

FRAMING AND MEANING IN CUSTOMER ATTITUDE SURVEYS

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Introduction

Gauging the state of a customer's mind through a sample survey is always a problematical exercise, frequently filled with vagueness and confusion on the part of both the customer and surveyor. Customer attitudes may be inexplicit or truly unformed, and marketing intelligence needs are not infrequently hazy, multiple, and tenuously related to customer perceptions. As a result, survey items directed at customer attitudes may range from vague, unreferenced questions about a service's quality, to specific questions about such future behavior as continued subscription. In response, the customer may exhibit a range of capacities to respond to such items, ranging from little processing of his/her interaction with a service or a lack of information on which to base a response, to a thoughtful and reasoned indication of his/her state of mind.

In the discussion to follow, we exhibit data and develop models to assess the utility of customer survey responses to questions of future behavior in a hypothetical context within a telecommunications industry that is emerging into the fray of full competition. The principle goal will be to tap the customers' "state of mind" as decisions about service loyalty are made. The key issue is that the telecommunications industry is being further deregulated, and advances in telecommunications technology make it possible for several types of companies (local exchange carriers (LECs), long-distance (LD) companies, cellular companies and cable TV companies) to provide integrated service to willing subscribers.

Predicting customer loyalty to a subscription service in a soon-to-be competitive market poses unique challenges from a psychometric perspective. On the one hand, the concept of "loyalty" is conceptually well-defined from the surveyor's perspective, and a clear criterion for measurement accuracy exists: will a customer continue to use the service without diminishment over a specified time period? The predictive validity of such a notion is at least conceptually measurable. On the other hand, from the customers' perspective, our survey concerns switching behavior in a deregulated local telephone service environment, which is currently hypothetical in most areas, with few details available, and so there are no clear criteria--via future behavior or otherwise-- that might establish classic criterion validity. Since the service's history as a regulated monopoly is extensive, the customer must make inferences about such

decisions without any prior experience, and with the likelihood that what experience there is is misleadingly stable.

Note how much more complicated this problem is than other common gaugings of hypothetical behavior. Voting intentions are often probed as hypothetical behaviors ("If the election were held tomorrow, who would you vote for?"), but the act of choosing a single political leader from a field of candidates is usually well comprehended and has many precedents, so the main issue is to identify those potential voters who will actually again carry out the voting.. Consequently, the common qualifying items used by major polling firms (Voss, Gelman and King, 1995) focus on legal voting qualification and past voting behavior., concepts not obviously available in this context. Buying intentions studies (Morwitz and Schmittlein, 1992) usually involve products or services for which prototypes are available, with new features only being tested: the structure of the industry and the nature of the suppliers is generally not in question. Rarely is the current structure of the industry an overtly misleading model of the context in which switching behavior is to be probed.

In this paper, we try to assess the validity of the customer's response to survey items probing such hypothetical switching and loyalty concepts. We use a series of tools from the disciplines of survey research (concurrent verbal protocol and focus group information), psychometrics (reliability, validity and their latent variable modeling) market research (intent-to-buy research) and statistics to analyze loyalty.

Survey Context

The primary survey through which these concepts were measured was conducted with owners or chief decision makers of businesses with monthly telecommunications costs below a certain threshold. The identity of the business' local telecommunications provider (LEC) and long distance (LD) provider (as well as their cellular provider, if any) were ascertained, and a series of items measured the customer's attitude toward each provider. For this discussion, the most important items were:

QUALITY: "Overall, how would you rate the quality of communications these companies have provided. . .How would you rate [LEC, LD, Cell.]"

RECOMMEND: "If a friend asked you to recommend a [LEC, LD, Cell.] provider, what's the likelihood that you would recommend _____?"

CHOOSE: " Considering your choices of [LEC, LD, Cell.] providers today, if you could choose

another provider [again], what's the likelihood you would choose _____?"

SINGLE: "If you could obtain all these communications services from one provider, what's the likelihood that you would do so?"

"Who would you choose?"

This survey was conducted with approximately one thousand telecommunications subscribers in a nationwide sample during the spring of 1994. Of the three loyalty items above, the most important, and most problematical is the last, and it is the validity of SINGLE that we most wish to assess.

The challenges facing this undertaking are many. Using the taxonomy of Tourgeneou (1984), we can categorize some of the survey issues as follows:

Comprehension of the Survey Item

- the identity of alternate providers is not available,
- the prices and specific offerings of each competing supplier have yet to be determined,
- the timing if the proposed switching is unstated,

Retrieval of Relevant Information in Memory

- telephone service is relatively passive, and its memories are not usually salient
- it has historically been a regulated monopoly,
- previous switching behavior exists only for somewhat related services (e.g. LD),

Evaluation of Retrieved Memories

- integration of services may not be related to the past switching behavior

Response Choice

- watchful waiting was not a response option
- idiosyncratic timing and duration of switching was not explored.

Each of these can potentially impact the responses generated by the customers.

Next, we describe some of the qualitative and other background information which was available to analyze the survey data.

