

Title:

Use of Pre-incentives in an Internet Survey

Key Words:

Market research, response rate, survey incentives, survey costs and errors, web surveys

Abstract

Following the norm for commercial mail and phone surveys, most commercial Internet surveys provide some kind of incentive to respondents, usually on completion of the questionnaire. Unfortunately for practitioners, little empirical research on the effectiveness of different incentive approaches in Internet surveys exists. Our paper reviews results of an experiment in which we varied incentive amounts and timing to assess impact response rates and cost efficiency. Consistent with previous literature from the mail and phone modes, the results suggest that prepayment of incentives (which is viable primarily in phone-recruit-to-web surveys) yields a modest gain in response rates and in cost efficiency for Internet surveys, while response rates are not sensitive to modest increases in the incentive amount.

Author Information:

Author1 Theo Downes-Le Guin
Affiliation Doxus LLC
Address 105 SE Taylor Street
Address Portland, OR 97214
Phone: (503) 788-7749
Fax (503) 788-6438
Email: theo@doxus.com

Author2 Paul Janowitz
Affiliation Doxus LLC
Address 1284 Fairview Road
Address Atlanta, GA 30306
Phone: (404) 876-5050
Fax (404) 876-0304
Email: paul@doxus.com

Author3 Rob Stone
Affiliation Doxus LLC
Address 1284 Fairview Road
Address Atlanta, GA 30306
Phone: (404) 876-5050
Fax (404) 876-0304
Email: rob@doxus.com

Author4 Shahrokh Khorram
Affiliation Campbell Goodell Trainor
Address 675 West Hastings Street, 11th Floor
Address Vancouver, BC
Address Canada V6B-1N2
Phone: (604) 681-0381
Fax (604) 681-2200
Email: skhorram@cgtnet.com

Introduction

Declining response rates and the concomitant increase in the cost of telephone-administered surveys have led many researchers to look to the Internet as a cost-efficient mode of survey administration. Following the norm for commercial mail and phone surveys, most commercial Internet surveys provide some kind of incentive to respondents, usually on completion of the questionnaire. Unfortunately for practitioners, little empirical research on the effectiveness of different incentive approaches in Internet surveys exists. Instead, researchers must look to the extant literature on incentives in traditional data collection modes for clues as to best practices for the Internet.

In particular, the literature on mail surveys seems most relevant as a starting point for hypotheses about incentive effects on Internet research. Pure mail surveys share with Internet surveys several traits regarding research and incentive administration, and thus form a better point of comparison than phone surveys:

- The introductory communication (whether by letter or email) bears the burden of convincing potential respondents to participate without the benefit of in-person persuasion techniques.
- Unlike telephone-based research, the questionnaire is self-administered.
- Internet and mail allow for equally easy (or, depending on your point of view, difficult) administration of incentives, either before or after the participant's decision to complete the questionnaire.

A typical commercial Internet survey offers a cash, cash-equivalent (such as gift certificates or redemption points) or merchandise incentive. Incentives can be offered on a per-respondent basis to all respondents or only to qualified respondents, or offered on a sweepstakes basis. The practice of providing incentives seems to apply about equally to surveys of consumer and business populations, with (we believe) an increasing preference for sweepstakes-style incentives, which have the strong appeal of known cost regardless of response rate. In nearly all cases, these incentives are promised in the survey introduction but are delivered only upon completion of the interview. Despite the longstanding practice of (often token level) pre-survey incentives in the realm of mail surveys, we have seldom seen the practice attempted for Internet surveys.

Current practices notwithstanding, literature on mail survey incentives suggests that the post-survey payment approach may be least effective from the perspectives of both response rate and cost efficiency. Church (1993) conducted a meta-analysis of 74 mail surveys that had a control group that received no incentive and an experimental group that received monetary or non-monetary incentives. In Church's study, some incentives were distributed pre-survey and others post-survey. On the whole, Church demonstrated the considerable effect of incentive timing on response rates. The average increase in response rates over control conditions for studies with pre-paid monetary incentives was 19%. For studies with pre-paid non-monetary incentives, pre-survey payment yielded an overall increase of 8% over control groups. Incentives paid only upon return of the survey, however, had no significant impact on response rate compared to the unpaid control group.

A direct experimental design conducted by James and Bolstein (1992) to measure the return on investment and the effect on response rate of large promised incentives against smaller pre-paid incentives in a mail survey showed similar results. Response rates increased significantly for pre-paid incentives as small as \$1, while the authors saw no increase in response rates for promised incentives, regardless of the amount. The authors conclude that "[a] promised incentive, even one as large as \$50, is totally ineffective in increasing the response rate over a no incentive control."

Even in the context of phone interviews, other studies have shown that pre-paid incentives produce consistent and significant increases in response rates while promised incentives do not (Singer, Van Hoewyk and Maher, 2000).

