

**Procedures for Conducting Government-Sponsored Establishment Surveys: Comparisons of the *Total Design Method* (TDM), A Traditional Cost-Compensation Model, and *Tailored Design***

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**ABSTRACT**

The difficulties of using a set of common mail survey design procedures known as the *Total Design Method* (TDM) (Dillman 1978) for conducting government-sponsored establishment mail surveys is described. A Cost-Compensation Model that has guided the design of most government establishment surveys during the late 20<sup>th</sup> Century is also described, along with its limitations. The *Tailored Design* of establishment surveys, whereby somewhat different procedures are selected for use in different survey situations, is then presented as a preferred alternative to both the TDM and Cost-Compensation Model for conducting establishment surveys.

**Key Words: Questionnaire, Survey, The *Total Design Method*, *Tailored Design***

Procedures for conducting most surveys in the United States changed dramatically during the 1980s and 1990s, but procedures for conducting most government establishment surveys have remained strikingly the same. Whereas government household and individual-person surveys shifted largely to the use of computer-assisted telephone methods (e.g., Atostic and Burt 1999) establishment surveys continued to rely heavily on mail methods (Kydoniefs and Stanley 1999). Now, as electronic surveys methods are beginning to see increased research and use (e.g., Clayton et al. 2000; Sedevi et al. 2000) it remains to be seen whether most government establishment surveys will adopt these new methods in the early 21<sup>st</sup> Century or will continue to rely predominantly on a traditional mail methodology. If reliance on mail procedures continues, it is also unclear what the nature of that mail methodology might be.

It is my expectation that mail-out, mail-back procedures will continue to be used extensively, sometimes alone, but usually in combination with other survey modes. In this paper I consider three perspectives that might be applied to the conduct of such surveys, the *Total Design Method* (TDM), a traditional Cost-Compensation Model that has guided the conduct of most government-establishment surveys during the last two decades and a *Tailored Design* perspective which I believe offers considerable promise for improving the effectiveness of government mail survey methods.

**THE TOTAL DESIGN METHOD AS A MODEL FOR CONDUCTING ESTABLISHMENT SURVEYS**

The *Total Design Method*, which I developed nearly 25 years ago (Dillman 1978), was intended to be a set of detailed procedures that would improve response to most mail surveys. Many people have tried to apply the TDM to the conduct of establishment surveys (Paxson et al. 1995). However, others have described the TDM as not really applying to the conduct of such surveys, and particularly those conducted by government. It has been argued that surveys of individuals and households differ so much from surveys of establishments that other means need to be used as a means of improving response to self-administered establishment surveys (Kydoniefs and Stanley 1998). It is an argument that I believe has some merit.

However, in many cases the argument against use of TDM procedures has been used more as a defense of poor business survey methods than as the basis for developing precise implementation methods aimed at improving respondent cooperation and the quality of data produced by business surveys.

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In 1978, I described the TDM as a procedure whereby each aspect of the survey process that might affect either the quality or quantity of response was identified. It was then shaped in a way that, when taken together with all other aspects of the questionnaire and implementation procedures, was likely to improve response.

Response improvement efforts were guided by an assumption about why people respond to questionnaires. I argued that people are most likely to respond when they expect and trust that rewards of responding to a questionnaire outweighed the costs associated with responding (Dillman 1978, Chapter 1). I went on to describe a rather specific set of procedures that included the creation of booklet questionnaires that were photo-reduced, a precise schedule of four contacts (1<sup>st</sup> week, questionnaire sent, second week, thank-you/reminder postcard sent 4<sup>th</sup> week, a replacement questionnaire sent, and 7<sup>th</sup> week a replacement questionnaire sent to nonrespondents by certified mail). All mailings were personalized with stationary and signatures and sent by first-class mail. It could be argued on several grounds that these precise procedures were not particularly helpful for people who wanted to conduct surveys of establishments, and particularly if hundreds of thousands or even millions of establishments were being contacted.

First, the methods I advocated had a one-size-fits-all nature. For the most part I presented only one set of alternatives and linked them together to form a prescribed system. This approach was motivated by the techno-logical limitations and general culture of the times. The mass society orientation of that era was characterized by the production of standard products and processes which one then attempted to apply widely.

