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Keywords
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Does not offering *Don't know* options in brand image surveys contaminate data?

Sara Dolnicar & John Rossiter*, University of Wollongong

Abstract

The aims of this study were (1) to understand the extent to which offering or not offering a Don't know option has the potential of contaminating survey data, and (2) to investigate the interaction between offering a Don't know option and the verbalisation of scale points.

Results from an experimental study with 196 online panel members indicate that empirical data sets can be contaminated if Don't know options are not offered to respondents who are unable to to assess an object under study. The maximum extent of data contamination could not be determined because only one product category was examined. But the contamination for the less known fast food restaurant under study amounted to almost 20% of the data. Furthermore results show that using the typical Likert scale verbalisation of the middle point ("neither agree not disagree") is often misinterpreted as a Don't know option by respondents, thus increasing the risk of data contamination that cannot be corrected retrospectively.

Practical recommendations for market researchers are derived from these results.

Introduction

Managerial understanding of markets is based on market research information. Market research information is often derived from consumer surveys. Consumer survey results are only as good as the questions respondents are asked are valid measures. Many aspects of how questions are asked in surveys can affect the validity of measures.

Most fundamentally, each question asked in a survey consists of a question part (e.g. "Please indicate whether you think that McDonalds food is yummy or not.") and an answer part (e.g. yes / no). Both parts can be varied along a range of dimensions. For the answer part these dimensions include – among others - the number of answer options provided, the kind of verbalisation of answer options, the order in which answer options are listed, the availability of a midpoint, and the availability of a *Don't know* option.

The present study focuses on the availability of a *Don't know* option. We investigate how offering a *Don't know* option diverts responses from other answer options. We refer to this – in a longitudinal measurement context – as the Switching Rate (percentage of respondents who switch to a *Don't know* option when it is offered). More specifically, we hypothesize that

H1 Switching rates are higher for less well known brands because respondents feel more frequently that they are unable to assess the attributes of a brand that they are not familiar with.

H2 Switching rates are higher for answer formats with only the endpoints verbally labelled because it is easier for respondents to misinterpret the verbalised middle point as a *Don't know* option.

We investigate these hypotheses in the context of brand image measurement.

A number of studies has investigated the effect of *Don't know* options in answer formats. Our study is novel and contributes to knowledge in the field because (1) it is based on a true longitudinal design enabling understanding of individual level switching behaviour, and (2) it studies the interaction of offering a *Don't know* option and the verbalisation of answer options.

Literature Review

The question whether or not to include a *Don't know* option in surveys seems to be an ongoing topic of debate among researchers in the area of sociological methods, survey methodology and political science. The two opposing positions are (Krosnick, 1999): (1) To include *Don't know* options because of evidence that respondents who use such *Don't know* options have not actually formed opinions. Such evidence is mainly deducted from studies investigating characteristics of users of *Don't know* options, which include, among others, lower cognitive abilities, less knowledge and / or interest about the object of study, lower level of media exposure, performance of less behaviours related to the object under study, and perceived practical use of holding attitudes towards the object under study. (2) Not to include *Don't know* options because they do not increase data quality. Instead they lead to evasion by respondent who are perfectly able to answer the question (Krosnick, 1999). As a consequence of these views and a number of studies that provided empirical evidence for one of the two positions (Durand and Lambert, 1988; Faulkenberry and Mason, 1978; Rapoport, 1982; Poe et al., 1988; Sanchez and Morchio, 1992), some researchers (Converse and Presser, 1986; Hipler and Scharz, 1989) recommend the use of Don't know options, while other do not (Gilljam and Granberg, 1993; McClendon and Alwin, 1993; Poe et al., 1988; Lavrakis and Traugoot, 2000).

