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Effect of Incentives on Web-Based Surveys*

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Abstract: Investigators seek ways to effectively raise the response rate of surveys. Incentives have a great influence on response rate, retention rate, and response quality in traditional surveys. The purpose of this paper is to investigate what kinds of incentives are effective in web-based surveys. This study summarizes the research framework of previous studies on the effect of incentives in web-based surveys to show that material incentives have a significant effect on web-based surveys with prepaid incentives having a moderate influence on raising the response rate. Contingent incentives significantly reduce the response rate. These findings provide guidance for web-based investigations.

Key words: incentives; web-based surveys; Internet; material incentives; nonmaterial incentives; prepaid incentives; contingent incentives

Introduction

Compared with traditional surveys, web-based surveys are quicker, more efficient, and less expensive[1,2]. There are more and more organizations and individuals using the Internet as a survey medium. The response rate, retention rate (equal to one minus the dropout rate), response quality, and survey speed are common problems faced by both traditional surveys and online surveys. Many studies have empirically proven that incentives raise the response rate and response quality[3,4] and incentives can be generally classified into two types based on the incentive instrument and the time to give the incentive. As shown in Table 1, incentives include material incentives and nonmaterial incentives, or prepaid incentives and promised incentives. Furthermore, material incentives can be monetary or nonmonetary and can be conditional or unconditional. Generally, prepaid incentives are unconditional incentives while promised incentives are conditional incentives.

Table 1 Different types of incentives

Standard	Elementary classification	Further classification
Instrument	Material incentive	Monetary
		Nonmonetary
	Nonmaterial incentive	
Time	Prepaid incentive	Unconditional
	Promised incentive	Conditional

Most research on online survey incentives has been conducted outside of China. A typical overseas research framework on incentives for online surveys is shown in Fig. 1[5].

There is little research on nonmaterial incentives. Therefore, there is no nonmaterial incentive in Fig. 1 and the nonmonetary incentives are all considered to still be material incentives. Studies on incentives in web-based surveys have mainly followed the four directions shown in Fig. 1 with four research areas developed by combining these two directions.

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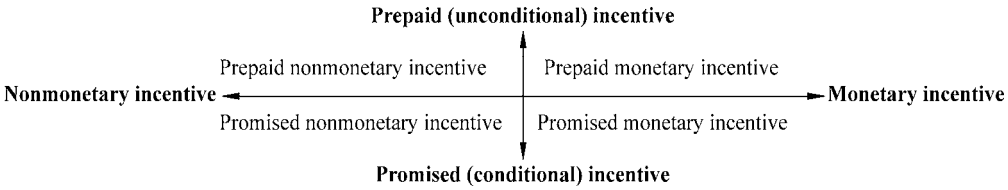

Fig. 1 Overseas research framework of incentives in online surveys

Studies of traditional surveys have shown that monetary incentives, prepaid incentives, and unconditional incentives are more effective than material incentives, promised incentives, and conditional incentives[4,6-8]. This study uses the four directions shown in Fig. 1 with a comparison of the effect of monetary and nonmonetary incentives, prepaid and promised incentives, and unconditional and conditional incentives. In addition, results are given showing the effect of incentives on the recruiting of online panelists which emerges as the background of Internet surveys.

1 Effect of Material and Nonmaterial Incentives

1.1 Material incentives

Incentives can be classified as material or nonmaterial. Material incentives include cash, checks, gifts, bonuses or loyalty points, and lottery tickets. Material incentives can also be divided into monetary and nonmonetary incentives.

Göritz[9] analyzed 58 empirical studies on incentives for online surveys from the Google search engine and the following databases: PsycInfo, Psychology and Behavioral Sciences Collection, Econlit, ERIC, and Sociological Abstracts. Göritz concluded that material incentives have a significant effect on raising the response rate with an odds ratio of 1.19. (The odds ratio compares whether the probability of a certain event is the same for two groups. An odds ratio of 1 implies that the event is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the first group. An odds ratio less than one implies that the event is less likely in the first group.) Material incentive can also significantly raise the retention rate.

Monetary incentives have been shown to significantly affect traditional surveys[10,11]. However, in the Internet environment, delivery of small amounts of cash or checks to every person who has taken part in a survey is difficult. The points are usually for online shopping. After each shopping experience, customers are asked to complete surveys to help the merchant and they get points after the surveys which can be exchanged for gifts or discounts. Lottery incentives are used in a much broader range of surveys. Researchers have found that bonus points raise the response rate in online surveys more than gifts and cash lotteries, but seem to have no effect on response quality[12].

Thus, the research summarized above on material incentives shows that as follows:

(1) Material incentives significantly raise the response rate and the retention rate of online surveys.

(2) In online surveys, investigators are more inclined to choose points and lottery incentives with bonus points giving larger increases in the response rate.

(3) The response rate and speed can be raised by increasing the amount of the material incentive. Analyses of traditional surveys have shown that this relationship is not linear.