The efforts required for inserting names and addresses onto letters, printing questionnaires, and orchestrating mailings were substantial and labor intensive. In the 1970s, decent copy machines were not widely available and desktop publishing was a concept only in the minds of innovators. Many people still used manual typewriters and the personal computer was not yet available.

Business surveys, and particularly large-scale surveys conducted by government, were only one of many situations in which the lock-step seven week implementation schedule did not work well. Also, when questionnaires were mailed by the thousands or, in some cases, hundreds of thousands, personalization was simply not feasible. The word processing and printing technologies of the 1970s did not allow application of a TDM approach without extraordinary and costly efforts.

Second, only three of the 48 surveys I reported as providing evidence for the capabilities of the TDM could loosely be described as establishment surveys. Even these surveys were of simple organizations, i.e., farmers and truckers. I had not surveyed any complex establishments. As a consequence, virtually none of the examples I provided in support of the procedural details of the TDM even referred to establishment surveys.

For these reasons, it certainly is a stretch to suggest that the detailed procedures of the TDM applied to the conduct of business surveys. More generally, however, the philosophy of attempting to shape all details of a survey to increase rewards and lower costs associated with responding, rather than attending to some and ignoring others, could in my view be reasonably applied. Questionnaires that were designed for easier comprehension, and correspondence that was built around arguments of survey usefulness and respondent importance, could certainly be constructed.

Perhaps the most persistent critique of applying any of the details, or even the philosophy of TDM, stemmed from the often stated litany of the many ways in which business surveys differ from surveys of individuals. A few of these differences are as follows:

- ! Usually, the respondent must answer for the business and not for him or herself.
- ! Questionnaires are usually mailed to a business and not to a person in that business.
- ! It may not be known who the specific respondent should be.
- ! Respondents often need to consult records in order to determine what answers should be provided for specific questions.
- ! Multiple people may need to provide information for answering a single questionnaire.
- ! Surveys of businesses often entail a greater response burden than do household surveys.
- ! Detailed definitions and rules for how to arrive at an answer are often necessary.

As recently as last year, arguments have been made to suggest that there is no useful model available for conducting business surveys that takes into account these differences between business surveys on the one hand, and surveys of individuals and households on the other (Kydoniefs and Stanley 1999). It is further argued that support for a TDM kind of approach to surveying really rests with research done for household and individual person surveys, which by its very nature does not apply to business surveys. And, that a useful prescribed set of procedures for conducting government mail surveys of establishments did not yet exist.

## **THE MINIMUM COST MODEL FOR CONDUCTING GOVERNMENT ESTABLISHMENT SURVEYS**

Discussion of common survey practices with many people involved in the conduct of government established surveys throughout the 1990s has led me to conclude that an implicit model for conducting government establishment surveys does exist. It is quite different than the model encompassed by the TDM. Since at least the 1970s, it has guided the design of many and perhaps most establishment surveys.

It can be described as a Cost-Compensation Model for which the primary criterion for determining questionnaire design and implementation practices is to minimize monetary costs. This is achieved through adherence to the kinds of procedures outlined below, and by maintaining as much consistency as possible across surveys. The influence of government authority in general (which by itself is a factor likely to increase survey response) (Heberlein and Baumgartner 1978; Cialdini 1984; Groves, et al. 1992) and mandatory authority in particular, are then relied on to compensate for survey design features which, individually, are likely to delay and/or decrease response. These practices and assumptions, listed here in no particular order, tend to characterize application of the minimum cost model.

1. Questionnaires should have as few pages as possible; otherwise response rates will go down.

There can be little doubt that generally shorter questionnaires with fewer questions usually obtain higher response rates than do longer questionnaires. And, the shorter the questionnaire, the lower cost of mailing and retrieving it. However, putting more questions onto fewer pages, decreasing the font size, and rearranging questions so that order gets determined in part on where questions will fit in order to best fill every page, may counteract the otherwise positive influence of fewer pages..

Business questionnaires often use tabular formats with multiple row and column headings and subheadings. When matrices of this nature are constructed it is often necessary to make those headings quite brief. The cryptic exposition of questions often results in questions being difficult, or even impossible, to understand without referring to a separate set of instructions. From a response standpoint, such questionnaires end up without a clear sense of information organization and they lack clear navigational guides (Dillman 2000, p. 214). In some instances questionnaires are printed on legal size pages with page length being given precedence over avoiding the use of unconventional paper sizes. The frequent consequence of adhering to such a format is to increase the burden to respondents. Such questionnaires seem difficult for many people to complete.

