

## INCENTIVES IN A BUSINESS SURVEY: A STUDY IN IMPROVING RESPONSE RATES

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### Introduction

Surveys come in many forms and purposes, and are typically designed to meet a specific business need. A survey is a process of questions designed to elicit information from respondents on a set of topics. While no one process model will precisely fit every survey, obtaining accurate, reliable, and timely information is critical for making any business related decision.

Mail surveys, while not appropriate for all types of data collection, are a relatively inexpensive means of gathering information from a widely dispersed target population. Mail surveys possess a number of methodological advantages, including the ability to select sample target populations, use of letterheads and personal signatures, elimination of interviewer bias, and can be completed at the respondent's convenience.

Over the last several years the public has become less willing to participate in or complete surveys, of any type. While quite popular in the past, it is now widely believed that mail surveys will not produce acceptable response rates. Response rates, simply stated, are the number of completed and returned surveys divided by the number successfully mailed. Acceptable response rates can range from the single digits in some private sector surveys, to high double digits for several government surveys. The response rate has a direct effect on the quality of conclusions and results that can be drawn from the collected survey data. In our experience, a response rate of 15-20 percent is routinely obtained on a simple private sector mail survey when no effort is made to increase response rates.

### Pre-Survey Planning

The Ernst & Young Survey Center begins each survey engagement with a plan to help ensure a successful project by facilitating management of items which affect delivery time, quality, and cost. We have based our plans on the methodology developed by Don Dillman and Priscilla Salant.<sup>1</sup> The plan addresses the purpose,

charter or mission statement, deliverables, a well-defined scope, budget, time frame, resources, and sponsorship.

Initially, a discussion is held with the client to determine the motivations or incentives for the target population. Motivation can range from belonging to the organization sponsoring the survey to completing the survey out of a feeling of civic duty. Both monetary incentives and a copy of the resulting report have been successfully used. Often the survey plan begins with a promotional campaign to convey information to potential respondents with the hope of encouraging their participation. The pre-survey work is a critical step to motivating a response. Additionally, the distribution for an announcement message, when appropriate, is discussed with the client. This announcement message is communicated via appropriate media, such as newspaper, radio, or e-mail.

One of the first and easiest ways to increase survey response rates, especially mail surveys, is to design an attractive, easy to complete survey. While it can be difficult to elicit a good response from a very clearly written and relatively short survey of two to three pages, a confusing and lengthy questionnaire can lead to response rates in the low single digits. It is imperative to invest the time and effort in designing a well thought out and simple survey ahead of time. Even the best incentives and motivation cannot overcome the effects of a confusing and lengthy survey.

As part of our standard survey implementation we often include reminder postcards sent through the mail, regardless of the survey mode. Often we include re-mailing of surveys, regardless of mode. Electronic surveys are the easiest and most inexpensive to 're-mail.' Standard mail surveys are more expensive. Both can entail distributing a second, or sometimes a third, survey to either the entire distribution or to non-respondents. Previous studies have shown the value of re-mailing.<sup>2</sup>

### Incentives

During the initial planning stages of a business survey a discussion takes place about what motivation a likely respondent may have for completing the survey. Will their interest in the subject motivate them to respond?

Will the respondent's sense of 'civic' duty encourage them to respond, as is common in many government surveys? Is the sponsor a trade or membership organization where the respondents may have some financial or personal implication for themselves that may motivate them, or will some incentive be needed?

What are some of the effects of incentives for mail surveys? There are two main types of mail survey incentives, pre-survey and post-survey. A pre-survey incentive is included in the survey mailing, while a post response, promised incentive is sent upon receipt of the completed survey. Incentives affect the number of returned surveys, and thus the data quality and cost per completed survey. Increased response rates provide the opportunity to save money through reduced mailing costs and more precise results. However, any incentive that increases the response rate must do so without biasing the distribution of survey returns in any way. In other words, a promised or included incentive must represent a similar value to each respondent.