1.2 Nonmaterial incentives

There are fewer studies on the effects of nonmaterial incentives and these studies have shown that nonmaterial incentives negatively affect the response rate[13]. Göritz[14] did three experiments comparing the effects of nonmaterial incentives and no incentives. The results in Table 2 show that nonmaterial incentives do not have a consistent effect on the response rate and dropout rate.

Table 2 Test results comparing nonmaterial incentives with no incentives

Experiment	Response rate (%)		Dropout rate (%)	
	Nonmaterial incentives	No incentives	Nonmaterial incentives	No incentives
1	12.0	13.3	22.6	27.4
2	47.8	47.5	17.4	28.6
3	43.7	38.9	20.0	12.2

2 Effect of Prepaid and Promised Incentives

Incentives can be given before or after a survey and can be conditional or unconditional. Unconditional incentives are given before the survey and conditional incentives are given after. In traditional surveys, researchers agree that incentives should be given before the survey to increase the response rate. Incentives given after the survey generally do not increase the response rate or reduce the cost[4,7,15,16].

In an online survey study in 2001, Guin et al.[17] compared the effect of prepaid and promised incentives using different amounts of money as the incentives. Their results show that prepaid incentives have a moderate influence on raising the response rate and reducing the cost. The effect of promised incentives with larger amounts of money is much better than that with smaller amounts.

Unconditional incentives are given to everyone without any conditions. Conditional incentives are contingent on their performance which usually means filling in all the items on the questionnaire and returning it. The purpose of conditions is to improve the response quality.

Reactance theory states that if a behavioral freedom is threatened, individuals will experience an adverse state of arousal called reactance[8]. They will try to reduce the arousal by restoring the threatened freedom. Therefore, people will choose not to take part in a survey to avoid the threat of not completing the questionnaire. Thus, conditional incentives can reduce the response rate. Also, conditional incentives may dissuade respondents who are only curious and not serious, resulting in more serious respondents who will provide higher-quality data.

Whether the increase in the response quality can compensate for the decrease in the response rate has been discussed for web-based surveys. In a previous study comparing the effect of unconditional and conditional incentives, Göritz[18] found that conditional incentives significantly reduced the response rate. Also, conditional incentives were found to not significantly improve the response quality as indicated by the number of omitted multiple-close questions and the answer length of open-ended questions. The increase of response quality was not compensated by the decrease of the response rate. Investigators should seek to balance the response rate and response quality based on the purpose of the survey.

Thus, the research on prepaid and promised incentives has shown followings:

(1) Prepaid incentives can modestly raise the response rate.

(2) The response rate with conditional incentives is strongly affected by the amount of money in the incentives.

(3) Conditional incentive can significantly reduce the response rate relative to unconditional incentives which only slightly increase the response quality.

3 Incentives for Recruiting Online Panelists

Reactive Internet research uses recruiting online panelists as respondents[19]. Panelists are a group of people who promise to take part in several surveys. Respondents are usually found by inviting people to register for panels in advance by e-mails, faxes, or leaflets, or by *ad hoc* recruitment, which uses search engines, flag advertisements. If people accept the online panel invitation, they register for the panel and submit basic personal information such as gender and age. Investigators then match the surveys to the respondents according to this basic information and previous records. The recruiting of online panelists can reduce the cost to find proper respondents and can increase the response rate, response quality, and response speed.

Two experiments by Müller-Peters and Kern[20] both proved that incentives motivate people to promise to join panels and to really register. Thus, incentives are effective for recruiting online panelists.

4 Conclusions

The effects of incentives on web-based surveys are mostly consistent with the effects in traditional surveys as shown in Table 3. This study on web-based survey incentives has shown followings：

(1) Material incentives are still the best incentives. Because of the difficulty of delivering money to each respondent, bonus points are more commonly used in web-based surveys and are found to be very effective.

Table 3 Effects of incentives in traditional and web-based surveys

	Traditional survey	Web-based survey
Material versus nonmaterial incentives	Material incentives are generally more effective, especially monetary incentives.	Material incentives are generally more effective, especially bonus points.
Prepaid versus promised incentives	Prepaid incentives are more effective.	Prepaid incentives are more effective.
Unconditional versus conditional incentives	Unconditional incentive can increase the response rate.	Conditional incentives can significantly reduce response rate with little effect on the response quality.

(2) Prepaid incentives are more effective than promised incentives, but the effect is modest.

(3) Conditional incentives can significantly reduce the response rate compared with unconditional incentives with only a modest increase in response quality.

(4) Incentives can motivate people to promise to join online panels and to register. Compared with *ad hoc* recruitment, directly recruiting online panelists through e-mails or faxes can increase the response rate and the response quality.

The use of incentives for web-based surveys is still a new field. As more people with different characteristics use the Internet, web-based surveys will become more common and new types of incentives will be used.

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