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Mail Survey Response Rates Using a Lottery Prize Giveaway Incentive

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ABSTRACT

This study investigates a unique lottery-oriented mail survey response mechanism, a single prize giveaway rather than cash prizes, to measure its impact on a consumer sample in terms of 1) the response rate, 2) cost effectiveness, and 3) biasing effect on their responses. A random sample of 6,384 customers from a commercial products sponsor's customer database and 6,384 noncustomers drawn from telephone directories from seven areas of Ohio was selected for this study. The results demonstrate that it is possible for managers to increase response rates using a lottery prize giveaway incentive and reduce the costs per completed survey. Perhaps direct marketing companies could increase their sales and lower their contact costs using a single lottery prize giveaway incentive such as this article describes. Managers using this method also do not have to suffer validity problems.

CCC 0892-0591/92/03054-06$04.00

INTRODUCTION

As many companies find themselves in an increasingly competitive environment, they are realizing that it is important to stay in touch with their customers' needs. However, intensified competition has also tightened corporate budgets, sometimes forcing companies to operate without pertinent customer information due to the expense of data collection.

Although many data collection vehicles can be used, large samples are best gathered through mailed surveys. Obtaining high response rates for mailed surveys has many advantages: increased sample size, reduced costs associated with follow-up contacts, and less concern with nonresponse bias (6). However, the major disadvantage of mailed surveys is their tendency to produce low response rates (11) and the possible nonresponse bias that may result. Nonresponse bias leads to the question of whether those who responded are systematically different in some important way from those who did not respond, and can cast doubt on the accuracy of results (2,13,15).

Indeed, inadequate response rates in mail questionnaires have long remained a concern of market researchers. Numerous studies examining the effectiveness of various devices to increase response rates have been examined (for example, 4,8,10,14). Dickinson (5) cites 454 studies of mail survey responses. Meta-analysis studies have also been performed to synthesize studies of specific factors affecting response rates and specific levels of these factors (1,6,9,17). Personal monetary incentives, usually of one dollar, prove to be more effective in achieving higher response rates than promised incentives or lottery-oriented cash prizes (8,10,14).

In terms of using a lottery prize, only three studies have utilized an incentive with the element of chance. McDaniel and Jackson (13) and Hubbard and Little (10) informed their sample that they would be included in a drawing for cash prizes. McDaniel and Jackson (13) observed that providing a $0.25 incentive achieved a significantly higher response rate than the inclusion of the sample member in a $100 drawing. The inclusion in the drawing did not achieve a significantly higher response rate than the no-incentive condition. Hubbard and Little (10) found only the $200 drawing to have a significantly higher response rate than the no-incentive condition, and inclusion of the $0.25 and $1.00 incentives achieved higher response rates than any drawing condition. Gajraj, Faria, and Dickinson (7) studied the effects of a public lottery inducement and found that this condition is more effective than a typical gift and comparably as effective as a small monetary incentive in increasing rate and response speed.

Lottery Prize Giveaway Incentive

A prize giveaway is different from promised monetary and gift incentives because the latter are sure things. The prize giveaway offers only the chance of a prize; however, if won, the prize would generally be a much larger reward than the typical promised gift or monetary incentive or the cash prize incentives found in such studies as McDaniel and Jackson (13) and Hubbard and Little (10) and often without the odds in a public lottery cash giveaway.

The study reported here investigates a unique lottery-oriented mechanism, a single prize giveaway rather than cash prizes. Our basic objective is to measure this mechanism's impact on the consumer sample member in terms of (1) the response rate, (2) cost effectiveness, and (3) biasing effect on their responses.

The theoretical base for why consumers respond to questionnaires has its origin in social exchange theory writing (12). A person will respond to a mail questionnaire when it has more value than alternative activities. In our study, the sender places a high value on the mail-out, the importance is transmitted to the receiver, and a higher response rate is expected. Stanley and Sewell (16) suggest that the size of the incentive not only increases the response rate but also enhances the completeness and accuracy of responses.

METHODOLOGY

A random sample of 6,384 customers from a commercial petroleum products sponsor's customer database and 6,384 noncustomers drawn from telephone directories from seven areas of Ohio was selected. The sponsor company's products consisted of automotive fluids such as oils, grease, lubricants, and transmission fluids.

TABLE 1
Response Rates

Letter	No. Sent	Overall Response Rate (No. Replied)	Response Rate for Customers (No. Replied)	Response Rate for Noncustomers (No. Replied)	Cost/Response
Control group	6,384	5.95% (380)	6.2% (198)	5.17% (165)	$10.11
Prize giveaway group	6,384	12.75% (814)	14.88% (475)	9.77% (312)	$4.72

Each sample member received a cover letter, a four-page questionnaire and a postage-paid return envelope in order to gain information pertaining to the sponsor's products, services, and industry perceptions.