Berk, Mathiowetz, Ward and White (1987) tested the effectiveness of both prepaid and promised monetary incentives for completion of a self-administered questionnaire as part of a health panel survey. One treatment group received a check for five U.S. dollars with the questionnaire along with instructions. The second group was told they would receive a five-dollar payment when the questionnaire was completed. A last group that was given no incentive was used as a control group. The research suggests that the use of prepaid monetary incentives can increase response rates and data quality. The authors measured data quality in terms of item non-response rates. The prepaid incentive group had a significantly lower item non-response rate than the promised incentive group. Neither the prepaid nor the promised groups' demographics differed significantly from the non-incentive group.<sup>3</sup>

James and Bolstein (1992) conducted an incentive experiment with five incentive levels (including no incentive) on a mail survey. They did not find any differences in response rates to closed questions among the incentive groups but the incentives generated more comments and more completeness of open-ended questions.<sup>4</sup>

Willimack, Schuman, Pennell and Lepkowski (1995) did not find any differences between the incentive recipient and non-recipient group regarding age, education, income, race or gender.<sup>5</sup>

## The Ernst & Young Survey

### *2001*

The Actuarial Services group of Ernst & Young LLP (E&Y) wanted to develop a set of prototype models to understand automobile insurance customer retention. In particular, their interest was to model the shopping and switching behaviors of customers.

To obtain this information the Quantitative Economics & Statistics group<sup>6</sup> within E&Y conducted a national mail survey in December 2000 and January 2001 of 5000 individuals with automobile insurance. The target population was civilian, non-institutionalized, non-students, older than 21 years of age, with an income greater than or equal to \$10,000, and with an open auto loan/lease, an oil credit card, or auto trade. A cover letter was mailed with the survey to explain the purpose of the survey. There was no re-mailing of surveys.

The 2001 survey consisted of 17 questions covering information about the current auto insurance, insurance premium, number of cars, overall satisfaction with the insurance company, number of claims filed, and views on shopping and switching automobile insurance company. As an incentive a \$10 gift certificate from Walmart, Sears, or Amazon.com was promised to all who responded to the survey. The respondents selected their gift certificate company preference on the survey. Over 780 responses were received in 2001 resulting in a response rate of 17.2 percent. The Walmart gift certificate was selected by more than 77 percent of the respondents. Identifying demographic information such as name and address was removed, and the survey results were merged with credit data from a vendor. The additional data provided financial information such as income, credit worthiness, car and home loans.

The complete set of data were used to develop prototype models to show the effect of an increase in automobile insurance premium on the insurance customer's probability of shopping or switching to a new policy. That is, the models can be used to determine the probability that a specific type of customer will shop or switch automobile insurance policies for a given level of increase in premium.

### *2002*

In 2002, the Actuarial Services group again contacted the Quantitative Economics and Statistics group within E&Y to conduct a second survey in March 2002.<sup>7</sup> The goal of this survey was to augment the information obtained the previous year.

The survey instrument was marginally reworked to clarify several questions that proved to have been confusing or misleading to some respondents in 2001. In 2002, the survey consisted of 18 questions covering information about the current auto insurance, insurance premium, number of cars, overall satisfaction with the insurance company, number of claims filed, and views on shopping and switching automobile insurance company. Please see Appendix A for a copy of the 2002 survey. The survey results again were merged with credit data from a vendor once the identifying demographic information was removed.

The target population again was a national sample of 5000 civilian, non-institutionalized, non-students, older than 21 years of age, with an income greater than or equal to \$10,000, and with an open auto loan/lease, an oil credit card, or auto trade.

**The Experiment**

The trend toward lower response rates and the resulting literature promising a good response to a prepaid incentive led us to conduct an incentive experiment. Our goal was to see if the response rate of 17.2 percent could be improved for a general, non-sensitive survey, of two to three pages in length. A second goal was to explore the possibility of an overall cost reduction, specifically in postage and the administrative costs involved with promised incentives.

To conduct the experiment, a simple random sample of 200 was selected from the universe of 5000. The 200 received a prepaid \$5 cash incentive. The remaining group of 4800, as last year, was promised a \$10 gift certificate. As in 2001, a cover letter was mailed with the survey to explain the purpose of the survey. The cover letter for the \$5 cash incentive was rewritten to elaborate on the \$5 incentive. There was one mailing of the survey to both groups, and a thank you letter mailed with the gift certificate enclosed for those that responded out of the 4800 group.

Similar to 2001 the 4800 targets received a cover letter with the survey and the incentive of a promised \$10 Walmart gift certificate upon the return of a completed survey. With the extremely high choice of the Walmart certificate in 2001 we did not include the option of other company certificates. After the 2002 introductory letters and the survey were revised, the mailing lists created, and supplies procured, the materials were sent to an outside vendor for survey stuffing and mailing.

