Faculty Working Papers

THE EFFECTS OF ROLE STRUCTURE,
DECISION TYPE AND HOUSEHOLD CHARACTERISTICS
ON CONSUMER INFORMATION SOURCE USE UNDER
CONDITIONS OF LIMITED EXPERIENCE

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ABSTRACT

In this article a theoretical model is presented and data are analyzed on the extent of use of information sources for seven major decisions by new residents soon after arrival in a community new to them. Extent of information source use is found to vary significantly by type of decision, respondent's role in decision-making and by respondent's education, income and previous moving experience.

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Widening acceptance of information processing models of consumer

decision making has led marketing researchers to become more and more

interested in learning how consumers go about gathering data on

alternative products and services. While there has over the years

been a considerable amount of research on this process under controlled

laboratory conditions (for recent examples see Lutz and Reilly, 1974;

and Woodruff, 1972), as well as research on the use of specific sources

of information (see for example Arndt, 19), recent studies have

focussed attention on how consumers gather information from diverse

sources in "real life" situations. Unfortunately, most of the studies

of this type conducted to date have lacked elementary controls possible under

laboratory conditions. The present article reports a study of in-

formation source use in which a number of such controls were possible

and in which it was thereby possible to trace the critical effects on

the extent of information source use of two previously unexplored

variables, decision type and role structure, and then to investigate

the residual effects of household characteristics on source use with

these critical effects removed.

RECENT STUDIES

Although there have been a number of field studies of information seeking behavior over the last twent_ years, this research typically as adopted naive definitions of information seeking and/or lacked critical controls of important situational variables.[1] However, two extensive field studies offering more control and richer behavior measures have recently been conducted by Bennett and Mandell (1969) and Newman and Staelin (1972).

Bennett and Mandell gathered data on 148 purchasers of automobiles in Harrisburg, Pennsylvania only one to six weeks after their new cars were registered. Data were gathered on ten possible sources of information, each source weighted according to values developed by a panel of marketing faculty and students. Bennett and Mandell found that the amount of information gathered decreased as prior experience with the car just purchased increased, as measured both by total past purchases of the brand and by total purchases of the brand immediately prior to the last purchase. They did not find that total past car purchases (of any make) was related to information seeking. They concluded that: "This result tends to deny the notion in the Howard-Sheth theory that all experience is instructive." (Bennett and Mandell, 1969, p. 432).

In a more extensive study of a national sample of 653 households purchasing automobiles or household appliances, Newman and Staelin also found that past experience (i.e., whether a repeat purchase was made) reduced information seeking if only one brand was considered.

Further they found that this factor (repeat purchase X number of brands considered) was one of only two factors that was associated with information seeking behavior in both automobile and appliance purchases. The other principal factor applying to both product categories was who in the household was the major influence on the purchase decision. Newman and Staelin's multivariate analysis also identified three other factors as related to information seeking for the pooled data for both purchase types at the .05 level: education, stage in the family life cycle and whether the buyer felt he could judge the product well or had to rely on others. Location of residence met the .05 criterion for car buyers alone.

<div align="center">UNRESOLVED ISSUES</div>

Two important unresolved issues emerge from the Newman-Staelin study. First, the different patterns of information seeking determinants across the two decision categories suggest strongly that the decision type itself constitutes an important determinant of consumer information seeking behavior. Indeed, Howard and Sheth (1969, p. 27) and Engel, Kolatt and Blackwell (1968, pp. 382-385) both postulate that this should be so. Yet Newman and Staelin could not address the issue directly because they asked each respondent for data on only one purchase, either cars or appliances.

Indeed, virtually all other studies of multiple source use have looked only at one or at most two purchase decisions.

The second unresolved issue in the Newman-Staelin paper is the role of the respondent's participation in the decision making under investigation. Newman and Staelin found that which party made the decision was

an important determinant of information seeking for both kinds of
decisions. They found lower information seeking when the major influence
came from the husband and higher information seeking when both husbands
and wives were the major influences. Yet, the analysis did not explicity
consider the sex of the respondent. Thus it could be either (a) that
there is something fundamentally different about decisions made by the
husband alone or (b) that women were over sampled and lower scores for
husband-influenced decisions simply reflected the wives' ignorance of
their husband's information seeking activities. Since Newman and Staelin
did not include sex as a variable in their multivariate analysis, they
did not adequately distinguish between these explanations.

The first objectives of this study therefore were to distinguish
the effects of decision type and the respondent's decision-making role
on information source use. The third major objective is to test for
individual differences in source use with these factors controlled.

