

The Impact of Mentioning a Scale Mid-Point in Administering a Customer Satisfaction Questionnaire via Telephone

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Abstract

This study examined the effect of mentioning a scale mid point compared to not mentioning it, while administering survey questions on customer satisfaction. The questions were asked during a telephone interview of Australian insurance consumers using an eleven point, zero to ten numerical scale. The study found that there were more “lower” scores (7 out of ten or lower) and fewer “higher” scores (over 7 out of 10) when a mid point was mentioned. Based on this finding, there are two possible implications for market research providers. First, within any survey the use of mid-points should be consistent – they should be mentioned by all interviewers or not mentioned at all. Inconsistency in the use of scale mid-points may introduce additional unwanted variation into the data. The second implication is that if mid points are mentioned or used in one survey for a particular client, and not for a subsequent survey, the results for one survey could be different from the other.

Background

Market research surveys often use questions that allow respondents to answer on some type of measurement scale, with the scale allowing responses between extremes such as “strongly disagree – strongly agree”, “very poor – very good”, and so on. A topic of interest to market researchers relates to the use of mid-points for such scales. Opinions on the usefulness of mid-points vary. Opponents of the use of mid-points argue that they can result in too many neutral responses, and scales that “force” respondents to allocate either a positive or negative response are more desirable. Proponents of the use of mid-points suggest that respondents can have neutral feelings or opinions about particular issues and mid-points provides for the expression of those neutral feelings (eg. see Tull and Hawkins, 1993).

The inclusion of a scale mid-point may change response patterns to survey questions in several ways. Using a mid-point could reduce the proportion of positive *and* negative responses that might be obtained if it were omitted (assuming more respondents use the mid point as their response when it is mentioned). Alternatively, a mid point could result in more positive responses and fewer negative responses – or vice versa. The effect on positive or negative responses might depend on the type of question asked. For example, suppose one asked a question that most people would agree or strongly agree with, and hardly anyone would strongly disagree with, using a numerical scale. In that situation, what *respondents* might consider to be a “neutral” or “mid point” response might not be in the “centre” of the scale, for example 5 out of 10, it could perhaps be 7 out of 10.

Therefore some respondents who might otherwise have responded with, say a 7 out of 10 would instead give a response of 5 out of 10 when a mid point is mentioned. A scale mid-point could also have different effects on the responses around the middle values of the scale compared to the extreme points of the scale. Understanding how scale mid points affect response patterns could be very useful for market research organisations and their clients.

Previous Research

There have not been very many published studies on the effects of mid-point inclusion. Worcester & Burns (1975) compared responses to Likert scale questions and marks on a blank line from the same respondents, where the line marks were subsequently allocated numerical scores. The researchers concluded that use of a scale without a mid-point “pushes more respondents to the positive end of the scale” (p. 196), but this conclusion was based on the comparison between the Likert scales and the scores derived from the blank lines. Worcester & Burns (1975) did not report on any differences in the proportion of respondents that gave a particular response according to the presence or absence of a mid-point on the Likert scales.

Two other studies have examined how the inclusion of a mid point alters the proportion of positive or negative responses obtained. Spagna (1984) found that respondents allocated fewer positive responses and more negative responses when a mid-point was included in a scale. Garland (1991) reported quite different results - respondents allocated fewer positive responses and more negative responses and when a mid-point

was not included in a scale. So the available evidence on the effect of scale mid-points is very inconclusive.

It is also noteworthy that these three studies used either mail or face-to-face survey methods for data collection. A literature search revealed no studies which have addressed how the use of scale mid points might affect responses in telephone surveys. This is surprising, as telephone surveys have been the most prevalent market research survey method for some time (Aaker and Day, 1986). Furthermore, the use of scale mid-points is a topical issue for telephone surveying. Telephone surveys differ from those that use self-completion questionnaires or those filled out by an interviewer face-to-face. For self completion or face-to-face methods that use scales, the respondent can often *see* the scale, either on the questionnaire itself or on a “show card” which has the range of possible responses. In a telephone survey, the respondent cannot see the scale, and respondents have limited ability to recall response categories (Dillman, 1978). To overcome this limitation, researchers often use multiple-category numerical scales that simply ask the respondent to give a number as an answer, for example from between one to five, or zero to ten, and so on. The end-points of such scales can be anchored as “very good..very poor”; “totally agreetotally disagree”, among others. Such “unstructured” scales (Holmes, 1974) that make minimal use of verbal tags are common in marketing research (eg. see Loken et al., 1987). However, researchers might wish to provide additional guidance for respondents, by including a mid-point, for example (adapted from Dillman, 1978 p.208):

“Could you tell me how satisfied you are with your new car ? Please give me a number from zero to ten where zero indicates very dissatisfied, five is neither dissatisfied or satisfied, and ten indicates very satisfied”.

