also noted that documentation of MnDOT's customer satisfaction measures could be improved in the 1994 performance report. The instructions for performance reports require state agencies to clearly explain what is being measured; how the measures are derived or calculated; why measures are appropriate; and where data sources can be found.[6] For each measure, such information is to be included in a section entitled "Definition, Rationale, Data Source." However, in MnDOT's case, the performance report fails to mention MnDOT's active sponsorship and choice of questions on the omnibus survey; does not show which categories of responses constitute "satisfaction"; neglects to provide exact wording for customer satisfaction questions; and misstates the sample size and margin of error.[7] Also, there is no indication of when surveys were taken, which could be relevant to road conditions. These and other bits of descriptive information are minimally required to document performance measures and meet professional standards for disclosure of public opinion research, as we discussed in Chapter 1.[8]

Data Omitted

We also question the accuracy of two elements of omnibus survey data in MnDOT's most recent annual report of public opinion. The first of these items concerns the condition of Minnesota's roads, and the second, safety in driving or riding through highway construction areas. Neither was included in the department's 1994 performance report, but could be in the future since they are part of MnDOT's recently developed family of performance measures.

MnDOT's 1995 public opinion report states that satisfaction with the condition of "major highway routes" increased by 16 percent[age points] between fiscal years 1994 and 1995, despite an "anomalous," significant decline between 1991 and 1994.[9] However, we found that the question asked in previous years simply concerned the condition of "Minnesota's roads." We think that it is inappropriate to

6 Department of Finance, *Annual Performance Report Instructions* (St. Paul, June 1994), 16-17.

7 The report says that sampling error is 3.5 percent rather than percentage points. Percentage points refer to the units that separate percentage figures. For example, 43 percent is 3 percentage points greater than 40, not 3 percent greater.

8 See American Association for Public Opinion Research, *Code of Professional Ethics and Practices* (Ann Arbor, MI, 1991).

9 MnDOT calculates satisfaction by adding the percentages who are "very" and "somewhat" satisfied. By this measure, the level of satisfaction dropped from 82 percent to 68 percent between fiscal years 1991 and 1994.

combine the results of these similar but different questions, and that the drop in satisfaction, based on the original question asked at three points in time, in any event should have been discussed in MnDOT's 1994 performance report. According to MnDOT staff, one reason for leaving the item out of the performance report is that deterioration in road condition is made clear through an objective measure of declining pavement quality. Second, they told us that the measure of customer satisfaction was skipped because two of MnDOT's programs share responsibility for the condition of the roads, making it difficult to assign responsibility in the performance report.

Concerning the public's level of satisfaction with driving or riding through highway construction areas, MnDOT's 1995 public opinion report again claims a recent, significant increase of 13 percent[age points]. However, we found that this question has been asked differently in each of three years. The fiscal year 1995 question was limited to highway construction "this past summer," the 1990 question was limited to those (98 percent) who had ever driven or ridden through construction, and the 1989 question was directed at all respondents but was restricted to driving, not riding. We understand that it is sometimes necessary to clarify and change questions but, in this case, we suggest that MnDOT settle soon on one consistent way of asking the question and, in the meantime, avoid comparing results of the various items over time without noting the difference.

MnDOT should review its survey efforts and use results more carefully.

Finally, we note that MnDOT has asked some other items that are appropriate to evaluating the road system, but avoided those too in its performance report. As shown in Table 2.1, these items concern satisfaction with the amount of work being done to improve Minnesota's highway system, information about winter road conditions, the safety of Minnesota's roads, and the degree to which Minnesota's most important transportation needs are being met. Results of the past few years indicate that: 76 percent of Minnesotans have said they are very or somewhat satisfied that the state's most important transportation needs are being met; 80 percent, with the amount of work being done to improve the highway system; 87 percent, with the safety of Minnesota's roads; and 90 or 91 percent, with information about winter road conditions.

In conclusion, we would suggest that MnDOT review each of the customer satisfaction items it has so far included in the University's omnibus surveys, consider which ones to revise or repeat, on what schedule, and decide which items belong in its future performance reports. Also, the department needs to upgrade its documentation of the customer satisfaction measures and use the results more carefully. In our opinion, the statewide omnibus surveys have provided some useful, economical measures of customer satisfaction that are appropriate to MnDOT's goals, but in conjunction with its current efforts to develop a family of performance measures the department needs to better plan, coordinate, and document its efforts to track and report on public satisfaction with the road system over time.

POLLUTION CONTROL AGENCY

Over the past five years, the Minnesota Pollution Control Agency (PCA) has been measuring public awareness of its activities and perceptions of its effectiveness, credibility, and quality of services. Like MnDOT, the agency has relied primarily on the University of Minnesota's statewide omnibus surveys of the general public but, more recently, has conducted its own research. For example, PCA has convened focus groups of regulated parties and sent questionnaires to newsletter readers, as well as the general public.

Five years ago, PCA hired an information officer whose private sector background and education includes statistics and market research. She now functions as a resource to executive staff and program managers who are striving to ascertain and, ideally, increase the level of approval or satisfaction among the agency's customers. Among other duties, she helps to design surveys and serves as the agency's liaison to its contractor and consultant, the University's Center for Survey Research.

Through the University, PCA has obtained good information about public perceptions of its performance.

According to the Pollution Control Agency's commissioner, it is important to measure the agency's performance and credibility through public opinion surveys because this provides a starting point from which to improve.[10] Thus, the agency used the results of two questions as performance measures in its first performance report and promised the Legislature future results which can be used to measure the agency's progress in achieving its mission to the public.[11] Responses to the two questions are shown in Table 2.2, concerning (1) the quality of the Pollution Control Agency's work in protecting the environment as a whole, and (2) the believability of information from state environmental agency staff.

We focused on the way in which the Pollution Control Agency presented and analyzed omnibus survey results in its 1994 performance reports and the news release noted above. Also, we reviewed the agency's 1992 and 1994 biennial reports to the Legislature and the results of several other questions that the agency has asked in the University's omnibus surveys. The cost per survey has ranged from approximately $5,800 to $7,500, mainly for the University's services.

Data Collection and Processing

The University's omnibus survey data collection and processing methods are the same for all sponsors, as previously discussed for MnDOT. Based on our review of the University's technical reports, we concluded that:

- **By participating in the University's omnibus surveys, the Pollution Control Agency has obtained high quality information about public awareness and perceptions of its performance.**

All indications are that the omnibus statewide surveys are consistently conducted in accordance with recommended procedures that are designed to minimize inaccuracies. Although this means that results are subject to minor errors from sampling and other practical considerations, we think that it is accurate and fair to say that responses generally represent the views of Minnesota adults. In addition, we

10 Minnesota Pollution Control Agency, "State Residents Say MPCA is Credible, Provides Good Service," *News Release* (February 16, 1995).

11 Minnesota Pollution Control Agency, *1994 Annual Performance Report* (St. Paul, September 1994), 87-88, and *1994 Biennial Report to the Legislature* (undated), 25.

Table 2.2: Pollution Control Agency Public Awareness and Approval Questions in University's State Surveys, 1991-94

Fall / Fiscal Year	1991 / 1992	1992 / 1993	1994 / 1995
	Percent "Yes"		
"Do you have an idea what the Minnesota Pollution Control Agency does?"	64%		57%
	Percent "Good" or "Excellent"		
"Overall, how do you think the Minnesota Pollution Control Agency does at protecting the environment . . . excellent, good, fair, or poor?"	52%		48%
at protecting air quality	57		
at protecting water quality	47		
at resolving solid waste issues	45		
at regulating hazardous wastes	46		
	Percent "Very" or "Somewhat" Likely		
"How likely is it that you would believe information from state environmental agency staff about a controversial environmental issue affecting your community . . . very likely, somewhat likely, somewhat unlikely, or very unlikely?"[a]		75%	75%
from environmental groups		76	68
from industry representatives		41	44
from the media			59
from elected officials			39
	Percent "Good" or "Excellent"		
[Among those who have ever had contact] "How would you rate the service that you received from the Minnesota Pollution Control Agency . . . excellent, good, fair, or poor?"[b]			62%
Number of respondents	825	805	805
Sampling error (% points)	±3.5	±3.5	±3.5
Response rate	79%	71%	68%

Source: University of Minnesota Center for Survey Research, Technical Reports of Annual State Omnibus Surveys.

[a]Interviewers rotated the order of questions about the credibility of agency staff and others.

[b]"Contact" includes attendance at meetings or workshops (9%), visits to the agency's State Fair booth (22%), work or work-related activities (4%), information requests (15%), and any other form of contact (11%).

think it is reasonable for PCA to use some of its questions to monitor public opinion over time because they are identically, clearly worded and allow respondents to rate the agency's performance on scales that range from positive to negative. Other questions are similarly clear and appropriate to measure the agency's performance but have not necessarily been repeated.

Data Analysis and Presentation

Although we have no doubt about the quality of the data that PCA has obtained through its sponsorship of the University's omnibus surveys, we found that:

- **The Pollution Control Agency has sometimes under-analyzed and overstated public opinion about its performance.**

PCA's analysis of customer satisfaction data should be more precise.

As shown in Table 2.2, less than two-thirds of Minnesota residents have said they have any idea what the Pollution Control Agency does.[12] Nevertheless, we found that the agency has reported all respondents' perceptions of PCA's effectiveness in protecting the environment, regardless of their level of information. At the same time, the data from the University's omnibus surveys are available on computer diskettes which, at no additional charge, allow for more in-depth analysis of responses, for example, from those who claim some versus no knowledge of PCA. According to the agency, it did not have the resources to conduct such analysis until very recently.

Generally speaking, it is preferable to minimize uninformed opinions in collecting and analyzing survey data. In this case, we think PCA should base its ratings on the opinions of those with some idea of the agency's functions because, as we show below, results can otherwise be misleading. By independently analyzing computer data from the 1991 and 1994 omnibus surveys, we found that what appears in the table to be a small decline in the public's perception of PCA's effectiveness in protecting the environment is a function of less positive ratings from those who said they had no idea what the agency does. Forty percent of those respondents said the Pollution Control Agency was doing a good or excellent job in contrast to 51 percent of others, the majority, with some idea of the agency's activities in 1994. However, this large difference of opinion does not materialize in the 1991 survey results. As a result, when only the opinions of the informed public are considered, PCA's approval rating is the same in 1991 and 1994 (51 percent).[13]

PCA also needs to be more precise in interpreting and presenting the public's rating of its overall effectiveness. The agency's 1992 biennial report to the Legislature says that the University's 1991 survey of state residents showed that "most people" thought PCA was doing an excellent or good job of protecting the environment.[14] The report does not reveal that this rating represents just 52 percent of the

12 Those who said they had some idea of what PCA does were asked to describe the agency's duties in an open-ended follow-up question in 1991. Responses were generally accurate.

13 Fifty-three percent of the uninformed respondents gave PCA good or excellent ratings in 1991 compared with 51 percent of the informed public, for an overall rating of 52 percent. We checked for differences in response to other questions asked by PCA but found no consistent patterns based on knowledge of the agency.

14 Minnesota Pollution Control Agency, *1992 Biennial Report to the Legislature* (St. Paul, February 1993), 17.

public. On the other hand, the report gives specific percentages for other items where positive sentiment is decisive.

We also note that, in its February 1995 news release, PCA uses different response categories that produce a more favorable rating than those in its 1994 performance report. The report shows that 52 percent rated the agency's overall performance in protecting the environment "good" (48 percent) or "excellent" (4 percent) in 1991. However, the news release adds "fair" to the equation, for an overall rating of 92 percent based on the 1994 omnibus survey.[15]

In our opinion, the agency should have used one consistent set of response categories to arrive at its rating--preferably the same as used in the performance report. Our rationale is that "fair" and "poor" responses represent the neutral or negative positions of the four-point scale that participants were asked to use in answering the question about the agency's overall performance. Also, we think that the 92 percent rating obscures the fact that about half the state's residents in two separate statewide surveys have indicated that they think the Pollution Control Agency is doing only a fair or poor job of protecting the environment.[16] Another consideration is that the agency needs to know what such members of the public think PCA can or should do to improve its performance. According to its 1994 performance report, PCA is striving to receive "good" or "excellent" marks from 60 percent of Minnesotans in fiscal year 1995 and 65 percent in 1997, which may be unrealistic without information as to the public's reasons for concern.

In asking respondents to rate the quality of service they receive from PCA, we agree with the general approach used in the most recent omnibus survey, which limited the rating question to those who contacted the agency for information, attended a meeting or workshop, visited the agency's State Fair booth, worked with the agency, or had other contact with the agency. However, of these, State Fair visitors are most numerous and, according to the agency, not in the same category as business owners and facility operators who PCA deals with most often. As a result, by combining the ratings of the fair-goers with others, the agency could be overemphasizing informal encounters that bear little resemblance to PCA's regulatory duties. To avoid this potential problem, we suggest that the agency report the ratings of its various clients separately in the future.

Finally, concerning PCA's documentation of the two key questions it has chosen as performance measures, the agency's 1994 report contains too little information to meet minimum professional requirements or conform to instructions by the Department of Finance.[17] The question wording, sample size, and interview dates all are missing, and the report implies that PCA undertook one entire statewide survey instead of sponsoring some questions on two of the University's omnibus surveys. However, the report clearly explains what responses count as approval and appropriately discloses the extent of sampling error.

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15 PCA's 1994 performance report was released before the 1994 omnibus survey was complete, so the 1991 data were then the most recent available.

16 Results of the 1991 omnibus survey were that 42 percent rated PCA's overall performance "fair" and 5 percent "poor." In 1994, comparable figures were 43 and 8 percent, respectively.

17 Department of Finance, *1994 Performance Report Instructions*, 16-17.

Data Omitted

Besides asking questions about awareness of PCA, its overall effectiveness, and staff credibility, the agency has included several other items in the University's omnibus surveys that could be used to describe and improve the agency's performance. As shown in Table 2.2, PCA in 1991 asked about its performance with respect to four environmental problems that reflect the agency's major operating programs: air quality, water quality, solid waste, and hazardous waste. Of these, respondents gave the agency its highest rating of 57 percent "good" or "excellent" performance in protecting air quality, compared with 45 to 47 percent ratings in other areas. However, staff told us that the agency did not ask again about these four areas because of the expense and concerns that the general public may not be able to distinguish among types of wastes. Also, the operating programs are now more interested in direct feedback from regulated parties than the opinions of the general public.

Although PCA has obtained useful data about customer satisfaction, it has yet to make the best use of it.

Results from the 1991 and 1992 omnibus surveys also could have been included in PCA's most recent biennial report to the Legislature, as they were in the previous biennial report and the agency's 1994 performance report. For example, PCA could have mentioned results that compare the credibility of its staff with other information sources. Such comparisons were not mentioned in the performance report or the 1994 biennial report to legislators, but PCA's 1992 report and 1995 news release correctly note that state agency staff appear to have more credibility on environmental issues than industry representatives, the media, elected officials, and according to the most recent survey, environmental groups. Staff told us that PCA is informally striving to remain more credible than industry or media sources, which could be one of its performance objectives.

In conclusion, we suggest that the Pollution Control Agency review the questions it has so far asked in the University's omnibus surveys and come to a decision as to the frequency, scope, and focus of its efforts to determine how the public regards the agency's work. Also, we suggest that the agency obtain computer diskettes or ask the University to further analyze relevant survey data in the future and then report the results with greater precision. Overall, in our view, PCA has obtained useful data about public satisfaction with its efforts, but the agency has yet to make optimum use of what it has purchased.

