PERSUASIVE COMMUNICATIONS STRATEGIES IN A SURVEY OF BUSINESS ESTABLISHMENTS

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Who, says what, to whom, with what effect?

Introduction

From the pioneering work by Hovland in the 1940's (Hovland, 1949) until the present, this question has been the key question to be answered by those engaged in persuasive communications. Like the Riddle of the Sphinx posed to Oedipus, however, the question may be answered on many levels. As survey methodologists' sophistication in persuasive communications theory and methodology grows, we may discover that different interpretations of the question may be appropriate in different survey contexts, depending upon the type of data collection method employed, e.g., mail, telephone, automated data collection procedures, and with populations drawn from households as opposed to business establishments.

The first section of this paper describes the application of findings from the field of persuasive communications to the problem of reducing nonsampling errors in a longitudinal survey of business establishments conducted by the Bureau of Labor Statistics. It also introduces a persuasive communications planning model, the Information Processing Paradigm, which has proven very fruitful in the area of public education campaigns. A concluding section will discuss the results of the persuasive communication experiment we carried out in light of the question which began our paper.

Survey Background

The Current Employment Statistics Program is conducted by the Bureau of Labor Statistics in cooperation with State agencies. Payroll record data are submitted voluntarily by approximately 330,000 employers nationwide, who provide data to the State agencies each month on employment, hours, and earnings in non-agricultural establishments.

Data are collected from the participating establishments by one of three collection methods: mail, computer assisted telephone interview, or touchtone data entry. There are several data collection forms which differ by industrial classification, but collect essentially the same types of information. The data collection schedule in Exhibit A is one of several versions of "BLS Form 790, the Report on Employment, Payroll, and Hours."

This version is Log Type C, which collects data from manufacturing establishments. In common with the other "790" log types, it has spaces for data on *All Employees*, *Women Employees*, the predominant type of non-supervisory worker (in this case *Production Workers*), *Production Worker Payroll*, and *Production Worker Hours*. This log type is the only schedule which calls for information on *Overtime Hours*. The log for Trade, which collects data on *"Non-Supervisory Workers"* rather than *"Production Workers"*, is the only one which collects information on *Commissions*.

Each State agency uses the information it collects to prepare State and area estimates of employment and earnings, and then sends the data to BLS in Washington for use in preparing national estimates. The national employment and earnings estimates are reported by the BLS Commissioner to Congress and the news media on the first Friday of each month. The Commissioner's monthly report affects decisions made by the Federal Reserve Commission, financial markets, the business community, among others.

Given the important uses to which the CES program data are put, the BLS has a number of quality assurance measures for the program. One of these measures is a Response Analysis Survey (RAS) which is a CATI interview conducted with a different subset of the national CES reporter sample every two years. The goals of the RAS are to detect and correct respondent reporting errors and to solicit reporting of missing data items.

(The 1988 RAS sample consisted of a nine-state subsample of approximately 1500 CES reporters, stratified by industry and employment size of establishment. Units were selected within each employment size/industry type stratum using systematic sampling. The response rate for the 1988 RAS was 95%.)

Some examples of the kinds of reporting errors detected on previous RASs in 1986 and 1988 are: reporting data for out-of-state facilities; reporting payroll data for an entire month instead of the actual payroll period; including clerical workers in the Production Worker figure.

The number of non-reported or missing data items for a CES reporting unit could range from zero to five. There is a small percentage of CES respondents who only report the information for All Employees.

Groves (1989) has called for the application of psychological concepts related to compliance and persuasion to survey design in order to reduce nonresponse rates. The rationale for the utilization of these concepts in reducing nonresponse rates is equally valid for addressing

the problems of requesting respondents to change incorrect reporting practices and to begin reporting missing data items.

(Parenthetically, Groves defines compliance as "the consent to a request for assistance by another," and the process of persuasion as "consisting of how people respond to arguments for or against some belief or action on their part" [1989, p. 222])

Groves uses Cialdini's 1984 schema (Cialdini 1984) for organizing the influences on compliance into six different concepts:

1. **Reciprocation**, the tendency to favor requests from those who have previously given something to you;
2. **Commitment and consistency**, the tendency to behave in a similar way over situations that resemble each other;
3. **Social proof or behavioral norms**, the tendency to behave in ways similar to those like us;
4. **Liking**, the tendency to comply with requests from attractive requestors;
5. **Authority**, the tendency to comply with requests endorsed or given by those in positions of legitimate power;
6. **Scarcity**, the tendency for rare opportunities to be more highly valued.