It perhaps goes without saying that the argument against pre-payment of incentives is the seeming cost inefficiency of paying all non-responders. Naturally, there are three chief variables involved: the effect of variable timing methods on response rate, the amount of the incentive (both of which we study below), and the general range of response rates for the population of interest within the survey methodology in question. This last factor has particular importance for web-based research, where total response rates tend to be particularly low, but incentives (especially for business respondents) and therefore the total financial risk tend to be high. Pre-paid incentives can be used in a pure Internet survey (that is, where both the qualification process and the actual questionnaire are self-administered, whether by email, the web or a combination of both). However, the expected incidence of the population of interest often precludes this approach. A typical commercial survey with low response rate expectations from a very large sample could become prohibitively expensive if every individual respondent in an email sample source was promised an incentive simply for completing questions that dictate whether or not she qualifies for the interview. (Assuming a reasonable overall response rate of 20%, which we have found to be typical in our own web-based work, providing incentives for all respondents, qualified or not, increases the incentive budget by a factor of five. Thus, a \$15 per respondent incentive would effectively yield \$75 per *qualified* respondent, which would quickly negate the cost-effectiveness that is one of the primary attractions of Internet-based commercial research.) The phone-recruit-to-Internet mode, on the other hand, provides an especially appealing opportunity to experiment with incentive administration. In the phone-recruit-to-web method, the qualification portion of the interview is handled by phone, and qualified respondents are then directed to the web site to complete the full interview.

Effectiveness of incentives is an especially big issue in this hybrid mode because of the cost and error issues associated with introducing another opportunity for non-response. In this mode, telephone respondents who qualify and agree to complete the web questionnaire, but then fail to do so within the allotted time, typically comprise 50% or more of all non-response, and the large majority of qualified non-response. Given the relatively high labor cost of telephone recruitment, firms that use this mode frequently have a strong impetus to get the best return on incentives. A concomitant aim is to improve data quality, insofar as best practices for incentive administration can decrease non-response and therefore non-response bias.

Experiment

A recent (January 2001) survey of information technology (IT) managers in US businesses provided an opportunity for us to evaluate the effects of pre-payment and post-payment of incentives using a straightforward two-by-two design. Based upon literature reviews of past research we hypothesized that pre-payment of incentives would yield an equal or higher response rate than post-paid incentives. We further wished to examine how time of incentive administration interacts with incentive amount. The design did not include a control cell (that is to say, respondents who received no incentive) due to sample size and concerns about overall response rate.

Respondents were sampled from Survey Sampling Inc.'s Comprehensive Business Database and were qualified in a brief phone interview. All respondents were told in the introduction that they would be eligible for an incentive if qualified. (An unavoidable issue in this design is that it prevents us from understanding the effect of incentives on initial refusals prior to qualification.) Qualified respondents who agreed to complete a web-based interview were then randomly assigned to one of four possible incentive categories:

- A \$15 Amazon gift certificate to be emailed immediately upon completion of the telephone screening interview, at the same time as the information for completing the web survey. Amazon gift certificates are essentially “online currency” within the United States and are instantly redeemable for a wide variety of merchandise at Amazon’s well-known website.
- A \$25 Amazon gift certificate to be emailed immediately upon completion of the telephone screening interview.
- A \$15 Amazon gift certificate to be emailed after the respondent completed the web questionnaire.
- A \$25 Amazon gift certificate to be emailed after the respondent completed the web questionnaire.

The choice of incentive amounts and incentive type (email gift certificate) were based on previous studies with the IT population and our client’s available budget, but no great science went into the decision. We hoped that the fairly significant difference between the two incentive levels would be sufficient to induce some effect over and above the payment timing. However, Dillman (1978) has pointed out that increases in response rates due to larger incentives should not be a linear function. Incentives large enough to approach a fair value of time are more likely to be evaluated on a purely economic basis, rather than from the perspective of social exchange, leading to a different and possibly greater basis for refusal. In reviewing the results below, one should note, however, that both of our incentive levels were larger than the classic dollar bill clipped to a mail survey (one of the recommendations of Dillman’s Total Design Method), and represented somewhat delayed gratification (i.e., needing to be redeemed online rather than slipped into a wallet). While it would have been desirable to add an additional cell for token incentives on the level of social exchange, there is no practical Internet-based analog for Dillman’s crisp dollar bill. Until a truly fungible currency exists on the Internet, we hypothesize that token amounts, such as a \$1 gift certificate on Amazon, will represent an obligation to purchase, rather than an actual incentive. Similarly, it would be desirable to test the relative effectiveness of sweepstakes-based incentives, but the total sample size of the study would not have easily supported additional cells, and the nature of the study made it impossible to risk the possibility of substantially diminished response rates.