DEPARTMENT OF EMPLOYEE RELATIONS

The Minnesota Department of Employee Relations (DOER) has assessed state employees' level of satisfaction with their health plan and health care using a biennial survey since 1991. For the three surveys, the Joint Labor Management Committee on Health Plans, a consortium of labor and management, worked with DOER to select a nationally developed questionnaire and adapted it for Minnesota employees.[18] The Minnesota Coalition on Health, a not-for-profit consortium of employers, labor, health plans and providers, conducted the 1991 survey for the

18 The Group Health Association of America (GHAA), a national association representing prepaid managed health care plans, developed the first general survey using information from health plans and employers across the United States, including Minnesota.

department. DOER worked with an external consultant to modify the 1991 questionnaire for administration in 1993. Widely distributed brochures report survey results to all state employees, and allow them to compare the different health plans on a variety of factors such as satisfaction with child and specialty care. Minnesota is unique in reporting satisfaction data for each specific health plan that is available to its workforce.

DOER has invested considerable resources, both staff and dollars, in the development, implementation, and publication of this survey. Survey costs increased from a total of $50,000 in 1991, to $83,000 in 1993, and approximately $145,000 in 1995. Part of the sharp increase in cost between 1993 and 1995 is due to doubling the number of employees surveyed for each plan. However, when the 1995 survey is complete, this increase will allow the department to compare employees' level of satisfaction in various regions of the state.

DOER gathers high quality data and uses it to publicize state employees' satisfaction with health plans.

High-quality, well-publicized data are needed to support the department goal to "empower state employees and other eligible persons to take more responsibility for their choices regarding ... medical ... benefits through provider organizations."[19] Also, the department uses these data to hold health plans accountable to maintain or increase state employee satisfaction ratings for overall health care and choice of health plan.[20] DOER distributes the employee brochure comparing all health plans to state employees just before the fall open enrollment period when employees may change health plans. Brochure preparation and printing are a large part of the cost in both 1993 and 1995.

In its 1994 performance report, the department lists the percentage of employees who report they are "extremely" or "very" satisfied with each health plan and with the overall health care provided by each plan (an average of seven items, including overall quality, results of adult primary care, results of child's primary care, results of specialty care, quality of adult primary care, quality of child's primary care, and quality of specialty care).[21] Also, DOER presents average satisfaction ratings across all plans.

We focused on the process of data collection, how the 1994 performance report presented the results of the 1993 survey, and presentation of the research in the employee brochure. Also, we reviewed the technical report provided to the department by the external consultant who has been responsible for survey development over the past several years.

Data Collection and Processing

A survey research firm, DataStat, Inc., conducted the 1993 employee interviews in May and June using a sophisticated computerized calling, tracking, and data entry system. The evaluation consultant, Jeanne McGee, provided support to the department and the survey research firm at all stages of the survey process. In this

19 *Minn. Stat.* §43A.22.

20 Minnesota Department of Employee Relations, *1994 Annual Performance Report* (St. Paul, September 1994), 34-36.

21 Ibid., 34-35 and 36-37.

case, a topic-specific survey was essential to obtain the detailed information the department needs to influence the health plans' behavior.

The consultant initially determined that a sample of about 200 employees for each of the six health plans (First Plan HMO, Group Health, Med Centers, Medica Choice Select, Medica Primary, and the State Health Plan) was needed to ensure an appropriately low level of error.[22] Then, DOER drew a random sample of 2,126 from the target population of active state employees who had been enrolled in one of the health plans for at least one year. The survey research firm called all persons in the sample, but of these, 722 were not counted in the final sample: 171 were ineligible because they did not meet screening criteria such as length of time employed by the state, were hospitalized, or out of town; 207 could not be reached despite at least four calls; 247 could not be found because they moved or only incorrect phone numbers were available; and 97 made appointments to be interviewed later, but were not needed to obtain the necessary number of respondents. Callers reached 1,404 eligible state employees; 131 refused to cooperate outright and 63 terminated during the interview, for a response rate of 86 percent of the 1,404 eligible.

The interview began with a phone call to the household associated with the randomly selected names.[23] The interviewer asked to speak with the person most familiar with family health care, which usually (66 percent) turned out to be women. Interviewers then read a standard set of questions from computer screens, and entered responses immediately into a database, which screened for inconsistencies and directed the interviewer to the next question based on which services or specialists the family used. Interview length varied with the number of services an employee used (up to 45 minutes) but averaged 25 minutes. The data research firm has a staff of trained interviewers and supervisors, who routinely "listen in" on interviews to ensure they are appropriately conducted.

The project consultant's confidential technical report to DOER provides a detailed summary and analysis of responses to specific questions and combinations of questions.[24] We examined this report, which describes respondents, includes a brief analysis of the impact of respondent characteristics on their level of satisfaction, and compares results of 1991 with 1993 to the extent possible. However, there is no information about why so many people were ineligible or if nonrespondents were likely to substantially differ from respondents. DOER told us that the consultant saw no need for active follow-up of refusals since the response rate was so high and follow-up would have increased the cost of the survey. There are also no data comparing respondents with the state employee population, but this is reasonable since the targeted respondent was the person most familiar with family health care, not necessarily the employee. Some items from the 1991 question-

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22 The extent of sampling error is not specified in either the brochure or summary of results given to the department by the consultant. However, the technical report does discuss overall statistical tests and differences between plans.

23 In 1991, letters advising that a phone survey was planned were sent to all qualified employees, but since this apparently created some ill feelings among those who were ultimately not called, there was no introductory letter for the 1993 survey. However, in 1995, targeted participants were sent an introductory letter about two weeks in advance that included the name and phone number of a department contact person who is available to answer questions and field complaints.

24 McGee, Jeanne, *1993 State of Minnesota Survey of Employees on Health Plans and Medical Care: Confidential Final Report* (Highland Park, IL; September 1993).

naire were reworded for the 1993 instrument, others were dropped for technical reasons. Since the 1991 and 1993 data are not strictly comparable, DOER plans to use the 1993 results as a baseline for future surveys.

Based on our examination of the confidential technical report, we concluded that:

- **The 1993 survey has provided DOER with high quality data about state employee satisfaction with their quality of care and choice of health plan.**

DOER bases its recommendations to health providers on information in the technical report and performs no additional analyses. The technical report is generally well organized and readable, and provides specific item wording, charts, graphs, and interpretation by the consultant of various statistical analyses. Clearly written items specifically address employee satisfaction with the quality of care and health plans and allow for a complete, consistent range of response, from "very satisfied" to "very dissatisfied." Also, by careful sampling, targeting knowledgeable respondents, and using technology to minimize interview time, we think it is likely that the data obtained accurately reflect the level of satisfaction of all state employees. According to DOER staff, in 1993 all six health plans were invited to check the results of the DOER survey with their own independent surveys, and these plans agreed that the DOER survey was accurate.

Sampling a population introduces sampling error, since if all members of the population were asked the same questions, the results might be slightly different.[25] We calculated, for example, that the true level of satisfaction with the State Health Plan is likely to fall between 77 percent and 87 percent since sampling error is plus or minus four to six percentage points, as shown in Table 2.3. As a result, employee satisfaction with health plan and care differed significantly for only a few plans. The technical report highlights the generally positive ratings and correctly cautions that even large differences among plans do not mean that any one plan is performing poorly compared with another.

Data Analysis and Presentation

DOER's goal to influence the management of the health plans requires specific information about each questionnaire item for each health plan. DOER uses information from the confidential technical report to work with health plans to identify what they need to improve, in what areas, and to what extent. Similarly, the employee brochure contains a mix of general and specific information to help employees make informed choices. Data for the performance report is a secondary consideration.

We reviewed the consultant's report for the 1993 survey, the department's 1994 performance report, the brochure distributed to state employees based on the 1993 data, and other uses of the data. We concluded that:

25 The estimate from the survey is the single best estimate available of the true level of satisfaction.

Table 2.3: Department of Employee Relations Survey of Employee Overall Satisfaction with Health Plan and Care, 1993

Survey Question or Scale	Percent "Very" or "Extremely" Satisfied
"All things considered, are you satisfied or dissatisfied with having ______ as your health plan . . . extremely satisfied, very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied, extremely dissatisfied?"	
First Plan HMO	82%
Group Health	75
Med Centers	87
Medica Choice Select	82
Medica Primary	78
State Health Plan	82
Overall Average	81
[Combined scale for overall health care, based on seven questions] "All things considered, how satisfied are you with: the quality of care received from your primary care doctor, your child's doctor, and any specialty care; the results of your primary care, your child's care, and any specialty care; and the overall quality of your care for the _____ health plan . . . extremely satisfied, very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied, extremely dissatisfied?"	
First Plan HMO	85%
Group Health	79
Med Centers	87
Medica Choice Select	91
Medica Primary	80
State Health Plan	85
Overall Average	85
Total respondents	1,210
Number of respondents per health plan	199 to 201
Estimated sampling error (% points)[a]	± 4 to 6
Response rate	86%

Source: McGee, Jeanne, 1993 State of Minnesota Survey of Employees on Health Plans and Health Care, Confidential Final Report (September 1993).

[a]Sampling error was estimated for each plan based on a 95 percent confidence level, 200 respondents per plan, and the percentage "extremely" or "very" satisfied.

- **The department has appropriately selected summary data for assessing its performance, while relying on detailed data for informing employees and influencing health plans.**

The department presents two measures in the performance report: a single item rating each health plan and a combination of seven items rating each plan on overall health care.[26] These measures are sufficient to inform the reader how well the department is holding health plans accountable without the detail necessary for employees or program planners. The performance report generally describes the questions asked, along with possible responses, and accurately describes the survey process. The complete range of data is available to the department in its discussions with the various health plans about goals, accountability, and proposals to make changes designed to produce increased future employee satisfaction.

The tables in the performance report show that the future target for each plan is to erase the difference, if any, between it and the average for all plans for the preceding cycle. DOER's stated objective is likewise that health plans are held accountable to maintain or increase their performance, implying that the target for each plan is at or above employees' current level of satisfaction. However, most plans already have high ratings, and substantial improvement may soon be difficult to achieve. An objective overall performance target, such as 85 percent or 88 percent satisfaction, with attention to improving specific activities, such as waiting time, may be more realistic.[27]

Customer satisfaction data in DOER's performance report contain some inaccuracies.

During our review, we identified two discrepancies between data in the 1994 performance report compared with the confidential technical report supplied to DOER. First, the performance report overstated employee satisfaction with health care for the State Health plan. Using percentages reported separately for the "extremely satisfied" and "very satisfied" categories, the percentage satisfied should be 85 percent rather than 87 percent.[28] Second, the average future performance target for employee satisfaction with their health plan is misreported as 84.8 percent rather than 81 percent.[29] The department provided us with a re-analysis of its data that corrected these errors, but in any case, we suggest:[30]

- **DOER should give more attention to the accuracy of data in its future performance reports.**

Although the performance report contains no warnings, the department tries to caution employees that its numbers are not absolute. In the introductory section of the employee brochure, a header states: "When comparing health plans, ignore small differences in percentages," but then it goes on to say: "Differences between plans of just a few percentage points may reflect sampling variation, or the 'margin of error,' rather than any real differences between the plans." However, we estimate the sampling error at about plus or minus 5 percentage points, covering an interval of ten points, which seems to be more than "a few."[31]

In conclusion, we think the department is appropriately using customer satisfaction data to inform state employees who purchase health services and to hold itself

26 Items include overall quality of care, results of adult primary care, results of child's primary care, results of specialty care, quality of adult primary care, quality of child's primary care, and quality of specialty care.

27 DOER has indicated to us that they will add this provision to the next performance report.

28 McGee, Jeanne, 5-18.

29 Department of Employee Relations, *1994 Performance Report*, 37.

30 Letter from Nanette Dahms, Department of Employee Relations, to Jan Sandberg, Office of the Legislative Auditor, June 30, 1995.

31 The Department of Employee Relations has indicated to us, as a result of our review, that it plans to include more detail about the margin of error in the 1995 employee brochure.

accountable for health plan performance, although some additional documentation would be helpful, particularly in the performance report.

DEPARTMENT OF NATURAL RESOURCES

The Department of Natural Resources (DNR) is responsible for land and resource management and regulation through seven management and rules divisions. The Forest Management Division is charged by statute with providing state forest campgrounds with minimum, rustic facilities for camping and day use.[32] The Parks and Recreation Management Division uses visitor research to help set priorities to balance resource management and other park services for park visitors. The division is responsible for providing recreational and environmental educational opportunities, and the provision of such opportunities is included in the mission statement of the state park system.[33] The Fish and Wildlife Management Division is committed to provide "varied, high quality recreational opportunities and educational activities related to fish, wildlife, and native plants."[34]

The department included three measures of customer satisfaction in its 1994 performance report.[35] For the Forest Management and Parks and Recreation Management programs, the department included the percentage of users reporting satisfaction with the services provided. For the Fish and Wildlife Management program, a general satisfaction rating of its program is a measure of the objective: "maintain fish and wildlife populations at levels that accommodate the needs of anglers, hunters, and wildlife viewers."[36]

DNR’s largest survey effort included in the performance report was a questionnaire about satisfaction with state parks that the department distributed at each park to state park users near the end of fiscal year 1987, at a cost of $5,000. Near the end of fiscal year 1988, the department mailed a separate questionnaire to a sample of the general population of Minnesota adults concerning their attitudes, perceptions, and use of state parks and other outdoor recreation areas. Also, in 1994, the department revised the park visitor questionnaire which was distributed to over 14,000 park visitors and is now in the process of analyzing results. Earlier surveys include a 1989 survey of state forest campground users and a 1991 survey of the general population’s level of satisfaction with the Division of Fish and Wildlife’s performance under contract with the Minnesota Center for Survey Research.

We focused on DNR’s internal reports of questionnaire results and compared them with the customer satisfaction information provided in the 1994 performance report. While we reviewed information about the latter two surveys by the Forestry and Fish and Wildlife Divisions, our focus was on the two earliest questionnaires about state parks since those were cited in the department’s 1994 performance

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32 *Minn. Stat.* §86A.

33 *Minn. Stat.* §86A.02, subd. 1 and *Minn. Stat.* §86A.05, subd. 2 and Minnesota Department of Natural Resources, *1994 Annual Performance Report* (St. Paul, September 1993), 4-1.

34 Ibid., 6-1.

35 Ibid., 3-13, 4-6, and 6-11.

36 Ibid., 6-11.

report. Also, state park users are more numerous and typical of the general public compared with state forest campers, and there is a substantially different focus for services provided to anglers and wildlife viewers.

Data Collection and Processing

DNR conducted its 1987 Minnesota state park visitor survey to better understand visitors' needs, motivation, and satisfaction.[37] The department planned the timing and distribution of questionnaires by size of park and day of the week, to ensure a representative sample of state park visitors. After an introductory note from the Director of Parks, the majority of the five pages of questions ask about the visitors themselves, such as: travel distance from their home; age; income; general park items important to their visit such as campground quality and fishing opportunities; reasons to visit a park, for example to save money or "release clutched-up feelings;" how the park could be improved; and specific park facilities necessary to enjoy the park, such as paved bicycle trails, beaches, and flush toilets. There was adequate space for comments, and most items were clearly worded. The questionnaire ended with a thank you and phone number for questions. Park staff distributed the questionnaire as visitors left the park, and at the same time recorded names and addresses to allow follow-up mailings. Personal staff contact, close proximity to the state park visit, and active follow-up all contributed to a return of over 1,300 questionnaires, for a high response rate of 88 percent. However, the DNR internal report accurately states that there are too few questionnaires from individual parks to allow comparisons among pairs of parks, although regional analysis is possible. The DNR also has an internal administration report, which is complete, and includes copies of all cover letters, park staff instructions, and the number of questionnaires distributed by park.

DNR has carefully planned and conducted customer surveys.