From the field of the psychology of persuasion, research data suggest that prior attitudes about surveys, survey organizations, the topic of the specific survey, and survey interviewers may affect the decision to participate in a survey (Groves 1989). Research by Petty and Cacioppo (1981, 1986) on respondents' modes of cognitive processing of arguments presented by the survey interviewer is also relevant. Their research suggests that in cases where "central route processing," or careful consideration and integration of the various arguments occurs, the sheer number of arguments presented heightens agreement with the message. McGuire (1979) found that refuting counterarguments prior to the persuasive message also heightens agreement with the message. Social psychological studies of commitment and consistency, as they relate to compliance, suggest the "foot in the door" technique may serve as a likely aid to increasing survey participation. Groves and Magilavy (1981) found no significant effect in using the "foot in the door" to increase response rates in a telephone survey. However, the authors note that the experimental design in this study was seriously flawed.

Studies of persuasion have similarly indicated that the attractiveness and authority of the interviewer may affect compliance (McGuire 1976). In addition, arguments presented by several sources independently (Harkins and Petty, 1981) appear to increase the respondent's motivation to process the messages.

The Information-Processing Paradigm depicted in Exhibit B is a conceptual model that has proven extremely fruiitful in designing persuasive communication campaigns across a wide spectrum of public health attitudes and behaviors. First advanced by Robert McGuire in 1968, it subsequently came to be one of the most widely used and researched Persuasive Communications model. The model incorporates many of the social psychological concepts currently being discussed in the survey research literature.

The central notion in the information processing approach is that persuasion is a matter of communication rather than overcoming active resistance to change. Attitude change is regarded as involving a successive series of steps, all of which must occur for the production of attitude change. McGuire's Information Processing Paradigm provides a theoretical framework for decision-making about which characteristics of the communication to use (the input variables) in order to influence the chain of responses to the communication (the output variables).

The column headings are the **input variables** and include the characteristics of the communication associated with:

-variables having to do with the **Source** to whom the communication is attributed;
-variations in the **Message** contents or organization;
-variables involving the **Channel** (Medium) through which the message is sent;
-variables pertaining to the **Receiver**, e.g., demographic characteristics, whether this is the first time the receiver has heard the message.
-**Destination** variables, which involve the kind of response which is the target of the communication, e.g., attitude change, behavior change.

The row headings are the **output variables** and are the psychological responses that mediate the impact of the communication. These represent, sequentially, the steps the person who is the target of the persuasive communication must complete if the communication is to be effective. Thus, the person must:

1. **be Exposed** to the information;
2. **Perceive** the information;
3. **Comprehend** the information;
4. **Agree** with the information;
5. **Retain the agreement**;
6. Be able to **Retrieve** the agreement or opinion;
7. Make a (favorable) **Decision** among the available options
8. **Act** on the decision.

The Information-Processing Paradigm is really a planning model for the persuasive communication. Decisions about whom the source of the message should be or the type of appeal in the message are made only after

considering how each element will contribute to carrying the target person through each stage of the agreement process. Thus, including the phrase, "The next time you're offered a cigarette," (or in our case, "The next time you report your data,") in the message, contributes to retrieval of the new attitude at a later time.

Much research has been done on a number of variables associated with each of the five input components of persuasive communication. Thus, research has been done on credibility, attractiveness, and power associated with the source of a message as they affect the impact of the communication. Recall that Groves (1989) referred to attractiveness and authority of interviewer or survey sponsor as two potentially desireable attributes for achieving compliance with the survey.

Message variables include the types of appeal (appeals to logic, emotion, group spirit), message style, repetition of the message, and refuting opposition arguments before or after making the appeal or "pitch."

