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Abstract

In this paper, we demonstrate how establishment survey questionnaire design can be improved by utilizing different research methods such as focus groups, document design analyses, pretests, and response analysis surveys. We discuss the lack of research on establishment survey methods in the past, uncover differences between establishment and household surveys, and highlight cognitively-oriented Bureau of Labor Statistics' work on designing establishment survey questionnaires. The results indicate that each research method contributes to improving establishment survey questionnaire design by reducing various types of measurement errors.

1. Introduction

Establishment surveys, where the unit of analysis is a business or organization rather than an individual or household, have been conducted since the beginning of this century and provide critical information about the economy (Federal Committee on Statistical Methodology, 1988). Information from establishment surveys is not only needed by business firms for marketing, planning and development, but is utilized by policy makers for evaluating state and national economies and making future economic plans. However, unlike their household counterparts, surveys of establishments have not received much attention from survey methodologists. The dearth of early research on establishment surveys becomes very clear when searching for relevant literature on the topic. For example, Dillman's (1978) comprehensive bibliography of available material on the design and implementation of mail and telephone surveys (1930s-1970s) includes only one article on establishment surveys (Sergean, 1958). The area of establishment surveys is not addressed by Groves (1989) in his recent work, *Survey Errors and Survey Costs*. As is the case with earlier research on household surveys, most of the recent work on establishment survey methods concentrates on survey coverage and sample design (e.g., Konschnik et al., 1985; Fecso et al., 1985).¹

Researchers have just begun to pay rigorous attention to establishment survey questionnaire design and quality issues. A number of recent studies use "cognitive" methods, e.g., think-aloud and in-depth pretests and focus groups, as a way to assess and improve establishment questionnaires (Bureau, 1992, Cox et al., 1989; DeMaio and Jenkins, 1991, Fecso et al., 1988; Goss, 1989; Gower and Zylstra, 1990; Palmisano, 1988). For example, Cox and colleagues (1989) test the National Survey of Small Business Finances and find unclear financial terminology, concepts, and reference periods. They reduce these problems by clarifying terminologies and instructions and changing the order of questions. In redesign work on the Survey of Employment, Payrolls and Hours for Statistics Canada, Goss and associates (1989) test for respondent comprehension including understanding of terminology and reference periods, respondent burden, and record-keeping compatibility. Their recommendations for improvement include the rewording and deletion of text, question reordering, color coding of sections, and an increase in print size.

This paper focuses on questionnaire design for establishment surveys, especially those conducted by mail with telephone follow-up to nonrespondents. The structure of the paper is as

follows. In Section 2, we compare the tasks of respondents in establishment and household surveys. Section 3 includes a description of establishment survey questionnaire design activities in the Office of Employment and Unemployment Statistics (OEUS) of the Bureau of Labor Statistics (BLS). A specific case study in OEUS is highlighted in Section 4. Finally, in Section 5, we discuss overall design issues in establishment questionnaires and end with a proposed research agenda.

2. Special Issues in Establishment Surveys

As with household surveys, issues in establishment surveys include frame coverage, the need for random sampling, mode of data collection, questionnaire design, and the response formulation process. Respondents in both establishment and household surveys read or listen, as well as answer, with varying degrees of comprehension, retrieval, judgment and communication. Groves (1989) discusses several sources of survey measurement error in the context of household surveys including the questionnaire, respondent, interviewer, and mode of data collection. Establishment surveys are similar in that all of these sources of error may be present. However, the rich

literature on household surveys is not always applicable to establishment surveys since the two differ in several respects.

First, respondents in establishment surveys answer in their role as employers or employees of an establishment, primarily during working hours. Since we interrupt their working day, the issue of response burden is, therefore, of critical importance. Large² establishments may have employees whose responsibilities include completing forms for government and other surveys. However, respondent burden is still very much a concern to large establishments, as they are selected into many surveys. Response burden is also a concern for respondents in small establishments, such as the owner or office manager, who tend to have less flexibility in their schedule due to many competing responsibilities.

Second, professional terminology with qualified definitions is more likely to be used in establishment survey questionnaires. For example, the term "internal transfer" is used to describe the transfer of employees from one establishment to another within the same firm. Dillman (1978) cautiously supports the use of precise language for respondents who share a particular vocabulary. He notes that when surveying physicians it is clearer to talk about "pharmaceutical companies," instead of

"companies that sell medicines," and when surveying city planners "annexation" is a clearer term than "an addition." Since establishment surveys are often conducted by mail, precise definitions and concepts are usually placed on the questionnaire to prevent terms from being misunderstood. Definitions are not usually included in household surveys.

