A MAIL/TELEPHONE TECHNIQUE FOR COLLECTING PRIMARY DATA

Richard W. Smith, Jon M. Conrad and David A. Storey

ABSTRACT

A mail/telephone technique is discussed which achieved a 79 percent response rate at a cost per usable survey which was only about 50 percent above the general average costs for using mailed questionnaires. With proper follow-up techniques this method is capable of yielding even higher response rates at a cost far below personal, face-to-face interviews.

A basic dilemma of the researcher who requires primary data is that direct interviews generally achieve relatively high response rates but are often prohibitively expensive, while mailed questionnaires are cheaper but typically result in low response rates. Recent discussions in the literature (Buse 1973, Brooks, Ryan, Blake and Gordon, Buse 1975) have focused on techniques for increasing mailed questionnaire response rates. However, there are situations where self-administered mailed questionnaires simply are not appropriate. For example, the issues involved may not be well defined in the respondent's mind and may need clarification by an interviewer, or the sequence of questions may be crucial. In these situations, it is clearly desirable to achieve direct contact with the respondent.[1] Yet expensive face-to-face personal interviews are not the only alternative. Another option is the use of the telephone for interviews. In certain circumstances, this technique can be much less costly than face-to-face interviews while still achieving high response rates. In particular, this article will describe a hybrid mail/telephone technique that gave promising results in a somewhat abbreviated recreational survey in Massachusetts.

JUSTIFICATION FOR THE MAIL/TELEPHONE TECHNIQUE

The research objective was to develop and test a methodology for estimating the value of recreational clamming in Massachusetts. Lists of 1975 non-commerical clamming permit holders were obtained for three Massachusetts communities. In each community, a random sample of 120 people was selected. The permit holders in the samples included community residents, non-residents who lived in other communities in Massachusetts, and a few non-residents (actually summer season residents) who lived outside Massachusetts. The key questions in the four page questionnaire (21 questions) had to do with maximum willingness to pay for purchase of a clamming permit and minimum compensation required if a clamming permit were to be surrendered. It was expected that people in the sample would not be familiar with the concept of consumer's surplus and that it would be necessary to emphasize the assumptions that should be made in answering these questions. In short, it was felt that direct contact with the respondents was necessary to obtain meaningful answers to the questions. However, the budget was limited as was the time available to complete the survey, so the decision was made to use telephone interviews. It has been pointed out that telephone interviews can be as effective or more effective than face-to-face interviews, because interviewers may be more at ease and respondents may be more candid (Hochstim, Sudman). Ninety-four percent of U.S. households and 98 percent of Massachusetts households had telephones in 1973, and the percentage has been increasing over time (U.S. Department of Commerce, p. 516).

A potential problem in both face-to-face and telephone interviews is that inconvenience, suspicion of motives, negative reactions, and ultimately a refusal to cooperate may result from an abrupt intrusion into a household by a strange interviewer. The problem is perhaps of most crucial importance for the telephone method, because once a refusal is stated over the phone, further attempts to solicit cooperation are often fruitless or impossible. Because of this danger, it was decided to make contact prior to the actual interview to explain the purpose of the study, to identify the researchers, and to permit convenient scheduling of the actual interview. An initial mail contact followed by a telephone interview was the method chosen. It was hoped (following Buse 1973) that respondents' personal involvement would be increased and that possible reasons for refusal would be anticipated and counteracted. Also, because the principal questions would seem strange to some people and would require some time for thought, it was desired to have an interlude separate initial exposure to the questions from the actual answering of them.

THE MAIL/TELEPHONE DATA COLLECTION PROCEDURE

The actual data collection procedure involved the following stages.

Stage 1, Advance Mailing

Individually addressed and signed letters were sent to permit holders in the sample. The letters contained an introduction to the purpose of the investigation, a statement of the importance of a high rate of cooperation, and a reference to the local town officials cooperating in the study, with a suggestion that they be contacted if there were any questions. The letters also indicated that a questionnaire would be mailed in the near future and that arrangements would be made for a telephone interview.