Near the end of fiscal year 1988, DNR conducted a survey of Minnesota adults to find out how they perceived parks, how much they used parks, what sorts of outdoor activities they enjoyed, and what they looked for in a favorite outdoor recreation area.[38] In this case, the department mailed questionnaires to a sample of 5,200 households randomly selected within 13 multi-county regions of the state. About 3,100 questionnaires were returned for a response rate of 59 percent, but department staff felt this was an inadequate level of response and contacted 500 nonrespondents by phone to check on the possibility that those responding to the questionnaire were not representative of the general population. Staff determined that frequent park users were more likely to return the questionnaire, and so gave added weight to infrequent park users in their data analysis.[39]

In reviewing the 1988 questionnaire sent to a sample of Minnesota adults, we noted that it was a well designed self-mailer, including an introductory letter from the Director of Parks on the cover, which opened to a large map to help respondents identify parks they had visited. It included a series of items similar to those

37 Minnesota Department of Natural Resources, Office of Planning, *1987 Summer Use Survey of Minnesota State Park Visitors: Survey Administration* (St. Paul, January 1988), 1.

38 Minnesota Department of Natural Resources, Office of Planning, *1988 Survey of Minnesotans on Their Attitudes, Perceptions and Use of Minnesota State Parks* and *1987 Summer Use Survey Summary* (St. Paul, April 1989), 1.

39 Minnesota Department of Natural Resources, Office of Planning, *A Survey of Minnesotans on Their Attitudes, Perceptions and Use of Minnesota State Parks: Tabulation of Results* (St. Paul, December 1988), i.

in the earlier questionnaire, including descriptive information about the respondent, facilities and services users expected to find in a state park, what would motivate more park visits, and whether the respondent would recommend a Minnesota state park to a friend. The questionnaire also asked similar questions about the respondents' favorite outdoor recreational area, what activities they look for in different types of trips, how they found out about different types of recreation, and also ended with a thank you and phone number for questions. We think this questionnaire was better laid out and organized than the 1987 form, and it was designed to encourage completion even if the respondent had never visited a state park. This was an important feature since the department wanted to obtain information from state park users and nonusers.

Based on our review of the two questionnaires and internal DNR documents, we conclude:

- **The Parks and Recreation Division has done a good job of planning its surveys, designing questionnaires, and summarizing and presenting results in its internal documents.**

Department staff planned, processed, and analyzed both the 1987 and 1988 questionnaires. Subsequently, they prepared a document combining results from the 1987 and 1988 questionnaires with technical information about questionnaire administration, considerable data interpretation, and detailed charts and graphs.[40] In this report, results are reported only as percentages rather than the actual numbers of respondents, which is appropriate given the large number of respondents. Staff prepared separate documents tabulating results, describing general survey procedures, and summarizing their findings. However, there is no information about sampling error, pretesting, or data entry and analysis procedures, although analyses presented in another report compares regions, suggesting that staff used a statistical analysis package.[41]

DNR plans to administer the park visitor questionnaire on a five year cycle and, in our opinion, this appears reasonable since the focus is on long-range planning and service issues, including what people like to do outdoors, and what sort of facilities they would like to see in parks. As we discuss below, this means that tables in the department's performance report should show four previous administrations of the questionnaire, not the four years previous to publication of the report. However, the department has expressed some uncertainty about maintaining this cycle in light of funding questions.

Data Analysis and Presentation

The department used results from the 1987 and 1988 questionnaires in its 1994 performance report as the basis for a measure of progress toward its objective of providing appropriate recreational opportunities within state parks and recreation areas. Its target is that: "the percent of state park customers satisfied with the serv-

40 Minnesota Department of Resources, Office of Planning, 1988 Survey of Minnesotans on their attitudes, perceptions and use of Minnesota State Parks and 1987 Summer use Survey Summary, 1-31.

41 Minnesota Department of Natural Resources, Office of Planning, *Selected Regional Analyses of A Survey of Minnesotans on Their Attitudes, Perception and Use of Minnesota State Parks* (St. Paul, March 1989).

ices provided will remain at or above 94 percent." However, after reviewing the questionnaires, internal DNR reports, and the 1994 performance report, we conclude:

- **The Department of Natural Resources in its most recent performance report did not clearly report the results of its surveys of satisfaction among state park customers.**

Survey results are somewhat unclear in DNR's 1994 performance report.

The criterion of 94 percent that is set as a target in the report matches results from the 1987 summer user questionnaire for a question that asked about the feelings of park visitors after their visit, as shown in Table 2.4. However, the discussion in the 1994 performance report clearly shows that the results of the 1987 and 1988 questionnaires were confused. The 1994 performance report initially refers to a single date, 1988, for both the user and general population questionnaire.[42] Indeed, the first paragraph suggests that there was only a single questionnaire by reporting, in the same sentence, results from two questions that actually come from the two questionnaires. In the paragraph that follows, the 1994 performance report correctly specifies that there were two separate questionnaires, although the report continues to refer to the 1988 survey alone.

There is also a mismatch between the wording of the questionnaire items and the wording in the 1994 performance report. While it is accurate, based on results from the 1987 user questionnaire, that 94 percent of visitors said they "enjoyed their stay," this is not the same as stating that they were satisfied with the services provided, which is how the department describes this measure in the performance report. Also, the 1994 performance report states that 98 percent of those surveyed said that they would return, but the basis of this assertion is a different question, namely "Would you visit another Minnesota state park?" as shown in Table 2.4.

The 1994 performance report contains some information about the timing, survey method, and number of respondents for the two questionnaires, although there is no reference specifically to the response rate or sampling error. More detail about the purpose of the surveys and how the department plans to use the data would be useful. The department must clearly define the dual sources for the results used as measures in the report. Because the department uses a five-year cycle for data collection, they should include results from the earlier surveys by modifying the table format, as is allowed by the Department of Finance's instructions for writing performance reports.

Data Omitted

In the 1994 performance report, the department emphasizes satisfaction with its park services, but we found:

- **The department did not include some data which would be useful in measuring park users' evaluation of park services.**

Results from the 1987 user questionnaire provide information about park services which could be used in the performance report, and more importantly, to improve

42 Minnesota Department of Natural Resources, *1994 Annual Performance Report*, 4-6.

Table 2.4: Summer State Park Visitors Survey and General Population Survey on State Parks, 1987-1988

Calendar Year	1987	1988
1987 Summer Survey		
"Which statement most closely reflects your own feelings concerning this visit . . . [exceeded expectations, completely satisfied, mostly satisfied, OK visit, somewhat dissatisfied, mostly dissatisfied, completely dissatisfied]?"[a]		
Exceeded expectations or completely satisfied	72%	
Mostly satisfied	22	
	Percent "Yes"	
"Now that you've visited this state park, would you visit another Minnesota state park . . . yes, no?"	98%	
"Would you recommend this park to a friend . . . yes, no?"	97	
Number of respondents	1,316	
Response rate	88%	
Estimated sampling error (percentage points)[b]	< ±3%	
1988 General Population Survey		
"Would you recommend visiting a Minnesota state park to a friend?"		98%
Number of respondents		3,100
Response rate		+ 59%
Estimated sampling error (percentage points)[c]		< ±3

Source: Department of Natural Resources, Office of Planning, *1987 Summer Use Survey of Minnesota State Park Visitors* and *1988 Survey of Minnesotans on Their Attitudes, Perceptions and Use of Minnesota State Parks*.

[a]Response options above are summarized. The actual options are lengthy, as follows:
- The visit exceeded my expectations; it was a most thoroughly satisfying park visit
- I was completely satisfied with the park visit
- I was mostly satisfied with the park visit
- I thought it was an OK visit, but could have been better
- I was somewhat dissatisfied with the park visit
- I was very dissatisfied with the park visit
- I was most dissatisfied with the park visit; it was a miserable experience

[b]Sampling error was estimated for each question based on a 95 percent confidence interval, the number of respondents, and the percentage who said "yes."

service to the public. Specifically, visitors were asked to rate park performance on all services or features that they felt were important in a state park. Over 70 percent of visitors judged the quality of these important items, including courtesy of state park staff, well protected natural resources, and cleanliness of park grounds, as "good" or "excellent."[43] However, none of this information was included in the 1994 performance report.

Overall, many of the problems that we found result from the mismatch between the measure in the 1994 performance report and the data reported for that measure. In part, this may be because the items selected from the questionnaires for use in the performance report were not designed to measure customer satisfaction with park services directly, although they do provide the department with useful information about strategies for park operation and planning. The department has already indicated that it agrees and will implement our suggestion that its measure be rewritten to better correspond to available data.[44] The department could also consider some additional performance measures to show how the department is solving problems identified by state park visitors.

DEPARTMENT OF TRADE AND ECONOMIC DEVELOPMENT

DTED has been tracking its customers' satisfaction since 1989.

The Minnesota Trade Office, a division of the Department of Trade and Economic Development (DTED), provides services to Minnesota businesses to help increase Minnesota business exports and attract foreign investment. These services include an international business library, various publications, seminars and other educational activities, financial loan and counseling services, lists of potential distributors, and introductions to foreign buyers. The Trade Office began tracking customer satisfaction with its services and the impact of those services with its first client questionnaire in 1989, for services received during 1987 and 1988. The questionnaire asked clients to indicate which office services they received, and then rate those services separately on (1) timeliness, (2) relevance and accuracy, and (3) professionalism. The office used data from this questionnaire to modify services and refine the process for identifying and surveying clients. After some minor revisions, the Trade Office repeated the questionnaire in 1990 and 1992, and plans to administer it again in 1995. The department's 1993 draft performance report included selected data from all three questionnaires as measures of efficiency for eleven of the Office's services.[45] The department's 1994 performance report includes selected data from two of the three questionnaires as measures of customer satisfaction for eight of the Office's services.[46]

43 Office of Planning, Minnesota Department of Natural Resources, *1988 Survey of Minnesotans on Their Attitudes, Perceptions and Use of Minnesota State Parks and 1987 Summer Use Survey Summary*, 25.

44 Terri Yearwood, Department of Natural Resources, to Marilyn Jackson-Beeck, Office of the Legislative Auditor, August 9, 1995, page 2.

45 Minnesota Department of Trade and Economic Development, *1993 Draft Annual Performance Report* (St. Paul, November 1993), 3-6.

46 Minnesota Department of Trade and Economic Development, *1994 Annual Performance Report* (St. Paul, September 1994), 43-49, 51-52, 55.

We used Minnesota Trade Office's internal reports of results from the three questionnaires and a 1994 conference paper to evaluate the accuracy of the questionnaires' client satisfaction data included in the 1994 performance report. We also compared the customer satisfaction information in the 1993 and 1994 performance reports with each other and with original sources.

Data Collection and Processing

In 1987 DTED participated in the development of a performance system for state economic development programs with the help of the Urban Institute of Washington D.C., leading to the Minnesota Trade Office's first performance monitoring questionnaire in 1989. Generally, the department has used this and subsequent questionnaires to determine if the office is serving the right clients, how well these services are being delivered (client satisfaction), and the impacts of those services on clients' business operations.[47] The first questionnaire asked if respondents had obtained any of ten Trade Office services, and if so, to rate each service on three dimensions: whether the service was timely, relevant/accurate, and professionally rendered. DTED staff recorded the responses, conducted statistical analyses, and wrote all reports of results. Analysts also created a measure of satisfaction that counts clients who rate a service as "good" or "excellent" on all three dimensions. Such a rating is often a useful summary that is more demanding and therefore a more conservative estimate of satisfaction than simply combining and averaging the ratings from each of the three dimensions, so long as respondents provide answers for all dimensions. The Urban Institute provided some survey expertise. According to the department, the first questionnaire was not pretested.

The Trade Office sent questionnaires to 316 clients that it identified as receiving some type of service between July 1, 1986, and December 31, 1987. Of these, 209 completed questionnaires were returned for an overall response rate of 66 percent. DTED prepared a large report of questionnaire results including response frequencies and cross tabulations showing how responses on one question related to responses on other questions.[48] A separate summary of questionnaire data included some information about how the department developed and implemented the survey.[49] There was considerable variability in the number of respondents indicating that they obtained any one service. The greatest number of responses concerned publications (116); the least, export financing (15). Department staff later told us that at least some of these differences could be explained by simple variations in the number of clients who used various services. Generally, for those services that were used, respondents did not give a rating on each of the three dimensions, and it turned out that those who did so tended to give positive answers.

After reviewing the initial results, the department modified the questionnaire, added three services, and began its second survey in early 1990, for services during the period January 1, 1988, through June 30, 1989. Documentation for the survey is in a memo that contains no detail about time frame, total number of clients,

47 This report only addresses the client satisfaction portion of the questionnaire.

48 Minnesota Department of Trade and Economic Development, *Minnesota Trade Office Client Survey* (St. Paul, January 1994).

49 P. Richard Bohr, Minnesota Department of Trade and Economic Development, memo to Commissioner David Speer reporting the Urban Institute performance indicators for the Minnesota Trade Office, August 17, 1989.

or response rate. The department reported the results in the same format used for the 1989 questionnaire, and based percentages on the number of respondents rating each item, which varied from 198 (publications) to 15 (export financing).[50] In contrast to the first questionnaire, respondents in most cases rated services that they used on all three dimensions.

Staff evaluated their client database and gave greater attention to identifying those that actually received at least one service from the Trade Office during the period July 1, 1989, to December 31, 1991.[51] The office substantially redesigned and pretested the questionnaire.[52] Staff drew a random sample of 1,360 clients based on their estimation that this number would produce a sampling error of plus or minus 3 percentage points. The questionnaire was mailed in June 1992 but after three follow-up mailings, only 552 clients returned completed questionnaires, for a response rate of 41 percent. Unlike previous internal reports, results for the three-dimensional combined variable, "good" or "excellent" ratings on all three dimensions, were not reported in the paper prepared for the 1994 conference, although numbers and percentages for each service independently for each dimension were included.[53] As with the earlier questionnaire, there was considerable variability in clients' use of Trade Office services.

On the basis of our review of the questionnaires and reported data, we conclude:

- **The Minnesota Trade Office has made a strong effort to measure client satisfaction, but it needs to focus its efforts carefully to ensure that useful data and necessary documentation are available for inclusion in its performance reports.**

The office generally uses three dimensions to measure client satisfaction. While we agree that each of these dimensions is an important part of customer satisfaction, it may be difficult to get respondents to carefully answer so many items. Also, some potential respondents may choose to ignore the entire six-page questionnaire because this section appears so imposing, especially if they have used only one or two services. The latest redesign of the questionnaire does have a more open, inviting appearance. However, the department may wish to consider combining the three dimensions initially, simply asking clients about the overall quality of each service (retaining the same scale) and then asking, through a separate item, for an explanation of any poor or fair rating, particularly as to timeliness, relevance and accuracy, and professionalism of staff. Alternatively, for purposes of performance reporting, the department might obtain better information by focusing on and specifically targeting clients who use common services. Less frequently used services, such as export financing, might require a specialized survey using phone interviews with questions different from those appropriate for assessing satisfaction with, for example, the quality of Trade Office

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50 Carol Johnson, Minnesota Department of Trade and Economic Development, memo to Cherie Banks, Richard Bohr, Christina DeWitt, Noor Doja, and James Jarvis reporting on the performance monitoring project - round 2, July 5, 1990.

51 This was a departure from the 18 month period used for the first two questionnaires.

52 We analyzed the results that were presented in a paper for a Canadian conference in 1994. Hai Chin Liu, "The Performance and Quality of an International Trade Program - An Evaluation," paper presented at the 14th Annual Conference of the Canadian Evaluation Society, Quebec, Canada, 24-26 May 1994.

53 The numbers reported in the three tables were not always consisent with the numbers presented in the text of the article.

publications. Finally, low response rates mean that the department must take special care in its performance reports to demonstrate that its samples of respondents are representative of the population of Trade Office clients for specific services.