A third difference between household and establishment surveys also involves the use of records (Werking, et al., 1988). Establishment survey respondents, especially in large companies, often need to refer to written or automated sources of information when completing a questionnaire. Household surveys primarily rely on respondent recall without the use of records.³

As previously mentioned, our primary focus is on establishment surveys conducted by mail with telephone follow-up to nonrespondents. Since these surveys are self-administered, additional differences into the data collection process are introduced. For example, the interviewer is not present to assist with questions the respondent may have. Also, the agency performing the survey has little or no control over who answers the questionnaire. Another concern is that ongoing surveys may not be answered by the same respondent during different survey periods.

Response errors arise when definitions used in survey questions do not match the record-keeping practices of establishments or when data are not easily retrievable in the required format. For example, to measure productivity, the survey questionnaire may request data on the number of hours that employees have worked. The employer may only have records on number of hours that employees have been paid including sick leave and vacation hours. If the respondent is to provide the correct data, response burden may be substantially increased; if not, response errors are generated.

Respondents from small establishments may use records or recall the requested information from memory. When using memory the tasks of establishment respondents are similar to those of household respondents. Research on household respondent's cognitive recall that has been addressed in various household survey studies is generally applicable to establishment surveys (Bradburn et al., 1987; Cannell et al., 1981; Sudman and Bradburn, 1973). In summary, among others, the three aspects of establishment surveys -- burden, professional terminology and records use -- are important considerations when designing questionnaires.

3. OEUS Questionnaire Design Activities

The OEUS conducts pilot surveys for potential new programs and one-time special surveys. As indicated in Figure 1, OEUS questionnaire design activities include: (1) focus groups to assess survey concepts and indicators, definitions and availability of records, (2) document design analysis to create an optimal questionnaire format, (3) pretests to determine respondent comprehension difficulties in completing the questionnaire and to identify records availability, and (4) a response analysis survey, to assess comprehension, records use, and data quality.

Concept development is an early stage in questionnaire design, when economists, statisticians and survey methodologists tentatively decide what is to be measured and what can be measured. This process involves reviewing the literature on the subject and an analysis of possible components to be measured. Once these components have been identified, OEUS conducts focus groups with individuals familiar with the subject matter in order to assess the proposed concepts, definitions and terminology, and to determine the content and availability of relevant records. Members of a focus group participate in nondirective interactive communication (Krueger, 1988; Merton, 1956; Morgan, 1988) using a

loosely constructed set of relevant questions. Group members influence each other by responding to ideas and comments generated by the group dynamics. As a group, they identify problems or difficulties associated with survey definitions, variables or concepts.

Focus groups offer a useful tool that has only recently been discovered (or rediscovered) by quantitatively-oriented social scientists. Scholars in marketing research have extensively used focus groups for the past forty years (Greenbaum, 1987; Higginbotham and Cox, 1979; Krueger, 1988; Morgan, 1988; Templeton, 1987).

The second step in the OEUS questionnaire design process is **document design analysis**. In most OEUS establishment surveys, the scope of information requested lends itself to form-based, rather than question-by-question, questionnaires. Thus, we consult the literature on document design (e.g., DeMaio, 1983; Dillman, 1978; Felker et al., 1980; Wright, 1980) in order to develop a questionnaire that generates high respondent comprehension and readability. Sometimes alternative designs are used in pilot surveys to see which format elicits the most accurate and complete data.

Pretesting of OEUS questionnaires generally involves traveling to establishments to conduct in-depth interviews with respondents. Cognitive research methods, such as retrospective and concurrent think-aloud, open-ended questioning of the respondent about the completed survey responses may be used. Also, respondent debriefings after the questionnaire is completed provide information on the ways respondents reach an answer. The areas of questioning for the pretest include respondent comprehension of instructions and definitions; problems with records retrieval, including reasons for item nonresponse and potential errors of omission and commission; records availability; and time burden.

For new surveys, OEUS also conducts an operations test consisting of about 100 randomly selected units prior to the actual survey. The purpose of the operations test is to assess the nonresponse, especially item nonresponse, in an operational mode and to debug data collection systems and procedures.