2. A strong preference is assumed to exist among respondents to business questionnaires for matrices or row/column question formats.

Matrices require a higher level of literacy than an individual question format, but the requisite skills are often not taught in high school. However, it is often argued that establishment surveys are filled out by people who are trained in accounting practices, and that matrices are their preferred format.

This argument is integrally related to the desire to make questionnaires as short as possible, inasmuch as it facilitates requesting more information per page. It is also closely related to the preferred method for providing instructions.

3. Detailed instructions for answering establishment surveys should be provided in separate instruction books.

One consequence of a matrix format is the need to keep questions as brief as possible (e.g., Dillman, Figure 10.3, p. 344). As a consequence, the meaning of each question must be explained to respondents (Figure 10.5, p. 346). Therefore, detailed instructions must be provided in separate booklets, and it is unlikely that many questionnaires can be filled out accurately without consulting the instruction book for most questions.

It seems likely that many respondents guess at the meaning of particular questions and consult instruction booklets only as a matter of last resort. It also seems likely that instructions, which are most likely to be followed, are ones that appear in the questionnaire on the same (or an opposite) page from the questions. However, including instructions in the questionnaire would result in a longer questionnaire and perceived loss of response.

Another reason suggested to me for putting definitions and rules for reporting into a separate book is that they are sometimes quite long, difficult to understand, and respondents are unlikely to pay attention to them. Placing such definitions into the questionnaire might therefore have the effect of producing confusion and frustration that would result in a refusal to respond.

4. Changing questionnaire formats, even modestly, should be avoided because the same people fill them out year after year.

One of the factors that has slowed down consideration of alternative formats for constructing questionnaires is the fact that many business surveys are conducted year after year and frequently the same person fills out the questionnaire. It is argued, correctly I think, that any changes would frustrate respondents who have completed the questionnaire previously, and perhaps organized their data files to accommodate the questionnaire needs. The perceived needs of previous respondents are given precedence over making the response task easier for people who see it for the first time. Thus, any negative effects on new respondents is in effect, except to be compensated for by positive effects for old respondents.

To the extent this strategy is deliberate, the rationale appears not to be based in the survey literature, at least as it applies to individuals. Past research has suggested that one of the main predictors of response rates is whether people have responded previously to surveys, and typically it is more difficult to persuade newly sampled individuals to respond than it is to get past respondents to respond again.

5. A long data collection period designed on the basis of distant deadline dates and widely separated mailing dates will achieve better cooperation and presumably higher response rates.

Many establishment surveys are conducted with several weeks or even months between contacts. A generous deadline date is provided and follow-ups are made only after that date has passed. The generous deadline date is given in recognition of the fact that data often have to be compiled and/or analyzed by the respondent before results can be provided. Avoiding the use of more closely spaced contacts is seen as desirable because it avoids the perception of harassing respondents, particularly those in large organizations with many subunits who require considerable time for compiling the needed information. A potential down-side from widely spaced contacts is that the first request is long forgotten by the time the second one arrives.

6. Standardized envelope designs and questionnaire mailing procedures are desirable from an agency perspective and will lower costs without having a negative effect on response rates.

Agencies that conduct many business surveys have a vested interest in attempting to do them in similar ways using the same envelopes, questionnaire design procedures, and mailing protocols. In a large agency many different divisions get involved in designing and implementing surveys, and it can be argued that by keeping procedures virtually the same, costs and errors in implementation can be avoided. An example of an effort to minimize differences among surveys was the Bureau of Census Mailers Manual: Standards and Guidelines for Preparation of Survey Mail (July 1995, Version 1.0), a purpose of which was to stabilize and standardize the physical process of preparing survey mailing packages. It was expected that commonness in design would lower costs for most surveys conducted by the agency.

7. Unpersonalized correspondence (e.g., salutation AA Letter from the Director@in place of the normal inside address) copied without mailing dates will be effective in achieving a timely response.