A control group was used in order to assess the effects of the mechanism on response rates. The 12,768 customers and noncustomers were equally partitioned randomly into two groups:

CONTROL GROUP: In this case, 3,192 customers and 3,192 noncustomers were mailed a questionnaire and cover letter without mention of the prize giveaway.

PRIZE GIVEAWAY INCENTIVE GROUP: In this case, 3,192 customers and 3,192 noncustomers were also mailed a questionnaire and cover letter. However, a final sentence was added to the end of this group's cover letter mentioning the prize giveaway. A list of twenty prizes ranging in value from $300 to $1,000 was provided at the end of the questionnaire instructing respondents to circle the gift of their choice. The respondents were given a two week deadline to complete and return the survey. Once the deadline had passed, one respondent was randomly selected as the winner of the prize giveaway. In both cases the cover letter and the first page of the questionnaire displayed the commercial sponsor's logo, address, and telephone number.

Hypotheses

This study tests the following hypotheses:

RESPONSE RATES: The Lottery Prize Giveaway Group appeal will produce a higher response rate than the appeal mailed to the Control Group.

COST PER COMPLETED RESPONSE: The lottery prize giveaway will result in lower costs per completed response than with the Control Group appeal.

RESPONSE BIAS: The amount of response bias provided by the lottery prize giveaway group and the Control Group will be minimal.

ANALYSIS AND RESULTS

Table 1 shows the response rates for each group along with the total cost incurred in collecting each piece of data. The total collection cost was $7,681.00 as shown in Table 2. The data in Table 1 depicts the difference in response rates between the Control Group and Lottery Prize Giveaway Group breaking these down further by customers and noncustomers. The expected and observed values in each of the response groups were tested using the Chi-square statistic. Testing at the 0.05 level, the null hypothesis is rejected implying that the magnitude of the difference in response rates between the two groups is statistically significant (Chi-square = 6,583, prob. = 0.0001). The increase in response rate induced by the lottery prize giveaway has a significant effect

TABLE 2
Data Collection Costs

Paper and printing:	
63,840 sheets (4 page survey and cover letter)	$1,915.00
25,536 envelopes (return envelopes included)	766.00
Postage and stuffing	4,000.00
Price (maximum value)	1,000.00
Total Cost	**$7,681.00**

on the cost per completed response. The difference in cost between the two groups is approximately $5.39 per survey, showing that this method is cost-effective.

The proportions for the Control Group and Prize Giveaway Group, 59.95% and 12.75% respectively, were then tested with a Two Independent Sample Z Test to determine if the difference between the two groups was significant. At the 0.05 significance level, the null hypothesis that no statistically significant difference in proportions exists between these two groups is rejected (Z = 13.0729, prob. = 0.005). The Prize Giveaway Group's response rate was more than two times higher than the Control Group's response rate.

Another Two Independent Sample Z Test was conducted for the Customer/Noncustomer respondents between the Control Group and Prize Giveaway Groups. Table 3 shows that the prize giveaway method has a significant effect on both customers and noncustomers at the 0.05 significance level. The largest increases in response rates are found among current customers; however, response rates also increased significantly when using the lottery prize giveaway method.

Table 4 shows a slightly higher response rate among customers within the Control Group, but this result was not significant at the 0.05 level. However, with the Prize Giveaway Group, customers responded at a significantly higher rate than noncustomers. This difference in response rates between the two groups is also represented graphically in Exhibit 1.

To assess the amount of bias present in the responses provided by the Prize Giveaway Group and the Control Group, a Chi-square statistic was calculated for all questions asking respondents to rate attributes on an ordinal scale. A total of 27 questions were tested, three of which tested within the 0.05 level. This indicates that only 11 percent of the questions tested showed a significant difference between the groups and how they responded.

TABLE 3
Impact of Lottery Prize Giveaway

Differential Impact of Lottery Prize Giveaway on Customers

Group	No. Sent	Response Rate (No Replied)	Z-Value	Prob.
Control	3,192	6.2% (198)	11.27	0.005
Prize giveaway	3,192	14.8% (475)		

Differential Impact of Lottery Prize Giveaway on Noncustomers

Group	No. Sent	Response Rate (No Replied)	Z-Value	Prob.
Control	3,192	5.7% (183)	6.97	0.074
Prize giveaway	3,192	9.7% (312)		

TABLE 4
Response Rate Differences within Groups

Response Rate Differences for Control Groups

Control Group	No. Sent	Response Rate (No Replied)	Z-Value	Prob.
Customers	3,192	6.2% (198)	1 78	0.056
Noncustomers	3,192	5.1% (166)		

Response Rate Differences for Lottery Prize Giveaway Groups

Prize Giveaway Group	No. Sent	Response Rate (No Replied)	Z-Value	Prob.
Customers	3,192	14.8% (475)	6.21	0.008
Noncustomers	3,192	9 7% (312)		

DISCUSSION

This study examined the effects of a single prize giveaway rather than cash prizes on response rates, cost effectiveness, and response bias. This incentive was examined among customers and noncustomers of a commercial petroleum products company and utilized a control group of customers and noncustomers.