The final component of questionnaire design is a **response analysis survey (RAS)**, which is a large-scale retrospective analysis of data quality. It is used to identify respondent error which is addressed in subsequent questionnaire design activities for the survey. The response analysis survey involves selecting a stratified random sample of establishments

(approximately 150-500) and conducting a brief telephone interview with respondents on their responses shortly after they have completed the survey. The interview is standardized and focuses on potential errors pertaining to respondent comprehension, recall, records incompatibility, questionnaire format, and respondent burden.

4. Application to Employee Turnover and Job Openings Survey

Depending on time and budget resources, OEUS surveys may go through all or selected steps of the questionnaire design process related above. In discussing design issues, we will use as our main example the Employee Turnover and Job Openings (ETJO) pilot survey, which has utilized all the procedures. The ETJO pilot survey was conducted in response to a Congressional mandate to the Department of Labor to develop a methodology to measure national labor shortages. Without job openings and turnover data, there is a serious gap in our knowledge of labor shortages. While the unemployment rate in an occupation is a measure of how difficult it is for workers with previous experience in the occupation to find employment, it tells little about the difficulty employers have in finding employees. Job openings data provide a more direct measure of this difficulty. These

demand-side data combined with the supply-side indicators provide a more reliable set of measures to identify labor shortages.

The objectives of the ETJO pilot survey were to assess the feasibility of collecting job vacancy and turnover data by occupation on a regular basis and to provide the cost estimates for implementing a full-scale, ongoing survey. Estimates of separations, new hires, wages of new hires, and job openings were to be produced by major occupational group. However, it should be noted that the restricted universe and small sample size of the ETJO pilot survey limited the ability to generalize from the data obtained.

The ETJO Survey employed a stratified probability sampling plan based on industry and size class.⁴ The sample consisted of approximately 3300 units selected from an universe of about 1.5 million establishments. The universe covered private establishments with one or more employees during the first quarter of 1989 in the 50 States and the District of Columbia. The sample was divided into three equal monthly panels. Each panel was surveyed 1 month, out of survey 2 months, and then back in the survey 1 month (i.e. 1-2-1). The data-collection period for the survey began in November 1990 and ended in April 1991. Panel 1 was surveyed in November and February, Panel 2 in

December and March, and Panel 3 in January and April 1992. Data were requested for the specific survey month.

Since some occupational categories vary by industry, a separate questionnaire was developed for each industry. Generally, data collection operations were as follows: 1) establishments were sent an initial package consisting of questionnaire, instructions, occupational definition booklet, and other miscellaneous supporting materials; 2) about two weeks after the initial mailing, the nonrespondents were sent a follow-up package; and 3) about one month after the initial mailing, the remaining nonrespondents were contacted using a Computer-Assisted Telephone Interview (CATI) instrument for data collection. The CATI instrument was designed to closely resemble the mail questionnaire. The overall usable response rate for the first and second collection periods, respectively, was 70 and 75 percent.

Concepts and Definitions--Focus Group Analysis

The first several months of the survey were spent reviewing the literature on labor shortages and determining what data we would need to collect. The ETJO survey developed two direct measures of the difficulty employers found in hiring--the duration of existing job openings and the "vacancy fill rate," or number of

new hires in a month divided by the number of jobs open at the end of that month. Economic theory suggests that shortages in competitive markets will be accompanied, at the margin, by rising wages. Therefore, data were collected in the survey on the wages of new hires--the wages most directly affected by market conditions. Data on separations allow the data on job openings to be understood more completely in relation to turnover in an occupation. The ETJO survey team, therefore, decided on the collection of five data items by detailed occupation: number of job separations, number of new hires, average wage of new hires, number of job openings, and the length of time the jobs had been open.

The project staff conducted two focus groups to obtain expert opinions on labor shortages and to assess tentative ETJO concepts and definitions.⁵ The focus groups followed a specific protocol. First, to start the discussion, group members were asked to think of *examples* of occupations where there might be a labor shortage and common characteristics of hard-to-fill jobs. Second, we asked about *concepts* and *indicators*--what constituted a labor shortage and what variables were necessary to measure shortages. Third, we presented the tentative ETJO *definitions* and asked for comments. Fourth, we inquired about *availability of records*--we

asked focus group members if establishment data were available and how best to collect it.

