

Techniques for Improving Mail Survey Response Rates

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Mail surveys have an undeserved reputation for producing low response rates. However, the evidence presented in this paper demonstrates that response rates of 60% or better can be routinely achieved for mail surveys of the general public, specific consumer groups, and businesses, regardless of the topic investigated. To achieve response rates of this magnitude, the most effective technique is to send at least two reminder letters, include a questionnaire with each reminder, and include a reply-paid envelope. For surveys of the general public, response rates can also be improved by addressing the survey to a specific person, and by providing a monetary incentive.

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Introduction

Mail surveys provide a relatively inexpensive means of gathering information from a widely dispersed survey sample, and, in some circumstances, are preferable to other survey methods because they eliminate interviewer bias, allow respondents to check records, and can be completed at the respondent's convenience. Mail surveys are not appropriate for all types of survey, but that is true of all survey methods. Yet, in spite of their advantages, mail surveys have been dismissed out of hand by some commentators, who assert that this method inevitably produces low response rates.

Unfortunately, the belief that mail surveys are incapable of producing respectable response rates has become widely accepted as fact. This has resulted in two undesirable consequences: some researchers are reluctant to employ mail surveys because of this 'limitation'; others who do use them are delighted when they achieve a response rate of 30% to 40%, in the mistaken belief that this is an excellent result, given the method.

But the view that mail surveys per se elicit low response rates is a myth. There are many published studies that provide evidence to refute this belief and which describe methods for routinely achieving mail survey response rates between 60% to 80% (see Dillman 1972; Kanuk & Berenson 1975; Linsky 1975; Herberlein & Baumgartner 1978; Yu & Cooper 1983; Harvey 1987; Chiu & Brennan 1990 for reviews).

However, most of these published studies are American or British, and the conditions that apply in those countries might not apply in New Zealand. There is, therefore, a need for information on New Zealand mail survey response rates, and on the effectiveness of techniques for improving mail survey response rates in a New Zealand context. The purpose of this paper is to present data from studies conducted in the Market Research Centre and the Department of Marketing at Massey University. The studies reported here represent all of the mail surveys conducted by the Market Research Centre and the Department of Marketing at Massey University, over a period of 15 years, for which response rate information was available.

Response Rates

In the following analysis, a distinction is made between three different types of survey population: the general public, specific consumer groups, and businesses. The response rates for these three groups are reported in Tables 1, 2 and 3 respectively. In some cases, both a minimum and a maximum response rate is reported. These are from studies that incorporated two or more experimental treatments designed to test the effectiveness of techniques for improving mail survey response rates. Details of the results of those experiments are summarised in Table 4.

Reports identified by the prefix MDG or MRC in Tables 1 to 4 are unpublished research studies conducted by third year student groups (MDG) in the Department of Marketing, Massey University, or by researchers in the Market Research Centre (MRC) at Massey University. For the experimental studies, reported in Table 4, two research designs were used. The studies by Brennan et al. employed stratified random samples, whereas the remaining studies, all supervised by Don Esslemont, each employed a factorial design to examine up to four different treatments.

The response rates reported in Tables 1 through 4 were calculated using the following formula:

$$\text{Response rate} = \frac{\text{Number of valid returns}}{\text{Total sample} - (\text{GNA's} + \text{ineligibles})} \times 100$$

where GNA's are letters returned as 'gone - no address' by NZ Post.

Surveys of the general public

The sampling frames for these studies were either telephone directories or electoral rolls. In each case, random samples were selected.

The results reported in Table 1 demonstrate quite clearly that reasonably high response rates can be achieved in surveys of the general public. Approximately half of the surveys have response rates approaching 70% or better, and most have response rates of at least 60%. Furthermore, these high response rates were achieved for a wide range of topics.

Table 1. Response rates for mail surveys of the general public

Number of reminders	Topic	Response ¹ Rate (%)	Date	Researcher
1	Home vegetable growing	52 - 55	1979	Chan
	Banking behaviour	45 - 75	1982	Tan
	YMCA	41	1990	MDG2
2	Motor trade	84	1983	MRC332 ²
	Overseas travel and finance	63	1984	MRC479
	Macadamia nuts	64 - 69	1985	Christie
	Personal finances ³	72	1987	Hoek
	Survey participation	63 - 64	1990	Brennan (a)
	Maori language	59	1990	MDG1
	Soup usage	70	1990	MDG13
	Personal finances ³	52	1990	MDG17
	Television advertising	71	1991	Hoek
	Personal finances ³	54 - 75	1991	Brennan et al.
	Survey participation	65	1991	Brennan
	Sponsorship	54 - 66	1991	MDG6
	Fruit juice	56 - 64	1991	MDG7
Catalogue shopping	64 - 70	1991	MDG17	
3	Home Garden products	67 - 75	1986	Wright

Notes.

