

Measuring Customer Service At The Bureau Of Labor Statistics

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1. INTRODUCTION

The Bureau of Labor Statistics (BLS) serves a variety of customers -- academic institutions, the media, other government agencies, private companies, private citizens, just to name a few -- both directly and indirectly. While the satisfaction of all these customers is important to us, our direct customers, because of our on-going contact with them, are a much more accessible source of meaningful dialog on the subject of customer satisfaction. These direct customers include people on our mailing lists, those who access our data electronically, and those who make personal requests to us. It is the satisfaction level of customers requesting information either by telephone or mail that we are measuring with the BLS Customer Service Survey. This paper will describe various aspects of the survey, provide a summary of survey results, and discuss lessons learned and future steps.

The BLS Customer Service Survey was developed to provide data to set goals, measure, and demonstrate the effect of efforts to improve the Bureau's information dissemination services. Survey measurements refer to the manner in which we provide information, not the quality or appropriateness of the information provided. The survey was also undertaken in response to the President's Executive Order No. 12862, issued to all federal agencies about setting customer service standards. This executive order requires agencies to survey their customers in order to determine the kind and quality of services they want and their level of satisfaction with existing services.

1.1 Continuous, transaction-based feedback

This survey is continuous in that each month different organizations within the Bureau are surveying their customers. An organization participates for one month and goes out of the survey for six months. In month

eight that same organization rotates back into the survey. This rotation will continue indefinitely and will allow the Bureau to always have current measures of customer satisfaction.

Each organization collects measures for one month which can be used to determine which dimension of customer satisfaction needs improving. These measurements can be further enhanced by collecting additional, more robust data from their information dissemination process. For example, suppose promptness of response is a problem indicated by the survey. The organization may collect data on the length of time it takes to answer information requests. These process measurement data are used to improve the dissemination process. The six-month "rest period" gives the organizations time to make improvements and then measure the effects of those improvements.

The survey is transaction based in that surveys are sent to a sample of customers who request information during the survey month. This design provides survey responses that are closely linked (within 3 business days) to the actual service delivery, thus providing the customer with a recent event to evaluate. The customer does not have to recall the transaction over a long period of time. When information request responses are mailed, the survey is delivered with mailed materials which truly links the survey with the information request.

2. SURVEY DESIGN

An employee team designed, pretested, and revised the survey from September 1993 through September 1994. The team consisted of people with expertise in information dissemination, questionnaire development, procedures development, and systems analysis. The survey actually consists of two formats, one for telephone requests and one for mailed requests. For the remainder of this paper, these different formats will be referred to as the telephone survey and mail survey, respectively. Both survey formats are conducted

* Any opinions expressed in this paper are those of the author and do not constitute policy of the Bureau of Labor Statistics.

through the regular mail service. The survey forms are one-page self-mailers that are folded into thirds, allowing for return mail without using a return envelope. The telephone survey consists of seven questions, while the mail survey has only four. Each survey contains an introductory note requesting the customer's participation, ensuring the confidentiality of the responses, and providing a name and telephone number of a person to contact for questions and comments.

2.1 Survey Questions

The surveys focus on the most critical quality dimensions of the dissemination process. The broad customer service areas or dimensions selected for measurement were determined in two ways. Several front-line employees were asked what dimensions their customers thought were important to the dissemination service. Then the output of the recently completed customer survey for the Employment and Unemployment Statistics programs was reviewed. In that survey, our customers indicated what they thought were the most important quality dimensions. The following are the dimensions on which both sources agreed:

- ◆ Ease of access
- ◆ Promptness of reply
- ◆ Clarity of explanations
- ◆ Ease of understanding printed materials

The BLS Customer Service telephone survey contains one question for each of the above quality dimensions as well as a question to rate the customer's overall satisfaction. There is also a question about staff courteousness and one used to determine the customer's frequency of contact each month. The first three questions refer to the Bureau as a whole, and the last four refer to the individual information analyst answering the inquiry. A section heading for the second set of questions states that the "following questions refer to the information analyst answering your inquiry" to help the responding customer focus on the specific information request.

