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Class of Mail Does Affect Response Rates to Mailed Questionnaires: Evidence from Meta-Analysis (with a Reply by Lee Harvey)

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Abstract

In contrast to the conclusions. from traditional reviews, meta-analysis shows that certain types of postage have an important effect on return rates to mail surveys. In particular, US business reply postage should not be used in survey research.

Harvey (1987) concluded that "using a different class of stamp on mailings makes no significant impact on return rates." He reached this conclusion on the basis of a qualitative review of 18 studies, and from his own empirical study (Harvey 1986). Other reviewers (e.g., McCrohan & Lowe 1981) have reached a similar conclusion. It is incorrect. As I show below, the type of postage has a significant and important effect on return rates. The different conclusion results from the methods used to review the literature. Harvey used the traditional procedure, while I draw conclusions from meta-analyses.

The Use of Meta-Analysis

Armstrong & Lusk (1987) described a procedure for quantitative literature reviews, which, to the past decade have been christened "meta-analysis." This involves an explicit approach to (1) searching, (2) selecting and (3) analyzing prior empirical research studies.

Harvey's literature search was done by computer. In contrast, Armstrong & Lusk (1987) used a computer search and references from papers. We also wrote to all those who had published research on this topic. While Harvey (1987) reviewed 18 studies on outgoing and return postage reported, we discovered 34 studies on the differing effects of using various classes of return postage alone. These studies included all those that appeared in Harvey, except for Martin, Duncan & Sawyer (1984) and Harvey (1986). We missed the first of these, and the latter was published after we had completed our search.

Harvey used 611 of the studies that he found and examined them as a group. Thus, he combined studies on outgoing postage with those on return postage. He also grouped experimental and non-experimental studies. Harvey's literature review contained only five experimental comparisons for return postage, for example. Our selection procedure used only experimental studies.[1] We classed the studies by the type of treatment. For example, 20 studies compared the effectiveness of using business reply postage with that of using first class return.

In our analysis, we gave equal weight to the outcomes from all studies and analyzed them statistically following the procedures described by Rosenthal (1978). The idea behind equal weights is to avoid bias in the analysis.

The Findings

The effect of postage depends upon its type. Here, I examine return postage by business reply, other return postage, and outgoing postage.

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[1] Typically, meta-analyses use non-experimental as well as experimental studies. In the case of survey research, there are often so many experimental studies that one has the luxury of excluding the non-experimental studies.

Business Rely Return Postage

The results from the Armstrong & Lusk meta-analysis were striking. First class return postage produced a higher return rate than did business reply for all 20 comparisons (significant at $p < 0.000001$). On average, the gain was an additional 9% return (as a percent of the original mail-out). The hypothesis that best explained these results was that the response rate is higher if the postage has a more personalized appearance. Our economic analysis showed that business reply is not cost-effective. Business reply should never be used in research surveys.

The study by Martin, Duncan, & Sawyer (1984) is the first that did not find first class to be superior to business reply. First class drew a 23% return, while business reply drew 23.5%. However, when this result is combined with the results from the previous 20 studies, the conclusions are not affected appreciably.

Other Return Postage

Harvey (1986) was published after we had completed our study. Although that study did not show a significant difference due to postage type, the direction of the outcome adds support to my conclusion. The use of first class return postage yielded an increased return of 2.25% over the second class (UK) postage.

Armstrong & Lusk (1987) also found that the use of stamps tended to yield higher returns than the use of a postage meter, commemorative stamps tended to yield more than regular stamps, and a number of small-denomination stamps tended to yield a higher return than the use of a single stamp. These effects were typically small, and the number of studies was not large enough to allow for statistically significant results.

Outgoing Postage

The type of outgoing postage has statistically significant effects (Armstrong 1986). A meta-analysis of 13 studies, showed that first-class mail improved response rate by 3.4% in comparison with (US) bulk mail.