Variations Across Decisions

Although Engel, Kollat and Blackwell (1968), Bucklin (1963), Aspinwall
(1962) and Settle (1972) have proposed models which might be useful for
predicting variation in information source use across decisions, a recent
paper (Ratchford and Andreasen, 1973) indicates that these models are
either not defined broadly enough to fit decisions about services, or are
too complex to be useful in consumer field research. The paper further
outlined and tested an alternative parsimonious four-factor model which
seems to capture well the dimensionality upon which consumers themselves
seem to classify decisions.

The basic model specifies that decisions vary most significantly in terms of the supply of and demand for information required to make them. Supply, in turn, is a function of the availability of information and demand a function of the decision's importance, complexity, and subjectivity. The latter dimensions are closely related to the concept perceived risk. As Cunningham (1966), Berlyne (1960), Bettman (1973), Kogan and Wallach (1964), and others have defined it, the perceived risk inherent in a decision comprises two components, what Bettman calls "choice uncertainty" and "choice importance." The latter dimension is included directly in the present model. However, it is proposed that "choice uncertainty" can be partitioned into two component parts. First, there is uncertainty due to complexity. Some decisions simply involve more dimensions than others and these dimensions can interact in more complex ways. It is expected that as a decision becomes more complex the perceived risk will increase and, all other things being equal, the amount of information seeking will also increase.

Second, there is uncertainty due to subjectivity. For given levels of complexity, decisions may vary as to the number of dimensions that are factual or objective in character as opposed to subjective dimensions requiring what Arndt calls "evaluative information [that] involves personal opinion, subjectivity and interpretation or evaluation of a phenomenon" (Cox, 1967, p. 203). An example of an objective dimension would be the length of guarantees for various brand alternatives.

A subjective dimension would be the quality of after-sale repair service of a given agency. Since dimension of the latter type are more difficult to assess, we assume that the more a decision involves such dimensions, the greater will be the initial perceived uncertainty and, again all other things being equal, the greater the information seeking.

To summarize, we have suggested that the greater the importance, complexity and subjectivity of a given decision, the greater the demand for information. However, it is also clear that for given levels of demand, the supply of information will vary due to custom and market practice. Thus our final hypothesis with respect to variation across decisions is that the greater the perceived information availability, the greater the information source use.

Role Participation

An extensive series of studies by Davis (1970, 1971), Granbois (1962) and others has established the importance of husband-wife role relationships on household consumption decisions. In the present context, it is expected that whether a given decision was made by the wife alone or by the wife along with her husband (a joint decision) will have a significant effect on the extent of information source use. It is, however, difficult on both theoretical or empirical grounds to predict what the direction of that relationship will be. On theoretical grounds, one might predict that fewer sources of information might be used where decisions are made jointly because (a) the information-seeking task would be divided and the wife would know less about the information

sources used by her husband and (b) the couple might substitute dis-
cussions with each other for solicitation from outside sources. On
the other hand, since the information seeking task is divided in the
joint case, more sources might be sought out simply because two can
do more information seeking than one. Since empirical research
provides data showing both more search (Granbois, 1962, p. 104) and
equal search (Newman and Staelin, 1972, p. 155) in the joint case,
it was necessarily to cast the present hypothesis in the null form,
i.e. that the extent of use of information sources is independent
household decision role structure.

Individual Differences in Source Use

It is possible to distinguish between three sets of factors which
ought to determine differences in the extent of information seeking
between individuals: need for information, ability to obtain and use
information, and personal preference for information seeking. Variables
which should be related to these factors are listed below:

1. Need for information:

   a. The importance of a decision ought to be related to income:
       the lower the income the greater the need for information
       to make optimum use of limited resources.

   b. The lack of previous moving experience ought to affect
       the perceived uncertainty in the new context (e.g. the
       complexity of new community decisions) and thus increase
       the extent of information source use.

2. Ability to obtain and use information:

    a. Independent of income the greater the respondents'
        education the more _complex_ they will perceive given
        decisions to be and therefore the broader their information
        source use will be.

3. Personal preference for information:

    a. Individuals who perceive themselves as highly responsible
        or highly sociable are likely to seek out more information
        sources in order to meet these personal needs.

The above formulations lead us to the naive prediction that the
extent of information source use will be positively related to education,
responsibility, and sociability, and inversely related to experience
at moving, and income.