A detailed look at the studies underpinning either of these two views indicates that the explanation for the contradiction of recommendations may lie in the wide variety of research approaches taken to investigate the problem. For example, one of the studies claiming that the inclusion of *Don't know* options does not increase data quality has been conducted by McClendon and Alwin (1993). The authors used scale reliability on three unrelated four-item scales as the primary criterion for comparing a "quasi-filtered" (p. 448) form of the survey containing an option that indicated that the respondent did not have an opinion on the respective attitude with a standard form without the possibility to opt out of answering. Results indicate that scale reliability is not increased by including a *Don't know* option. It should be noted, however, that scale reliability may not be the best measure of comparison. Test-retest reliability may have been preferable, but the experimental design did not measure the attitudes of one respondent twice, eliminating the option of using test-retest reliability. Also, the three constructs chosen by the authors (attitudes about lawyers, anomia and self-esteem) all seem suitable for anyone to answer. This is a distinctly different situation from many market research contexts, where respondents are typically asked about a number of product brands, some of which they may never have heard about. Consequently, the findings

by McClendon and Alwin (1993) cannot be assumed to be transferable to the market research context in general and the brand image measurement context in specific.

In the area of market research and brand image research, the issue of including or not including *Don't know* options in surveys has not been studied extensively, although a number of studies have conducted comparisons of answer formats varying other aspects, such as the number of answer options, the formulation of the question, the verbal labelling of answer options etc. (Axelrod, 1968; Haley and Case, 1979). The problem with these studies is that they investigated a range of commonly used scales, without systematically varying the components of interest, making it difficult to explain why certain scales outperformed others. This is the reason that, although Haley and Case have included one (of 13) survey questions with a *Don't know* option that it is not possible to identify the extent to which the *Don't know* option effected the overall assessment of this particular answer format. One recent study in the context of marketing measurement (Dolnicar and Rossiter, 2008) - which investigated the effect of familiarity with a brand on the stability of responses over two consecutive measurements – concludes that *Don't know* options should be included to reduce instability of responses.

In sum, it can be concluded that – to date – no definitive answer can be given to market researchers and users of market research with respect to including or not including a *Don't know* option. While it is likely that the arguments of both proponents and opponents apply to some degree, it not possible, based on current knowledge, to make a recommendation whether the advantages of inclusion outweigh the disadvantages of non-inclusion or the other way around.

Methodology

To investigate the above stated hypotheses an experiment was conducted using respondents registered with a permission based online research company. All respondents were asked to assess two brands of fast food restaurants which differ in the level of familiarity people have with them (McDonalds and Red Rooster) along five attributes (yummy, cheap, healthy, fast, convenient). All respondents were presented with a questionnaire twice, with about one week between the two measurements. The two questionnaires were identical except for the fact that, in the second survey wave a *Don't know* answer option was made available in addition to the response options available in the first survey wave. The questionnaire version with *Don't know* answer option was deliberately presented second because this represents the more conservative design: by default one would assume that people will give the same answers. By presenting the questionnaires in this order switching to the *Don't know* option will be kept at the lowest possible (the most conservative) rate.

Respondents were randomly assigned to one of two conditions which differed in the extent to which the answer options were verbalised. In one case only the endpoints of the answer scale were verbalised as ″strongly agree″ and ″strongly disagree″ (the total number of respondents for this condition was 97), in the other case all five answer options were fully verbalised as follows: ″Strongly agree″, ″Agree″, ″Neither agree nor disagree″, ″Disagree″ and ″Strongly disagree″ (the total number of respondents for this condition was 99).

Tests for proportions were computed to assess the significance of differences in switching rates to the *Don't know* option. These tests were conducted using each brand-attribute assessment as one case.

Results

Switching rates are higher for less known brands (H1).

For the questionnaire version with endpoints only 2% of respondents switched to the *Don't know* answer option for McDonalds and 19% for Red Rooster. This difference is highly significant ($p = 0.000$). For the questionnaire with all answer options fully verbalised the respective switching rates were 1% and 12%. Again the difference between the well known brand McDonalds and the less known Red Rooster is highly statistically significant ($p = 0.000$).