1. The minimum and maximum response rates are reported for studies that involved experimental treatments (see Table 4).
2. Two stage sampling was used, and a summary of the results was promised.
3. Women only.

Surveys of consumer groups

The sampling frames in these studies varied considerably (as did the topics) and generally consisted of customer or membership lists of some sort.

While a wide range of response rates is evident, response rates approaching 70% or more were achieved for approximately half of the groups, and most had response rates of at least 60% (see Table 2).

Table 2. Response rates for mail surveys of specific consumer groups

Number of reminders	Group Members	Topic	Response ¹ Rate (%)	Date	Researcher
0	ATM card holders	Banking products	46	1988	Prendergast
1	Coupon redeemers	Pork meat use	62 - 69	1979	McDonald et al.
	Shoppers club	Coupon use	94	1980	MDG5
2	Consumers Institute	Readership	80	1975	Esslemont
	Massey graduates	Degree courses	61 - 69	1980	Teh
	Massey students	Changes to BBS degree	74	1987	Brennan
	Customers	Night store heaters	58	1990	MDG8
	Policy holders	Insurance	54	1990	MDG10
	Attendees	Seminar attendance	58	1990	MDG15
	Customers	Company evaluation	92	1990	MDG4
	"Hot prospect" list	Financial services	72 - 81	1991	MDG13 ²
	Drunk drivers	Driving attitudes	63	1992	Gendall et al.

Notes.

1. The minimum and maximum response rates are reported for studies that involved experimental treatments (see Table 4).
2. A preliminary letter was used, plus one reminder.

Surveys of businesses

Each of these studies utilised random samples either obtained from the Department of Statistics, or drawn from professional membership lists. Although only a small number of studies are reported, the range of topics and types of business is quite wide (see Table 3).

Table 3. Response rates for mail surveys of businesses

Number of Reminders	Type of Business	Topic	Response ¹ Rate (%)	Date	Researcher
1	Export Managers	Information sources	59 - 73	1981	Chin
	Pig Farmers	Production intentions	64	1986	MRC606
	Vets	Mastitis vaccine	50	1990	MDG18
	Dairy farmers	Mastitis vaccine	53	1990	MDG18
	Livestock farmers	Mineral supplements	51	1991	MDG18
2	Deer farmers	Stock numbers	85	1983	MRC380
	Sheep farmers	Ear tagging	86	1984	MRC448 ²
	Perendale stud	Mktg of special wool	71	1986	MRC514
	Horticulturalists	Computers	60	1987	Brennan
	Farm mgmt. consultants	Computers	76	1987	Brennan
	Architects	Building materials	56 - 65	1989	Sargent
	NZ Managers	Business ethics	73 - 79	1990	Brennan (b)
	Nurseries	Lawn seed	53	1990	MDG7
	NZ exporters	International mktg	62	1991	Chaney

Notes.

1. The minimum and maximum response rates are reported for studies that involved experimental treatments (see Table 4).
2. Included lucky draw of \$100.

The results demonstrate clearly that response rates of 70% or better are possible in mail surveys of businesses, particularly if two reminders are used.

Techniques for improving response rates

Table 4 reports the results of 41 experiments that have examined the effectiveness of various techniques for improving mail survey response rates. These studies have identified some techniques that are effective, some that are not, and some that deserve further investigation