It is common to use a somewhat generic, unpersonalized letter format that can be sent to all businesses. Not inserting names and addresses into the cover letter avoids the problem of merging cover letters and questionnaires effectively in mail-out packages. Avoiding use of dated correspondence makes it possible to mail questionnaires over a period of several days or weeks without having any of the letters appear out of date. This approach is in sharp contrast to one favored by the TDM that emphasized a timely mailing is going to a specific person who is expected to respond. This feature may give government business surveys the general appearance of an unimportant mass mailing, but is also much less costly than personalized correspondence.

8. Mail-out packages should be addressed only to the company, rather than making a prior effort to identify individuals to whom they should be sent.

Sending a sequence of letters addressed to only a business name runs the risk of each letter being sent to a different person or simply discarded because its unclear to whom it should go, particularly in large organizations. Thus, the use of repeated contacts with an individual, traditionally the most powerful inducer of response to mail surveys, has less of an opportunity to impact response.

Prior identification of respondents would require the prior step of contacting businesses ahead of time to identify an appropriate respondent, a step that for some businesses would be difficult to achieve. In addition, to capitalize on this prior contact effectively (e.g., its use as a prenotice) would require acting quickly to mail the questionnaire. It would also involve sending somewhat different letters to businesses for whom a respondent has been identified compared to those for whom respondents have not been identified.

9. Use of an alternative mode for responding, such as the telephone, should be limited to being a final effort, and focused on conversion of the largest establishments.

Shifting from a mail operation to a telephone operation requires a major effort in large survey organizations. As a result, changing to the latter is often done only as a last ditch effort and when used, appears oriented mostly to large corporations whose activities constitute a substantial portion of industry activity. Once, when I suggested calling of establishments at the beginning of a survey period in order to determine to whom a questionnaire should be addressed, it was pointed out to me by a Census manager that it would require sending the address list to the telephone field operation, getting it back, and then sending it to the mail operation in a different city. Finally, after retrieving the address files and sending it to the telephone facility, the project manager said he was willing to transfer it in this way once, but not twice. No attempt was made to target mailings to individuals.

In many industries relatively few establishments account for the majority of the business conducted in that industry. These businesses are typically identified and followed up intensively, even to the point of having a high level official personally visit the offices of a large business. Smaller businesses may be ignored completely during the telephone or personal follow-up phase.

10. Batch processing is more effective than flow processing.

If one finds the name of a person to whom a questionnaire should be addressed, that contact might double as a prenotice. The effectiveness of prenotices are greatest when they are implemented just slightly ahead of the actual mail-out of the questionnaire. This strategy is avoided because it demands greater coordination and planning. Batch mailings can be sent to a mail-out office, and one does not have to worry as much about whether they are sent out in a particular sequence or on particular days.

## Is the Minimal Cost Model Effective?

I find it somewhat difficult to evaluate the effectiveness or desirability of using the 10 procedures outlined above. If one is conducting a census of manufacturing or farming, in which several million questionnaires are being sent to recipients, many if not most of the procedures discussed above seem necessary. And, the result of their use will not be a poor response rate. Government establishment surveys have traditionally received high response rates (Paxson et al. 1995; Dillman 2000). One reason is that a number of such surveys are mandatory. Organizations are required by U.S. laws to complete them and may be threatened with fines if they do not. Even if a survey is not mandatory, response to surveys in general are higher if the survey is government-sponsored. Thus, there has been very little incentive to change business survey methods over the last quarter of a century in an effort to boost response rates. The basic design strategy is one that tends not to be based upon experimentally tested principles for how to improve response quality and quantity, but most likely persists because response has not been considered a large problem to government-sponsored establishment surveys; eventually most businesses respond. Paxson et al. reported an average response rate of 79% for 20 U.S. Census Bureau surveys, with mandatory surveys achieving a 84 percent response compared to 69% for nonmandatory surveys. These response rates may be decreasing somewhat at present (Kydonieffs and Stanley, 1999).

However, the essence of the model seems to be that compensation strategies are required to overcome the negative effects of individual components of this system. One example of the compensation strategy in operation is sending a questionnaire by third class or bulk rate mail which increases the likelihood of it being ignored or thrown away, but printing on the envelope, "U.S. Census Form Enclosed: Your Response is Required by U.S. Law." to keep that from happening. A likely effect of this statement, shown to improve response rates significantly for business surveys (Tulp, Hoy, Kusch and Cole, 1991), is to keep the envelope from being thrown away when it arrives.