Conclusions

Meta-analysis offers a more objective end powerful approach to the analysis of prior research. In meta-analysis, the scientific standards used for the collection and analysis of data are used to analyze outcomes from prior studies. That is, each result is treated as an observation for further analysis. In the case of mail survey postage, meta-analysis led to conclusions that differed substantially from those reported in qualitative reviews. Postage does not always matter, but it does have an important effect on response rate in certain situations. In particular, business reply postage should never be used in survey research. This finding is frequently violated by current practices.

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Reply by Lee Harvey

I was interested to read what Mr. Armstrong had to say about his research into the impact of class of mail on response rates. The paper, as usual, is a thorough review of the area.

I have two main comments about the paper. First is a general comment about "meta-analysis." The approach presupposes "adequacy" in its search and selection procedures but this is a myth. They are far more "subjective" than the "mete-analysts" would like the reader to believe. Furthermore, reworking data from published studies is fraught with difficulties of comparability, lack of adequate information, etc.; thus categories get collapsed. Meta-analysts tend to weight results to avoid "bias." Such weighting can also be highly problematic. "Meta-analysis" is in practice nothing much more than attempts at a rigorous search, a preference for experimental studies, and the comparison of results from comparable designs. Common sense, really, if you have the luxury of sufficient studies to play with. In short, common sense has been renamed "meta-analysis" in order to give the secondary reporting of already-published research a spurious scientism. Such work is frequently introduced in the manner of the current article by bland assertions of correctness.

My second point refers to the specific points about my own short note *(JMRS,* 28 (3), 1986, p 299) and the reply to it contained in Mr. Armstrong's article. He states "Harvey's literature search was done by computer." This is not totally correct. I had built up a large body of articles on questionnaire design, response rates, methods of securing returns, etc. These were augmented by a computer search. Thus my review of factors affecting response rates *(JMRS,* 29, pp 341-353) referred to in excess of 100 articles. The subset for the short note was drawn from this wider set.

The note itself was not a definitive statement about class-of-mail but was merely reporting the results of a survey I had undertaken and which I compared with fourteen other published papers. The conclusion was that there appeared to be little evidence of the positive impact of class of mail on response rates. Mr. Armstrong reviewed 34 papers and arrived at some other conclusions. First, he showed that business reply return envelopes fared worse than conventional stamped envelopes. This was not an issue my paper addressed directly as I did not use business reply. I have no reason to doubt this conclusion as it is already widely accepted by practitioners in Britain. Mr. Armstrong then addressed "other return postage" but has nothing at all significant to say other than to quote my own research which he has to admit shows no significant difference, although he ignores this and implies that the direction of the non-significant difference supports his view. So much for "objective" meta-analysis. On his third point, outgoing mail, his analysis appears to be of "US bulk mail" versus "first class." There may be some effect in the United States which will no doubt be useful information for practitioners operating there. I have seen no evidence to support an equivalent "first class" versus "second class" outgoing mail effect in Great Britain. My own empirical study was reported because there was no statistical difference. No doubt further empirical research will retest the hypothesis.

To undertake a proper "meta-analysis" the following factors need to be taken into account: the country in which the study is undertaken; outgoing or return postage; business reply or stamps; postage meter or adhered stamps; class of stamps; type of stamps (definitive or commemorative stamps; single or multiple stamps). Without permitting too many exotic combinations of type of stamps, I make this at least 32 different combinations for each country studied. An adequate "mete-analysis" would require a very substantial number of studies for meaningful conclusions (certainly more than 34).

The problem with any single study is knowing whether the other relevant factors have been accounted for. I would suggest, for example, that response rates when a business reply envelope is used by a private company are different from when HM Government use a similar reply-enabling mechanism. Analyzing published research makes it difficult to control for such factors.

Mr. Armstrong's comments on business reply and bulk mail in the United States are no doubt welcome reaffirmations of what I understand to be the prevailing view among American practitioners. As far as Britain goes, he adds nothing new as far as I can see. However, reaffirmation is no bad thing. What is rather less acceptable is the spurious scientism of the so-called "meta-analysis" approach.

I wish Mr. Armstrong well in his research endeavors and am always glad to hear of his further work.