Data Analysis and Presentation

The Trade Office used information from its two most recent client questionnaires in its 1994 performance report. Also, the 1993 draft performance report included additional information from the first questionnaire. To its credit, the department developed separate objectives for each service, such as the library, publications, and export counseling. The 1993 report includes eleven services for three fiscal years, and the 1994 report includes eight of these services while measuring customer satisfaction over two fiscal years.[54] However, we found:

- **The Trade Office calculated its measure of customer satisfaction from its three client questionnaires inconsistently, so that it is difficult to monitor results from year to year through performance reports.**

- **The Office reported but did not actually collect customer satisfaction data for the time periods stated in the 1994 performance report.**

Measures in DTED's 1994 performance report are calculated inconsistently.

The 1993 draft report presents measures of "efficiency," which the office defined as "good to excellent" customer satisfaction ratings (combining the three dimensions), on eleven Trade Office services. The 1994 report specifically referred to the three dimensions and rating scale in defining customer satisfaction, and provided some background information on the client survey that was missing from the 1993 draft report. However, when we compared the two performance reports with DTED's internal reports and the paper prepared for the 1994 conference summarizing data from the three questionnaires, we found several problems, including inconsistent definitions of customer satisfaction, incorrectly identified reporting periods, some very small numbers of respondents, and calculation and proofreading errors.

The department appropriately used ratings of "good" or "excellent" on all three dimensions for a service as a measure of customer satisfaction in the 1994 report. But, in our opinion, it would also have been acceptable, and perhaps more consistent with measures used by other departments, to present an average of the percentage ratings across each of the three dimensions, as shown in Table 2.5.[55] Also, only the fiscal year 1993 ratings for the professionalism dimension from the third questionnaire are reported as customer satisfaction in the 1994 performance report.[56] As shown in Table 2.5, these ratings were, on average, higher than ratings on any other scale or an average of scales for that questionnaire. In any case,

54 The differences in the number of services is explained by the fact that the Trade Office dropped one question about its trade lead service, and asked about three other services in one question.

55 Many respondents did not rate services on all three dimensions in the first questionnaire, and the number of respondents with usable information for the three-dimension combination rating was much smaller than the number responding to any one dimension for a service. Those respondents who rated all dimensions for a service tended to have higher ratings on any one dimension, which contributed to the very high numbers for the three-dimensional rating included in the 1993 draft performance report.

56 Letter from James T. Jarvis, Minnesota Trade Office, to Jan Sandberg, Office of the Legislative Auditor, July 6, 1995.

comparisons between a rating from one dimension and a rating derived from a combination of three dimensions are inappropriate. Finally, the department reported data from the third questionnaire in a different format that is inconsistent with ratings reported for other fiscal years.

Technical errors also mar customer data in DTED's performance report.

We found two other problems in trying to match the data collected to the time periods stated in the draft 1993 and 1994 performance reports. First, according to the department's internal reports, the first questionnaire collected information for services rendered during the period July 1986 to December 1987, but these data are labeled as fiscal year 1990 data in the 1993 draft performance report. The second questionnaire collected information about services rendered during January 1988 through June 1989, assuming no overlap with the first questionnaire and the same interval. The third questionnaire collected information about services rendered during July 1989 through December 1991. However, these data are labeled fiscal years 1991 and 1992 in the 1993 draft performance report. While we understand that there is a gap between the time the department collected and analyzed the data and reported the results, such large differences are excessive and misleading. More generally, performance data reported as "actual" and attributed to a particular year should in fact relate to performance during the stated time period. Even more confusing is the fact that DTED used the same performance data and attributed it to different years in different reports. Data attributed to fiscal year 1992 in the draft 1993 performance report was reassigned to fiscal year 1993 in the 1994 performance report.[57] Similarly, data labeled fiscal year 1991 are transformed into "actual performance" fiscal year 1992 data in the later report. Rather than trying to fit data into fiscal year formats, the department should report data in the actual 18 month increments covered by its questionnaires.[58]

Neither the draft nor DTED's first annual performance report provides enough information about its customer satisfaction surveys to satisfy the minimal disclosure standards discussed in Chapter 1 and recommended by the American Association for Public Opinion Research or the Department of Finance's requirements for performance reports.[59] There is no mention by DTED of the number of respondents to any questionnaire. Moreover, language used in the 1994 performance report implies that the department surveyed most Trade Office clients, and that most clients rated every service. However, fewer than half of the respondents rated most of the eight services included in the 1994 performance report, as shown in Table 2.5, probably because of the small numbers of Trade Office clients who used certain services.

Finally, we noticed some calculation and proofreading errors indicating that the department needs to be more careful in preparing its reports. We particularly noticed an "actual performance" rating of 99.6 percent satisfaction with seminar services

57 *1993 Draft Annual Performance Report,* 3-6 and *1994 Annual Performance Report,* 43-49, 51-52, 55.

58 Instructions by the Department of Finance state that time periods other than fiscal years may be used when a broader time perspective is needed or where measures are routinely collected at other than yearly intervals. See Department of Finance, *1994 Performance Report Instructions*, 15.

59 The American Association for Public Opinion Research, *Code of Professional Ethics and Practices* (Ann Arbor, September 1991). Also, the Department of Finance, *1994 Performance Report Instructions,* 16-17, asks agencies to clearly explain what is being measured, how measures are derived or calculated, why measures are appropriate, and where data sources can be found.

in fiscal year 1993 in the 1994 performance report.[60] Such a high value is unlikely and should have prompted inquiry, as well as the obvious fact that the department reported the same rating correctly as 90.6 percent in its 1993 draft performance report.

Overall, we recognize that the Department of Trade and Economic Development has pioneered surveys of customer satisfaction with government services and has faithfully pursued a plan to measure its performance. However, in our view, the effort has not been clearly documented and applied effectively in the department's most recent performance report. However, we think the department could possibly extract meaningful information for future performance reports from its existing questionnaires concerning the Trade Office's common services and recalculate the data to eliminate inconsistencies in reporting results from year to year. Other problems could be addressed by more careful attention to the presentation and documentation of performance data in future reports. In adapting its ongoing performance system to the public demand for annual performance reports, some initial start-up difficulties are to be expected. It is particularly timely to address these issues now, as the department plans to expand its surveys to the area of community development.

Table 2.5 Minnesota Trade Office Customer Satisfaction Questions and Results, 1988-91

[Of Trade Office clients who obtained Services, January 1988 - June 1989]

"Using the rating scale below, please rate each service received at your Minnesota facility (ies) for each of the following characteristics (If you do not receive the service indicated, please circle "not applicable".) . . . excellent, good, fair, poor, not applicable"

	Percent of Those Rating A Service As "Good" or "Excellent" in Terms of:		
	Professionalism		Combined Rating[b]
	Number of Respondents	Percent	Percent[c]
Publications	188	96%	83%
Library services	81	98	90
Education services--seminars	158	91	81
On-call & specific inquiry (export counseling)	84	93	80
List of agents	73	89	63
Meetings (introduce buyers)	36	94	75
Catalog shows	30	90	77
Trade mission	18	94	83
Loan guarantee service (export finance)	15	87	71
Export finance counseling services	28	93	81
MN International Information Network	33	94	79
Total number of respondents	352		
Overall response rate	NA[a]		

60 Ibid., 47.

Table 2.5 Minnesota Trade Office Customer Satisfaction Questions and Results, 1988-91, continued

[Of Trade Office clients who obtained services, July 1989 - December 1991]

"Using the rating scale below, please rate each service received at your Minnesota facility (ies) for each of the following characteristics (If you do not receive the service indicated, please circle "not applicable".) . . . excellent, good, fair, poor, not applicable"	Percent of Those Rating a Service as "Good" or "Excellent" in Terms of:	
	Professionalism	
	Number of Respondents	Percent[d]
Publications	141	91%
Library services	73	93
Education services--seminars	170	91
On-call & specific inquiry (export counseling)	82	93
List of agents	59	85
Meetings (introduce buyers)	42	90
Catalog shows	50	86
Trade mission	32	84
Loan guarantee service (export finance)	14	86
Export finance counseling services	24	96
MN International Information Network	28	93
Total number of respondents	552	
Overall response rate	41 %	

Sources: Minnesota Department of Trade and Economic Development, Minnesota Trade Office Client Survey, (1) July 1990 and (2) May 1994.

Note: Estimated sampling error was not calculated for the entire questionnaire due to wide variation in the number of respondents rating each service.

[a]The department distributed an unknown number of questionnaires.

[b]The combined rating is based on a respondent's rating a service as "good" or "excellent" on all three dimensions in order to be counted as satisfied. Responses on less than three dimensions were dropped from the analysis for that service. This statistic was only available for the January 1988 - June 1989 time period.

[c]Reported as Fiscal Year 1991 customer satisfaction information in 1993 draft performance report and also reported as Fiscal Year 1992 information in the 1994 performance report.

[d]Reported as Fiscal Year 1992 customer satisfaction information in the draft 1993 performance report and as Fiscal Year 1993 data in the 1994 performance report.

DEPARTMENT OF REVENUE

The Minnesota Department of Revenue is one of the largest state departments, with more than 1,500 employees, and is responsible for collecting nearly $8 billion each year from 154 different taxes levied on individuals and corporations. The department recently listed seven surveys or studies of customer satisfaction conducted by its various divisions since 1991.[61] The 1994 performance report includes data from the Sales and Special Taxes Division Audit Quality Survey, a four-year continuous assessment of satisfaction of those recently audited (auditees) by the department. Questionnaire items focus on identifying what auditors do well, what activities they need to improve, and increasing auditor awareness of what auditees want, consistent with the department objective "to provide information and services that meet taxpayer needs."[62] The department sends the questionnaire to taxpayers who have had direct contact with an auditor in any of three field audits completed since 1991, including corporate franchise, individual income tax, and sales and use tax audits.[63] The department's *1995 Minnesota Quality Report* devotes an entire chapter to customer focus and satisfaction, emphasizing a variety of ways the department tries to determine customer needs and manage customer relationships.[64]

We focused on the methods used to conduct the audit quality survey, the presentation of results in the 1994 performance report for fiscal years 1992-94, and an internal memo tabulating questionnaire results. We also reviewed the presentation of customer satisfaction data in the department's *1995 Minnesota Quality Report.*

Data Collection and Processing

The Department of Revenue successfully designed its own survey of auditees' satisfaction.

In December 1990 a team of employees from the department's Audit Division Quality Council began work on a questionnaire and set of procedures to measure auditors' performance during the audit process. The department developed the questionnaire and cover letter with feedback from auditors, managers, and auditees. The final questionnaire, currently used, is a simple, one page list of 19 questions. A cover letter from the director of the Sales and Use Tax Division, personally addressed to the auditee, assures anonymity. Questionnaires are precoded to indicate the month and year the department completed the audit, but otherwise there are no identifying names. All responses go to a separate division for processing, transcription of comments, and twice-yearly internal distribution.

Auditees are asked to indicate their level of agreement with a series of positive statements about their satisfaction with particular activities during the audit process. They can circle one of four options--strongly disagree, disagree, agree, or strongly agree. They may also write comments on the reverse side of the question-

61 Minnesota Department of Revenue, *1995 Minnesota Quality Report* (St. Paul, May 1995). All but one of these studies are focused on the services of a specific division for a single time period.

62 Minnesota Department of Revenue, *1994 Annual Performance Report* (St. Paul, September 1994), 28.

63 Corporate franchise and income tax respondents comprise fewer than 10 percent of all respondents and these data are generally not discussed here.

64 Revenue, *1995 Minnesota Quality Report*, Chapter 7.0.

naire. Each questionnaire comes with a stamped, addressed envelope for return mailing.

All auditees personally contacted by an auditor, in person or by phone, during the audit process receive questionnaires, and about 60 percent return them. There is no attempt to evaluate characteristics of the nonrespondents because the majority do respond, and the division wants to maximize respondent anonymity. Questionnaire costs include the time of less than one staff person and expenses for printing and mailing about 1,000 forms each year.

As shown in Table 2.6, most respondents answer most items, in part because they are clearly worded and focused on specific activities common to most audits. However, there is no middle or neutral category, forcing respondents to choose between "disagree" and "agree." Table 2.6 shows the percentage of respondents who said they "agree" or "strongly agree" with each statement from the questionnaires completed in fiscal years 1992, 1993, and 1994. If we regard the respondents as a sample from the population, the estimated sampling error would be quite small, plus or minus about 1.5 percentage points, reflecting the large number of respondents and inclusion of about 60 percent of the population of auditees.

Table 2.6: Department of Revenue Audit Quality Survey of Client Satisfaction with the Sales and Use Tax Division Audit Process, 1991-94

	Percent "Agree" or "Strongly Agree"		
Fiscal Year	1992	1993	1994
"Prior to the beginning of the audit, I was informed of . . . strongly disagree, disagree, agree, strongly agree?"			
the initial period(s) to be audited	97%	96%	96%
records needed	97	96	95
procedures to be followed	89	88	87
"I was provided with information on my rights as a Minnesota taxpayer . . . strongly disagree, disagree, agree, strongly agree?"	91	91	91
"The Minnesota taxpayer rights information I received was helpful during my audit . . . strongly disagree, disagree, agree, strongly agree?"	76	77	73
"I was provided with helpful information regarding the tax laws and rules that apply to my situation . . . strongly disagree, disagree, agree, strongly agree?"	85	88	84
"I was treated fairly by the auditor . . . strongly disagree, disagree, agree, strongly agree?"	98	97	97
"I was given clear, understandable answers to my questions . . . strongly disagree, disagree, agree, strongly agree?"	94	94	93
"I was shown consideration for . . . strongly disagree, disagree, agree, strongly agree?"			
my time	98	97	96
office rules	97	95	96

Table 2.6: Department of Revenue Audit Quality Survey of Client Satisfaction with the Sales and Use Tax Division Audit Process, 1991-94, continued

	Percent "Agree" or "Strongly Agree"		
Fiscal Year	1992	1993	1994
"The audit process was completed . . . strongly disagree, disagree, agree, strongly agree?"			
efficiently	96	96	95
without due delay	94	92	91
"The audit report was . . . strongly disagree, disagree, agree, strongly agree?"			
understandable	95	94	94
well documented	93	94	94
"My final audit conference covered . . . strongly disagree, disagree, agree, strongly agree?"			
requirements for compliance with tax laws	89	90	88
appeal procedures	80	84	83
recommendations to assist me in future tax reporting	86	88	86
"The audit helped me understand pertinent tax laws . . . strongly disagree, disagree, agree, strongly agree?"	88	88	87
"My perception of the Audit Division of the Department of Revenue is more positive as a result of this audit experience . . . strongly disagree, disagree, agree, strongly agree?"	89	88	85
Average for all items	91	91	90
Average based only on valid responses	94	94	93
Number of respondents	522	642	593
Estimated sampling error (% points)[a]	< 3	< 3	< 3

Note: The response rate reported for each year was about 60 percent.

Source: Minnesota Department of Revenue, Audit Quality Survey.

[a]Treating the group of respondents as a sample, we estimated sampling error based on a 95 percent confidence level, the number of respondents, the average percentage "Agree" or Strongly Agree," and the estimated total number of clients.

The Compliance Support Service unit of the department prepares a report for program managers, including an overview and summary of data from the last three years, including background, presentation of results, future plans for the survey, and a summary and listing of individual comments. On the basis of our review of the questionnaire and the information reported to division supervisors, we conclude:

- **As implemented by the Special Taxes unit, the audit quality survey provides useful information about auditee satisfaction with specific audit services.**

We were unable to independently verify the accuracy of the reported data, but the numbers in the tables appear consistent and reasonable over the three-year period. The department refers specific data to managers and others most likely to use it to make changes in the audit process. However, we encourage the department to analyze its data in greater depth, possibly by cross tabulating individual questions. Such analyses would allow the department to identify relationships among possible problem activities that might better guide improvements to the audit process. Also, the department should devise a system to allow staff to check how well the survey respondents represent the general population of auditees without compromising anonymity. For example, it could precode questionnaires to indicate the general size and geographical location of the taxpayer.