Qualitative Information

Verbal protocol trials, in which a survey item is answered as a respondent "thinks aloud," generally serve as a launch point for uncovering the cognitions of naive customers. An advantage of this is that early qualitative studies can suggest improvements in survey construction that will more closely align the customers' understanding with the surveyors' intent. Additionally, focus groups were held with several customer groups to discuss local telephone choice in a deregulated market. From these two kinds of sources, it was found that:

- residential customers were generally unable to develop names of highly reputed national companies (i.e. potential suppliers of integrated services) without considerable aid,
- price is the most important determinant in the inter-exchange carrier switching customers have done,
- comparative, rather than absolute performance is considered in choices among competing suppliers,
- the offerings of local and inter-exchange telecommunications carriers can be compared because of their perceived similarity, but local and cellular service are viewed as being quite different,

As an additional source of data, a preliminary survey of 384 residential telephone customers taken in late 1994 was examined for item refusals, "Don't Know" responses and other missing values. High rates of such data occurred in items requiring unaided recall of highly reputed companies, and their comparison with the customer's current telecommunications suppliers. The prediction of certain types of loyalty-related behaviors (Recommending the service to a friend, for example) also produced high missing value rates.

These pieces of information set the stage for the analysis of the survey described earlier.

Exhibit I

		Single-LD			
		Choose Other	Not Likely	Somewhat Likely	Very/Extremely Likely
Choose-LD	Not Likely	69.1%	20%	7.3%	3.6%
	Somewhat Likely	71.9%	11.6%	8.9%	7.5%
	Very/Extremely Likely	39.5%	24.2%	13.0%	23.3%

The Survey

In late 1994, a nationwide survey of small-business telephone customers was conducted, using the questionnaire whose key items were described earlier. Here, attention is restricted to the QUALITY, RECOMMEND, CHOOSE and SINGLE items for the customers' LEC and LD carriers. To further simplify the analysis here, only customers with one specific LEC and one specific LD supplier were chosen for analysis. This restriction resulted in an effective sample size of 923. Consequently, a variable SINGLE-LD was created whose response categories were four ordered levels of likelihood of selecting the specified LD carrier as the single integrated provider, plus a category for selecting another provider altogether. The challenge is to understand the SINGLE-LD variable, particularly in relation to the more straightforward items QUALITY-LD, RECOMMEND-LD and CHOOSE-LD, which were the items described earlier whose object was that LD carrier.

First, consider the contingency table (Exhibit I) of row percentages for CHOOSE-LD versus SINGLE-LD:

Note that SINGLE is a "higher hurdle" in the sense that favorable CHOOSE responses are not necessarily associated with favorable SINGLE outcomes (but--not shown here--favorable SINGLE responses almost always imply high CHOOSE levels). Indeed, even a sizable proportion --39.5% --of those Very or Extremely Likely to choose their current LD carrier in the future would select that company as a single provider of integrated telecommunications.

Further regression analyses of these data, for the LD carrier and for the LEC, was carried out with other variables in the survey, in which the customer evaluated various attributes of service. It was found that while CHOOSE (and RECOMMEND) for the LD carrier were related to the LD attributes, SINGLE-LD, and SINGLE-LEC were related to the comparative levels of the attributes. Thus, CHOOSE-LD might be related to, say, PRICE-LD and DEPENDABILITY-LD, but SINGLE-LD would be related to the comparative rating of LD and LEC PRICE and DEPENDABILITY.

This partly explains the frequency of "Choose Other" even for high CHOOSE-LD levels.

Structural Model

It is of interest to attempt to separate the effects of the company under consideration from the general acts of Recommending, Choosing, or Single Selection. This can be done by hypothesizing latent variables for the two company effects (LEC and LD) and for the four kinds of affects (Evaluation, Recommend, Choice and Choose One), and relating them to the observed survey variables.

Here, consider a latent variable model whose form is rather like the multitrait-multimethod (MTMM) models of Campbell and Fiske (1959). With means subtracted, write the survey response x_{AS} as a decomposition into an attitude effect ($A=1, \dots, 4$) and a service effect ($S=1,2,3$)