Questions about the sensitive nature of a cash mailing were discussed with our vendor. We agreed that because of the long-standing relationship and trust with them, they would stuff and mail this portion of the survey. No problems arose due to the cash incentive.

**Experiment Results**

**General**

The experiment was a resounding success. The \$10 gift certificate mailed to those who completed the survey yielded a 22 percent response rate. The \$5 incentive with the survey resulted in a response rate of nearly 60 percent. This brought the overall response rate to 23.7 percent, an increase of almost 6 percentage points over the 17.2 percent achieved in 2001. A total of 1165 responses were received, with a very low undeliverable rate of 1.9 percent, and a refusal rate of close to zero.

Survey	Total Mailed	Response Rate	Undeliverable Rate	Refusal Rate
Pre-Survey	200	59%	2%	1%
Promised	4,800	22%	2%	0%
Overall	5,000	24%	2%	0%

**Cost Comparison**

The \$5 prepaid incentive survey was more than one-third less costly, at \$10.34 per survey, than the \$10 gift certificate mailing due to the cost savings involved in the decreased postage and administrative costs. The completed price of \$15.48 per survey for the 1049 \$10 gift certificate mailing reflects the added administrative and postage costs associated with the second mailing of thank-you letters and gift certificates. The average combined cost for the 1165 completed surveys was \$14.96.

Total Mailed	Incentive	Initial Mailing	Gift Cert Mailing	Total Cost	Cost per Survey
4,800	\$10.00	\$1.00	\$ .90	\$16,234.10	\$15.48
200	\$5.00	\$1.00	\$0.00	\$1,200.00	\$10.34
5,000				\$17,434.10	\$14.96

Furthermore, the literature suggests that a prepaid survey incentive of \$1 or \$2 is nearly as effective in generating response rates above 50 percent as a \$5 incentive.<sup>8</sup> If a 50 percent response rate with a prepaid incentive of \$1 is assumed, the cost per completed survey received drops to \$4.

**Theoretical Cost Comparison with 50% Response**

Assuming a \$1 cash incentive yields a 50 percent response, approximately 4,800 would generate about 1200 respondents. This presents a cost savings of over

\$10,000 when compared to a traditional mail survey with a post survey incentive of \$10.

Total Mailed	Incentive	Response Rate	Initial Mailing	Gift Cert Mailing	Total Cost	Cost per Survey
2,400	\$1.00	50%	\$1.00	\$0.00	\$4,800.00	\$4.00
2,400	\$2.00	50%	\$1.00	\$0.00	\$7,200.00	\$6.00
200	\$5.00	59%	\$1.00	\$0.00	\$1,200.00	\$10.34
4,800	\$10.00	22%	\$1.00	\$0.90	\$16,234.10	\$15.48

If a \$2 cash prepaid incentive yields a 50 percent response rate the cost per completed received survey would be \$6.00. Again, a significant cost savings per returned survey compared with the more generous \$10 gift certificate mailed to respondents or the \$10.34 per \$5 cash incentive.

**Data Quality**

A concern with any incentive is that it can possibly cause respondent bias. When choosing an incentive, one must be sure to select something of equal value to all members of the sample. The literature does indicate that money’s universal value can yield a high response rate without injecting bias.

We compared the characteristics of respondents to non-respondents for each incentive. Using a Chi-Square test for independence we found:

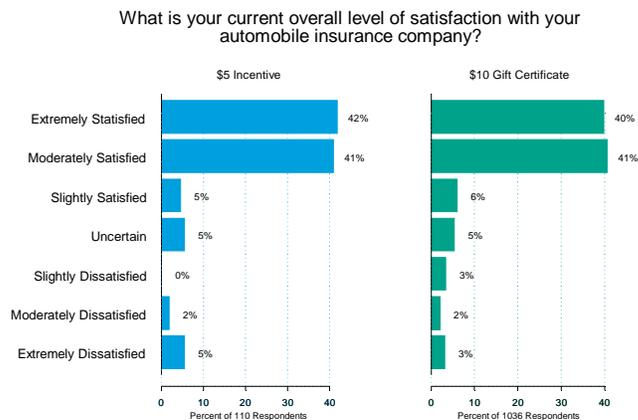
- Cash included with the survey increased response rate, despite having a lower value than the gift certificate promised upon completion.
- Cash incentives affect women more than men. There was no significant difference with the gift certificate by sex.
- Overall, single persons respond less than married.
  - Cash has a stronger response effect on married than single.
  - Cash has a stronger effect on married woman than married men.
- The presence of children has no effect on response rate by incentive.
- Older persons have higher response rates.
- Overall, the Central, Mid-West, and Western Regions respond better. There was no difference between the incentives by Region.