It could be very useful for both research providers and their clients to know more about the possible effect from mentioning mid points in this manner via telephone surveys. For instance, if some research providers do typically use mid points when administering questions of this sort, their results might be different to those that do not. If a client changed providers (or a provider changed methods), they could see sudden shifts in results and might not know exactly why this occurred. However, as mentioned, there is a paucity of research on the subject.

An opportunity arose to gather evidence on the issue as part of a customer satisfaction survey. Customer satisfaction appeared to be an excellent vehicle to use for the study, as it is an issue that is considered to be extremely important research area in marketing (e.g. Churchill and Surprenant, 1982, Rust and Zahorik, 1993), and is also a frequent subject of commercial surveys in the author's experience. Therefore the results would be salient to many research clients and providers, not only in terms of scale mid points *per se* but also to customer satisfaction measurement.

Method

As part of a commercial market research survey on household insurance in Australia, two versions of a customer satisfaction questionnaire were created. One version included a question with a mid point, and one did not. The numerical scale that was used ranged

from zero to ten points, a range that has been found to be particularly suited to telephone surveys (e.g. Brennan et al., 1995, Loken et al., 1987). The two versions of the questionnaire are shown as Appendix 1.

One group of respondents was administered the version of the questionnaire without the mid-point. They were first asked about how satisfied they were with their buildings insurance company, then were asked how satisfied they were with their car insurance company. The other group was also asked about their satisfaction with their buildings insurance company, then their car insurance company, but the questions for the second group included the mention of the scale mid-point, as shown in Appendix 1. The allocation of respondents to the two versions of the questionnaire was random.

The survey was administered to a random sample of 603 people in the general population of South Australia, in late 1999, by professional market research telephone interviewers. The sole criteria for inclusion in the survey was that the respondent had either a car or buildings insurance policy. A CATI (Computer Aided Telephone Interviewing) system was used, which makes administering different versions of a questionnaire to selected groups of people very easy. A proportion of the interviews were monitored by a supervisor to ensure the interviewers followed their instructions closely as part of normal quality control guidelines.

Results & Discussion

As the questions relating to buildings and car insurance were asked of the same respondents we examined how many respondents gave the same or a different response to the two insurance categories. The reason was that if most respondents gave the same response for both categories there would be little point in reporting the results for both categories separately. Table I shows that 40% of respondents gave a different response for their level of satisfaction when asked about car insurance, compared to their response for buildings insurance. Therefore it is appropriate to present the results for both buildings and car insurance separately.

Insert Table I here

Discussion

Tables II and III show the proportions of responses for each response category. There was one statistically significant difference at the $p=0.10$ level between the proportion of responses given for a question with a mid-point compared to those given for a question without a mid point, namely for building insurance. 22% of respondents used "5" as a response when it was mentioned by the interviewer, compared to 12% when it was not.

Insert Tables II and III here

In order to further appraise whether the differences in responses for questions with a mid point compared to questions without a mid point were statistically significant, the scores were combined into two categories. The first category comprised all responses up to and including 7 out of 10, the second comprised all responses over 7 out of 10. The break

point of 7 was used as it was closest to the mean average satisfaction score. For simplicity these categories are later referred to as denoting “lower” scores and “higher” scores respectively.

This aggregation enabled the data to be presented in a simple two-way contingency table, with statistical significance examined using the chi-square test. The results are shown in Table IV.

Insert Table IV here

Table IV shows that the use of a scale mid point *did* affect the responses. For instance, in the buildings insurance category, when the mid-point was mentioned, the proportion of “lower” scores (up to 7 out of 10) was 43%. When the mid-point was not mentioned this proportion was 32%. The difference in proportions in buildings insurance was statistically significant at the 0.02 level. For car insurance, the proportion of “lower” scores was 37% when the mid point was mentioned compared to 27% when it was not. The difference in proportions for car insurance was statistically significant at the 0.01 level.

