

QUESTIONNAIRE DEVELOPMENT, RESULTS AND OTHER ISSUES FROM THE COMMERCE DEPARTMENT-WIDE CUSTOMER SATISFACTION SURVEY

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INTRODUCTION

Customer satisfaction measurement has become prominent in the Federal Government since the issuance of Executive Order 12862 for "Setting Customer Service Standards" in 1993. As part of "creating a government that works better and costs less" the National Performance Review suggested "putting customers first." The thrust of this initiative is to have the Federal Government function more like private industry. The competitive markets of the private sector have created a climate which is customer focused and the Federal Government is attempting to follow suit.

The Executive Order for "Setting Customer Service Standards," requires Agencies to engage in several activities. The following activities from the Executive Order are all survey related:

- a) identify the customers who are or should be served by the agency,
- b) survey customers to determine the kind and quality of services they want and their level of satisfaction with existing services, and
- c) benchmark customer service performance against the best in the business which is defined as the highest quality of service delivered to customers by private organizations providing a comparable service.

The Department of Commerce embarked on a novel approach of customer satisfaction measurement in their attempt to address the survey-related activities outlined in the Executive Order. They commissioned the Census Bureau to develop and implement a department-wide customer satisfaction survey. This paper focuses on the challenges involved in developing the survey, initial survey result highlights, and issues related to data comparability.

The Department of Commerce consists of 14 separate agencies. Several of these agencies are very large and for operational purposes are considered separate units. Taking this into consideration, the survey was expected to cover 20 separate operating units within the Department of Commerce.

The Department of Commerce wanted the Census Bureau to develop one generic survey for use throughout the entire Department. This approach of creating one

comprehensive generic survey attempted to standardize the measurement process across the separate agencies and to minimize development costs by developing one product for use everywhere within the department. However, this approach led to two separate sponsors with two separate goals. The first sponsor who commissioned the developmental work was the Department of Commerce. The department wanted departmental-comparison information which could be used for decision making purposes, including budget allocations. The second sponsor was each participating agency who paid for the survey. The participating agencies wanted detailed agency-specific information to evaluate and hopefully improve their own customer satisfaction.

QUESTIONNAIRE DEVELOPMENT

There were several stages involved in the development of the questionnaire. First, we had to identify the types of products and services which were provided by the various agencies within the Department of Commerce. Unfortunately, there are no central lists of products and services so they had to be created. It is also important to keep in mind that the Department is comprised of 14 agencies with very diverse aims and purposes, and subsequently diverse products and services. Products and services ran the gamut from Census data tapes, BXA export licenses, NWS weather forecasts, NOAA fishery inspections and disaster relief services, to ITA training seminars.

After compiling the product and service lists, we developed categories and began writing survey questions to target those categories. We were able to group all products and services provided by the DOC into three broad categories:

1. Information Services and Data Products
included: informational materials, such as newsletters, catalogs, promotional brochures, videos, telephone calls and personal visits, information fax lines, electronic bulletin boards, referral services, tours, informational reports and radio programs off-the-shelf data products and software.
2. Specialized Services or Products
included: customized services or products developed for specific organizations such as data collection, research, technical assistance, consulting, specially prepared tabulations, policy or negotiation services, disaster relief, standard reference materials, and training courses.

3. Grants and Regulatory Products and Services

included: grants, awards, licenses, certifications, accreditation, inspections, patents, trademarks.

These categories provided the framework for the survey. We developed 3 modules consisting of questions targeted to each product and service category. For analysis purposes, however, grants and regulatory products were separated into two categories. Therefore, although there were three modules in the questionnaire, for the remainder of this paper we refer to four categories of products and services. Each agency's questionnaire only included those modules which were appropriate to the categories of products and services it offered. Of the 20 operating units, 17 surveyed their customers about information services and data products, 11 surveyed customers about specialized services and products, 8 surveyed customers about grant services, and 10 surveyed customers about regulatory products and services.

In terms of questionnaire content, we had to determine the types of questions that would be applicable across the product and service categories. We decided to ask questions about all of the aspects involved in the process of obtaining and using products and services. We targeted such areas as: timeliness of the information, quality of the product or service, documentation, clarity and ease of use, and price. We also asked questions about agency staff in terms of their competence, responsiveness, and handling of problems. We also assessed how important each of these specific dimensions of product and service use was to the respondent. More general levels of satisfaction were also evaluated by determining whether products and services met customer's requirements, the amount of bureaucratic red tape which was necessary to obtain products or services and their overall levels of satisfaction with each category of products and services they had received. The survey also included a section of questions about customer characteristics and obtained information on the specific products and services that were used. (For more information on the development of the Department of Commerce Survey see Wellens and Martin, 1995.)