Another example is the use of widely spaced mailings with deadline dates that are addressed to business names (and not individual people). Mailing to business names only, with mass letters addressed to no one in particular (but rather inserting a statement like, "A Letter from the Director"), increases the likelihood that the same person does not receive follow-up mailings or remember receiving earlier ones. The overall strategy appears to compensate for these potential problems with repeated contacts about the firm's responsibility under law to respond and by threats of fines.

I am reluctant to criticize the basic government model of establishment survey design and implementation; certainly it is designed to save money and produce within agency efficiency. It is therefore understandable to me why the general model persists, and why changing it meets with such strong opposition. Efforts to change one survey are likely to be met with opposition from many divisions of an agency who have a vested interest in keeping operations the same for all surveys in order to simplify their task and, as one manager explained to me, keep mailing errors from being made.

The problems inherent in the Cost-Compensation Model for Government Establishment Survey, are similar to those manifested by the *Total Design Method*. It has a one size fits all character. One of its major shortcomings is with regard to how agencies apply it. A mentality seems to have developed whereby attempts are made to keep the same procedures as those used for large censuses in use for all other establishment surveys, including those that are new, or are voluntary, and/or are done on a one-time basis. Many of the questionnaire construction practices and survey implementation practices seem outdated and appear strangely quaint in today's society, with its strong emphasis on customer satisfaction.

In addition the implementation, the overall response strategy strikes me as less respectful and less respondent-friendly to respondents than can now be achieved. Communications with respondents often seem confrontational, rather than being a straight-forward request for help. As a consequence it seems plausible that respondent's who are conscious of their company's response obligation are left to take out any suppressed anger by simply delaying or delegating the task of responding, rather than complying in a timely way. Also, use of a cost-compensation strategy may lead to reporting data that are less accurate than they might be if a more respondent-oriented approach to encouraging people to answer questionnaires were to be used. Certainly it is important to recognize that a difference between establishment and individual person surveys is that for the former type people answer for the establishment and not for themselves. Nonetheless, the questionnaires are in both cases completed by people with the normal range of emotions and strategies for avoiding unpleasant tasks.

One of the unfortunate legacies of this general cost-compensation model is that when data collection shifts to nongovernment-sponsored surveys, where government authority cannot be invoked, the response rate effects are enormous. As a consequence, a belief persists, unnecessarily I think, that high response rates cannot be obtained for business surveys. For example Paxson reports a review of 183 business surveys reported in a sample of business journals published since 1990 that revealed an average response rate of 21% (Paxson 1992), far lower than would be tolerated for individual person or household surveys. I believe it is possible to do much better than that using the *Tailored Design* strategy outlined below.

### ***Tailored Design as an Alternative to the Cost-Compensation Model and Shortcomings of the Total Design Method***

By *Tailored Design* of self-administered surveys, I mean the development of as many of the survey attributes as possible in ways that individually, as well as, collectively create respondent trust and perceptions of increased rewards and reduced costs for being a respondent, which take into account features of the survey situation and have as their goal the overall reduction of survey error. (*Mail and Internet Surveys: The Tailored Design Method*, Dillman 2000, p. 27). It is based upon a social exchange model in much the same way as the *Total Design Method*, but goes somewhat further by trying to use knowledge of the survey population, sponsorship, and survey content, to develop the most effective means for increasing rewards, reducing costs and establishing trust. Tailoring to business or establishment surveys is only one type of tailoring described in this revision of the *Total Design Method*.

The concept of tailoring outlined here is somewhat different than that outlined by Groves and Couper (1998). Their emphasis is on interviews, in which the interviewer attempts to tailor his or her appeals to specific concerns expressed by a specific respondent. My use of the term tailoring is at a somewhat higher level, i.e. shaping a total implementation system based upon characteristics that differentiate that survey population from others.

In brief, these practices are central to the development of a *Tailored Design* strategy for improving response to mail surveys, from the standpoints of lowering nonresponse, reducing item nonresponse, and improving the accuracy of people's answers.