Channel variables include modality (eye vs. ear, etc.) and relative efficacy of the different mass media. Receiver variables include demographic characteristics of the target population and whether or not the receiver has heard the message before. Destination variables include the intended outcome of the persuasive communication; e.g., attitudinal change vs. behavioral change, general effects beyond the specific target issue.

Our work at BLS has been guided not only by the Information-Processing Paradigm, but well-confirmed findings in the field of survey research on the subject of survey participation. Boyle (1989) reported that in suveys of why people respond to surveys, the two most frequently mentioned considerations were: Is the subject important to me? and Is the subject relevant to me? Believable appeals that address these concerns increase participation in the survey.

According to Boyle, "If the interviewer says, 'This is really important!' and in one sentence can say why it's important, and...if the interviewer, in one sentence, can say how their data will be used, respondents will be more likely to participate." (Boyle, 1989)

Boyle, however, believes that the key is the effect of all of these variables on the interviewer. If the interviewer is a "true believer" in the survey and the persuasive appeal, then survey participation rates will increase (Boyle 1989).

Methodology

The promotional activity we conducted for the CES RAS survey focussed on the message characteristics of the persuasive communication. While previous BLS surveys of business establishments have appealed to altruism and patriotism, an appeal stressing the use of survey data by the trade associations representing the business establishments appeared to constitute a more important and relevant request. This, in turn, should increase compliance with the survey request.

A persuasive communication flyer which stressed the value of CES survey findings for the industry of the CES respondent was developed. First, articles and tables utilizing CES survey data were drawn from various trade association magazines and newsletters and arranged in a one-page collage. Different versions of the collage were developed for different log types. The Trade Association Collage for Log C (Manufacturing Establishment Reporters) is shown in Exhibit C.

The trade associations magazines pictured on each log version of the collage represent the major industries surveyed by that log. Each collage also contained a brief statement about how the reporters' data are used, and another brief statement about why the survey is important to their trade association and their industry. The collages were photocopied on white, heavy-weight, glossy stock in order to give them an expensive look.

The original intention of the persuasive communications experiment in the CES RAS survey was to measure the effect of the collage on the following dependent variables:

1. Rates of verbal consent to make reporting change;
2. Survey attrition rates from the CES survey over the following year; and
3. Interviewer expectations regarding ease or difficulty of getting respondents to agree to make reporting changes.

The 1990 Response Analysis Survey interview is a CATI questionnaire which contains up to 62 questions, depending upon the number of reporting errors and missing data items in the reporter's record. The RAS interview takes about five minutes to complete.

The RAS CATI instrument was slated to be pilot-tested from the Washington BLS facility on a sample of Pennsylvania CES reporters during January through March of 1990. After the pilot-test, the RAS instrument would be sent to several State agencies to begin their RAS collection. Our study involved the sample of Pennsylvania reporters included in the RAS instrument pilot test. These were CES respondents who reported their monthly data either by CATI or touchtone data entry.

The Automated Collection Techniques Lab interviewers who were to conduct the RAS interviews were five upper-level college students or recent college graduates with training in Economics. They were keenly interested in the develoment of the mail collages and, in informal discussions with the students, they expressed the belief that the mail collage would make respondents more compliant with the survey requests.

In attempting to operationalize the study design, we found it impossible to include the effect of the collage on

interviewer expectations without having interviewer expectations confound the effect of the collage on the respondent's willingnesss to make reporting changes. We therefore made the decision to drop interviewers' expectations as an outcome measure. In order to prevent the interviewers' expectations from affecting survey compliance rates, we informed the interviewers that the collages were being sent to a random sample of RAS respondents. (In actuality, the collages were sent to all RAS respondents with report identification numbers ending with an even digit. These respondents constituted the experimental group in our persuasive communications experiment.)

Tracking the effect of the collage on reducing CES survey attrition rates was also dropped as an outcome measure because the units to be used in the experiment were to be transferred back to the Pennsylvania State office after several months, which would make long-term tracking difficult. As a result, the single dependent variable for the RAS persuasive communication experiment was the rate of respondents' verbal consent to make reporting changes.

The collages were mailed to the experimental group of CES establishments included in the RAS sample. The collage was included in the annual January mailing of the new year's CES Report Form, which also included a "thank you" letter from the BLS Commissioner for their continued participation in the CES survey.