The mail survey contains a question to rate the customer's overall satisfaction with the process as well as one question for each of the following quality dimensions:

- ◆ Promptness of reply
- ◆ Clarity of explanations
- ◆ Ease of understanding printed materials

At the bottom of both surveys is an area for comments or suggestions for improvement.

2.2 Rating scales

A four-point rating scale was selected for both surveys. The generic ratings are: very poor, poor, good, and very good. Each of these categories has been phrased in a manner that pertains to each specific question. For example, the responses to the question about promptness of response are: very slow, somewhat slow, fairly prompt, and prompt. Two of the questions have a "not applicable" response category since they pertain to explanations and printed materials which may not exist for each information transaction. (Note: Question #3 on the telephone survey concerns frequency of contact and has only three response categories.)

2.3 Customer Identification

Many mailed customer feedback surveys make use of a tear-off customer address portion to allow the customer's responses to be anonymous. This survey does not do so, therefore the name and address of the surveyed customer is identified on the returned survey. While this design precludes anonymity of the customer, it allows us to complete follow-up service actions that are sometimes requested in the comments portion of the returned surveys. Such follow-up actions include requests for: additions to mailing lists, frequently called telephone numbers, and additional publications.

2.4 Sample Design

In order to balance the need for continuous customer satisfaction measurements and the burden on our customers and information analysts, a rotating participation schedule was devised. Seven major offices in the Bureau disseminate information. These offices are divided into 41 smaller units called cost centers. Cost centers are the lowest level of service delivery and are the units for which estimates of customer satisfaction are desired.

The cost centers are grouped into 7 sample panels of similar size. Each panel of cost centers participates in surveying their customers for one month. The cost centers mail surveys to customers who make information requests through the mail or by telephone. As stated earlier, the panel is then out of the survey for six months and participates again in month eight. At the end of seven months, measurements for all

information units in the Bureau are available. Data aggregated at the Bureau level are available for a continuous time period. Once units begin to participate the second time, they will be able to compare their ratings between survey periods. Changes in the customer satisfaction ratings will be tracked at the cost center, office, and Bureau levels.

Due to the low number of mailed information requests we receive, the mail survey is sent to every customer who makes an information request through the mail. Surveys are sent to a sample of our customers that make requests for information by telephone. One advantage to a transaction-based survey is that we can survey our customers without having to develop sampling frames. Sampling frame construction would normally entail obtaining customer identification data (name and address) for all customers but this design requires this information for only those customers who are sampled.

As stated earlier, the measurement objective is to produce estimates of customer satisfaction at the cost center level. In order to achieve this objective, we need to receive at least 50 returned surveys for each cost center. During the operations test, we experienced a 60% response rate. Due to the varied number of telephone requests received by each cost center, several sampling fractions were used to produce the desired results. The sampling rates for Cycle I were based on estimates provided by the cost centers of the number of information requests handled in a typical month. The sampling rates used during the first sample rotation are given in Table 1.

Table 1: Cost Center Sampling Rates for Cycle I

Number of telephone requests per month	Sampling rate	Number of surveys sent	Expected number of surveys returned
Less than 150	census	0-150	0-90
151-400	1 in 2	75-200	45-120
401-900	1 in 5	80-180	48-108
901-2000	1 in 10	90-200	54-120
2000 or more	1 in 15	133 +	80 +

2.5 Survey process

There are three objectives of the survey process:

1. Surveys will be mailed to a sample of our information request customers.
2. The process must be simple enough so as not to interfere with customer service.
3. The cost must be kept to a minimum since this survey will be carried out continuously for an indefinite period of time.

The survey is administered by the employees who answer the information requests. A mail survey form is included in all information requests initiated and resolved through the mail. Mailed requests which are not eligible for mail surveys include:

- ◆ Regular send-outs, such as monthly publications from a regular subscriber list;
- ◆ Correspondence asking for mailing list changes or additions; and
- ◆ Correspondence that is referred to another office or agency for response.

The process for telephone requests is more complex. Eligible information requests are defined as telephone calls that result in disseminating data by telephone, mail, or fax. Telephone calls which are not eligible include:

- ◆ Calls to update customer mailing lists;
- ◆ Calls that are transferred with no information provided;
- ◆ Callers requesting data before release time with no information provided; and
- ◆ Employees of the Bureau requesting information.