Data Analysis and Presentation

Revenue's performance report features one easy to understand measure of auditees' satisfaction.

The department's 1994 performance report includes a single measure combining all items in the questionnaire and reporting the overall percentage of those who "agree" or "strongly agree" to gauge how well staff from the Sales and Special Taxes division have met taxpayer needs during recent audits. While such combined information may provide little guidance to managers seeking to identify specific audit activities that need to be strengthened, we think it is a reasonable way to present an overall measure to the general public. However, it may not be completely clear to the uninformed reader that the reported percentage is an average of 19 questions. The performance report adequately identifies the response options and correctly summarizes the general nature of the questions, and the report accurately states that the percentage is based on all audited taxpayers who returned a questionnaire. However, the department calculated percentages of respondents who "agree" or "strongly agree" based on the total number of questionnaires returned, which may understate how knowledgeable respondents answer questions. It would be more appropriate, and consistent with data reported by other agencies, if the department were to report the percentage of respondents based on those with opinions about a specific item. Currently, the report does not include any estimates of sampling error, sample size, or a clear indication of the timing of the survey.

The *1995 Minnesota Quality Report* contains a brief description of several methods that the Department of Revenue uses to measure customer satisfaction and dissatisfaction, including the audit quality survey. Other methods include questionnaires targeted to specialized customers, evaluation of taxpayer education classes, meeting feedback, and a survey of 6,000 Minnesota taxpayers and 372 businesses. The department also has included several questions in the University of Minnesota's 1990 and 1993 statewide omnibus surveys, using methods as described above, and asking about the fairness of the tax system in general and certain taxes in particular. The *Quality Report* contains more detail than the 1994 performance report about the background of the audit quality survey. However, the graphic presentation of the data suggests a single question rather than an average across 19 questions. Data for the Corporate Franchise Tax, Sales and Use Tax, and Income Tax divisions are shown in a series of bar graphs for a three year period, without any information on the number of respondents or estimated sampling error. Finally, the graphic percentage is labeled "% of respondents who agree or strongly agree their needs were met during the audit process." This differs from the more accurate language in the performance report "audited taxpayers who 'agree' that their audit met specific standards." In general, we found:

- **Data in the annual performance report and *1995 Minnesota Quality Report* are reasonably accurate regarding the Sales and Use Tax division's performance, although additional detail would be useful.**

In conclusion, we suggest that the department should continue to use summary statements for questionnaires such as it has done for the audit quality survey in its performance report, while at the same time using specific responses to questions for program decisionmaking. The department may wish to include some additional customer satisfaction data from other sources, but future reports must adequately describe each source so that readers can judge its usefulness.[65] While informal feedback from meetings and training sessions is useful for management decisions, the emphasis in performance reports should be on valid, representative surveys of defined customers.

DEPARTMENT OF HUMAN SERVICES

Human Services is the largest state department with over 6,000 full-time equivalent employees. Within it is a 19-member Office of Ombudsman for Older Minnesotans, which mainly handles complaints on behalf of nursing home residents. For the past several years, this office has been measuring client satisfaction, which it made a specific objective in the department's 1994 performance report.[66] Also, several other branches of the department have more recently begun to measure client satisfaction, and others plan soon to do likewise. For example, the Quality Services Division last year launched a survey of selected county human services agency staff as part of an effort to improve the department's relationship with counties. A consultant surveyed a carefully chosen but not necessarily representative group of 105 county staff in 27 agencies and found low to moderate levels of confidence in the relationship, which the department slated for substantial future improvement.[67] Also, the department's independent living skills program regularly asks youth to rate their satisfaction with services received, although this is not required for federal funding.[68] The youth receive up to $50 for completing three identical questionnaires, one on completion of the program, another after 90 days, and the third after one year. In addition, the department recently surveyed three out of five courts' satisfaction with reports on men committed for treatment as psychopathic personalities and nine human resource directors' satisfaction with

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65 According to the Department of Revenue's *1994 Annual Performance Report,* pages 27 and 31, the department plans two additional surveys to collect customer satisfaction information from taxpayers and other state agencies. One will determine satisfaction with information and services for sales and special taxpayers, and the other will ask users to evaluate the quality of records from the Department of Revenue.

66 Department of Human Services, *1994 Annual Performance Report* (St. Paul, 1994), 89.

67 Ibid., 74. The department established a performance objective for the improved relationship, but staff told us that the 30 percent "actual performance" figure in the performance report represents a preliminary "ballpark" estimate. We learned that the survey showed an actual result of 40 percent, but this in any event is based on responses from 105 county agency staff who are not necessarily representative of all county staff. See Quality Institute International, *Report of Findings for the Department of Human Services* (St. Paul, May 1994), 1-6.

68 Ibid., 137. The department's 1994 performance report indicates that 90 to 94 percent of the respondents have rated services "good," "very good," or "excellent." Roughly 370 of 1,400 participants responded initially in 1994.

centrally provided human resources services for geographically dispersed residential facilities.[69]

In our review of the department's 1994 performance report, we focused on data on clients' satisfaction with services from the Office of Ombudsman for Older Minnesotans, which has an objective to maintain at least 75 percent satisfaction among clients. The office uses two methods to determine whether clients are satisfied. The first is to send a questionnaire by mail, asking selected clients to express their opinions, and the second is for staff to analyze all case files and make an assessment of whether the clients' explicitly desired outcomes were achieved. Office staff prefer the latter method, which has been used since 1993, as reflected in the performance report, although it reveals a much lower level of satisfaction and is not based on clients' self-reported opinions. Results of the client opinion questionnaire have been presented along with the results of case file analysis in other reports by the office, namely, its 1994 report to the Legislature and 1994 annual report.[70]

The Ombudsman for Older Minnesotans asks clients whether they are satisfied but also uses case files to measure outcomes.

Data Processing and Collection

The office began to survey clients by mail in 1993 because it needed a way to compare the services provided by staff in outstate offices with the services provided by its grantee, the Minnesota Alliance for Health Care Consumers, which handles all complaints in the Twin Cities area.[71] The Alliance had sent its own questionnaire to Twin Cities clients, and the office duplicated parts of it. The two-page questionnaire asks how clients came into contact with the office and how the ombudsman responded. There is ample room for written comments along with a check-box to gauge clients' level of agreement with statements about the services received, the outcome, and future problem-handling.

Table 2.7 shows what clients were asked, along with answers from those who responded. Two main problems become apparent in reviewing this table. First, the office used a series of four questions that call for simple "yes" or "no" answers. Second, responses do not necessarily reflect the opinions of the ombudsman's clients as a whole and do not reflect performance for the entire fiscal 1993 year.

The yes/no questions resulted from the office's desire for strict comparability to results from the questionnaire that was fielded by the Minnesota Alliance for Health Care Consumers but unfortunately, this approach yields only a little information. As shown, 91 to 100 percent of clients answered this series of items favorably, and there is no way to break responses down more specifically. In contrast, 96 to 98 percent of the respondents agreed or strongly agreed with a statement to the effect that they were satisfied with services from the ombudsman's office, but because of the way that question was asked, it is possible to determine that 62 to 65 percent expressed a strong positive opinion. Response options to the statements

69 Ibid., 362, 34. In both of these cases, satisfaction is an objective or measure in the performance report.

70 Minnesota Board on Aging, *Report to the Minnesota Legislature on the Office of Ombudsman for Older Minnesotans* (St. Paul, February 1994) and *Office of Ombudsman for Older Minnesotans 1994 Annual Report* (June 1994 draft).

71 The state ombudsman's office is within the Minnesota Board on Aging, which is part of the Department of Human Services. The State Ombudsman for Older Minnesotans designates nine regional staff to serve as ombudsman outstate.

Table 2.7: Office of the Ombudsman for Older Minnesotans Client Satisfaction Questions and Results, 1991-94

Calendar Year	1991	1992	1993[a]	1994[a]
Yes or No:[a]				
	Percent "Yes"			
"Was the ombudsman sensitive to your needs?"			99%	100%
"Was the ombudsman generally available when you needed to talk with them?"			97	98
"Did you receive prompt enough attention when you first called?"			100	98
	Percent "No"			
"Was there anything else the ombudsman could have done that would have helped?"			91	92
"How much do you agree with the following statements . . . strongly agree, agree, don't know, disagree, strongly disagree?"[a]				
	Percent "Agree" or "Strongly Agree"			
"Because of the information and assistance I received, I feel more confident that I could handle future problems on my own."			62	66
"Generally, I am satisfied with the services I received from the Office of Ombudsman for Older Minnesotans."			96	98
"Generally, I am satisfied with how things turned out."			89	84
Case File Results[b]				
Complaint successfully resolved ("satisfied")	73%	75%	77%	78%
Not resolved	19	17	16	16
Discontinued	8	8	7	6
Number of respondents	NA	NA	234	170
Number of complaints	2,171	2,258	2,542	2,279

NA = Not applicable.

Source: Office of Ombudsman for Older Minnesotans.

[a]According to the ombudsman's report, survey results for 1993 are based on responses from 61 percent of the clients whose cases were closed during the first half of the year. The response rate is unknown for 1994, and there is a possibility that 1993 results actually are for just one quarter of the year.

[b]Case file results are based on all complaints that were closed in given years.

included "strongly agree," "agree," "don't know," "disagree," and "strongly disagree."

Although it might be possible that almost all clients are truly satisfied with the ombudsman's services, the office itself regards this as an overstatement. Staff described the survey as a "quick and dirty" project, prompted by 1993 legislation that required the Board on Aging to submit a plan to privatize the ombudsman's operations beyond the Twin Cities.[72] Partly by showing that state employees generated about the same level of satisfaction as its Twin Cities grantee, the office successfully avoided what otherwise could have been a fundamental organizational change. The survey took little effort and cost no more than $1,500.

According to the ombudsman's report to legislators, the office in 1993 mailed 385 questionnaires to a specified group of clients whose cases had been closed in the first six months of the year. However, after reviewing their records, staff recently told us that the questionnaires could have been sent to clients whose cases were closed in either the second quarter, third quarter, or first half of 1993. In 1994, regional offices were to send questionnaires to clients at certain times when cases closed. However, no one kept track of the total number that were or should have been mailed, and staff told us they now suspect that some clients should have been but were not mailed questionnaires in 1994 since the number of respondents (170) was so much lower than it was in 1993 (234).

Case files only indirectly measure clients' satisfaction but are preferable to the Ombudsman's survey.

In contrast, the ombudsman's office puts considerable time and effort into an automated data system which requires information on each case that is closed. Acting as caseworker, the ombudsman begins by gathering and recording the specifics of each complaint, establishing what the client wants done, writing an action plan, documenting the ensuing activities and, finally, recording the outcome. A procedures manual outlines the type of information that should be included in the written case files, which are replete with details similar to medical records. When finally the case is closed, staff must complete a form that captures essential information which goes into a computer system that is used primarily for program management and to meet federal reporting requirements. The system costs roughly $10,000 annually for data entry, programming, maintenance, and reports by Department of Human Services personnel.

To ensure that cases are properly documented and office procedures followed, the state ombudsman reviews and comments on 5 percent of the files annually. Also, to ensure that case file forms are properly completed, she checks the same 5 percent of the hard-copy files against the content of the computer system. As a result of this review and the strict procedures that are required, we conclude that:

- **The Office of Ombudsman for Older Minnesotans properly relies on case files rather than its existing survey as an indirect means of determining clients' level of satisfaction.**

This is not to say that the office could not potentially rely on a properly administered survey of client satisfaction but that under the circumstances, the case files are a much better source of information. As previously mentioned, they provide

72 *Minn. Laws* (1st Spec. Sess. 1993), Ch. 1, Art. 1.

comprehensive data on all clients whose cases are closed. One could also argue that the case files provide better, more objective information on clients' satisfaction than could be obtained by asking directly. Some bias could creep into the ombudsman's interpretation of whether clients' desired outcomes were achieved but, in our opinion, this is unlikely since so much is required in the way of documentation. In addition, complaints are often clear-cut and the desired outcome quite simple and demonstrable. For example, one nursing home resident complained because physical therapy was stopped, but the ombudsman got it started again (or "satisfied" the client) and documented the ensuing physical improvement.

It should also be noted, to the ombudsman's credit, that the office developed its case-file method of measuring client satisfaction as an admittedly imperfect but practical means of producing evidence of its results. The effort started in 1991 after the state ombudsman attended a training session that stressed the principles of evaluation and quality management as opposed to monitoring compliance with procedures. Minnesota was one of the first states subsequently to develop a computerized case file analysis system which is now the model for a national ombudsman reporting system that is federally required as of October 1995. Since the state's ombudsman did the ground work for the new national system, significant additional costs are not anticipated.

Data Analysis and Presentation

The Ombudsman should clarify its measure of client satisfaction in future performance reports.

As indicated above, the ombudsman's surveys have been used minimally. Nonetheless, the office currently is planning to repeat the survey annually. We suggest instead that the office make changes in question wording and response options and recast the survey as an occasional means to obtain informal, direct feedback from clients. Such feedback can be useful for management purposes and staff development no matter which or how many clients respond, but does not amount to a valid survey since results are probably not representative. By taking this approach, the office would not only avoid future confusion among readers of its various reports but would make itself more consistent with the facts of the past. Also, an informal approach would avoid costs that the ombudsman's office otherwise could incur by attempting to follow recommended survey procedures when a different but useful alternative method of analysis is available through case files.

At the same time, the office needs to clarify its presentation of case file results so that they cannot be confused with client feedback, opinions, or survey results. In reading the Department of Human Services' 1994 performance report, the source of satisfaction data is simply not clear. The report shows the level of satisfaction based on case file analysis but says: "The client determines whether or not the problem has been resolved to their satisfaction." Although the performance report alludes to "documentation" as the source of satisfaction data, the discussion is inordinately brief, considering the unusual nature and several virtues of the performance measurement method that the office has developed.

The office also needs to improve the way in which it detects keying errors and inconsistencies in its case file data base. Staff admitted to us that they have spent far too much time this year making corrections that resulted from lack of control over incoming data. With minimal computer programming, the office can and should immediately detect obvious mistakes. We understand that such programming is being planned, particularly because the regional offices may enter data for themselves on-line in the future.

In conclusion, we think the Office of the Ombudsman for Older Minnesotans should refine its case file data processing procedures and presentation of results but continue to use this indirect method of measuring and increasing clients' satisfaction. For its internal management purposes, the office could well supplement case file analysis with informal feedback from clients. If such feedback were to be used in public reports, which we do not think is necessary, the office should be careful not to overstate the significance of the results.

DEPARTMENT OF PUBLIC SAFETY

Within the Department of Public Safety, two programs have measured their clients' level of satisfaction and a third is planning to do so.[73] The largest of these is the Bureau of Criminal Apprehension (BCA), with about 200 full-time equivalent employees who provide training, laboratory services, investigative help, testimony, fingerprint information, and individual criminal histories to law enforcement officials throughout the state. According to the department's 1994 performance report, BCA plans to maintain good or excellent ratings of its a) overall services and b) investigations personnel from at least 95 percent of police chiefs, county sheriffs, and county attorneys, who it began to survey in 1992. The second program to measure clients' satisfaction is the four-person Office of Crime Victims Ombudsman, which mailed its first questionnaire to crime victims in 1994. Third, in the 1994 performance report, the department's crime victims services program, with a staff of eight, has established an objective to improve the quality of services provided to victims through its reparations program but has not yet collected the data necessary from claimants and service providers to document its performance.