SURVEY IMPLEMENTATION AND RESPONSE RATES

After designing the questionnaire, the next set of issues focused on the implementation of the survey. Due to time constraints for the Department of Commerce Customer Survey, we decided on a general request to the agencies for obtaining customer lists. Each agency was instructed to provide lists of all customers who were external to that agency and to the Department of Commerce. We knew that the department wanted comparison information so we limited the scope of this survey to external customers outside of the entire DOC.

The customer lists delivered to the Census Bureau ranged in size from 114 to 190,000. This resulted in selected sample sizes ranging from 114 to 1500. This survey was conducted by the Census Bureau between January 1995 and March 1995. During that time 21,970 questionnaires were sent to customers of the 20 individual operating units within the DOC. Unfortunately, customer satisfaction surveys in general have suffered from inconsistent and low response rates. Poorly designed questionnaires and survey implementation procedures have contributed to the low response rate found in the literature. We were conservative in the estimates of the response rates we thought we could obtain. We expected response rates in the range of 30-40%. Nonetheless, we attempted to maximize response rates through implementation procedures.

First, we used a user-friendly questionnaire design with a cover letter signed by Ron Brown, the Secretary of Commerce. Second, we incorporated a more comprehensive mailout procedure than was generally found in the literature. We used an initial questionnaire mailout, a reminder card, and a second mailout of a replacement questionnaire to non-respondents. Research conducted by Don Dillman at the Census Bureau suggests that this type of mailout procedure should increase response rates by at least 10 percentage points. (For a detailed discussion of mailout procedures and response rates see Dillman, 1978.) Many customer satisfaction surveys in the literature did not use any follow-up procedures.

Our overall response rate across all 20 operating units was 42%. Our procedures did help response rates somewhat. Before the second mailout, the overall response rate was only 29.4% across all operating units. Thus, the mailing of a second questionnaire gained approximately 13% points overall. Although the overall response rate reached 42%, response rates across agencies ranged from 22% to 70%. Needless to say, these rates were not high.

The response rates might have been higher with additional telephone follow up. This option was not a possibility due to cost. It should also be noted that collecting information in person or over the telephone may result in mode effects, affecting data comparability. (See Hippler, Sudman and Schwarz, 1987; Schwarz and Sudman, 1992 for a discussion of response scale mode effects.) Therefore, the decision to do more comprehensive follow-up has to be evaluated in terms of the quality of the additional information obtained and the costs involved in obtaining it.

RESPONSE RATES AND DATA

COMPARABILITY ISSUES

Unfortunately, these low and varying response rates compromised our ability to make comparisons among different agencies. Apparent differences in satisfaction may be artifactual, produced by nonresponse bias. Although we cannot know how nonrespondents would have responded to the survey questions, we do know about some of the sources of nonresponse to this survey.

One factor which influenced response rates is the quality of the lists. At this point it is sufficient to note that customer lists varied in quality. (For a more detailed discussion of customer list quality see Ott and Vitrano, 1995).

For example, we know that the lists varied in the degree to which they represented up-to-date customers. Several lists were from FY1993 and this survey was conducted in FY 1995. If some lists are less up-to-date than others, it means that satisfaction measures for some agencies do not represent the current state of affairs, and particularly do not represent new customers.

Agency-provided lists are also potentially vulnerable to selection bias, since organizational representatives who know that customer satisfaction is to be evaluated may overrepresent satisfied customers in their lists. In this survey, several agencies acknowledged that they were only providing a sample of their actual customer base. We do not know of any cases in which an agency intentionally overrepresented satisfied customers but it is a potential threat to comparability which must be kept in mind.

Another factor likely contributing to differential response rates is respondent self-selection. Customers with stronger feelings -- either positive or negative -- may be more likely to take the time to respond than those who are more indifferent. It is also possible that satisfied customers may be more likely to take the time and trouble to help out an agency by responding to its customer satisfaction survey. If so, then satisfaction is likely to be overstated by the survey results; nonresponse may contribute to the persistent positive or "satisfied" bias of most customer satisfaction surveys. (Peterson and Wilson, 1992.)

Although it is difficult to guess what the effects of these various sources of nonresponse bias might be on the data, differences in nonresponse rates should not be ruled out as possible explanations for any apparent differences between agencies in survey results. We decided against testing for statistical differences because of sampling and non-response bias issues. Therefore, the data presented in this paper only represents those customers who took the time to respond to the survey. While the data must be interpreted cautiously, there are many interesting findings that shed light on the views of those responding customers.