Focus group members independently generated demand-side variables similar to those tentatively decided upon by the ETJO staff, including separations, new hires, and job openings. Both focus groups discussed supply-side issues, such as quality, skills, and qualifications of workers, reflecting the complexity of current labor-shortage issues. Although we could not address supply-side issues directly in a survey of employers, focus-group members felt that detailed occupational categories helped in assessing shortages by skill. The focus groups gave us confidence that our survey concepts and definitions were appropriate for measuring labor shortages. Participants indicated that most firms kept the data being requested for ETJO purposes, so we expected data to be available and the burden to not be excessive.

Based on our experience with the focus groups, we recommend that future focus groups be conducted even earlier in the survey design process. We think they would be useful in developing as well as in assessing concepts.

Document Design Analysis

Given the necessity of collecting similar data for numerous occupations, we considered a matrix-based design to be the best available questionnaire format (Wright and Bernard, 1978). Thus, the questionnaire took on the appearance of a matrix, with occupations listed vertically on the side and data item headings running horizontally across the top, rather than a question-by-question format. We used the literature on document design to construct a questionnaire for optimum respondent comprehension. This included using very specific instructions and definitions and readable print (Felker et al., 1980; Wright, 1980). As much as possible, we placed definitional information in lists (see Figure 2), rather than imbedding it in paragraphs, where it was less likely to be read by respondents (Wright and Bernard, 1975). Instructions were numbered and identically corresponded to numbered column headings in the matrix. Instructions were also placed on the top of a 11 1/2 x 17 inch page with the beginning of the questionnaire matrix on the bottom (see Figures 2 and 3). This was done so that respondents would not have to refer to a separate page of instructions when beginning the questionnaire. We included a few instructions in the matrix column headings (See Figure 3). For example, we noted what to do with employees who were laid off or recalled to work in order to reduce potential sources of response error.

Pretest Interviews

In conducting the pretest, we developed requirements for pretest units, which were based on industry and establishment size specifications. In order to identify either industry or size-class specific problems, sample units from each industry and each size class were represented in the pretest.⁶ We conducted seven pretest interviews: four by site visits and three by telephone. Initial phone contacts and advance notification of a survey have been found to be useful to establish the legitimacy of a survey and obtain respondent cooperation (Fox et al., 1988). For these reasons, we contacted potential establishment respondents by telephone and obtained their agreement to complete the pretest questionnaire. We then mailed the survey materials to the respondent, which were to be completed before our visit. We decided to conduct interviews after materials were completed because we felt that, as BLS representatives, our presence could bias the response process.

We prepared a debriefing protocol to assess respondent understanding of and adherence to survey instructions, terms, and definitions. The protocol included questions on the sources of information used to complete the survey and the use of supporting survey materials.

All respondents indicated they thought that survey instructions were clear and concise, and the form was straightforward, i.e., they understood what we were requesting. Yet, when we probed further as part of our protocol procedures, we isolated problems. One respondent reported job openings for the entire month, rather than the last business day of the month, a mistake that might cause job openings to be inflated. That prompted us to put explicit reference times in the column headings of the questionnaire.

Respondents commented that they felt the questionnaire was well-documented and had few difficulties adhering to the definitions. Again, probing further, we uncovered certain difficulties. One establishment respondent indicated he posted salaried job-vacancy announcements before an employee leaves. Since the establishment did not have any salaried jobs open at the time of the pretest, there was no error. However, it raised the possibility of error, as our definitions instructed respondents not to include the job as an opening until the employee leaves. Another respondent noted difficulties reporting the average hourly wage of new hires since drivers were paid by the mile. We decided to address these and a few other potential problems in the response analysis survey to assess their scope.

Most respondents said that the survey data were available with minimal difficulty, regardless of whether the business had computerized or manual records. But one respondent used memory rather than records in completing the survey. In addition, the construction industry respondent had difficulty completing the form as multiple site and division supervisors had to be contacted to obtain the data.

Respondents mentioned that reporting monthly rather than annual data made the survey much easier. The respondents' estimates of completion time were from 20 minutes to an hour; the latter was the mode. Several respondents indicated that their first impression of the form was that it looked time-consuming because of the number of occupations listed on it, which concerned us greatly. We attempted to reduce the number of nonresponses by stating in the cover letter that respondents only had to report data for occupations where there was turnover.