Table 1 shows the results of the experiment on completion rates (defined as the proportion of qualified, amenable respondents who actually completed the web questionnaire following the telephone interview) and on the cost per interview (or CPI, expressed in percentage terms compared to the lowest overall CPI). The cost per interview reflects the labor costs for the phone recruiting plus the incentive cost and administration.

Table 1. Internet Survey Completion Rates and Relative Costs Per Interview.

	\$15 incentive	\$25 incentive	Total
Pre-payment completion rate	79% n=96	82% n=103	81% n=199
Pre-payment cost per interview ¹	\$100	\$103	\$102
Post-payment completion rate	69%* n=112	80% n=142	75% n=254
Post-payment cost per interview	\$112	\$103	\$107
n	208	245	453

* Significant difference between column percentages ($p < .10$).

As Table 1 shows, completion rates and cost per interview do not move in perfect lockstep. However, there are a number of ways that incentive timing and amount affect both completion rates and therefore cost per interview:

- Incentive pre-payment offers a lower cost per interview on average (\$102 per respondent versus \$107).
- The pre-payment of the lower incentive produces a directionally, though not significant, increase in response rate over the post-payment of the same incentive amount (79% versus 69%). No difference in response rate is seen between pre-payment and post-payment in the larger incentive group.
- A significant difference ($p < .10$) is observed between post-payment of the smaller and larger incentives. Thus, it appears that timing trumps amount in the pre-paid group, but for promised incentives, amount significantly affects response rate.
- The data do not offer an explanation for the lack of a response rate differential between payment timing in the larger incentive group. We hypothesize that incentives have a maximum effectiveness regardless of size or timing, within reason. Given this, an 80% response rate may have been the ceiling for this group without providing incentives at extraordinary levels.
- In spite of the non-linear relationship, the data clearly suggest that post-survey payment of incentives doesn't make a lot of sense from a cost or completion rate perspective.

Implications

Clearly the small scale of this study and the limitations of our design (especially the lack of a control group) prevent us from drawing any definitive conclusions about the best practices for Internet survey incentives. If our results were replicated in a variety of different research settings (e.g., surveys of consumer populations), however, the implications would be far-reaching for commercial research practitioners. In essence these findings suggest that post-survey payment of increasingly large cash incentives are the least appealing method the market research industry could choose from any perspective – respondent appeal, non-response bias or cost efficiency. Nevertheless, post-survey payments continue to be very common, especially for business-to-business research. Based on our observations, we hypothesize that ingrained patterns of risk

¹ For easy comparison, CPI for all cells is shown relative to a base cost of \$100 CPI for the pre-payment \$15 group.

aversion tempt researchers to pay respondents handsomely, because time-critical business decisions hang in the balance and no one wants to lose a qualified respondent over a few dollars, especially if a substantial investment has already been made in qualifying that respondent by phone. At the same time, we hypothesize that budget consciousness leads researchers to choose post-survey payment, despite previous experiments to the contrary. Indeed, the spiraling costs of incentives may further inflame this tendency toward post-payment: as incentives go up, it's an understandable response to provide those incentives only for respondents who complete the research – thus ironically creating a feedback loop for expensive post-payment. This tendency also implicitly places the research into the realm of economic, rather than social, exchange. In short, what may seem like common sense and economic pragmatism may indeed be an example of penny-wise, pound-foolish behavior. It will likely take robust replications of our findings to argue persuasively against such ingrained research behaviors.

The fact that most Internet surveys are conducted without a phone component does not impose any theoretical limit to the relevance of these findings, since incentive pre-payment can be used just as easily with pure email-based screening. However, the reality is that most Internet surveys count on sheer volume of invitations to make up for a very low expected response rate. In this scenario, these findings have limited relevance because the cost of promising any prepaid incentive, no matter how nominal, quickly becomes untenable. If, for example, our study had sent 10,000 emails with prepaid \$1 incentives and a completion rate of 4.5%, we would have paid out more in incentives with a much larger non-response rate. This makes all the more desirable a sister experiment in which traditional post-survey incentives were tested against sweepstakes-style incentives.

While more research is needed to replicate or refine our findings, the results clearly fall in line with previous studies on incentives and response rates in mail and phone modes. Pre-paid incentives reliably increase response rates and can be more cost effective than larger promised incentives.

References

- Church, A.H. (1993), "Estimating the Effect of incentives on Mail Survey Response Rates: A Meta-Analysis," in *Public Opinion Quarterly*, Vol. 57, pp. 62-79.
- James, J.M., and Bolstein, R. (1992), "Large Monetary Incentives and Their Effect on Mail Survey Response Rates," in *Public Opinion Quarterly*, Vol. 56, pp. 442-453.
- Singer, E., Van Hoewyk, J., and Maher, M.P. (2000), "Experiments with Incentives in Telephone Surveys," in *Public Opinion Quarterly*, Vol. 64, pp. 171-188.
- Dillman, D.A. (1978), *Mail and Telephone Surveys*, New York: Wiley.