1. Visual design and layout that gives careful attention to establishing the most desirable information organization and a visually apparent navigational path using such visual tools as figure/ground composition, size of font variations, brightness and color, selection of symbols, spacing of text and other symbols, regularity and symmetry) to encourage all respondents to process and interpret information in the same way.
2. Four to five carefully-timed contacts that support one another through their wording and timing.
3. At least one mail contact that is special, for example, being sent in a different size of envelope with overnight delivery.
4. Personalized correspondence that includes real letterhead stationery, dates, is addressed to individuals, and viewed as respectful by the recipient. Being addressed in this way may require that a prior telephone contact be made to determine the name of the person to whom it should be addressed.
5. Inclusion of a return envelope that contains real stamps (not a business reply) as a means of keeping the questionnaire from being thrown away inadvertently.
6. A token cash incentive sent with the questionnaire request for certain establishment surveys that are predominantly individual person firms (e.g., farmers, doctors, architects), and an appropriate material incentive sent in advance for certain others (perhaps a CD containing useful reference information).
7. Switching to another mode, e.g., telephone or e-mail for nonrespondents and using multiple additional attempts by the new method to obtain a response, being careful to avoid mode effects.

It may come as a surprise to some that these seven techniques for improving response differ very little from those that I would recommend for use in conducting individual person or household surveys. This should not be surprising, despite the frequency with which it is argued that business surveys are different. It is necessary in business surveys to get individual people to undertake the task of responding, just as it is for all other surveys.

The difference for business surveys comes with the necessary additional steps of tailoring to the sometimes dramatic differences in specific survey situations. In the chapter on tailoring to business, I describe ten principles that I have found useful in designing specific business survey strategies. They include the following details for which details are provided on pages 339-350 of *Mail and Internet Surveys*:

1. Identify the most appropriate respondent for a business survey and develop multiple ways for contacting that person.
2. Plan from the beginning for a mixed-mode design.
3. Develop respondent-friendly business questionnaires.
4. Provide instructions in the questionnaire rather than in a separate instruction booklet.
5. Conduct on-site cognitive interviews to help tailor the questionnaire to people's ability to respond and to gather intelligence information for targeting its delivery and retrieval.
6. Target communications to gatekeepers where appropriate.
7. For repeated surveys of the same businesses and individuals, consider the use of follow-up communications after a response is received.
8. Be cautious with regard to the use of incentives and fit them carefully to sponsorship as well as the recipient.
9. Consider different tailoring of correspondence and questionnaires to subgroups of a population.

Based on these principles, quite different strategies are formulated for surveying specific establishments that are reflective of different sponsors, different populations, and different survey constraints (topic, speed, etc.). For example, a voluntary government-sponsored survey of manufacturers, conducted by a university research center, tried to call all businesses in order to identify respondents, sent a letter announcing the survey, then called to interview the sampled businesses. After making up to 20 calls over a period of months, a mail questionnaire was sent, with follow-ups, to the nonrespondents (Dillman 2000, 334-335). A 68% response rate was obtained.

In contrast, a survey of university officials from the largest 238 U.S. universities, which faced a difficult respondent selection problem that required a decision by the presidents or chancellors, started with a mail contact of the president's office with appropriate telephone follow-up as needed, and a subsequent mail and telephone follow-up with the individual designated as the respondent (Dillman 2000, 336-337).

A third organizational survey, this one of doctors, began by mailing questionnaires to the doctors in order to get past office gatekeepers who might prevent phone calls from getting through to the designated respondent. This was followed by telephone reminders, including attempts to take the information by phone interview rather than the self-administered questionnaire. This procedure proved much more effective than calling first by telephone and saving the mail contacts until later (Dillman 2000, 338).

Each of these surveys had a common commitment to the use of the base-procedures outlined for the *Tailored Design* strategy, but the exact procedures that were used differed significantly across surveys. The time is past, if it ever existed, when one could apply without negative consequences the lock-step strategies fostered by either a literal interpretation of the *Total Design Method* of the Agency Cost-Compensation model to the conduct of establishment surveys and expect good results.

## Conclusion

The *Total Design Method*, as a model for conducting establishment surveys, had significant shortcomings. Its reliance on one set of procedures for all survey situations gave it a one-size-fits-all character that lacked appropriateness for establishment surveys. Its major use was as a set of procedures designed to improve respondent cooperation through reducing perceptions of cost and increasing perceptions of rewards and trust.