One drawback of the pretest is the small sample size of nine units or less, a restriction imposed by the Office of Management and Budget. Another drawback is the lengthy time necessary to set up the interviews. The pretest involved multiple calls to respondents to get their cooperation and then to see if they had

completed the questionnaire so we could visit. Other agencies who conduct business pretests go to the firm and have the respondent fill out the questionnaire while the agency representatives wait (some representatives leave and come back in several hours). We did not want to use this approach because of potential bias.

The ETJO staff considered the pretest useful as it identified potential problems in the questionnaire which the interviewers could be prepared to address during follow-up telephone data collection, such as how to calculate average wages. Pretesting a form of this scope was really a "dress rehearsal" of the questionnaire. To pretest an establishment survey we needed a questionnaire (not simply questions, as the survey was not of that format) from the start. Therefore, we spent a great deal of time constructing it before pretesting, and relied on past literature and focus groups to circumvent potential problems. We addressed some pretest problems through questionnaire redesign. Other pretest problems were addressed through the supporting survey materials mailed to respondents, interviewer training, and the response analysis survey.

For the ETJO Survey, we also conducted an operations test of 100 units. The purpose of the operations test was a "dress

rehearsal" of the data collection system. The five-member operations test staff - college students, professional, and clerical support staff - collected data from September 24, 1990, through October 26, 1990 from 100 randomly selected units from the eight industries. The test resulted in a usable response rate of 73 percent. The test findings suggested the strong need for highly skilled, well-trained interviewers. The range of occupational definitions, industry coverage, and the several categories of information asked for, required a great degree of interviewer judgment. The majority of the survey forms received by the mail did not have the totals line filled out. The test also revealed that more respondents had to be contacted by phone than anticipated, both to collect initial data and to reconcile or complete data reported by mail. Based on these findings, many refinements to the processing programs as well as screen design, system flow, and scripting were made. The data collection staff streamlined the collection procedures and gained experience with the industries and occupations respondents.

Response Analysis Survey

The data generated by the ETJO survey were evaluated by a response analysis survey (RAS) conducted by telephone from April through June 1991. The purpose of the RAS was to assess the quality of the ETJO survey data, including several types of

actual and potential response and nonresponse errors. The standardized RAS questions focused on the following areas: the sources of information used in answering the ETJO questionnaire, the extent of adherence to instructions and definitions, and the level of respondent burden in terms of time and effort involved in completing the ETJO questionnaire. To conduct the RAS, we selected a stratified random sample of 510 respondents. We interviewed a total of 420 units, yielding a RAS response rate of 83 percent. The RAS establishments were distributed across all eight industries surveyed.

To evaluate what types of records were used, interviewers first read a short list of possible data sources to respondents, including memory, personnel records, payroll records, and other employees. A respondent could choose as many categories as were applicable. The question was repeated for each of the ETJO data items: separations, new hires, average wage of new hires, job openings, and duration of job openings. For all items, approximately one-third of the respondents reported using one data source in completing the survey, one-half reported using two sources, and one-sixth reported using three sources. Personnel records were used most frequently as an exclusive source of information; personnel and payroll records were most likely when respondents reported two sources; and personnel and payroll

records, combined with memory or another source, were likely for respondents using three sources of information. The respondents who relied exclusively on memory were concentrated in the small establishments (1-49 employees) that could more easily follow day-to-day business operations.

Interviewers then asked questions about respondents' comprehension and interpretation of instructions and definitions. In general, respondents followed instructions and definitions, although further investigation was suggested in three areas: adherence to two reference periods, the treatment of inter-establishment transfers, and the calculation of wages under non-standard pay schemes. First, respondents had the most difficulty with the reference period of the last business day of the month for job openings, even though we added this information to the column heading of the questionnaire after the pretest. Nearly all respondents indicated that they correctly reported separations and new hires for the entire reference month. In a future questionnaire, we recommended using a consistent reference period, as we felt that respondents would continue to overlook the dual time frames. Second, respondents undercounted internal transfers when calculating employee separations and new hires. Of the 22 establishments which had transfers within the month, 12 did not include them in their figures. In contrast, they

appeared to correctly report employees who were laid off. This suggests that instructions for inter-establishment transfers need to be included in the column heading, just as with layoffs. A future RAS should investigate the number of employees involved to see if the omissions would significantly affect the survey estimates before adding it to the column headings. Third, difficulties in reporting the average hourly wage of new hires arose when establishments paid employees by the mile, percent of load, or percent of revenue or commission. The motor freight transportation and warehousing industry had the most difficulty with the reporting of the average hourly wage. Our recommendation was that a future survey provide specific instructions for each industry.