We focused on the surveys completed by BCA but also reviewed the Office of Crime Victims Ombudsman's early efforts to measure client satisfaction. Also, we reviewed the way in which both programs present relevant data in the Department of Public Safety's 1994 performance report.

Data Processing and Collection

BCA staff launched their first client survey in 1992 after much internal discussion and several revisions to a self-developed questionnaire. After some words of explanation from the bureau, the five-page questionnaire was initially distributed at an annual conference of county sheriffs. Staff followed up with one or two letters to the sheriffs who did not participate, ultimately receiving responses from 54 of 87 county sheriffs, or 62 percent.

Program managers asked for the sheriffs' candid input to assist BCA in refining its products and services. As shown in Table 2.8, the results were highly positive.

73 Department of Public Safety, *1994 Annual Performance Report* (St. Paul, 1994), 15, 20, 118, 127-128.

Table 2.8: Bureau of Criminal Apprehension (BCA) Client Satisfaction Questions and Results, 1992 and 1994

	County Sheriffs 1992	County Attorneys 1994
	Percent "Good" or "Excellent"	
"Overall, how would you rate the quality of services provided by the BCA . . . excellent, good, fair, poor, no opinion?"	98%	94%
"Overall, how would you rate the quality of BCA personnel . . . excellent, good, fair, poor, no opinion?"	98	98
"How would you rate the quality of _____ . . . excellent, good, fair, poor, no opinion?"		
BCA laboratory services	98	
BCA laboratory personnel	96	
Training by BCA	94	
BCA training and development personnel	91	
BCA investigations personnel	95	
BCA criminal records and identification personnel	93	
The fingerprint identification system	85	
The usefulness of the computerized criminal history system	93	
	Percent "Very" or "Somewhat"	
"How timely is the information in the computerized criminal history system . . . very timely, somewhat timely, somewhat untimely, very untimely, no opinion?"	95	58
"How accurate is the information in the computerized criminal history system . . . very accurate, somewhat accurate, somewhat inaccurate, very inaccurate, no opinion?"	86	57
"How complete is the information in the computerized criminal history system . . . very complete, somewhat complete, somewhat incomplete, very incomplete, no opinion?"	81	41
Number of respondents	54	54
Response rate	62%	62%

Source: Department of Public Safety, Bureau of Criminal Apprehension.

In addition, BCA asked about the quality of numerous specific services that only some sheriffs use, and results were similarly positive. Open-ended comments from the sheriffs further indicated strong approval along with a few areas where BCA could improve.

In reviewing the sheriffs' questionnaire, we noted that it is appropriately intended to elicit a range of responses from those who have some basis for their opinions. Staff told us that it was a priority for them to create a questionnaire that would help to identify specific areas for improvement and thereby stimulate respondents' participation. A subsequent questionnaire for county attorneys repeated many of the same items in an improved format but added new ones and changed the wording of others.

Some but not all of BCA's customer satisfaction data are verifiably accurate.

Bureau staff told us they read each incoming questionnaire before turning it over to student workers who hand-tabulated the responses, transcribed open-ended comments, and produced detailed reports that circulated throughout the bureau. They made no specific effort to see that questionnaires were completed by a representative group of sheriffs but confirmed that the metropolitan and outstate regions both were included. We reviewed the sheriffs' completed questionnaires and hand-tabulations of responses and found that:

- **Client satisfaction data for 1992 in the Department of Public Safety's performance report are accurate regarding the Bureau of Criminal Apprehension.**

However, for some other data elements, we found differences of 2 to 3 percentage points and 29 to 30 respondents between BCA's tabulations and internally circulated report of results. In one case, the report showed a respondent count of 56 although 54 sheriffs at most could have responded to the question. Also, we found that:

- **It is impossible to verify the accuracy of client satisfaction data obtained by the Bureau of Criminal Apprehension in 1993 and 1994.**

Since the Bureau has not created computer files or any other record of responses, the hard-copy, completed questionnaires and tabulation sheets are the only objective means of validating its client satisfaction data. However, because of staff turnover, Bureau staff told us they could not find, and probably discarded, the completed questionnaires from police chiefs and county attorneys. Also, they discarded the tabulations and completed questionnaires from sheriffs after our initial review. In any event, we found that the 1994 survey of county attorneys did not include the question that would be necessary to determine satisfaction with BCA investigations personnel, which is central to one of the Bureau's nine performance objectives that are set forth in the department's first annual performance report.

Concerning crime victims' satisfaction with ombudsman services, we found several technical problems with data collection and processing. First, the questionnaire encourages respondents to answer "yes" or "no" rather than rate their level of satisfaction on a five-point scale which is mentioned only in text. Second, because respondents were led to answer in both ways, the ombudsman's staff combined the two types of responses and counted "yes" as well as mid-scale responses of "3" as equivalent to "satisfaction." Third, the response rate was low and not demonstrably representative: 32 of 82 people whose cases were closed in 1994, or 39 percent. Finally, the ombudsman's six questions were phrased in such a way that respondents may have been influenced to answer positively. For example, "Were your problems or concerns treated with respect?" and "Did we respond to your complaint in a timely manner?" A better approach would be to ask how respectfully or promptly the ombudsman acted, using a five-point scale.

Data Analysis and Presentation

BCA staff told us that they did the least possible analysis of the sheriffs' survey data for two reasons. First, they wanted to present the results from the layman's or "gutview" perspective. Second, they wished to avoid speculation or guesswork about the reasons behind the results or the meaning of certain answers. Thus, they focused just on what was said, with little or no interpretation.

The performance report does not clearly explain how BCA is measuring client satisfaction.

A problem with the 1994 performance report is that it does not clearly explain how BCA is measuring client satisfaction. For one objective, the report says that the Bureau's performance measure is semiannual surveys that will indicate high percentages of satisfied police chiefs, sheriffs, county attorneys, and other clients. This suggests that the fiscal year 1993 results in the report refer to the level of satisfaction among all these various clients combined, which is not the case. For fiscal year 1993, the data in the report actually refer only to the sheriffs. The data and results anticipated for fiscal year 1994, from police chiefs, actually have been entirely lost, and the fiscal year 1995 data for county attorneys has been summarized but cannot be verified. Similarly, for a second objective, the report states that semiannual surveys will indicate a high percentage of satisfaction with BCA investigations personnel among the same set of clients, so that the same problems apply. In addition, the report says that the sheriffs will be surveyed every other year, but this has not occurred.[74]

In our opinion, it is appropriate for BCA to survey clients on something other than a two-year schedule, but the report should be accurate, and the results for various customer surveys should not be presented as though they reflect the opinions of one mixed group of clients. Also, we think that the Bureau should target certain areas for improvement rather than report on satisfaction with its overall services and the quality of investigations personnel. As shown by the table, county sheriffs and attorneys alike have expressed extremely high levels of satisfaction with the Bureau in general. As a result, the data have limited use as a performance measure in helping the Bureau to improve or informing the public of progress that is being made. Clearly, performance could be better in some important areas, such as the completeness of the computerized criminal history system, which could be a performance objective in the future.

Regarding the analysis and presentation of satisfaction data from crime victims, the ombudsman's office averaged the results of six separate items. We agree that each of the six items is useful but, by combining them, the office may have minimized the importance of what is perhaps the single most important question and

74 Public Safety, *1994 Performance Report*, 15.

overstated the level of satisfaction with its work. A closer look at responses to the question "Was our office helpful in investigating your complaint?" reveals that 3 of 32 respondents said the office was not helpful, while 7 expressed low levels of satisfaction, for a positive rating of 69 percent. However, in its 1994 performance report, the office claimed an approval rating of 81.5 percent after averaging this item with others concerning the office's timeliness, respectfulness, and explanation of victims' rights, plus indicators of the respondents, willingness to tell their friends about the availability of services or contact the office again if need be. We note that the latter two items are quite different from the four others, as they refer more to the clients' hypothetical future behavior than to the actual services provided by the office; therefore, it may not be appropriate to include them in the overall average. Also, we found that the office contradicts itself by saying in the 1994 performance report that the quality of its services can be determined by the answers to "three simple questions at the moment of truth: Is it efficient? ... effective? ... satisfactory?"[75] We agree with this line of thinking but cannot find parallel items in the questionnaire directed to crime victims.

Finally, the department's performance report neglects to mention how many clients responded to any of its questionnaires and what specific questions they answered. The BCA suggests some uncertainty about the size of its customer base, and the Office of the Crime Victims' Ombudsman says that it "gets results only to the extent that participants respond." In both cases, we suggest a definitive attempt to identify and contact as many of the specified clients as possible and to demonstrate the extent to which they are representative of the whole.

Overall, we think that the Department of Public Safety needs to be more precise in its efforts to measure and report on clients' satisfaction. Without making the process of data collection, processing, and analysis overly complicated, the department needs to establish routine procedures that will ensure meaningful, verifiable data from reasonably representative client groups. Also, in writing its future performance reports, the department needs to consider whether the particular measures presented in 1994 are worth continuing in their present form.

DEPARTMENT OF FINANCE

The Minnesota Department of Finance provides information, analysis, and financial management services to the executive branch. Services are organized through five divisions: Accounting Services (including central payroll and financial reporting), Budget Services, Economic Analysis, Information Services, and Management Services. The department is also responsible for managing the Statewide Systems Project that will significantly update Minnesota's accounting, payroll and human resources systems.

During fiscal year 1993, the department began work designing a questionnaire to measure the quality of services provided to state agencies by the Budget Services, Accounting, and Payroll Divisions. The department originally planned to use the data in the performance budget for the 1993 legislative session but could not implement the survey until after the session. At a cost of $3,960 (for 66 hours of

75 Ibid., 128.

work), the department contracted with the Management Analysis Division (MAD) of the Department of Administration to review and finalize several questionnaires, suggest changes, administer the questionnaires, and provide a brief report of the results by May 15, 1993.[76]

The Department of Finance used the questionnaire data in both its 1993 draft and 1994 first annual performance reports. In the 1994 report, the department reports an average score across items from the budget services questionnaire as a measure of progress in meeting its goal of providing "effective consulting services."[77] The report also includes an objective of achieving a 4.0 rating out of 5.0 for accuracy and timeliness of payroll and accounting system reports but excludes 1993 actual data from the table.[78] At the same time, the department cites the implementation of the Statewide Systems Project as a significant factor restricting both the use of the 1993 payroll and accounting questionnaire data and the collection of customer satisfaction information in 1994. Staff told us that the negative reactions likely during the start-up phase of the project would adversely impact ratings of department performance and, in any case, changes in the system would make use of data based on the old system inappropriate.

The Department of Finance contracted with the Management Analysis Division for three customer satisfaction surveys.

We focused on the process of data collection, the specific results of the 1993 questionnaire, the report prepared for the department by the Management Analysis Division describing questionnaire administration and response frequencies, and the way in which the department reported the results in its 1994 performance report. We also examined the information provided to the department under contract with the Management Analysis Division. Finally, we compared the presentation of questionnaire information in the 1993 draft report with the 1994 report because we noticed a distinct change in the data presentation format.

Data Collection and Processing

During fiscal year 1993, department staff developed three separate questionnaires, focusing on customer satisfaction, defined as satisfaction with staff assistance and information provided by the Payroll (8 items), Accounting (22 items), and Budget Services (24 items) Divisions. The department developed the wording for the questions, and the Management Analysis Division formatted the final questionnaires. All three questionnaires used a five-point scale indicating level of satisfaction: very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied, plus an option for "don't use this service." The last two items on each questionnaire requested an overall rating for (a) communication and (b) services. Question wording varied from specific ("How satisfied are you with Central Payroll staff returning your phone calls on a timely basis?") to broad, somewhat confusing, language such as "How satisfied are you with the assistance you receive from your executive budget officer and team leader regarding Finance's overall reviews of your budget proposals (timeliness, quality of analysis, alternatives presented, and presentation to the Executive Budget Team)?"

76 Department of Administration, Management Analysis Division, Proposal Department of Finance Customer Survey, February 1993.

77 Minnesota Department of Finance, *1994 Annual Performance Report* (St. Paul, September 1994), 15, 17.

78 Ibid., 10. The text of the report mentions that the 1993 survey of state agencies showed 85 percent satisfaction with payroll and 71 percent satisfaction with accounting services.

The questionnaires were not formally pretested, although MAD and department staff reviewed the final forms. A cover letter from a MAD consultant to all clients identified by the department briefly described the source of the questionnaire, explained how to return the questionnaire, and told recipients to feel free to copy the questionnaire and distribute it to others who might also wish to respond. MAD sent questionnaires to everyone identified by the department as a client of one of the three divisions. Some clients who used more than one service received multiple questionnaires.

The number of respondents, response rate reported by MAD, and percentage of those indicating that they were "satisfied" or "very satisfied" are shown in Tables 2.9 to 2.11.[79] The reported response rates for budget services (32 percent) and

Table 2.9: Department of Finance Client Satisfaction with Budget Services Division Information, 1993

	Percent of Service Users "Satisfied" or "Very Satisfied"	Percent Not Using the Service	Average Rating[a]
"How satisfied are you with the information presented in Finance's . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
operating budget instructions (biennial and supplemental)	65%	4%	3.38
capital budget instructions	41	49	3.07
clerical instructions for preparing budget pages	65	22	3.56
annual spending plan instructions	67	11	3.50
"How satisfied are you that . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
the biennial and supplemental budget processes provide clear direction so you understand what is expected of you	56	0	3.18
the biennial and supplemental budget processes enable you to identify your agency's operating budget needs and explain them to the executive budget team and the Legislature	44	0	2.93
the capital budget process provides clear direction so you understand what is expected of you	32	47	3.04
the capital budget process enables you to identify your agency's capital needs and explain them to the executive budget team and the Legislature	43	47	3.14
the biennial budget system (BBS) supports your budget preparation	48	13	3.17
training on BBS meets your needs[b]	63	13	3.83
the fiscal note process allows you to develop accurate revenue and spending estimates	45	17	3.09
training on the fiscal note tracking system meets your needs	54	30	3.35

79 Percentage satisfied calculated by the Office of the Legislative Auditor from data provided by the Management Analysis Division, Department of Administration, *Department of Finance Customer Service Survey*, June 1993.

Table 2.9: Department of Finance Client Satisfaction with Budget Services Division Information, 1993, continued

	Percent of Service Users "Satisfied" or "Very Satisfied"	Percent Not Using the Service	Average Rating[a]
the annual spending plan process is timely and meets your needs	55	11	3.43
the Legislative Advisory Commission process is understandable	47	22	3.26
the LAC process meets your agency's needs	37	20	3.19
"How satisfied are you with . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
the role Finance plays in the capital budget process	46	46	3.18
the role Finance plays in the operating budget process"	65	2	3.37
"How satisfied are you with the assistance you receive from your executive budget officer and team leader regarding . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
biennial budget development	76	2	3.81
capital budget development	67	49	3.67
annual spending plans	77	15	3.74
Finance's overall reviews of your budget proposals (timeliness, quality of analysis, alternatives presented, and presentation to the executive budget team	60	0	3.47
Finance's production of budget documents	61	0	3.57
"What is your overall level of satisfaction with communication between you and the budget services staff . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	73	0	3.64
"What is your overall level of satisfaction with the services provided by budget services . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	71	0	3.60
Average percent for all items	58		3.41
Average percent omitting two overall items	57		3.38
Number of respondents	57		
Response rate[c]	32%		

Source: Minnesota Department of Finance, 1993 Department of Finance Service Survey, Budget Services.

[a]Ratings based on the scale: Very dissatisfied=1, Dissatisfied=2, Neither satisfied nor dissatisfied=3, Satisfied=4, Very satisfied=5.

[b]Data are questionable because more than one answer was allowed per respondent.

[c]Calculated using the reported number of questionnaires initially mailed and number returned. Actual rate may be lower, since instructions directed recipients to duplicate and distribute the questionnaire to others.