Table 4. Techniques for improving mail survey response rates

Variable	Treatment	Sample	Topic	Number of Reminders	N	Response Rate (%)	X ²	df	P
MAILOUT ENVELOPE									
Address	Typed address	Householders	Home vegetable growing	1	93	54.8	.09	1	n.s.
	Computer generated address				93	51.6			
	Hand-written address	Householders (Auckland)	Awareness of macadamia nuts	2	240	69.2	1.29	1	n.s.
	Typed address				235	63.8			
	Home address	Architects	Building materials	2	92	65.2	1.34	1	n.s.
	Work address				100	56.0			
Name	Addressed to specific person	Householders	Home vegetable growing	1	90	58.9	1.83	1	n.s.
	Addressed to "The Householder"				94	47.9			
Colour	White envelope	Massey University horticulture graduates	Attitudes towards Massey horticulture courses	2	156	66.0	.20	1	n.s.
	Brown envelope				156	63.6			
	White envelope	Householders	Home garden products	3	331	71.0	.04	1	n.s.
Brown envelope	330				70.3				
Size	Standard-size white envelope	Massey BBS students	BBS Degree	0	315	34.3	.00	1	n.s.
	A4 manilla envelope				314	34.7			
Postage	Stamped envelope	Massey University horticulture graduates	Attitudes towards Massey horticulture courses		157	65.6	.09	1	n.s.
	Franked envelope				150	64.0			
	Stamped plain envelope	Householders	Survey participation	2	238	62.5	.09	1	n.s.
	Franked sponsored envelope				239	63.6			

Variable	Treatment	Sample	Topic	Number of Reminders	N	Response Rate (%)	X ²	df	P
COVERING LETTER									
Length	Long	Householders	Home vegetable growing	1	94	52.1	.02	1	n.s.
	Short				92	54.3			
Signature	Typed	Householders (Auckland)	Awareness of macadamia nuts	2	238	67.2	.05	1	n.s.
	Signed				237	65.8			
Content	Offered summary of results	NZ Exporters	Use of computer based information systems	1	222	63.5	1.08	1	n.s.
	Not offered summary of results				214	68.7			
	Explained presence of ID no.	NZ Exporters	Use of computer based information systems	1	217	63.6	.95	1	n.s.
	Did not explain presence of ID no.				219	68.5			
Letterhead	Black	Householders	Home garden products	3	337	69.1	.76	1	n.s.
	Coloured				324	72.2			
Researcher status	"Research Officer"	NZ Businesses	Business ethics	2	84	78.6	.79	1	n.s.
	"Honours Student"				88	72.7			
Salutation	"Dear <person's name>"	Householders	Home garden products	3	325	74.5	4.5	1	<.05
	"Dear Sir/Madam"				336	67.0			
	"Dear <person's name>"	Women's Weekly coupon redeemers	Meat and pork	1	156	69.2	2.7	1	n.s.
	"Dear Madam"				156	61.5			

Variable	Treatment	Sample	Topic	Number of Reminders	N	Response Rate (%)	X ²	df	P
	"Dear <person's name>"	NZ Exporters	Use of computer based information systems	1	217	59.5	7.8	1	<.05
	"Dear Sir/Madam"				219	72.6			
FIRST REMINDER									
Form	Letter	Householders	Home vegetable growing	1	95	53.7	.00	1	n.s.
	Postcard				91	52.7			
	Letter	Massey University horticulture graduates	Attitudes towards Massey horticulture courses	2	153	60.8	2.18	1	n.s.
	Postcard				154	68.8			
	Letter without questionnaire	Farm management consultants	Attitudes towards a computer database	0	195	19.5	5.28	1	<.05
	Letter with q/naire. request form				171	30.4			
SECOND REMINDER									
Form	Letter without questionnaire	Massey University BBS students	BBS degree	0	46	32.6	0.00	1	n.s.
	Letter with questionnaire				55	30.9			
Tone	Formal (with questionnaire)	Massey University BBS students	BBS degree	0	56	22.2	.11	1	n.s.
	Informal (with questionnaire)				54	26.8			
REPLY ENVELOPE									
Postage	Stamp	Women's Weekly coupon redeemers	Meat and pork	1	156	67.9	1.36	1	n.s.
	Business Frank				156	62.8			
	Stamp	Massey University horticulture graduates	Attitudes towards Massey horticulture courses	2	156	62.2	.97	1	n.s.
	Business Frank				151	67.5			