Finally, establishment respondents were asked how much time they had spent to complete the survey and how likely they would be to participate in a future survey. On average, the large establishments spent five times (61 minutes) as long as the small establishments (12 minutes), and about two times as long as the medium-sized establishments (27 minutes). Those establishment respondents who chose "not very likely to participate in the future survey" (12 percent of respondents) had a higher average time of completion, 34 minutes, compared to 29 and 25 minutes for those responding somewhat likely to participate (23 percent of

respondents) and very likely to participate (65 percent of respondents), respectively. Thus, the more time the interview takes, the lower the respondent's motivation to participate in the future survey. The following table gives a breakdown of the likelihood of future participation in the survey by size and establishment.

Table of Establishment Size by Likelihood of Future Participation

Size	Likelihood of Future Participation			
	NOT VERY	SOMEWHAT	VERY	
Frequency Row Pct Col Pct				
1	21 11.3 42.0	46 24.7 48.0	119 64.0 44.2	186 44.8
2	16 13.1 32.0	22 18.0 22.9	84 68.9 31.2	122 29.4
3	13 12.2 26.0	28 26.2 29.2	66 61.7 24.5	107 25.8
	50 12.1	96 23.1	269 64.8	415 100

5. Overall Design Issues and Research Agenda

The working paper by the Federal Committee on Statistical Methodology (1988) entitled "Quality in Establishment Surveys" discusses the limitations of our understanding of establishment survey error and recommends more work to improve and document establishment survey quality. Given the limitations of individual research methods, it is best to utilize multiple methods to identify errors in questionnaire design. All of the methods -- focus groups, document design analysis, pretests and the response analysis survey -- are found to be useful in uncovering both survey weaknesses and strengths, but they are useful at different stages in the survey process to identify survey errors associated with the questionnaire, respondent, or the records.

As the literatures shows (Stewart and Shamdasani, 1990), focus groups are useful in assessing and clarifying concepts and definitions at the beginning stages of the questionnaire design. Focus groups are also successful in identifying errors associated with comprehension and records availability. Document design analysis reveals how business surveys can be formatted to maximize overall comprehension and readability. The pretest

helps the survey researcher identify difficulties in respondent comprehension and recall, unclear terminology and instructions in the questionnaire, and incompatibilities between records systems and survey definitions. The response analysis survey identifies problems similar to those of the pretest, but on a larger scale so the possible impact on survey estimates can be assessed. Additionally, the RAS measures the response burden in terms of time.

To increase our understanding of establishment survey error, more research needs to be conducted to determine the exact source of measurement error and the interrelationships among the sources. Pretests are helpful in this matter, as are response analysis surveys. For example, after identifying a particular error such as underreporting in a response analysis survey, BLS researchers use a probe method to determine if the respondent did not recall certain items, if the respondent thought they should be excluded rather than included, or if the record system did not include the items. If we know the error and can isolate reasons for it, we can implement appropriate solutions.

More research also needs to be conducted on understanding participation in establishment surveys. The pattern of lack of

motivation to participate needs to be understood and addressed, or the result will be lower quality data.

In-depth investigation of error and its sources and motivational processes, however, is constrained by establishment survey costs, which is an area where future research should also be concentrated. We believe that establishment survey collection methodology needs further large-scale research which is developed more rigorously. This will result in the higher quality data for survey researchers, policy makers, and other users of establishment survey data.