The experimental design was as follows:
413 CES reporters (302 touch-tone data entry reporters and 111 CATI reporters) who were selected for the Response Analysis Survey were assigned to experimental and control groups on the basis of the last digit of their report identification numbers. Those with even digits were assigned to the experimental group, which meant that they would receive a mail collage; those with odd digits were put into the control group, which meant that they would receive no intervention.

All of the CES reporters were requested to participate in the RAS by a CATI solicitation delivered by the CES interviewers at the Washington BLS facility. The response rate for the RAS was 93%. (There were no differences in refusal rates between those who had received the collage and those who did not.) This resulted in a total of 388 completed interviews. Of these, 230 were in the control group (75 CATI and 155 TDE), and 158 in the experimental Group (27 CATI and 131 TDE).

Study Results

The results of the persuasive communication experiment carried out within the context of the RAS instrument pilot-test are shown in the following table:

Table 1. RAS adjustmentment rates by experimental and control status

GROUP STATUS	NO. AGREE TO ADJ./ADJ.RATE
Experimental n=158	57 (36%)
Control n=230	77 (33%)

The difference between the experimental and control groups in willingness to adjust or change incorrect reporting practices was not significant by chi square analysis. (Chi square equals 0.278, n.s.) There was no difference in reporting errors between the two groups,

Discussion

Before discussing the apparent lack of any effect of our experimental intervention on RAS adjustment rates, I would like to digress a moment to report the results of another piece of research we conducted. In the course of field-testing a mail questionnaire for a Mass Layoff Survey, I visited the Personnel Departments of five business firms which were eligible for the survey. I observed the behavior of the person reponsible for completing BLS report forms under two conditions when the person was handed an envelope containing three items. These items were: a cover letter, a fact sheet, and a one-page qustionnaire. In each condition, the items were arranged in different sequential order. In one condition, the top page was the questionnaire, followed by the fact sheet and cover letter. In the second condition, the top page was the cover letter, followed by the fact sheet and the questionnaire. In the first condition, the respondents briefly reviewed the questionnaire, placed the letter and fact-sheet aside, and then completed the questionnaire. In the second condition, when the questionnaire was last, the respondents briefly reviewed the letter and the fact sheet before completing the questionnaire.

In the Mass Layoff field test, then, we observed that if the questionnaire was the first form presented to the respondent, other items included in the mailing were not given any attention. When the questionnaire came last, earlier items received some attention from the respondent.

In the persuasive communication experiment reported here, the persuasive collage was the last item in the envelope, after the new Report Form (a questionnaire) and the "thank you" letter from the Commissioner. It may well be that the tendency to place aside items other than the questionnaire when the questionnaire comes first, especially in a regular annual mailing in which the

respondent expects to receive the new reporting form, prevented the respondent from being exposed to or perceiving the persuasive communication collage.

Alternatively, it is possible that a respondent's inclination to respond to a survey request is unaffected by a persuasive communication collage or, at least, the kind of collage used in this study. A second experiment in which the persuasive communication collage is the only item mailed to respondents is planned.

A further issue to be addressed in interpreting the apparent lack of effect of the mail collage was raised in our earlier discussion of current research findings in the area of survey response rates. Recall Boyle's (1989) statement that the key to the effectiveness of a persuasive communication in raising response rates was its impact on the interviewer. Glassman, Singer, and Frankel (1989) found higher response rates among interviewers who expected less difficulty in soliciting respondents for a survey on sensitive issues.

Earlier I presented the rationale for utilizing a "blind" experimental design for preventing the BLS interviewers from knowing the identity of the experimental and control RAS respondents. I was interested in testing the effect of the "what" (the mail collage) that was being said to "whom" (the respondent) on the respondent's willingness to agree to adjust reporting behavior. In planning a persuasive communication, the "Who" at the beginning of the "Who says what to whom" question usually leads one to consider who would be the best source of the message, e.g, an expert source, a trustworthy source. It well may be that in telephone and face-to-face interviews, we should interpret the "Who" of the "Who says what to whom...?" differently.