One concern with providing an upfront cash incentive is that the respondent may be inclined to answer questions more favorably. Tzamourani and Lynn (1999) evaluated the effect of monetary incentives on the British Social Attitudes Survey and concluded there was no indication that the incentives caused the respondents to respond differently from how they would otherwise have done.<sup>9</sup>

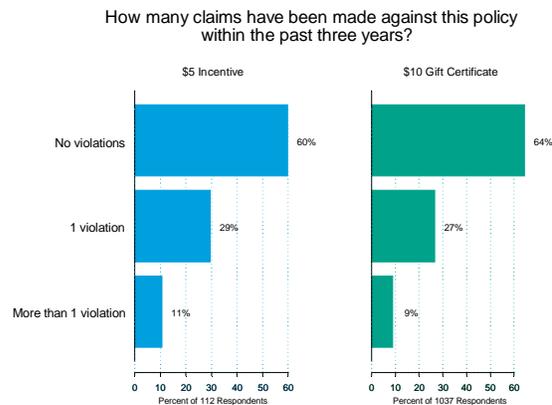
Several questions in the Ernst & Young survey asked for ratings. Three general questions are shown below.

One asked overall insurance company satisfaction, a second asked the number of claims made on a policy, and finally the satisfaction with the handling of those claims. We performed a Chi Square to test if there were significant differences between the distribution of answers for the gift certificate and cash incentive groups. There are no significant differences.

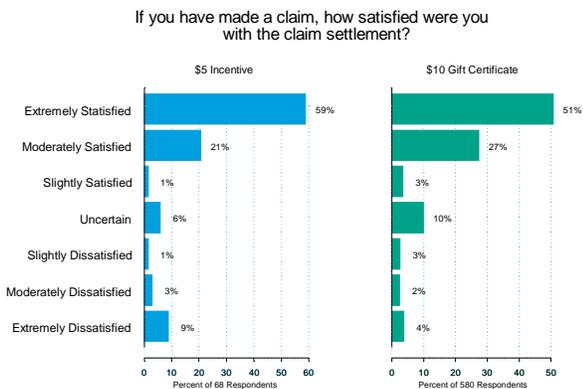
**Table 1**



**Table 2**



**Table 3**



**Conclusion**

While some government surveys have had response rates of up to 50 percent, business surveys have suffered from low response rates.<sup>10</sup> Response rates have at times fallen below 10 percent, and in recent years a trend has emerged for even less willingness to participate among the general public. As a result, very large and expensive mailings, or more expensive phone and in person surveys, have been necessary to obtain an adequate number of respondents. Depending on the purpose of the survey, the necessary numbers to obtain reliable data can range from the hundreds, to thousands, to tens of thousands.

Most surveys promise some incentive or ‘thank you’ to respondents. Mail surveys have, in the past, promised an incentive to the respondents. Promised incentives can include one or more of the following: a copy of the results, cash, merchandise, gift certificates, and others. Recent literature suggests that in fact a promised incentive is often only marginally more effective than a reminder post card or a second mailing to the target population. Prepaid incentives, usually but not always, in the form of cash are more effective than promised incentives.<sup>11,12</sup> Response rates above 50 percent for private surveys have been obtained with a cash incentive between \$1 and \$5. Furthermore, studies have shown that a prepaid cash incentive will reduce respondent bias and item non-response.<sup>13</sup>

The Ernst and Young incentive experiment explored the response rate gains that can be realized from a prepaid survey incentive. Additional goals were to search for respondent demographic differences and bias towards questions. In comparison to the traditional gift certificate mailed to respondents, the prepaid cash incentive of \$5 generated a response rate improvement from 22 percent to almost 60 percent, respectively. A per returned survey cost savings of over one third was realized by using only the prepaid cash incentive of \$5.