FOOTNOTES

- 1 Plunkert (1981) and Scott (1980) are the exceptions. They addressed the issues of data quality for job openings by conducting response analysis surveys at the Bureau of Labor Statistics.
- 2 We define large establishments as those with 250 or more employees, medium with 50 to 249, and small with 49 or fewer employees. Literature shows breakpoints of establishment size vary by the nature of surveyed establishments. See Clickner and Craig (1987) and Hirschberg (1987) for additional references.
- 3 Perhaps more emphasis should be put on household respondents' use of records. In a study by Sharp and Frankel (1983), respondents found it no more burdensome to refer to records--their check books--for expenditure items during household interviews than to recall the information from memory. Furthermore, Aday (1989) encourages the use of records, such as checkbooks, doctor or hospital bills, or appointment books to improve the accuracy of factual data in household health-related surveys.
- 4 For the pilot survey, the scope was limited to only one industry from each of the major industry groups. The size classes were small (1-49 employees), medium (50-249 employees), and large (250 or more employees).
- 5 Member of the BLS Business Research Advisory Council participated in the first focus group. Members of the Philadelphia Chapter of the National Association of Corporated and Professional Recruiters participated in the second focus group.
- 6 An oil and gas industry establishment was not included because the pretest was limited to the Washington D.C. region.

FIGURE 1. BLS Questionnaire Design Research Methods

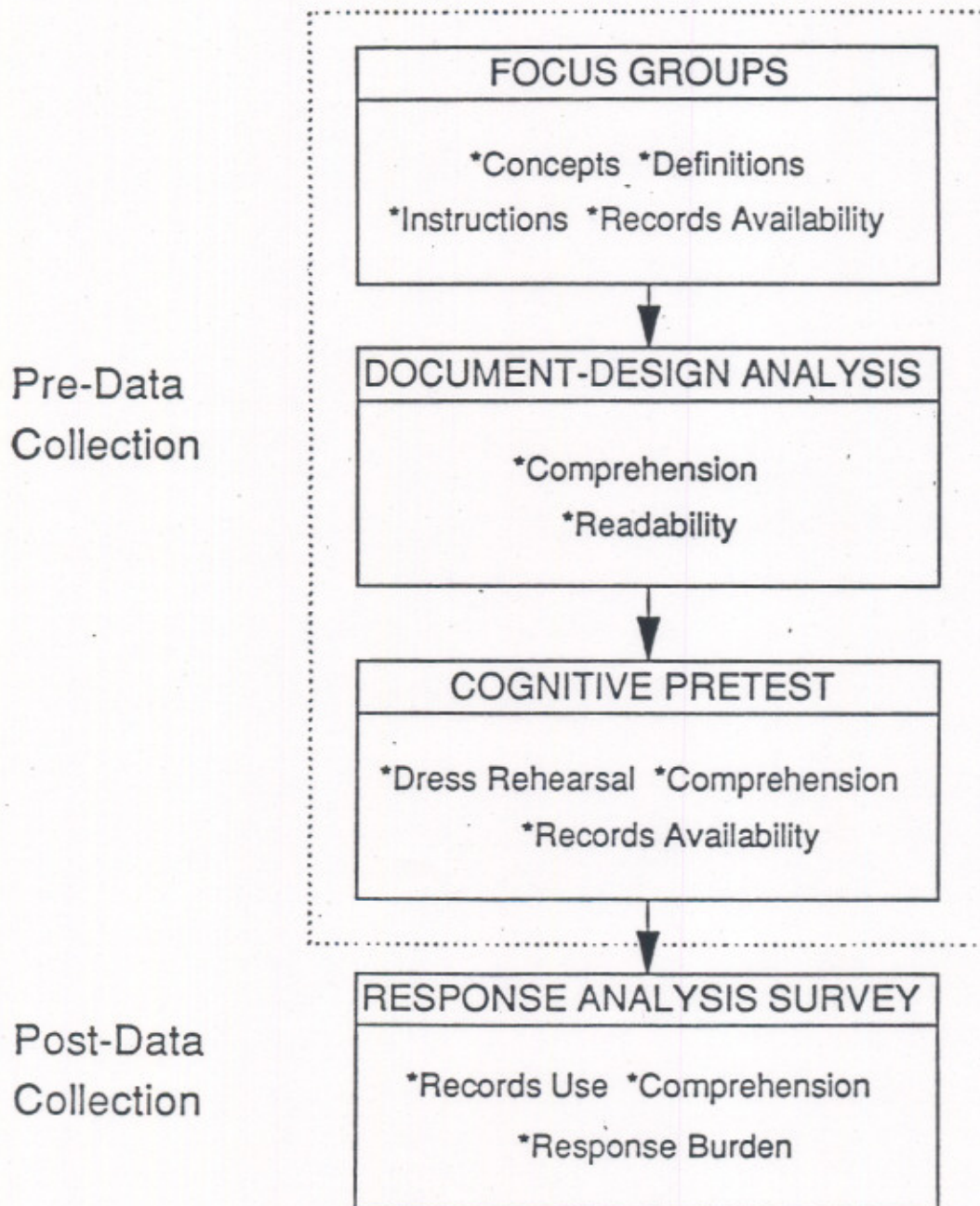


Figure 2

SECTION II – INSTRUCTIONS

Please complete Section III using the following instructions.