Table 2.10: Department of Finance Client Satisfaction with Central Payroll Division Services, 1993

	Percent of Service Users "Satisfied" or "Very Satisfied"	Percent Not Using the Service	Average Rating[a]
"How satisfied are you with . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
the assistance you receive when you call central payroll staff with questions or problems	92%	2%	4.36
Central payroll staff returning your phone calls on a timely basis	84	3	4.06
The timeliness of the information you receive about changes in policy, laws, taxation, and bargaining unit agreements	80	0	3.97
The information you receive is helpful and understandable	89	0	4.22
Central payroll's implementation of changes in laws, contracts, taxation in the payroll system	79	1	4.02
Payroll training that is available through the Department of Finance	84	5	3.92
"What is your overall level of satisfaction with communications between Central Payroll and your agency . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	89	0	4.18
"What is your overall level of satisfaction with the services provided by by Central Payroll . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	89	0	4.22
Average for all items	86		4.12
Average omitting two overall items	84		4.09
Number of respondents	101		
Response rate[b]	76%		

Source: Minnesota Department of Finance, 1993 Department of Finance Service Survey, Central Payroll Services.

[a]Ratings based on the scale: Very dissatisfied=1, Dissatisfied=2, Neither satisfied nor dissatisfied=3, Satisfied=4, Very satisfied=5.

[b]Calculated using the reported number of questionnaires initially mailed and number returned. Actual rate may be lower, since instructions directed recipients to duplicate and distribute the questionnaire to others.

Table 2.11: Department of Finance Client Satisfaction with Statewide Accounting Division Services, 1993

	Percent of Service Users "Satisfied" or "Very Satisfied"	Percent Not Using the Service	Average Rating[a]
"How satisfied are you with the assistance you receive when you call statewide accounting staff with questions or problems about . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"			
Receipts	61%	8%	3.70
Fixed assets	68	20	3.68
Appropriations	79	8	3.97
Transfers	72	11	3.81
Encumbrances	71	3	3.71
Payment balancing	81	11	3.97
Expenditure transfers	76	8	3.85
Vendors	76	6	3.82
IRS Form 100	63	25	3.59
Lost and forged warrants	80	3	4.03
Pull warrants	82	6	4.12
Expenditure refunds	67	6	3.82
Payments	85	6	4.09
Travel advances and/or settlements	68	6	3.79
Relocation expenses	70	23	3.81
Request for special reports	65	32	3.78
"How satisfied are you with the timeliness of the statewide accounting system reports . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	56	0	3.33
"What is your overall level of satisfaction with the timeliness of the information you receive . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied . . .	62	3	3.47
"How satisfied are you that the information you receive regarding changes is helpful and understandable . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"[b]	75	0	4.00
"How satisfied are you with the Statewide Accounting training that is available through the Department of Finance . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	75	0	3.78
"What is your overall level of satisfaction with communications between Statewide Accounting and your agency . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	75	0	3.81

Table 2.11: Department of Finance Client Satisfaction with Statewide Accounting Division Services, 1993, continued

	Percent of Service Users "Satisfied" or "Very Satisfied"	Percent Not Using the Service	Average Rating[a]
"What is your overall level of satisfaction with the service provided' by Statewide Accounting . . . don't use this service, very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied?"	67	0	3.72
Average for all items	72	8	3.81
Average omitting last two items	72	9	3.81
Number of respondents	39		
Response rate[c]	48%		

Source: Minnesota Department of Finance, 1993 Department of Finance Service Survey, Statewide Accounting Services.

[a]Ratings based on the scale: Very dissatisfied=1, Dissatisfied=2, Neither satisfied nor dissatisfied=3, Satisfied=4, Very satisfied=5.

[b]Data are questionable because more than one answer was allowed per respondent.

[c]Calculated using the reported number of questionnaires initially mailed and number returned. Actual rate may be lower, since instructions directed recipients to duplicate and disstribute the questionnaire to others.

accounting (48 percent) were somewhat low, but there was no follow up to obtain additional responses, nor was there any determination whether respondents reflected the population of customers for the department's payroll, accounting, and budget services. Thus:

- **The level and uncertain representativeness of response to two of Finance's three questionnaires makes use of the results questionable as evidence of performance.**

- **Also, the true response rate was likely even lower than reported, since respondents were encouraged to duplicate and distribute the questionnaires to others.**

Estimates of true percentages and averages are directly affected by the number of respondents and the amount of confidence that researchers choose for the estimate, and how well the respondents represent the total group of customers. In this case, the population of department clients is small; a total of only 390 questionnaires were mailed. The small numbers of respondents and low response rates for the budget services and accounting services questionnaires limits their usefulness as indicators of performance. The larger number and higher response rate for the payroll questionnaire allows readers to make some useful generalizations from the results, assuming that the respondents are representative of the population of payroll clients. If the department could show that the respondents to the accounting services and other questionnaires shared characteristics with the respective client bases, such as department affiliation, the results would be more useful as indicators of performance, although the total numbers are still quite low for the accounting and budget services questionnaires. Alternatively, if the department could show that the respondents were not representative in some specific ways, it is possible that they could have weighted the responses to adjust for the problem or used data only from subsets of customers who were well represented.

Data Analysis and Presentation

In June 1993, the Management Analysis Division prepared a report for the department listing the frequencies of response for each question. MAD also transcribed all specific and general comments, and its report to the Department of Finance includes a one-paragraph summary and a table showing the date and number of questionnaires mailed, and the number returned. The Management Analysis Division has stressed to us that the department did not contract for follow-up with nonrespondents or for any other analyses.

The utility of Finance's customer satisfaction surveys is limited by technical problems.

We tried to replicate the numbers in the 1994 performance report, and found that for two items there were more answers than there were respondents. Staff at MAD initially told us they discarded the completed questionnaires in 1994 but recalled counting multiple answers from some respondents to a few questions.[80] For example, a respondent who circled both "very satisfied" and "satisfied" on a questionnaire was counted twice in the tabulations, and these tabulations were then used by the Department of Finance to calculate percentages. This was an error. Sometimes respondents have a hard time choosing between two adjacent ratings, but there are a variety of standard techniques to correct the problem such as averaging the two responses or always recording the lower or higher answer. In contrast, if multiple responses to the same question are included from respondents, the frequency of an option such as "very satisfied" appears unusually high. For example, for the budget services survey, MAD reported that a total of 57 questionnaires were returned. Its report to the Department of Finance shows that 52 to 55 respondents answered most items, except for item ten regarding training, where 69 responses are recorded. Further, the frequency for "very satisfied" for this item is recorded as 23, compared to all other items on the questionnaire where no more than 10 respondents gave such a positive response.

In reviewing the 1993 draft and 1994 first annual performance reports, we noticed distinct differences in how the department used customer satisfaction data. The 1993 report lists frequencies (not percentages) for five separate items from the budget services questionnaire.[81] The report changes the description of item options from those that were actually used in the questionnaire, substitutes "not satisfied" for the combined categories "very dissatisfied" and "dissatisfied," and labels as "no opinion/ N/A" the combined questionnaire options "don't use this service" and "neither satisfied nor dissatisfied." For the accounting and payroll question-

80 Subsequently MAD staff told us that (1) the questionnaires were discarded because they were classified as "personal interview notes," which are on a six-month retention schedule, and (2) the double counting occurred as a result of the Department of Finance's request for as much data as possible. See letter from Frederick Grimm, Management Analysis Division, to James Nobles, Legislative Auditor, August 30, 1995.

81 The questions asked about the quality of overall communications and overall services and whether the instructions contained clear directions, the biennial budget system supported their needs, and the executive budget officer and team leader provided biennial budget support.

naires, the 1993 performance report includes an average percentage of those who said they were "satisfied" or "very satisfied" in response to all questionnaire items. We were unable to independently verify these numbers in the report since the completed questionnaires were discarded. Further, our calculations for percentage agreement were slightly different than those reported by the department, although the differences were small.[82]

In its 1994 performance report, the department provided average ratings across most items on the budget services questionnaire instead of indicating the percentage of those "satisfied," although the report did not clearly define which items were included in the average. The report mentions "selected" agencies, but it is our understanding that MAD surveyed all of the Department of Finance’s clients, although only about one-third of the clients at most responded.[83] The report states that the department will redesign and administer the questionnaire by January 1995, but as of this date, this work has not started.[84] Also, the report suggests that the department will use the 1993 data as baseline performance information, but this may be difficult if the questionnaire is redesigned.[85]

The 1994 performance report also reports information for the Payroll and Accounting Divisions differently than the 1993 draft. The future performance targets for customer satisfaction are given as averages rather than percentage satisfied, although the percentages from the 1993 report are included only in the discussion.[86] The report anticipates confusion and frustration with the new statewide system and low ratings for the next few years and offers this as justification for skipping a customer survey in 1994 and excluding the 1993 numbers from the data table.

On the basis of our review of the questionnaires, data analysis, and the two performance reports, we suggest:

- **The Department of Finance’s three customer satisfaction questionnaires may provide some useful feedback to department managers, but uncertain response rates, unknown representativeness, and questionable data processing seriously limit their general usefulness in performance reports.**

In this case, we think that the percentage of satisfied customers is a more appropriate and more easily understood measure of customer satisfaction for use in performance reports than an average rating based on a scale of 1 to 5. In addition, future reports need to provide more detail about the data source, response numbers and rate, sampling error, and specific items included in performance measures. While average ratings are useful in making certain statistical comparisons, simple percentages, such as percentage satisfied or percentage agreeing with a positive statement, are a more intuitive way to present customer satisfaction data .

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82 The department reported 85 percent and 71 percent satisfied for payroll and accounting respectively. We calculated, combining all items except the last two overall items, 84 percent and 72 percent for the two questionnaires. The frequencies reported for the budget services items agree with our calculations.

83 Department of Finance, *1994 Annual Performance Report*, 17.

84 Ibid., 17.

85 Ibid., 17.

86 Ibid., 10.

The

department should specifically identify divisional clients, review the process used to collect, process, and analyze information from its questionnaires, develop procedures to increase response rates, and compare respondents and nonrespondents to determine whether responses can be generalized to all divisions' customers. Finally, the Department of Finance should rewrite its record retention policy and ensure that completed questionnaires and tabulations, including electronic records, are retained for several years or until results are independently verified.

DEPARTMENT OF ADMINISTRATION

The Department of Administration in 1992 dedicated itself to improving customer service, increasing its level of business discipline, and enhancing the quality and productivity of its many fee-based enterprises. Roughly 80 percent of the department's operations run on fees from other government agencies for which it provides real estate, data processing, printing, and transportation, among other management and administrative services. But even before 1992, the department frequently surveyed its printing customers and monitored changes in perceptions over time along with suggestions for improvement.[87]

In its 1994 performance report, the department presents several objectives that rest on the fulfillment of customers' needs. For three performance measures, the report includes previously collected customer satisfaction survey data, and for several other measures, the department promises soon to obtain data from customers. The existing customer satisfaction data concern (1) InterTech, the agency's single largest program, focusing on electronic data and telecommunications; (2) seminars on building codes, manufactured housing, and elevators; and (3) educational sessions on government information policy requirements.[88] Anticipated surveys will involve satisfaction with purchasing services and contracts, real estate management, housekeeping and maintenance services, and management consulting.[89] There is no mention of the department's surveys of printing customers in the 1994 performance report, but these were prominently featured in the 1993 draft performance report and may appear in future performance reports.

We focused on InterTech's customer satisfaction survey because it concerns the performance of the Department of Administration's single largest program and because InterTech's services are vital to the operation of state government. In addition, we reviewed the two other surveys that generated performance data which are included in the department's 1994 performance report, one concerning seminars on building codes and standards, and the other, government information pol-

87 See Department of Administration, *Print Communications Customer Survey* (St. Paul, June 1991, with comparison to 1989 survey).

88 See Department of Administration, *1994 Annual Performance Report* (St. Paul, September 1994), 34, 55-56, 72. InterTech is the common abbreviation for the department's InterTechnologies Group, which spent $59 million in fiscal year 1994 and had 247 full-time equivalent employees. One of its primary responsibilities is for the large mainframe computers that state agencies need to collect taxes and pay social service benefits, among other things.

89 Ibid., 15, 43-44, 47-58, 75.

icy training. As part of our review, we also evaluated the way in which the department presented customer satisfaction survey results in its 1994 annual performance report.

Data Collection and Processing

InterTech developed its first customer satisfaction questionnaire and mailed it in January 1994 after considerable study, planning, and discussion. A seven-member Measures Advisory Committee approached the overall effort to survey customers as one of several formal projects with specific requirements. Beginning in 1993, they discussed the conceptual underpinnings of customer satisfaction, developed a set of questions, and established preliminary administrative procedures that led to a report of results in April 1994 and a second, more refined questionnaire in May 1995.[90] The 1994 survey cost an estimated $2,000 to $4,000, mainly for group meetings and data entry.

InterTech did not attempt to increase the 19 percent response to its survey.

According to InterTech, the initial questionnaire was long and complicated, and it was mailed to a population that may not have been close to the many specific services in the questionnaire.[91] The mailing included a cover letter and 27 pairs of questions about a variety of products or services that InterTech provides to state agencies. Table 2.12 shows 21 of the 27 items, excluding 6 that respondents rated low in importance. Each product or service was briefly defined, and two main questions followed: "How important is this service to you?" and "How well is InterTech providing this service?" Out of 1,400 questionnaires mailed to individuals on 11 mailing lists, a total of 259 (19 percent) were returned.

The Department of Administration has offered several explanations for the response rate. Among these are that InterTech's customers typically use only a few of the 27 products mentioned in the 8-page questionnaire and that there was no advance notice of the survey, incentives, or follow-up effort with nonrespondents, nor was the survey associated with a particular event.[92] The lowest rate of response, 12 percent, came from InterTech's single largest customer, the Department of Human Services, which accounts for the majority of data processing business and a significant share of telecommunications business. The highest rate of response, 22 percent, came from a combined assortment of agencies which together accounted for 47 percent of the total return. Responses were even fewer per service or product. A maximum of 205 respondents (15 percent) and a minimum of 36 (3 percent) provided information about any one service. As a result of this and the lack of information indicating otherwise:

- **Results of InterTech's 1994 customer satisfaction survey may not be representative of the opinions of its customers in general or for specific services.**

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90 Department of Administration, *1994 InterTech Customer Satisfaction Survey Summary* (St. Paul, April 1994), *Customer Satisfaction Survey* (May 1995), and correspondence of the Measures Advisory Committee, May 27, July 19, and November 3, 1993.

91 Memo to Assistant Commissioner Terry Bock from Assistant Commissioner B. E. Conlin, Department of Administration, August 7, 1995, 3.

92 Letter from Commissioner Elaine Hansen, Department of Administration to Jim Nobles, Legislative Auditor, September 7, 1995, 1. In addition, staff told us that about 12 of the 1,400 addresses had gone out of existence.

Table 2.12: Department of Administration InterTech Customer Satisfaction Questions and Results, 1994

	Of Users Who Said the Service Was "Important or "Very Important"		
	Percent "Satisfied" or "Very Satisfied"	Average Satisfaction 4-Point Scale	Number of Responses
"How well is InterTech providing this [telecommunications] service? [Are you] very satisfied, satisfied, somewhat dissatisfied, or very dissatisfied?"			
Voice mail	84%	3.2	130
Communications center	75	3.1	187
Network operations center	71	3.0	154
Router/InterNet access (MNet)	77	3.1	122
Telecommunications consulting	66	2.9	128
Bulletins	69	3.0	205
Disaster recovery	82	3.2	114
Billing	72	3.0	150
Telecommunications average	75%	3.1	
"How well is InterTech providing this [data processing] service? [Are you] very satisfied, satisfied, somewhat dissatisfied, or very dissatisfied?"			
Information center	73%	3.1	137
Change management	70	3.0	92
Electronic mail	75	3.3	60
Text management	58	2.8	43
Printed reports design	86	3.2	37
Computer output microfilm	87	3.1	55
Computer operations	96	3.5	69
Production control	90	3.4	82
Customer representatives	83	3.3	98
Security services	83	3.3	88
Technical support	90	3.4	77
Database services	78	3.2	36
Capacity planning and performance management	84	3.1	73
Data processing average	81%	3.2	
Total number of respondents	259		
Response rate	19%		

Note: The survey included several other questions about services that respondents scored les s than 3 in overall importance. Importance ratings were: 4-very important; 3-important; 2-somewhat important, 1-not important. Est imated sampling error was not calculated due to wide variation in the number of respondents per service.