Variable	Treatment	Sample	Topic	Number of Reminders	N	Response Rate (%)	X ²	df	P
Task	Demanding	Householders	Home vegetable growing	1	47	59.5	1.01	1	n.s.
	Easy				52	69.2			
Question form	Asked for value of age and income	Householders (Auckland)	wareness of macadamia nuts	2	235	69.4	1.43	1	n.s.
	Used categories for age & income				240	63.8			
Length	Long	Women's Weekly coupon redeemers	Meat and pork	1	156	67.9	1.36	1	n.s.
	Short				156	62.8			
INCENTIVES									
Prize draw	No prize draw	Householders	Banking behaviour	1	75	45.3	12.25	1	<.001
	\$50 cash				75	74.7			
	\$100 cash	Householders	Home garden products	3	330	71.9	0.50	1	n.s.
	\$100 voucher for garden equip.				331	69.4			
	No prize draw	Householders (women)	Personal finances	2	73	57.5	-	-	
	\$200 cash				78	57.7	.02	1	n.s.
\$200 voucher				82	61.0	.73	1	n.s.	
Pre-paid	No incentive	Householders (women)	Personal finances	2	73	57.5	-	-	
	20c with first mailout				85	54.1	.07	1	n.s.
	50c with first mailout				87	74.7	4.54	1	<.05
	\$1 with first mailout				71	69.0	1.58	1	n.s.
	20c with second mailout				83	63.9	.42	1	n.s.
	50c with second mailout				83	54.2	.65	1	n.s.
	\$1 with second mailout				81	69.1	1.76	1	n.s.
	No incentive			Householders	Sponsorship	2	233	54.1	6.89

Variable	Treatment	Sample	Topic	Number of Reminders	N	Response Rate (%)	X ²	df	P
	50c with first mailout				235	66.4			
	No incentive	Householders	Fruit juice	2	182	56.0	2.06	1	n.s.
	50c with first mailout				170	64.1			
	No incentive	Householders	Catalogue shopping vs. retail shopping	2	180	63.3	1.62	1	n.s.
	50c with first mailout				178	70.2			
	Preliminary letter, no incentive	"Hot prospect" list	Direct marketing of financial services	1	187	72.2	3.91	1	<.05
	Preliminary letter, 50c with q/naire				183	81.4			

Effective techniques

Of the studies reported in Table 4, those that significantly increased response rates did so by:

- i. Using a personal rather than an impersonal salutation on the covering letter in a survey of the general public (i.e., "Dear <name>" rather than "Dear Sir/Madam").
- ii. Using an impersonal rather than a personal salutation on a covering letter in a business survey.
- iii. Enclosing a copy of the questionnaire with the first reminder letter, rather than sending just a reminder letter that required the respondent to return a tear-off strip either requesting a replacement questionnaire, or declining participation in the survey.
- iv. Offering a cash prize draw.
- v. Enclosing a 50cent incentive with the first mailout of the questionnaire in a survey of the general public.

Of these techniques, the use of a 50 cent incentive has been the most comprehensively tested, and appears to be an effective means of increasing response rates in surveys of the general public, regardless of topic. However, since the other techniques have been tested in only one or two studies, the results should be accepted with caution. This is particularly true with regard to the use of a prize draw, for which conflicting evidence is presented (see Table 4).

There are two other techniques that should also be mentioned here, even though they were not specifically tested. These are:

- i. the use of at least two reminder letters, and
- ii. the use of a reply-paid return envelope.

The effect of reminders on response rates is demonstrated to some extent in Tables 1, 2 and 3, and is even more evident when response wave data is examined (see Brennan, Hoek & Astridge 1991). The need to supply a reply-paid envelope has not been tested, perhaps because the need to provide reply-paid envelopes seems self-evident.

Ineffective techniques

Quite a number of the techniques examined did not produce significant or even substantial increases in response rate. Specifically, it seems to matter little whether:

- i. The address on the mailout envelope is handwritten, typed or computer generated.
- ii. The mailout envelope is white or brown, standard sized and white, or A4 sized and manilla.
- iii. The mailout letter is stamped or franked.
- iv. The covering letter is long or short.
- v. The researcher's signature is typed or signed.
- vi. A summary of the results is offered or not.
- vii. The identification number on the questionnaire is explained or not.
- viii. The covering letter is on white or coloured paper.
- ix. The reminder is in the form of a letter or a postcard.
- x. A second reminder is accompanied by a questionnaire or not.
- xi. The tone of the second reminder is formal or informal.
- xii. The reply-paid envelope is stamped or franked.
- xiii. A 20 cent incentive is used with the first or second mailout, or not.

