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An Experiment in Survey Design

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Chapter Title: What Does an Intentions Survey Measure?

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portance of unforeseen (and, to the consumer, unforeseeable) events that cause actual purchase behavior to depart from prospective behavior.

On the record, the performance of intentions surveys has not been impressive as measured by their contribution to explained variance in purchase rates. But whether or not this performance can be improved depends on other considerations. If purchase prospects are measured accurately but there is a substantial deviation between ex-ante prospects and ex-post behavior, improving the ex-ante measure will accomplish little. But if intentions surveys provide a poor measure of ex-ante prospects and deviations are not of great importance, predictive performance can be much improved by developing a better ex-ante measure.

3. WHAT DOES AN INTENTIONS SURVEY MEASURE?

Any consumer survey simply records the answers of respondents to a set of questions. Sometimes the questions deal with facts, i.e., "Do you have any instalment debt?" and it can be presumed that the answers are precisely responsive to the question provided the respondent knows what "instalment" means and has no reason to hide the true situation. Responses to forward-looking questions such as "Do you expect to have more or less income next year than this?" are not so easily analyzed. If the respondent thinks there are three chances in ten that income will go up slightly and one chance in ten that it will go down considerably, what is he supposed to answer? It might be conjectured that the possible changes would be weighted in accord with their associated probabilities in order to arrive at a single-valued answer, and this conjecture would doubtless be correct in some cases. An equally plausible conjecture is that a "don't know" response would be forthcoming. Or the respondent might just be bored with the whole procedure and say either that he doesn't know or he doesn't expect any change. It can be assumed that each of these types of responses are to be found in the population, along with others for whom the question has yet another interpretation.

Let us now examine the typical survey question about intentions to buy. The respondent is asked whether he "expects" or "plans" to buy a car during the next six or twelve months, and the interviewer codes the answer into categories such as definitely will buy, probably will buy, don't know, no, etc. What are we to make of these responses?

In the first place it seems reasonable to suppose that answers to questions about car-buying intentions take at least some account of the factors that bear on the respondent's purchase decision, i.e., present and prospective financial situation, age and condition of car, and so on. Second, it is likely to be true that the answers of at least some respondents reflect what they would like to do rather than what they are likely to do. Some will report that they "definitely plan to buy within six months," meaning that they have every intention of buying provided everything works out—but it is highly unlikely that everything will work out within six months. The fact that this kind of interpretation may seem whimsical to some readers is no guarantee that it does not exist.

Finally, a question about plans or intentions is apt to convey to many—

CONSUMER BUYING INTENTIONS AND PURCHASE PROBABILITY

perhaps most—respondents the notion that the question is directed only to those prospective purchases that have received some detailed and explicit examination within the household's decision framework. To illustrate: while I have no present plans to take my wife and children on a vacation trip next summer, there is a high probability that I will do so. Assuming I take the question literally, if asked whether I "expect" to take a vacation trip, I would probably say yes; if asked whether I "intend" to, I would probably say that I don't know; if asked whether I "plan" to, I would say no; and if asked what the "chances are," I would pick a phrase like very good or a number like nine out of ten. It is evident that the numerical part of the last question provides the most useful information for anyone interested in forecasting the volume of vacation trips; all the other answers depend on idiosyncratic interpretations of adjectives, which not only must vary widely among households but also may vary according to how the question strikes the respondent at the time of the interview and how the interviewer asks the question.

What seems to me the most reasonable general interpretation is that plans or intentions to buy are a reflection of the respondent's estimate of the probability that the item will be purchased within the specified time period. Consumers reporting that they "intend to buy *A* within *X* months" can be thought of as saying that the probability of their purchasing *A* within *X* months is high enough so that some form of "yes" answer is more accurate than a "no" answer, given the particular question asked.⁵ Thus consumers classified as nonintenders must comprise those who regard their purchase probability as too low, given the question, to warrant an affirmative response, or as too uncertain to warrant reporting the existence of a plan or a positive expectation. This interpretation implies that a good many respondents with purchase probabilities higher than zero will classify themselves as nonintenders.

4. THE LOGIC OF A PROBABILITY SURVEY

If we suppose that all households regard a specified question about buying intentions as having a cutoff (threshold)⁶ probability of, say, C_i , and if the distribution of purchase probabilities is as shown in Figure 1-A, we would observe that a fraction p of the sample will report buying intentions and a fraction $1-p$ will be nonintenders. The p intenders will have a mean purchase probability of r , the $1-p$ nonintenders a mean probability of s , and the sample

⁵ The literature in this field has been virtually unanimous in ignoring the probability nature of an intentions survey. Analysis of intentions data has been concerned with the fulfillment rate of buying plans, with the question of which responses (definitely, probably, may buy) to classify as a plan, and with the relation between failure to fulfill plans and other factors. Cf. the extensive discussion of anticipation surveys in *Consumer Survey Statistics*. Much of my own earlier work in this field (e.g., *Consumer Expectations, Plans, and Purchases*) exhibits this frame of reference.

A few scattered references in the literature suggest awareness of the probability character of intentions surveys, although none of these analyze the implications for survey design. For example, Tobin ("Predictive Value of Consumer Intentions and Attitudes") notes the threshold nature of affirmative responses to intentions questions. Maynes, in the *1962 Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, comments on the necessity for more precise measures of intentions. And my own remarks on papers given by Katona-Mueller and Dingle in the *1960 Proceedings of the American Statistical Association* foreshadow the line of thought in this paper.

⁶ The term is used by Tobin ("Predictive Value of Consumer Intentions and Attitudes") for much the same purpose.