Source: Department of Administration, InterTechnologies Group.

As explained in Chapter 1, the lower the response rate, the greater the possibility of nonresponse bias. Although respondents nevertheless could be representative of all InterTech customers, the Department of Administration did not demonstrate the representativeness of the group. In fact, its analysis of returns by department suggests problems as indicated above. However, the respondents made more than 400 comments and 410 requests for information, which InterTech pursued. Each comment was carefully transcribed and circulated within the agency, and followup information was mailed as requested.

InterTech staff told us that they recognized that their respondents probably were not representative of all customers, but for business purposes, they nevertheless appreciated the results since the survey identified concrete areas for improvement and opened the door to speak with dissatisfied clients. Also, staff told us that they believed that a response rate of 10 percent or more was acceptable in customer satisfaction research, and that the survey was not intended to be used as part of a systematic performance evaluation mechanism.[93]

InterTech staff used survey results for business purposes as well as performance reporting.

Professional data entry staff entered the responses into a statistical programming system that categorized responses concerning each of InterTech's products or services into one of four quadrants depicting those who said they were:

1. Not satisfied, but the service was not important
2. Satisfied, but the service was not important
3. Satisfied with important services
4. Not satisfied with important services

Managers subsequently were responsible to address perceived service problems in the following agencies, to the extent that respondents provided contact information: Human Services, Employee Relations, Transportation, Public Safety, Finance, Revenue, and assorted others combined.

As shown by Table 2.12, respondents used a four-point scale to express two degrees of satisfaction or dissatisfaction; no neutral point was provided. However, InterTech in 1995 appropriately added a fifth category labeled "I am uncertain or don't know" and changed the focus somewhat away from specific products to ongoing services or aspects of services such as online availability, timeliness of computer output, and mainframe shift operations, for example. Some of the products that were dropped include electronic mail, voice mail, bulletins, and technical support. In addition, staff redesigned the 1995 questionnaire so that all services are defined on one page facing a list of the 26 which respondents were asked to rate separately, first, in terms of importance to their agency and, second, in terms of satisfaction with InterTech.

Results of the 1995 survey remain to be seen, but InterTech expects a better quality of response because the questionnaires were addressed only to about 200 designated information systems officers, business officials, and management

93 Ibid., 2.

information decision makers instead of a compilation of mailing lists. However, staff told us that they have not yet decided whether to continue this or develop yet another approach in the future, although they are definitely committed to conducting annual surveys.

Concerning satisfaction with seminars by the state Building Code and Standards Division of the Department of Administration, staff told us that attendees are strongly encouraged to complete an evaluation form as part of the process of earning required certification. Thus, response rates have run at least 79 percent. Over the course of a year, the seminars are conducted at various locations throughout the state, and hundreds of building officials, contractors, inspectors, and others attend.

Staff told us that they have collected standardized evaluation forms from seminar participants off and on for a number of years but have recently administered the forms and used the results more consistently for their largest, most important seminars on building codes and manufactured structures. The form now used is a one-page yes/no checklist with space for comments about the effectiveness of each segment of the seminars, the quality of the presentations, the acceptability of the physical surroundings, and the overall enjoyability of the day-long sessions. For example, attendees are asked to say whether or not the seminar was practical; whether the lunch was likable; and whether the question/answer sessions were effective. Recent results show that given only a yes/no choice of responses, almost all attendees have rated the seminars effective. Also, respondents have made detailed suggestions for technical and physical improvements, which have prompted the Department of Administration to change meeting locations and content in some cases. The division also conducts occasional, informal elevator seminars of a few hours or less, but staff told us that attendees do not complete any particular evaluation form for these.

Evaluation forms for the formal seminars are collected at the end of the day, responses hand-tabulated, and comments transcribed verbatim. While the overall effort in our view is well taken, greater value could be obtained by asking the same questions but allowing for a range of responses such as "very satisfied" to "very dissatisfied," with a neutral mid-point to indicate uncertainty. We think this would encourage more detailed responses that would give seminar organizers better information about desirable improvements.

Finally, regarding the satisfaction level of attendees at the Department of Administration’s education sessions on government information policy requirements, we learned that evaluations are based on a variety of presentation formats and forms that ask about satisfaction in several different ways. This is because the staff provide training only by invitation of professional groups, governmental units, and others who usually develop their own conference-specific evaluation forms. Some of these forms ask attendees to give one overall rating of speakers, and others for ratings on specific aspects of presentations. Still others use four- or five-point response scales that range from "poor" to "excellent;" numeric ratings from 1 to 5 or 1 to 7; yes/no or checkmarks indicating whether certain statements such as "I learned a lot" apply; and five-point scales ranging from "strongly agree" to "strongly disagree" with specific statements about the presentation. On those occasions when host groups have not developed evaluation forms, the department uses its own evaluation form which includes an overall course rating of 1 (poor) to 5 (excellent), a 5-point agree-disagree scale concerning six particular aspects of the training, and space for written comments and suggestions.

Government information policy staff told us they do not know which or how many attendees complete their own or other evaluation forms, but they would guess about half. When they administer their own forms, staff hand-tabulate the responses to the overall rating question. Otherwise, they rely on host organizations to process the data and send comments and statistical results. Thus, although the Department of Administration's 1994 performance report claims that "attendees' evaluations reflect 90 percent satisfaction for all public information policy educational sessions presented by staff," we found that the "+90 percent actual performance data" in the report do not amount to systematic, documentable research about the level of satisfaction among a representative group who attend government information policy training sessions.[94]

Data Analysis and Presentation

As shown by Table 2.12, InterTech's data processing services got somewhat higher marks than telecommunications in the January 1994 customer satisfaction survey. Satisfaction with three data processing services was especially high: computer operations, production control, and technical support. For each of these, 90 to 96 percent of the respondents said they were "satisfied" or "very satisfied." But, because of uncertainty about the representativeness and qualifications of InterTech's respondents, overall low response rate from those on the mailing list, and the even lower response to specific items on the questionnaire, we cannot say whether these results are a reasonable reflection of InterTech's performance. And, by the same token:

- **Data in the Department of Administration's 1994 annual performance report do not necessarily constitute an accurate account of customers' satisfaction with InterTech's overall performance.**

In the report, the department used the survey to describe InterTech's "actual performance" in fiscal year 1994 as an average of 3.1 on a 4-point scale for telecommunications and 3.2 for data processing. According to the department, a number of staff put these averages together, counting several services in both categories and excluding certain services that clients rated unimportant.[95] We were able to reconstruct the same averages using computer output that staff generated at our request, and found that they amount to an average of the average responses to 8 questions primarily concerning telecommunications and to 15 questions primarily concerning data processing.[96] The Department of Administration told us that InterTech managers have paid significant attention to these average figures while also concentrating on solutions to specific problems identified by the 1994 customer satisfaction survey along with plans for the new, improved 1995 survey.

94 Department of Administration, *1994 Annual Performance Report* (St. Paul, September 1994), 72.

95 Memo to Terry Bock, from B. E. Conlin, Department of Administration, August 7, 1995, 3.

96 Department of Administration, *1994 Performance Report*, 34.

In order to monitor agencies' performance over time, as performance reports are designed to do, it is necessary to ask the same questions and collect data repeatedly in the same manner. In this case, the Department of Administration's 1994 performance report establishes a goal of continually improving any services that fall below certain levels of satisfaction until perfect scores of 4.0 are achieved.[97] However, the 1995 survey does not include the same questions and services as were used to create baseline performance measures in the department's 1994 performance report. The 1995 questionnaire asks about only four of the same services; 22 others are new, different, or changed in scope. The questions changed from "How important is this service to you?" in January 1994 to "How important are the following InterTech services to the success of your agency?" in 1995 and from "How well is InterTech providing this service?" in January 1994 to "How satisfied are you with the following services at InterTech?" in 1995. Also, the 1995 questionnaire went to approximately 200 hand-picked information systems professionals and business staff who are likely to be much more familiar with InterTech than those who responded in 1994. Still another difference is that the 1995 questionnaire, unlike the one in January 1994, employs a five-point response scale, rather than a four-point scale, and allows respondents the option of saying "I am uncertain or don't know."

InterTech is still deciding how to measure its performance on an ongoing basis.

In light of all these differences, InterTech staff have indicated that they may drop the published "baseline" performance data, replace it with figures from a different customer satisfaction survey that was conducted on its behalf in May 1994 by a consultant, and in the future compare those results with its 1995 customer satisfaction survey.[98] In this case, the published January 1994 results would be of no future value, and the comparability of results over time would remain doubtful since the questions used in May 1994 and May 1995 also are different. The consultant's questionnaire includes many of the same services as in InterTech's May 1995 customer survey, but there is no parallel question about clients' satisfaction with those services. Instead, the questionnaire asks how well InterTech is doing compared to competitors; how clearly it has defined service goals; how wide a variety of options InterTech has explored; how good is InterTech's strategy; how clearly InterTech has assigned responsibilities; and how adequately InterTech has invested resources.

We suggest that InterTech soon decide on a set of standardized questions, response categories, and services to be included in its future customer satisfaction questionnaires and use consistent data collection and processing techniques that not only help to identify and eliminate problem areas but also serve to monitor progress over time. For example, appropriate measures of performance could be the percentage of important, commonly used telecommunications and data processing services that customers rate satisfactorily each year.

We also have some concerns about customer satisfaction measures used by the Building Codes and Standards Division of the Department of Administration. The department's 1994 performance report suggests that 90 to 92 percent of those who attended seminars on the state building code, manufactured housing, and elevators

97 Ibid., 34.

98 See Memo to Terry Bock from B. E. Conlin, August 7, 1995, 5, and Henry R. Miles and John E. Rhetts (Wayzata, MN: Associates Ltd.), *Survey Instrument Prepared for State of Minnesota InterTechnologies Group,* Waypoint Associates Ltd., May 23, 1994.

rated the sessions "satisfactory" in fiscal years 1992, 1993, and 1994, although participants do not formally evaluate the elevator seminars. The department explained to us that for the elevator seminars, it translates verbal comments such as thank-you's from host organizations and attendees into a percentage approval rating.[99] Such comments and translations, however, generally do not constitute verifiable data. Also, documents show that different response categories have been used for the building code and manufactured housing seminars during the years for which data are reported. In 1993 and 1994, the two types of seminars were evaluated using a series of yes/no questions, but in 1992, the seminars were evaluated by letter grades (A to D, from excellent to poor), which are hard to translate into "yes" or "no" answers.

Concerning the "+90 percent" satisfaction reported by the department with education sessions on government information policy requirements, staff told us that the figure is obviously an approximation, as indicated by the "+" sign. They explained that it represents an interpretation or synthesis of results from various evaluation forms regarding sessions of various length and content. However, to the extent that the department uses its own evaluation form, staff demonstrated how they have translated an overall course rating on a five-point scale into a percentage of the total points that they could possibly have received. Using this measure, we reviewed the results from two recent sessions that would put satisfaction in the 90 percent range, at 86 to 94 percent, if responses came from a sufficiently large number of attendees and representative groups of attendees.[100]

The customer satisfaction surveys in the Department of Administration's 1994 performance report need improvement.

In the future, performance measures could be based on the department's standard form, which if completed by the majority of attendees and administered consistently at training sessions, could allow the department to systematically report and document actual results and monitor improvement or maintenance of already good results. To obtain additional information, the department could also ask host groups to include its standard course rating question on evaluation forms rather than attempt to synthesize disparate questions into a single measure of satisfaction. Another option would be for the department to abandon its effort to synthesize a single performance measure and instead explain in the text of its future performance reports that a wide variety of evaluation forms are used with generally positive results. The staff told us that it felt forced to develop the existing measure and obtained approval for it from the Department of Finance.

Overall, for all three of the customer satisfaction measures that are in the Department of Administration's 1994 performance report, we found that:

- **There is not enough documentation to show how the department developed some of its measures of customer satisfaction.**

Combined with other, previously mentioned problems including low response rates in one case, severely limited response options in another case, and a mixture of different methods for determining satisfaction in all three instances, we con-

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99 Memo to Assistant Commissioner Dennis Spalla, from Thomas R. Joachim, Department of Administration, August 7, 1995.

100 Among other characteristics that could reflect response bias are the attendees' age, sex, education, job type, work site, experience, and previous training. The audiences for the two recent sessions came from Stearns County and an association of public relations professionals who work in schools.

clude that the customer satisfaction surveys used in the department's 1994 performance report need significant improvement.

In addition, for all three sets of customer satisfaction measures, the Department of Administration did not provide enough descriptive information in the 1994 performance report as is required by the Department of Finance and necessary for readers to understand and interpret the results.[101] There is no mention of the products or services that InterTech customers evaluated, response rates, concerns about the quality of respondents or responses, or questions that were asked. However, the report reveals the total number of InterTech respondents and tells something about the rating scale they used. In the case of the building code seminars, mention is made only of surveys that will be completed by all attendees, which has not been the case so far.[102] Regarding participants in government information policy education sessions, the report says only that attendees all are asked to complete "an evaluation of the course, materials, usefulness, etc."

In conclusion, we suggest that the Department of Administration review its current and anticipated customer satisfaction surveys and, working with its own Management Analysis Division, establish standards for administration and presentation of results in the future. Each division should, in our view, continue to be responsible for the content of its own questionnaires but follow similar, agreed-upon methods so that readers can be assured that the results are credible, representative of given customers, consistently obtained from year to year, and well suited to the purpose of informing policy makers of the department's progress toward improved customer service.

SUMMARY

State agencies' measurement of customer satisfaction is often flawed by carelessness and lack of knowledge.

In general, we found that state agencies' measurement of customer satisfaction is often flawed. The problems have sometimes been so serious that the results cannot be trusted as a general indication of the agencies' performance. Other times, customer satisfaction surveys have been properly conducted, but the agencies use the results in odd or inconsistent ways. Also, some of the ten agencies have created some measures of customer satisfaction using unsound methods. Several others have used what should be the same customer satisfaction data in different ways from one report to another, and from one year to the next. In several cases, departments could not readily explain how they produced the "actual" data that is contained in the 1994 performance reports.

Based on our interviews with agency staff, we think that the most important explanations for such problems are (1) lack of familiarity with the requirements for sound research, and (2) carelessness in assembling performance reports. The reports have been required only since late 1993, when drafts were first submitted after just a few months of preparation. The first formal reports were due less than a year later, on September 15, 1994.

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101 Department of Finance, *Annual Performance Report Instructions* (St. Paul, June 1994), 16.

102 See Department of Administration, 1994 Performance Reports, 56, and memos from Fred Driver and others, Department of Administration, "Building Codes Seminar Evaluation Summary," June 8, 1992, January 27, December 20, and, December 27, 1993, and June 9, 1994, showing response rates ranging from 79 to 90 percent.

In the following chapter, we discuss common problems that we found affecting the use of customer satisfaction data and suggest how they can be avoided in future performance reports. Clearly, it is appropriate for the agencies to use customer satisfaction surveys as the basis for performance measures, but they must be conducted and used in a way that is statistically sound and credible.