The process for eligible telephone requests requires each information analyst to maintain a log of incoming calls. The logs are used to keep track of the sampling pattern to select the proper telephone request for the survey. Each incoming call is given a sequential number to determine if it should be sampled. For example, suppose the sampling rate is 1 in 5. Numbers 1,2,3, 4 and 5 are provided on the log. As the calls are received, numbers 1-4 are crossed-off. A special block for request number 5 is provided to capture needed information for the selected call.

At the end of the information request, the analyst tells the customer about the survey and requests their name and mailing address. If the name and address have

already been provided during the request, the analyst is not required to tell the customer about the survey. Should the customer refuse to provide the information, the log entry is coded as a refusal. If an analyst ends a selected information request without obtaining the address information, the call is coded as such on the log.

Each survey is preprinted with a unique identifier or control number which is marked on the log form. This number is used to enter data and to verify data accuracy. The analyst writes the cost center number on the survey form. Once addressed by the information analyst, the surveys are mailed on a daily basis. Surveys for customers whose requests require other printed materials are mailed along with the materials. After a survey is prepared or marked as a refusal or omission on the log, the sampling pattern is repeated.

At the end of the survey month, each information analyst prepares a summary sheet to document the process so that response information can be tabulated for each cost center.

Customers who respond to the survey, send it back to BLS in the mail. Upon receipt in the Bureau, the surveys are dated and reviewed for sufficient data (cost center and at least one valid entry). Employees' names which may be mentioned in the comments area are blackened out to preserve the anonymity of the employee. The surveys are then keyed into a processing system for tabulation. Reports of ratings and comments are available one month after the close of an organization's participation in the survey.

2.6 Survey bias

There are several sources of bias in this survey. Three such sources are:

- ◆ Analysts know who gets surveyed at service delivery point; this may affect service delivery;
- ◆ Analysts determine which customers are sent surveys; therefore customers who received bad service may not get a survey; and
- ◆ Customers know they are not anonymous and may temper their survey responses.

These biases are allowed to exist in the system because eliminating them would create an expensive and involved survey process. The administration of the survey by the information analyst is perhaps the most difficult bias to overcome, as it would require an

additional person to sample the customers and conduct the survey. To many of our customers, involving another person would impede one of their primary requirements: obtaining information quickly while speaking to the fewest number of people possible. Survey bias due to the lack of customer anonymity will be analyzed for elimination when the survey is revised.

3. ESTIMATION METHODOLOGY

3.1 Cost center estimates

The lowest level at which estimates of customer satisfaction can be calculated is the cost center level. Separate estimates are made for the telephone and mail information requests. Within each cost center, a simple random sample of information requests is drawn. In order to analyze the data for each question, the response categories were given point values of 1-4, with the lowest category being a 1 and the highest being a 4. For each cost center h, a mean rating, \bar{y}_{hq} , was calculated for each question q as:

$$\bar{y}_{hq} = \frac{\sum_{i=1}^{n_{hq}} y_{hqi}}{n_{hq}}$$

where: y_{hqi} is the observed rating from survey i for question q in cost center h,

n_{hq} is the number of surveys with valid entries for question q in cost center h.

The estimate of the variance of \bar{y}_{hq} , s_{hq}^2 , is given by:

$$s_{hq}^2 = \frac{\sum_{i=1}^{n_{hq}} (y_{hqi} - \bar{y}_{hq})^2}{n_{hq} - 1}.$$

Ninety-five percent confidence intervals are calculated for each question q in each cost center h as:

$$95\% C.I._{hq} = \bar{y}_{hq} \pm 1.96s_{hq}.$$

A t-distribution is used to calculate confidence intervals based on fewer than 30 returned surveys.

3.2 Office and Bureau level estimates

Cost center data are aggregated into office and Bureau level estimates. For office-level estimates, the cost center estimates are combined using weights that represent the cost center's proportion of the total number of information requests. The office-level weight for each cost center h in office f is equal to:

$$W_{fh} = \frac{N_h}{N_f}$$

where: N_h is the number of telephone or mail requests received by cost center h ,
 N_f is the number of telephone or mail requests received by all cost centers in office f .