RESULTS

This paper will highlight survey results from the following four question areas: 1) DOC customer characteristics, 2) technological preferences, 3) price, and 4) global evaluation measures of satisfaction, which include meeting requirements and bureaucratic red tape within the department. With the high non-response rates and other problems affecting data comparability, all of the results presented here only represent the respondents to the survey. The data do not represent all customers on the customer lists provided to the Census Bureau, all customers who would respond to a survey like this, all customers who received the survey, nor all customers of the Department of Commerce.

Customer Characteristics:

The Department of Commerce services a diverse group of customers. The most common affiliation reported by responding customers is "for-profit organization or business," with 38.3 percent of responding customers associated with businesses or other for-profit organizations (N=8,480). Universities and non-profit organizations make up an additional 25.1 percent of the responding customers. 16 percent of the responding customers are affiliated with some government entity (state, local, or other federal agency).

The most common type of job activities are research and analysis (35.1%), and management and decision-making (29.3%). Marketing/sales/promotion (18.8%) and writing and reporting (18.1%) were the next most common job activities reported (N=8,443).

In terms of customers' perceptions of their relationship with the Department of Commerce agencies, 43.6 percent of the responding customers said that they were either continuous or frequent customers of the agency, 38.2 percent said they were occasional customers, 5.7 percent said they were one-time customers, 1.5 percent said they were former customers, and 11.0 percent said they were not customers of the agency (N=8,326).

Technological Preferences:

New technology has increased the methods by which individuals can receive information. In this survey, responding customers were asked about their preferences for receiving various types of information. For obtaining information over the phone, responding customers reported the following preferences: 75.7% preferred a live person, 6% an automated system, and 18.3% reported having no preference (N=5,532). The reason for this apparent preference for a live person is unknown. It may reflect a true preference for talking to an individual rather than a machine or, it may reflect the inefficiency of the current automated information systems.

Customers were also asked about additional types of

media for obtaining information services and products. They were asked to identify all modes which could be used, which were currently being used, and which were the most preferable to use. Across the DOC we find that telephone, fax and mail are the most available and most currently used modes. At least 89 percent of the responding customers can use these media (N=5,557) and at least 75 percent currently use them (N=5,470). Although telephone, fax, and mail were the most preferred modes as well, the percentage of respondents who preferred them were only 39.8, 55.9, and 50.8 respectively (N=5,388). As a relatively new mode for obtaining information services, the Internet was available to 49.1% of the respondents and was preferred by 31.4%.

In terms of the electronic formats available for obtaining data products, responding customers indicated that the patterns for what was available and what was currently used were similar (see Table 8). First was diskettes (86.9% said available, 77.2% said currently used), followed by CD-ROM (66.1% available, 54.1% currently used), on-line (58.3% available, 46.0% currently used), and computer tape (25.1% available, 15.0% currently used). The order of what was most preferable to use indicates that diskettes (53.1%), CD-ROM (49.5%), and on-line formats (43.9%) are favored over computer tape (3.1%). 4,667 customers responded to what could be used, 4,506 responded to what they currently use, and 4,255 responded to what they prefer to use.

Price:

Customers who paid for products and services from the agencies within the Department of Commerce were asked to evaluate the costs for those services. Customers noted for the most part that the cost of products and services across the DOC was reasonable. 74.4 percent of the information services and data products customers thought that the cost was reasonable (N=3,519). 72.0% of the specialized services and products customers thought the cost was reasonable (N=1,189). These percentages were lower for the grants customers (67.4%, N=129) and for regulatory products customers (59.2%, N=1,077). The cost was reported to be too high by 9.6% of the information services and data products customers, by 20.2% of the specialized services and products customers, by 11.6% of the grants customers, and by 37.0% of the regulatory products customers.

Global Evaluation Measures:

As an important part of the survey, customers were asked to evaluate the agencies according to whether the product or service met requirements, the amount of bureaucratic red tape experienced in obtaining it, and overall satisfaction. Product and service categories were evaluated separately. Meeting requirements was

evaluated for information services and data products and for specialized services and products. Overall satisfaction and bureaucratic red tape were evaluated for all four product and services categories.

A) Meeting Requirements

Respondents were asked to evaluate whether the product or service "did not meet requirements," "met some requirements," "met most requirements," "met all requirements," or "exceeded requirements." 35.2% of the respondents evaluating information services and data products said that the agency met all or exceeded the requirements (N=5,269). For specialized services and products, 40.3% of responding customers said that the agency met or exceeded the requirements (N=1,948). Only 2.6% of the information services and data products customers and 4.1% of the specialized services and products customers responded that the agency did not meet the requirements.