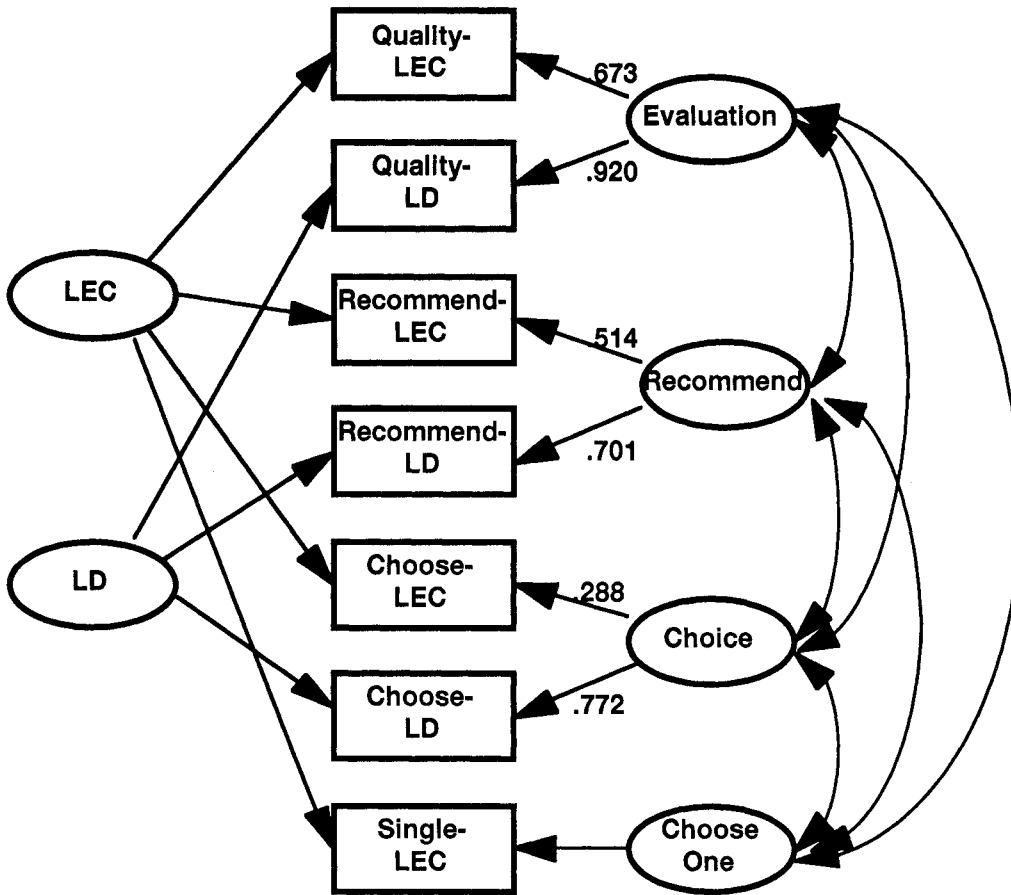
$$x_{AS} = \lambda_{AS1} x_A + \lambda_{AS2} x_S + \delta_{AS}$$

where $A=1,2,3,4$ corresponds to the ratings of QUALITY, RECOMMEND and CHOICE, and CHOOSE ONE, respectively, and $S=1,2$ corresponds to the services of local and long distance respectively. A discussion of models of this type is contained, for instance in Bollen (1989). Note that because our data are categorical, the correlations used for the model fitting were polychoric correlation coefficients, as recommended by Bollen (1989), in which some adjacent response categories were collapsed to improve the variable's resemblance to a categorized normally distributed random variable.

The path diagram, and a subset of coefficients, for this model is shown in Exhibit II.

From this diagram, it is seen that each of the three affects depending on both the LEC and LD survey items are much more strongly related to the LD carrier than to the LEC, and that the discrepancy is much greater for Choice than Evaluation, with Recommend in

Exhibit II



the middle. This is consistent with customer experience, as only LD carriers are currently deregulated, so that a real choice is possible. Evaluations of both LD and LEC are possible, but the existence and the abundance of advertising make active evaluation more plausible for LD than for the LEC.

Note that we include paths from both the LEC and the LD carrier to the SINGLE-LD item, to allow for the previous finding that this variable depends on the comparison of the LEC and the LD carrier. The fitted model does in fact estimate this to be the case:

$$\text{Choose-LD} = 0.610 \times \text{Single} + 0.761 \times \text{LEC} - 0.237 \times \text{LD}$$

The point of this analysis was to extract the effect of the providers from the affect of Recommending, Choosing and Single Selection. Consequently, great interest focuses on the relationship among the four affects. The table below shows the correlation between Choose_One and the other three affects:

X	r(Choose One, X)
Evaluation	0.258
Recommend	0.374
Choice	0.469

As one might hope, the correlation is highest between Choose_One and Choice, although the coefficient itself does not seem large in absolute terms.

An Alternative Item

The results from the structural model indicate that there is an underlying validity to even the most extreme of our hypothetical variables, SINGLE-XXX, but also suggest that the addressing of certain specific problems identified from our qualitative research might yield an improved version. In 1995, the SINGLE item was prefaced by a more descriptive statement in which

- 1) the customer's LEC and LD carrier were explicitly identified as candidate integrated providers,

- 2) price and product configuration were stated to be identical for each provider by assumption,
- 3) a specific timetable for the integrated provider's availability was stated, and
- 4) the respondent was given the option of "wait and see."

Preliminary analysis of this new item yields some encouraging signs:

- a substantial fraction (44%) of residential customers chose the "wait and see" response offered by the new version, and
- the proportion of missing values (Don't Know's, refusals, etc.) was much lower for the new version of the item (1.6%) than for the old one (8.3%).

Summary

We began this investigation with the concern that customers might find it difficult to predict their future behavior in a hypothetical context. Past surveys and qualitative research results were used to develop a structural model for the survey items measuring these hypothetical behaviors which exploits the one related service for which such behaviors can be actualized. Through this model and the testing of a new survey item addressing the deficiencies found in our qualitative research, we can suggest that customers are indeed able to answer these sorts of hypothetical questions, and that there is hope that a managerially useful item form can indeed be developed.

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