Furthermore, it would appear to be no more effective to:

- xiv. Send a \$1 incentive rather than a 50 cent incentive with the first mailout.

Again, since relatively few studies have examined some of these techniques, they should not be dismissed out of hand. However, since the response rates achieved by most treatments were generally quite high, it is probably reasonable to assume that the absence of differences between the treatments and the controls were not due to poor survey practices, questionnaire

design and presentation, characteristics of the covering letter, or topic, but truly represent the minimal influence these techniques have on mail survey response rates.

Possibly Effective Techniques

Some techniques did appreciably increase response rates, although these increases were not statistically significant, while others produced surprising results. These deserve further investigation. For example, the results presented in Table 4 suggest that:

- i. It may be more effective to address mail to a particular person rather than to "The Householder" in a survey of the general public.
- ii. A covering letter signed by a higher status researcher may be more effective than one signed by a lower ranking researcher.
- iii. Sending a questionnaire to the respondent's home address in a business survey may be more effective than sending it to their work address.
- iv. A long questionnaire may be more effective, or at least as effective, as a short questionnaire.
- v. People may be just as likely, or almost as likely, to respond to a demanding questionnaire as to an easy questionnaire.

Since personalising mailout envelopes is a more expensive option than not doing so, further research is needed to determine whether the additional increase in response rate generated by personalised mail is worthwhile. The other four techniques, however, could easily be implemented, since no additional cost or effort is required. However, a researcher would be well advised to consider the longer term implications of doing so, particularly with regard to the last three techniques listed above, as they may contribute to respondent resistance.

Discussion

The results reported in this paper demonstrate that it is possible to routinely achieve response rates in excess of 60% for mail surveys in New Zealand. This compares more than favourably with response rates typically achieved for telephone and face-to-face surveys. Furthermore, response rates of this magnitude can be achieved for mail surveys of businesses as well as for surveys of the general public and consumer groups, and across a wide range of topics.

Although respectable response rates can be achieved in mail surveys, some techniques used to enhance response rates are more effective than others. The most basic approach is to use at least two reminders, include a copy of the questionnaire with each reminder, and supply reply-paid return envelopes.

For surveys of the general public, the covering letters, and by implication, the mailout envelopes, should be addressed to a specific person. For general business surveys, however, it may be more effective not to address the survey to a specific person.

The finding that an impersonal salutation was more effective than a personal salutation in a business survey is perhaps surprising. However, the researchers involved suggest that, in a

business situation, a letter addressed to a specific person may remain unopened if the named person is away or no longer with the company, whereas a letter addressed to "The Manager", for example, will be opened by the person responsible for that position, even if temporarily. As a consequence, the impersonal letter achieves a higher response rate. Further research is needed to test this proposition.

To further enhance response rates in surveys of the general public, a 50 cent incentive can be included with the first mailout. This has the effect of substantially increasing the response rate to the first mailout, thereby increasing the speed of response to the survey. As this reduces the number of followup mailouts required, it also reduces the cost of the survey, so the use of the incentive not only increases the overall response rate, but is cost-effective. A prize draw might also be effective, but will not be very cost effective unless the survey is very large (see Brennan et al. 1991).

The research also identified several other techniques that appear to be effective, but which should probably be avoided because of their long term implications. For example, it was found that higher response rates can be achieved by sending business surveys to the respondent's home address, that long questionnaires may generate higher response rates than short questionnaires, and that response rates are similar for demanding as for easy questionnaires. These results should not be considered to be a mandate to employ these techniques indiscriminately. If these practices were to become widespread, it is likely that New Zealand would follow overseas experiences, where both public and business attitudes to surveys have hardened, and response rates have declined (Day 1975; Brennan 1991). In other words, there is a price to pay for ignoring the demands that a survey makes on respondents.

Apart from these techniques, few of the others examined had any marked impact on response rates. As a consequence, a researcher can feel reasonably confident about using the easiest and least expensive options available. However, it should be remembered that, in combination, these techniques will contribute to the overall image of professionalism the survey projects, and will convey to respondents a message about whether the survey is interesting and worthwhile. Thus combinations of techniques may well have a significant effect on respondents' willingness to participate, even though the component parts may not. The choice of treatments should therefore take these considerations into account.

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