From these results is can be concluded that H1 cannot be rejected. This findings has major implications because it aids in the interpretation of the use of the *Don't know* answer option. More specifically these results indicate that the factor of evasion plays a minor role as opposed to some respondents really not knowing how to assess a certain brand. This finding contradicts Krosnick's (1999) view that the *Don't know* option mainly lead to evasion and should therefore not be used. For the five point scale under study and under the assumption that the *Don't know* option indeed mainly attracts responses from people who do not feel competent to make an assessment this findings leads to the conclusion that not offering a *Don't know* answer option when asking respondents to assess McDonald would contaminate at most 2% of the data with incompetent responses, whereas in the case of Red Rooster 19% of the data would actually not reflect people's views because they would falsely be interpreted as a belief where the respondents really hold no belief in this instance.

Switching rates are higher for answer formats with only the endpoints verbally labelled (H2).

When comparing the switching rates across the two alternative answer format options the following results emerge: 11% of respondents switched to the *Don't know* option when only endpoints of the answer scale were verbally labelled and only 7% did so when the full scale was verbally labelled. This difference is statistically significant ($p = 0.003$). The respective numbers for McDonalds only amount to 2% and 1% and for Red Rooster to 19% and 12%. As a result, H2 cannot be rejected.

It appears that the full verbalisation as "neither agree / nor disagree" gave the respondents the impression that the middle point is effectively a *Don't know* answer option. This is, of course, not the case, because in subsequent data analysis the middle point is assigned a number and as such affects all computations, whereas a *Don't know* answer option is removed before data analysis occurs. The endpoint only option, on the other hand, did not make it equally easy for respondents to redefine the middle point as an opt-out opportunity. This may be the reason that under this condition more respondents ticked the *Don't know* answer option when it became available.

Conclusions

This study aimed at (1) understanding the extent to which offering or not offering a *Don't know* option has the potential of contaminating survey data, and (2) investigating the interaction between offering a *Don't know* option and the verbalisation of scale points.

Results from an online experiment indicate that data contamination can be quite substantial in cases where a *Don't know* option in not offered and respondents are asked to make statements about objects they are not familiar with. Based on the fast food restaurant used in this study the contamination can affect up to one fifth of the entire brand-attribute assessments. This highlights the importance of thoroughly considering whether or not to offer a *Don't know* option. We recommend to market researchers that if they ask respondents who are familiar with the objects they are rating that they do not need to include a *Don't know* option. If, however, the study has to include a representative sample of respondents and people are not generally familiar with the object under study, a *Don't know* option should be included to avoid data contamination which cannot be corrected retrospectively.

The investigation of the interaction between offering a *Don't know* option and verbalising or not verbalising the full answer scale indicates that answer scales which offer a middle option and explicitly verbalise it as "neither agree nor disagree" attract many responses which in fact are *Don't know* responses because the switching rate is significantly lower than it is when only the endpoints of the scale are verbalised. The practical implication of this finding is that market researchers who work with data that was collected using a midpoint of such nature may need to consider removing these responses from the data set before data analysis because it is not clear which proportion is stating that they feel competent in assessing a brand, but neither agree nor disagree that it has a certain attribute and which proportion is actually using this answer option to express that they do not feel competent to make this judgement.

This study is limited because it includes only two brands in one product category. The estimate of approximately 20% data contamination potential has to be interpreted with care. A replications study with more brands in more product categories would be interesting. Also, it would be interesting to determine whether the finding from this study could be replicated for answer formats without a middle point, for answer formats with more or less answer options and for the case where the *Don't know* option is offered in the first survey wave, thus imposing more cognitive burden on the respondents who made use of the *Don't know* option in the second survey wave. Another limitation of the current study is that we have only included forced choice answer formats. In brand image measurement, pick any/n formats are quite common. It would be interesting to compare the findings of this study with findings based on a free choice answer format. Finally, it may well be that results would differ when the construct under study is not brand image. Consequently, it would be important to conduct replication studies for different constructs and different kinds of questions.

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