Richard W. Smith is Research Associate and David A. Storey is Professor, Department of Food and Resource Economics, University of Massachusetts at Amherst. Jon M. Conrad is Assistant Professor, Department of Agricultural Economics, Cornell University.

[1]Of course, it is necessary to avoid interviewer bias in direct interviews (See Collins).

Stage 2, Initial Mailing of Questionnaires and Return Post Cards

Ten days after the advanced mailing, a second set of individually addressed and signed letters was mailed. The information in the first letter was repeated. A copy of the questionnaire and a stamped return post card were enclosed. The post card included spaces for the respondent's name, telephone number, and a convenient time for an interview. It also was possible to suggest personal interviews if a telephone was not available.

Stage 3, Follow-Up Mailing

People who did not return a post card within one month received a follow-up mailing which essentially duplicated Stage 2, with a reminder that the study would not be accurate unless there were a high rate of response. This stage was completed for only about three-fifths of the non-responses to the first post card mailing.[2]

Stage 4, Telephone Interviews

All people who returned post cards were telephoned at the times indicated as convenient on the post cards and were asked to locate their questionnaires and refer to them during the phone interview. Most questions could be answered yes or no, or with a number or an otherwise short answer, so the telephone interviews generally flowed smoothly. The majority of respondents reacted postively to the procedure.

Stage 5, Follow-Up Telephone Contacts

About one-third of the people who did not return post cards from any of the mailings were telephoned, and interviews were requested at the time of the phone call.

RESULTS

Overall, 267 usable responses were obtained, giving a response rate of 74 percent (Table 1). This is not quite up to the 90 percent or better generally considered necessary to minimize the potential bias and loss of precision associated with non-response in sampling surveys. However, in the authors' opinion the 26 percent non-response was due primarily to failure to execute Stages 3 and 5 for some individuals in the sample (there were some mitigating factors but they are not important to the argument) and not to any inherent deficiencies in the data collection technique. If *all* 113 locatable non-respondents to the initial mailing had received a mail follow-up and 55 percent had responded, and then if *all* the remaining 51 locatable non-respondents had received a telephone follow-up with a 68 percent success rate, then ultimately the respondents would have numbered 312 (87 percent of the sample). Given the fact that six percent of the sample could not be located in Stages 1 and 2, the maximum possible response rate from that point on was 94 percent. While perhaps the 87 percent response rate would not have been obtained if Stages 3 and 5 had been completed for all locatable non-respondents, an improvement in the response rate undoubtedly would have occurred. Also, face-to-face interviews could have been conducted for households without telephones to further increase the response rate and reduce possible non-response bias.[3]

TABLE 1.

Distribution of Types of Responses To Different Stages of the Mail/Telephone Data Collection Technique, 1975 Study of Recreational Clamming in Massachusetts

Type of Response	Stage Description: Initial Mailing (Stages 2 and 4)	Follow-Up Mailing (Stages 3 and 4)	Follow-Up Telephone Contact (Stage 5)	Total (Stages 2, 3, 4 and 5)
	(number in type of response category)			
Usable Response	215	35	17	267
Not Locatable[a]	22	0	0	22
Refusal	10	0	8	18
No Response	113	29	0	53
Total	360	64	25	360
Percentage of Usable Responses	59.7	54.7	68.0	74.2

[a]Address incorrect, deceased, moved and address unknown.

Date Collection Costs

Data collection costs included secretarial and graduate assistant labor, postage, supplies, and telephone toll charges (Table 2). Whenever possible, calls were made on WATS lines which represent a fixed cost to the University of Massachusetts. This was particularly feasible since many respondents requested evening interviews, and WATS lines were generally available then. For interviews conducted during regular business hours, it was sometimes necessary to make toll calls.