These results are consistent with previous research by Worcester & Burns (1975) and Spagna (1984). However, they are in contrast to Garland (1991). There is no apparent explanation for this. It may be that, as Garland suggested, “the way in which people will respond to a balanced Likert – type scale is content specific” (p. 2). However, more

research could help determine how the use or omission of a scale mid-point affects response patterns, in what way, and under what conditions.

Conclusion

This analysis is based on only a single set of data, so generalisations must be tentative. However, it suggests that administering a questionnaire via telephone (particularly a customer satisfaction questionnaire, but perhaps also other types of questionnaires) using numerical scales with a mid-point mentioned may produce more “low” scores and fewer “high” scores than if a mid point was not mentioned. It may also be reasonable to assume that this effect would be more likely for questions that typically generate a negatively skewed distribution of responses, that is, more responses toward the higher end of the scale. The reason is that mentioning a mid-point will probably increase the proportion of respondents who will use it – and therefore reduce the proportion of responses *above* the mid point.

Whether the findings presented here generalise to other types of question, or to different circumstances, is a question for future research. However, if it is indeed the case that the mention or not of a scale mid point influences response patterns, there are two implications for market research providers. First, within any survey the use of mid-points should be consistent – they should be mentioned by all interviewers or not mentioned at all. Otherwise, additional random variance is introduced into the data. Second, if mid points are mentioned or used in one survey for a particular client, and not for a subsequent survey, this might explain unexpected variation in scores or response patterns.

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Table 1. Same or different response for buildings / car insurance questions.

Response	N	%
Gave same response to both questions	241	60
Gave different response to one of the two questions	163	40
Total (does not include responses where there was a missing value for one of the responses)	404	100

Table II: Results for Buildings Insurance

Buildings Insurance			
Frequency Distribution	(1)	(2)	
	With Mid	Without Mid	Difference
	Point: % of	Point: % of	(1-2)
	responses	responses	
0 (<i>extremely dissatisfied</i>)	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	2	0	0
5	22	12	+10*
6	2	5	-3
7	13	13	0
8	20	25	-5
9	10	14	-4
10 (<i>extremely satisfied</i>)	24	25	-1
<i>Don't know</i>	7	4	+3
Mean Satisfaction Score	7.6	8.0	
Total responses	229	267	

* statistically significant difference at $p < 0.10$.

Table III: Results for Car Insurance

Frequency Distribution	Car Insurance		
	(1) With Mid Point: % of responses	(2) Without Mid Point: % of responses	Difference (1-2)
0 (extremely dissatisfied)	0	0	0
1	0	0	0
2	0	0	0
3	0	1	-1
4	1	0	+1
5	15	10	+5
6	3	4	-1
7	15	11	+4
8	19	24	-5
9	13	19	-6
10 (<i>extremely satisfied</i>)	27	29	-2
<i>Don't know</i>	6	2	-4
Mean Satisfaction Score	7.9	8.2	
Total responses	302	284	

Table IV: Contingency table

	Buildings Insurance			Car Insurance		
	% Responses With Mid-point	% Responses No Mid-point	Row %	% Responses With Mid-point	% Responses No Mid-point	Row %
Score up to 7/10 ("lower")	43%	32%	37%	37%	27%	31%
Score over 7/10 ("higher")	58%	68%	63%	63%	73%	69%
Column Total	212	256		218	278	
Column %	45%	55%		44%	56%	
χ^2 statistic	5.0			6.3		
d.f.	1			1		
p value	0.02			0.01		

Appendix 1: Questions

Note: respondents were asked several other questions about their insurance needs and which company they were insured with before these questions were asked. The questions for car insurance were identical to the ones shown here for buildings insurance except for the substitution of the words “comprehensive car” for “buildings”. If the respondent had previously indicated they owned more than one residence, the question was prefaced with the words “thinking now about your main residence...”. If the respondent had previously indicated they owned more than one car, the question was prefaced with the words “thinking about your main car ...”

Question version with Mid point

“How satisfied are you with your current buildings insurance company ? Can you give me a score from zero to ten, where zero is extremely dissatisfied and ten is extremely satisfied, and five is neither satisfied or dissatisfied”.

Question version without Mid point.

“How satisfied are you with your current buildings insurance company ? Can you give me a score from zero to ten where zero is extremely dissatisfied and ten is extremely satisfied”.