Using the mean and standard deviation formulas for a stratified sample, the point estimate of the mean customer satisfaction rating for question q in Office f is calculated using the following formula:

$$\bar{y}_{fq} = \sum_{h=1}^H W_{fh} \bar{y}_{hq}$$

where: H is the number of cost centers in office f .

The estimate of the variance of the mean for question q in office f is calculated as:

$$s^2(\bar{y}_{fq}) = \sum_{h=1}^H \frac{W_{fh}^2 s_{hq}^2}{n_{hq}} - \sum_{h=1}^H \frac{W_{fh} s_{hq}^2}{N_f}$$

Estimates are calculated for the Bureau as a whole by applying the same formulations as the office-level estimates. All cost centers in the Bureau are used in the summations at this level. The weights used are calculated as:

$$W_{bh} = \frac{N_h}{N}$$

where: N_h is the number of telephone or mail requests received by cost center h ,
 N is the number of telephone or mail requests received by all cost centers in the Bureau.

4. RESULTS FROM CYCLE I

4.1 Staff feedback

Both employees and managers had concerns about the survey during Cycle I. Employee concerns centered around two items. Some employees were fearful that the results would be used negatively against them. Discussions about data security eased these concerns for all but the very skeptical. Experience has shown that these employees' fears were alleviated as the survey was underway.

The second concern of employees was that the results would not be used for improving the information dissemination process but to make employees work harder or just as a nice report to put on the shelf. The Bureau culture is to use data to make changes and to do so involving teams of employees. Working within that culture with a structured approach to constructively utilize the survey results should ease some of the concerns. One such example is an employee team chartered to investigate customer dissatisfaction with being transferred several times during one telephone inquiry.

The concern of managers centered on the relevancy of the survey. The Customer Service Survey measures our information dissemination service. As stated earlier, survey measurements refer to the manner in which we provide information, not the quality or appropriateness of the information provided. This is the first time customer satisfaction measures for the quality of the service delivery have been separated from that of the quality of the products. Historically in the Bureau, when customers have been asked what they think about our products and services, they are asked to assess a specific BLS product in general terms, rather than based on one specific encounter or transaction. Past surveys have also occurred much less frequently. Surveys of customers which ask a whole wealth of information, such as are we producing data you can use, have been done no more frequently than once every 5-10 years.

In response to the relevancy concern, it was decided that measures of satisfaction with data accuracy, timeliness, and appropriateness should still be collected at the specific program level, not for the Bureau as a whole. We recommend that the BLS programs develop their own customer satisfaction measurement systems for program product quality. The union of periodic customer satisfaction measurements (every two to four years) of BLS products and this continuous Bureau-wide service delivery satisfaction survey will show

changes in customer service satisfaction on an on-going basis.

4.2 Input data quality

The initial counts of information requests which were used to determine sampling rates were provided by individual cost centers. Most cost centers provided estimates that were overstatements of the number of eligible requests. This was due in part because they did not have counts to match our definitions of eligibility. Since the sampling rates are based on the volume of information requests, this overstatement resulted in lower sampling rates being used. The ultimate result was that an insufficient number of surveys were sent out. Therefore, for most cost centers, the estimates may be weak. Sampling rates for Cycle II will be based on the number of eligible information requests received by each cost center in Cycle I. In most cost centers, the sampling rate will double.

4.3 Data Results

For the telephone portion of the survey, most cost centers received less than 40 responses. Due to the low number of requests we receive and answer through the mail, most cost center estimates for the mail survey are based on fewer than 10 responses.

Table 2 provides means and confidence intervals for each question at the cost center, office, and Bureau levels for the telephone information requests. Corresponding data are provided for mail requests in Table 3. Also included are sample sizes and response rates.

Perhaps the most enlightening information from the surveys are the customer comments. Table 4 summarizes the breakdown of the nature of the comments.