Total data collection costs were $1,152.80 or $4.32 per usable response for the 267 completed interviews. This compares favorably with estimates of face-to-face interview costs per usable response of $20 (Buse 1973), and $30 to $40 (Gum and Martin.[4] Some estimates of costs per usable response for mailed questionnaires include $1.64 (Brooke, Ryan, Blake and Gordon), $3.00 (Gum and Martin), and $3.45 (Buse 1973). Using the data in Table 2 as a basis for dividing costs, mailing costs represented about 65 percent of total costs, or $2.82 per usuable response, and phone costs were $1.50 per usable response.

Of course, WATS lines may not be available to all researchers. In that case, costs would be higher. In the recreational clamming study, 42 interviews were completed on

[2]There was a delay in obtaining the list of permit holders from which the sample was selected in one of the three communities. In order to maintain a time schedule, Stage 3 was omitted for this community.

[3]The mail contacts had a provision that arrangements would be made for personal interviews if a telephone were not available. No personal interviews were administered, but 15 respondents returned completed questionnaires by mail as an alternative to suggesting a time for a phone interview.

[4]As pointed out by a reviewer, meaningful comparisons of data collection costs among studies require standardization in terms of length of interview, type of questions and response categories, level of measurement, amount of probing required and the accuracy of information desired. This was not possible, so these estimates from other studies are presented as rough indications of comparative costs.

TABLE 2.

Costs for Mail/Telephone Data Collection Technique, 1975 Study of Recreational Clamming in Massachusetts

Cost Item	Stage Description					
	Advance Mailing (Stage 1)	Initial Mailing (Stage 2)	Follow-Up Mailing (Stage 3)	Telephone Interviews (Stage 4)	Follow-Up Telephone Contacts (Stage 5)	Total
Labor[a]	$230.00	$230.00	$30.00	$210.00	$70.00	$770.00
Postage	46.00	75.60	13.44			135.84
Supplies	52.30	60.90	13.74			126.94
Telephone[b]				74.27	45.75	120.02
Total	329.10	366.50	57.18	284.27	115.75	1,152.80

[a]Includes 2.16 weeks of secretarial time (37.5 hour weeks) at $160 per week and 6.06 weeks of graduate assistant time (20 hour weeks) at $70 per week.

[b]Toll charges for 42 interviews plus some additional calls to arrange interviews. The remaining calls were made on WATS lines.

regular phone lines at an average toll charge of $2.86 per interview. On that basis, if WATS lines had not been available for any calls, the total data collection costs would have been $6.73 per usable response. This is still well below estimated face-to-face interview costs. The phone calls were relatively short in duration. It took an average of five minutes to complete the four page questionnaire over the telephone, although average time spent per usable response was longer because of extra calls to locate respondents, etc. Also, most of the calls were made within the state. Longer interviews or a more widely dispersed sample would increase the costs of phone interviews.

Quality of Repsonses

Answers were received to all questions except that five people refused to identify their income category. These incomplete responses were still usable for the central part of the analysis, however. Additional explanations and assurances were required on the part of the interviewers in some cases prior to receiving responses on the willingness-to-pay and willingness-to-surrender questions. This seemed to validate the original hypothesis that quality of response to a mailed questionnaire would have been considerably lower.

Possibility of Non-Response Bias

The characteristics of non-respondents were not observable. Hence, it was not possible to measure whether or not non-response bias was present.

CONCLUSIONS

The mail/telephone survey technique achieved a 74 percent response rate at costs per usable response that were only about 50 percent higher than the general average of costs for surveys using mailed questionnaires. This response rate was achieved despite three deficiencies in execution of the planned data collection technique: (1) follow-up mailings were made to only part of the non-respondents in the first mailing, (2) follow-up telephone calls were made to only part of the non-respondents to both mailings, and (3) personal interviews were not held with households that did not have telephones. If the data collection process had not been prematurely terminated because of constraints not related to the technique itself, a higher response rate would undoubtedly have been achieved.

The nature of the key questions in the survey appeared to require direct contact with respondents. A straight mail questionnaire approach would have lowered the usable response rate, while face-to-face personal interviews would have been prohibitively expensive. Given the deficiencies noted in execution of the technique, the authors feel that it yielded good results and is worthy of strong consideration by other researchers.

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