Other studies show that a \$1 or \$2 cash incentive can have a similar effect as the \$5 incentive with response rates above 50 percent.

Respondent bias was not an issue, with respondents from different regions, sexes, and marital status responding in similar proportions, of gift certificate to cash incentive, to the original sample.

When the opportunity for a similar survey that lends itself to a study arises, we will test a comparison between a \$5, \$2, and \$1 prepaid cash incentive with the survey. Client and project permitting, we will use the results from this experiment to suggest the use of a prepaid survey incentive on a target population with the hopes of efficiently obtaining reliable data.

**Appendix A: 2002 Automobile Insurance Survey**

- Who is your current auto insurance company? (Check only one)
- How many cars are covered under this policy?
- Do you have COLLISION coverage for the vehicles on this policy?
- Do you have COMPREHENSIVE coverage for the vehicles on this policy?
- About how many years have you been a policyholder with this company?
- What is your current annual (12 month) premium for automobile insurance? \$\_\_\_\_\_
- What other policies or types of services do you have or use with this company? (Check all that apply)
- Has anyone covered under this policy had any non-parking traffic violations within the past three years? Indicate the number of violations below.
- How many claims have been made against this policy within the past three years?
- If you have made a claim on this policy, how satisfied were you with the claim settlement?
- If your premiums were to increase substantially, what would be your most likely reaction? (Check only one)
- When your last policy was up for renewal, did you get quotes from another auto insurance company?
- How much would your annual premium have to increase, before you decided to shop around for another insurance carrier?
- If you were to shop for another insurance company, what cost savings on your annual policy would that company have to offer you to seriously tempt you to switch companies?
- a. Over the past three years, I have switched insurance companies. At the time of the switch my premiums...
- b. Over the past three years I have remained with the same insurance company. My premiums over this timeframe have...
- The last time you switched companies, what was your main reason for switching?

17. What, if anything, prevents you from switching to another automobile insurance carrier? (Check all that apply)
18. What is your current overall level of satisfaction with your automobile insurance company?

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<sup>1</sup> Salant, Priscilla and Don A. Dillman. *How to Conduct Your Own Survey*. New York: John Wiley & Sons, 1994.

<sup>2</sup> Von Reisen, D.R. (1979). Postcard reminders vs. replacement questionnaires and mail survey response rates from a professional population. *Journal of Business Research*, 7, 1-7.

<sup>3</sup> Berk ML, Mathiowetz NA, Ward EP and White AA (1987). The effect of prepaid and promised incentives: Results of a controlled experiment. *Journal of Official Statistics*, 3(4): 449-457.

<sup>4</sup> James, JM and Bolstein R (1990), The effect of monetary incentives and follow-up mailings on the response rate and response quality in mail surveys. *Public Opinion Quarterly*, 54: 346-361.

<sup>5</sup> Willimack DK, Schuman H, Pennell BE and Lepkowski JM (1995), Effects of a prepaid nonmonetary incentive on response rates and response quality in a face-to-face survey. *Public Opinion Quarterly*, 59(1): 78-92.

<sup>6</sup> Survey conducted by Victor Sablan, Rob Wederich and Glenn White of the QUEST group.

<sup>7</sup> Survey conducted by Aljoscha Kaplan and Glenn White of the QUEST group.

<sup>8</sup> Tzamourani P and Lynn P (1999), The effect of monetary incentives on data quality – Results from the British Social Attitudes Survey 1998 experiment. Center for Research Into Elections and Social Trends, Working Paper Number 73, September 1999.

<sup>9</sup> Tzamourani P and Lynn P (1999).

<sup>10</sup> Armstrong, J.S., & Lusk, E.J. (1987). Return postage in mail surveys: A meta-analysis. *Public Opinion Quarterly*, 51,233-248.

<sup>11</sup> Armstrong, J.S. (1975): Monetary Incentives in Mail Surveys, *Public Opinion Quarterly*, 39, pp. 111-116.

<sup>12</sup> Schewe, C.D. and Cournoyer N.G. (1976): Prepaid Versus Promised Monetary Incentives to Questionnaire Response: Further Evidence. *Public Opinion Quarterly*, 40, pp. 105-107.

<sup>13</sup> Tzamourani P and Lynn P (1999).