Column 1. Separations -- Enter the total number of separations during the reference month in the first row. Then, enter the number of separations by occupation. Separations are terminations of employment of permanent or temporary workers initiated by either the employee or employer.

Include:

- Quits
- Layoffs over 30 days
- Discharges for cause
- Retirements
- Unauthorized absences over 1 week
- Deaths
- Transfers to other establishments of the company
- Permanent separations due to disability

Exclude:

- Temporary layoffs (under 30 days)
- Workers on strike
- Outside consultants and contractors
- Workers from temporary - help agencies
- Within - establishment transfers, promotions, or demotions

Column 2. New Hires -- Enter the total number of new hires during the reference month in the first row. Then, enter the number of new hires by occupation. New hires include all permanent or temporary additions to the workforce of the establishment.

Include:

- Transfers from other establishments of the company
- Workers hired and separated during the month

Exclude:

- Recalls from temporary layoffs
- New hires who have not yet reported
- Returns from strikes
- Outside consultants and contractors
- Workers from temporary - help agencies

NOTE:

If your establishment had no reportable separations, new hires, or job openings, completed only the cover page and return the questionnaire.

Column 3. Average Hourly Wage of New Hires -- For each occupation with new hires during the reference month, enter the average (mean) hourly wage at which new employees were hired. If there was only one new hire during the month, enter the wage for that person. If the new hires are not paid hourly, (e.g., weekly, biweekly, monthly, or annually), please calculate an hourly rate by dividing the salary of the new hires during a pay period by the scheduled hours for the period.

Include:

- Straight-time wages or salary
- Incentive payments, e.g., piecework, commissions
- Cost of living pay

Exclude:

- Tips
- Premium pay for overtime, holidays, weekend, shift work
- Performance bonuses
- Lump-sum payments

Column 4. Job Openings -- Enter the total number of job openings as of the last business day of the reference month in the first row. Then, enter the number of job openings by occupation. Jobs are open if work would have started immediately or during the next pay period and if active recruiting of workers from outside the establishment took place. "Active recruiting" means efforts during June to fill openings through means such as: listings with private or public agencies or school placement offices, help wanted advertising, recruitment programs, or interview of applicants.

Include:

- Full- and part-time positions
- Permanent and temporary positions

Exclude:

- Jobs to be filled by recall from temporary layoffs
- Jobs which can only be filled by within - establishment transfers, promotions, and demotions
- Jobs where workers are hired, and are scheduled to start in the next pay period
- Jobs which can only be filled by workers from temporary - help agencies

Columns 5 - 7. Of the job openings reported in Column 4, enter the number of openings by length of time they have been unfilled. Use the following categories: less than 2 weeks, 2 to 4 weeks, and more than 4 weeks. The sum of the categories should equal the number of job openings reported in Column 4

Figure 3

SECTION III: EMPLOYEE TURNOVER AND JOB OPENINGS SURVEY
Special trade contractors

Occupational Dictionary No.	Occupations	Report for the Reference Month (Cols. 1 - 3)			Report for Last Business Day of Ref. Month (Cols. 4 - 7)			
		(1) Number of separations (exclude temp. layoffs)	(2) Number of new hires (exclude recalls)	(3) Average hourly wage of new hires	(4) Number of job openings	(5) Number of job openings unfilled for:		
						Less than 2 weeks	2 to 4 weeks	More than 4 weeks
	TOTAL ALL OCCUPATIONS:							
10000	Managerial and administrative occupations							
13002	Financial managers							
13008	Purchasing managers							
15017	Construction managers							
19005	General managers and top executives							
19999	All other managers and administrators							
20000	Professional, paraprofessional, and technical occupations							
21114	Accountants and auditors							
21902	Cost estimators							
22100	Engineers							
22514	Drafters							

DO NOT COMPLETE SHADED AREAS.

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