Table 4: Summary of Customer Comments

	Telephone Survey	Mail Survey
Total Number of Surveys	1197	150
Percentage with Comments	42%	54%
Percentage of comments which are positive	60%	53%
Percentage of comments with improvement suggestions	33%	32%

We can make improvements in our dissemination process by focusing on the improvement suggestions and celebrate the aspects of our service delivery that are highlighted in the positive comments.

5. LESSONS LEARNED

5.1 Survey testing

We conducted a month-long pretest of the survey prior to final printing and implementation. Due to the significant discoveries found during the pretest, we learned the importance of testing.

During the test we discovered that our response category labels caused some customers to check the wrong rating. It appears that this was due to the use of the word “very” on extreme ratings (very poor and very good) for every question. We estimated that 6% of the respondents mistook “very dissatisfied” for “very satisfied” as the response to the first question (overall satisfaction). This erroneous coding during the test was detected by questionnaires with conflicting answers on the remaining questions and comments which enforced the positive ratings. The response category labels were changed so that the first question’s “very poor” category is labeled “not at all pleased”, and no instance of apparent erroneous coding has occurred in implementation.

Our test uncovered other problems with our mail-out and return mail processes. The culprit was the larger than standard size test survey. This required extra postage and additional time and effort in our mailroom. Extra processing time was also needed in the post office due to the larger size. Reduction in the size and correction of the return mailing address shortened the length of time from mailing the survey to receiving the responses. These alterations also cut costs because the surveys could be mailed with standard postage.

5.2 Survey results

Lessons learned during the actual operation of the survey focus on the results. Overall, 96% of Bureau customers are “satisfied” or “very satisfied” with the service they receive. It is difficult to make Bureau employees see the value of improving their service with ratings such as these. It is even more difficult to enlist their participation for the next cycle when there hasn’t been any systemic changes in the process since Cycle I ended. The theory is that the results will be a repeat of Cycle I. While this may be true, the goal of a

continuous survey is to see how we serve our customers over time. Continuous process measures are the best way to see whether small incremental improvements have occurred in the service delivery process.

6. NEXT STEPS

As stated earlier, we had originally scheduled all cost centers to participate in the survey for one month, rotate out of the survey for six months, and survey again in month eight. Cycle II was scheduled to begin the month after Cycle I or May 1995. Instead, we analyzed the results from all cost centers before beginning Cycle II to provide a complete picture of all cost centers before determining how frequently each organization should participate. This also provided us with an opportunity to assess our measurement and improvement objectives.

The results of our analysis are to continue with the survey on an annual basis. Each cost center will participate for one month each year and will be able to compare the results to those of the previous year. The estimate of the number of information requests received by each cost center for this survey rotation will be based on Cycle I results. Cycle II will begin in October 1995 and end in May 1996.

As a result of the feedback obtained in this survey, BLS is beginning two improvement projects. One will review our automated telephone message systems for ease-of-use by our customers. The other project will involve benchmarking best-in-business practices for telephone answering. This team will particularly look into call routing; a suggestion raised by several customers on their returned surveys.

Currently the survey only targets telephone and mail requests but there are future plans to widen the universe to include Internet, recorded information messages, and fax-on-demand systems. A similar survey has also been included in major BLS publications. By including all of these customer groups in our customer service measures, we will obtain the views of a large portion of our direct customer base.

7. CONCLUSION

The executive order which provided the impetus to conduct this survey has been renewed with an emphasis on repeatedly measuring customer views. The BLS Customer Service Survey, in conjunction with program specific surveys and dialogs with our

customers, will provide us with needed feedback to improve the products and services of the Bureau. Through the use of this information by employee-driven work improvement teams, the Bureau will continue to serve our customers well.

8. REFERENCES

Cochran, W.G. (1977), *Sampling Techniques*. 3rd ed. New York: John Wiley & Sons.

Office of Management and Budget. Statistical Policy Office (1993), *Resource Manual for Customer Surveys*. Washington, D.C.: OMB.

U.S. Department of Labor. Bureau of Labor Statistics (1993), *Improving Good Performance: Using the Results of the National Survey of Users of Employment and Unemployment Statistics*. Washington, D.C.: BLS.