Given the enthusiasm of the BLS interviewers for the mail collages, and their expectation that those who received the collages would be more willing respondents, another experiment we plan to conduct will identify the respondents who have received the mail collage to the interviewers. In this case, we will be interested in the "Who" (the interviewer with raised expectations) is conducting the interviews as it may effect respondents' willingness to adjust reporting behavior.

References

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EXHIBIT A. THE BLS 790 REPORT FORM

Bureau of Labor Statistics Report on Employment, Payroll, and Hours—Manufacturing

U.S. Department of Labor

This report is authorized by law (29 U.S.C. 2). Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely. The information collected on this form by the Bureau of Labor Statistics and the States cooperating in its statistical programs will be held in confidence and will be used for statistical purposes only.

Form O.M.B. No. 1

State | Report Number | Industry

Please return promptly each month in the enclosed postage paid envelope.
Change name and mailing address if incorrect and include Zip code.

Return to:

A. Please provide the following information in case questions arise concerning this report.
Your Name | Title | Phone Number ( )

B. Please provide the number and location of establishments covered by this report.
Number of establishments | City | County | State

C. Please check one: Production workers are paid ☐ each week ☐ every 2 weeks ☐ twice a month ☐ once a mont ☐ other, specify:

D. Please complete columns 1-6 for the single pay period checked above which includes the 12th of the month. Detailed directions are on the reve

Reference Period Please report data only for the pay period which includes the 12th of the month	(1) All Employees: Report the number of paid employees who worked during or received pay for any part of the pay period which includes the 12th of the month	(2) Women Employees: Report the number of employees from column 1 that are women	(3) Production Workers: Report the number of employees from column 1 that are production workers	(4) Production Worker Payroll: Report the total production worker payroll, including overtime and excluding lump sum payments for the pay period which includes the 12th of the month (omit cents)	(5) Production Worker Hours: Report the total production worker hours paid, including overtime, for the pay period which includes the 12th of the month (omit fractions)	(6) Production Worker Overtime Hours: Report the total production worker overtime hours paid included in column 5 (omit fractions)	OPPIC Dis Expi code
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E. Please report comments on significant changes in your employment, payroll, or hours on the reverse

BLS-790 C Rev. Jun 89

EXHIBIT B. THE INFORMATION-PROCESSING PARADIGM

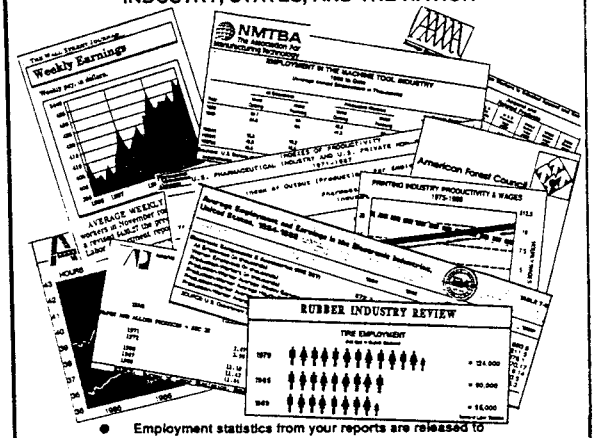
Indep. Variables: Characteristics of the communication / Dependent Variables: Chain of Responses to the communication	Variables Having to do with the Source to whom the communication is attributed	Variations in the Message contents or organization	Variables Involving the Channel (Medium) thru which the message is sent	Variables Pertaining to the Receiver	Variables Involving the Kind of Response which is the target of the communication
1. Exposure to info					
2. Perception of info					
3. Comprehension of info					
4. Agreement with info					
5. Retention of Agreement					
6. Retrieval of Opinions					
7. Decision among options					
8. Acting on Decision					

(The column headings are the input [independent] variables, the characteristics of the communication that contribute to its social influence impact. The row headings are the output [dependent] variables, the psychological responses that mediate the impact of the communication.)

EXHIBIT C. THE TRADE ASSOCIATION COLLAGE

The Current Employment Statistics Survey

EMPLOYMENT BAROMETER FOR INDUSTRY, STATES, AND THE NATION



- Employment statistics from your reports are released to policymakers and the public on the first Friday of every month.
- Articles like these are published in newspapers and trade magazines soon after the data are released.