The approach favored for conduct of establishment surveys, particularly by government agencies in the United States, also had a one-size-fits-all character. It was described here as a Cost-Compensation Model, in which specific procedures were designed more as a way of reducing each aspect of doing a survey to the lowest possible costs, regardless of how the procedures might be viewed by people in sampled businesses. To achieve high response these procedures had to be compensated for by placing an emphasis on the authority of government to collect the data and in some cases the exercise of mandatory authority.

The *Tailored Design* strategy I have advocated in this paper is an attempt to move beyond these one-size-fits all strategies and extend the general perspective of the original *Total Design Method*. Its extension recognizes not only the differences between establishment and individual person or household surveys, but the great need to use different specific strategies to obtain response to varied types of establishments. The base-line of specific procedures advocated for use are strikingly similar to those used for individual-person and household surveys, but they are combined in different ways to increase the likelihood of obtaining respondent cooperation.

We are now in transition to an era of additional survey possibilities, including Interactive Voice Response and Web methods. Each of them holds tremendous promise for use in certain kinds of establishment surveys, and I expect their use to increase dramatically. An additional reason for getting past the Cost-Compensation Model outlined above is that commitment to its features might foster an avoidance strategy to the use of these methods.

At the same time, I doubt that many establishment surveys will find success from completely adopting either of these new methods as a substitute for use of mail and telephone methods. Rather, under a *Tailored Design* strategy, I expect the most effective use of the Web and IVR will be as additional survey modes that expand the possibilities for tailoring the best possible modes and procedures to different survey situations, rather than a complete replacement.

It would be most unfortunate if surveying of businesses and other establishments stays the same as it has in the last decades of the 20<sup>th</sup> Century. It would be equally unfortunate if we were to declare a new era for use of only the new Web and IVR methods, and forget the knowledge we already have for obtaining response using traditional mail and telephone methods. The obvious implication is that designing and implementing establishment surveys is going to become more complex, requiring a wider range of methodological skills and knowledge than at any time in our past.

## References

Atrostic, B. K. and G. Burt (1999), *Household Nonresponse: What we Have Learned and a Framework for the Future*, Statistical Policy Working Paper 28, Statistical Policy Office, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C., pp.153-180.

Clayton, R., M. Searson, and C. Mannig (2000), *Electronic Data Collection in Selected BLS Establishment Programs*. Presentation at the International Conference on Establishment Surveys, Buffalo, New York.

Dillman, Don A. (1978), *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley.

Dillman, Don A. (2000), *Mail and Internet Surveys: The Tailored Design Method*. New York: John Wiley.

Groves, R. M., R. Cialdini, and M. P. Couper. (1992), *Understanding the Decision to Participate in a Survey*. *Public Opinion Quarterly*, **56** 940: 475-495.

Groves, R. M. and M. P. Couper (1998), *Nonresponse in Household Interview Surveys*. New York: John Wiley.

Heberlein, T. and R. Baumgartner (1978), *Factors Affecting Response Rates to Mailed Questionnaires: A quantitative analysis of the published literature*, *American Sociological Review* **43**:447-62.

Kydoniefs, Leda and Jaki Stanley (1999), *Establishment Non-response: Revisiting the Issues and Looking into the Future*, Statistical Policy Working Paper 28, Statistical Policy Office, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C., pp. 181-227.

Sedivi, B., E. Nichols, and H. Karanek (2000), *Web-Based Collection of Economic Data at the U.S. Census Bureau*. Presentation at the International Conference on Establishment Surveys, Buffalo, New York.

Tulp, D. R. Jr., C. E. Hoy, G. L. Kusch, and S. J. Cole (1991), *Nonresponse Under Mandatory Versus Voluntary Reporting in the 1989 Survey of Pollution Abatement Costs and Expenditures*. *Proceedings of the Section on Survey Research Methods, American Statistical Association*, pp. 272-77.

Paxson, M. C. (1992), *Unpublished Data: Response Rates for 183 Studies*. Department of Hotel and Restaurant Administration, Washington State University, Pullman, WA.

Paxson, C. M., D. A. Dillman, and J. Tarnai (1995), *Chapter Seventeen, Improving Response to Business Mail Surveys*, in Cox, Binder, Chinnappa, Christianson, Colledge and Kott (eds.) *Business Survey Methods*. New York: John Wiley and Sons.

United States Bureau of the Census (1995), *Standards and Guidelines for Preparation of Survey Mail*, Version 1. Washington, D.C.