The lottery prize giveaway group appeal produced a higher response rate than the appeal mailed to the control group. It also resulted in a lower cost per completed response than with the control

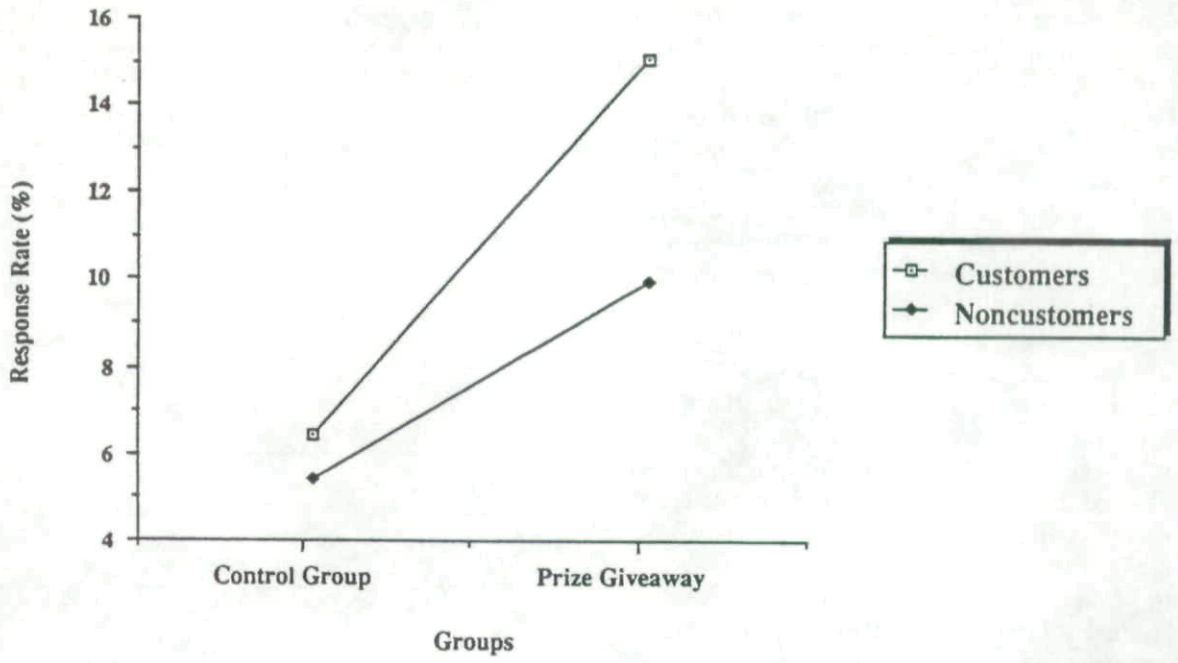

EXHIBIT 1
Comparison of Response Rates

group. The response bias was minimal as only 11 percent of the questions tested showed a significant difference between the groups and how they responded.

Importantly, this study to the authors' knowledge represents the first examination of the use of a single lottery prize giveaway rather than cash prizes with a mail survey. Using a lottery prize giveaway may increase direct marketing response for products and services as well.

The results of this study support all of the research hypotheses concerning response rates, cost per completed survey response, and response bias. It is possible for managers to increase response rates and reduce their costs per completed survey by using a lottery prize giveaway. The test for biased responses resulted in minimal levels, implying that managers using this method do not have to suffer from problems of validity. They will also find that increased response rates will occur with either customer or noncustomer samples. The significant increase in response rates using a lottery prize giveaway incentive provides a more cost-effective alternative to survey data collection. For direct marketers this study suggests that response rates could increase and cost per contact mail piece could decrease using this kind of incentive. If the potential customer puts a higher value on the offer and the direct marketer transmits this importance then a higher sales rate should be expected.

Certain observations are in order. First, these large sample sizes have provided power to the statistical tests used in this study and have thereby minimized the probabilities of incurring incorrect inferences. Future researchers of mail survey or direct marketing incentives should use sample sizes that provide power to their statistical tests. Second, more research is needed to assess the use of this unique mechanism in other population areas to enhance the findings' external validity. Replicating this study's findings using different classes of products and across different types of buyers and intermediaries is important. Lastly, much may depend upon how potential respondents perceive their odds of winning. Additional research could attempt to resolve these problems. ■

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