B) Overall Satisfaction

Overall satisfaction was measured on a 5 point scale with higher scores indicating more satisfaction. The scale points were labelled as follows: 1) very dissatisfied, 2) dissatisfied, 3) neither satisfied or dissatisfied, 4) satisfied and 5) very satisfied.

For all product and service categories, the majority of respondents were satisfied to very satisfied with the products and services they received.

C) Bureaucratic Red Tape

Respondents were asked how much bureaucratic red tape they experienced obtaining the product or service, where the amount of red tape experienced was reported as: 1) none, 2) up to my ankles, 3) up to my knees, 4) up to my eyebrows and 5) over my head.

82.3 percent of responding customer of information services and data products experienced either no bureaucratic red tape or they were only up to their ankles in it (N=5,258). 79.2 percent of the responding customers of specialized services and products reported being at these levels (N=1,953). 52.3 percent of responding grants customers and 54.0 percent of regulatory products customers reported being at these levels (N=964 for grants and N=1,443 for regulatory products).

When looking at the other end of the bureaucratic red tape scale, 5.2 percent of the information services and data products customers reported being either up to their eyebrows or over their heads in bureaucratic red tape. 8.0 percent of the specialized services and products customers were at these levels. 21.0 percent of the grants customers and 17.1 percent of the regulatory products and services customers were at these levels.

CONCLUSIONS

Although the results in this paper only represent

preliminary analyses, some findings begin to emerge. Satisfaction is generally high among the customers who responded to the survey. Substantial majorities reported themselves satisfied or very satisfied, and said that the agency met most or all requirements. Large majorities found costs reasonable (or, especially for information services and products, even a bargain.)

While satisfaction levels are generally high, there is room for improvement: some customers report themselves dissatisfied, with unmet requirements or excessive red tape involved in obtaining a product or service.

It also appears that customer satisfaction varies according to the type of product or service, with grants and regulatory products eliciting more complaints and more negative evaluations from customers. In part, this may reflect the different, and less voluntary, relationship between these customers and the Department of Commerce: "customers" who are regulated may express dissatisfaction because they prefer not to be regulated. However, their complaints about the costs of regulatory services being too high and the higher level of red tape they experienced may also indicate problems with the way these services are provided. Further analysis may help clarify the reasons and source of these apparent differences in satisfaction. It may be advisable to compare satisfaction levels among agencies or organizations only within product type. In particular, it may be prudent to analyze separately voluntary customers of government services, who obtained the product or service by choice, and involuntary customers, who did not choose to obtain the product or service.

The results reported here also may prove fruitful in guiding efforts to improve service to customers. For example, our preliminary data suggest that increasing the use of automated information systems as a source for telephone information is not likely to improve customer satisfaction, because a substantial majority of customers prefer a live person.

Finally, we must return to our original caution that differences in response rates, or other differences in the characteristics of customers sampled by different agencies, may account for some of the differences reported here. For example, it is possible that those DOC customers of regulatory products who felt most negatively about their experiences responded in greater numbers than those who were more neutral or positive, resulting in relatively low satisfaction ratings.

We are somewhat skeptical whether the results of this survey can support the type of benchmarking envisioned by the Executive Order. The Executive Order states that "each agency shall use [customer satisfaction] information in judging the performance of agency management and in making resource allocations." This

type of comparison requires that the measurements of customer satisfaction be comparable among agencies or companies which serve as benchmarks for each other. Obviously, if the information is to be used to make decisions about allocation of resources, one would want to be very certain that the comparisons are meaningful and that differences in customer satisfaction between agencies are not artifacts of the way the data were collected. This is important for the Department of Commerce Customer Satisfaction survey because this is the type of comparison information the department would like to have for decision-making purposes. However, as we have discussed, the samples appear to vary in quality and completeness, and in the way different agencies defined and identified their customers. Response rates are low and variable. These variations affect the comparability of data across agencies, so any comparisons should be made quite cautiously, if at all.

In summary, this and other customer surveys which aim to compare across diverse agencies and products potentially are affected by very serious problems of data comparability, including lack of comparability arising from sample construction and differential nonresponse. There appears to be a considerable amount of careful methodological and statistical work that still needs to be done to ensure that customer surveys are designed to yield meaningful comparisons of customer satisfaction across industries and over time. Given the costs involved in designing and conducting these surveys and the importance of the decisions which may be based on them (e.g., budget allocations and employee performance appraisals), it is essential to understand the uses and explore the limitations of this type of measurement.

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