THE DATA BASE

Data to test the above hypotheses were available from an earlier
study of the adjustment process of families moving long distance into
a major metropolitan area (Andreasen, 1966). While these data, which
were collected in the summer of 1964, are not as current as one might
wish, they possess certain unique features (outlined below) not presented
in other field studies of information seeking, and which might be hard
to duplicate without obtaining another sample of new residents. Because
of the extreme difficulty involved in locating and contacting a
representative sample of new residents, the cost of obtaining a new

sample would be prohibitive. Thus the data employed in this study are likely to remain unique for sor time. Also, since it would not appear that the nature of the decisions analysed in this study have changed much (if at all) between 1964 and the present, the age of the data should not affect the generalizability of our results.[2]

The data on information source use employed in this study possess three important characteristics for a controlled evaluation of consumers' information seeking behavior:

1. They allow a comparison of consumer information source use across several types of purchase decisions, including both products and services. As pointed out above, past studies have not allowed such comparisons.

2. They permit control over respondents' past experience. As Bennett and Mandell noted, a critical determinant of information seeking behavior is the respondents' past experience, i.e., his knowledge, brand preferences, and so on. In most non-laboratory settings, any sample of respondents begins a given information seeking process with different amounts of past experience, and it is difficult to develop proxies for that experience. For substantial control, it would be desirable if respondents were relatively homogeneous with respect to their past knowledge, preferably with that knowledge near zero at the start of the process. By restricting the present analysis to only those households who had never lived before in the metropolitan area

under study, it was possible to achieve considerable homogeneity
across the sample in terms of prior experience.

3.   They minimize the strain on respondents' recall. With a
typical national probability sample such as that used by
Newman and Staelin respondents would have to be queried about
a very long period of time into the past in order to generate
data on enough important decisions to make interdecision
analysis meaningful. The strain on respondent recall under
such circumstances would make any resulting data subject to
large measurement errors. However, in the present case, the
fact that new residents must make many important decisions
soon after they arrive in their new community creates an
opportunity to gather substantial, detailed information on
several decisions made by each household within a very short
time period. In the present study, it was possible to keep
the mean length of recall across seven decisions to three months
compared to median recall for only two alternative decisions
in Newman and Staelin of eight months.

To further increase the homogeneity of the sample in terms of past
experience, respondents for this analysis were restricted to married
women with husbands present. Also, as suggested by Davis (1970), to
eliminate a potential source of reporting bias, data on information
source use was sought only for those decisions in which the wives
participated, i.e., those which they made alone or made jointly with

their husbands. Decisions made primarily by the husband were not
included in the analysis.

Seven classes of decisions were chosen for the investigation. The
choices were based on their presumed importance to the respondent
families, the likelihood that decision-making behavior would still
be salient at the time of interview, and the expected frequency with
which moving families would make such decisions. Further, an attempt
was made to maximize the variability in information source use across
decisions by including both product and service decisions. The
seven decisions were:

1. Selection of a bank for a checking account.
2. Purchase of household furniture.
3. Purchase of a major appliance.
4. Selection of an outlet or individual for repairs of an
   automobile, appliance, or household plumbing.
5. Selection of a hairdresser.
6. Selection of a general practitioner.
7. Selection of a pediatrician.

The careful controls on the sample population yielded a final
sample of 98 households making 282 'ecisions. Other characteristics of
the respondent households are presented in the Appendix.

The measure of information source use used in this analysis was
developed by asking respondents to report all of the different sources
used for information in each decision in which they participated. This
reporting was aided by a card listing the following possible responses:

Friends
Neighbors
Co-workers of wife
Co-workers of husband
Relatives
Radio/TV
Newspapers
Yellow pages
Welcome wagon
Past experience
Personal investigation

Consistent with other work in this area, each different source, i.e., each friend, neighbor, newspaper, etc., was counted as one source. In an effort to avoid making unreasonable demands on respondents' memories, and to avoid scoring problems, no attempt was made to take account of variations in the number of times a given source (i.e., a given friend) was consulted.[3] To further minimize assumptions about the data, they are treated as only nominally scaled (used one source vs. used more than one) in the first two sections of the analysis.

<div align="center">ANALYSIS</div>

Variations Across Decisions

Since the model hypothesizing that decisions vary as to the supply and demand for information to make them was developed specifically for the present analysis, it was not possible to have the original sample scale the seven decision categories studied here on the four hypothesized dimensions. Therefore, to provide a basis for _ex ante_ predictions, a convenience sample of 67 adult females was asked to assume that they had just moved into a new community where they had never lived before, and

to rate the seven decisions on the following nine-point scales:

Very Important - Very Unimportant

Very Complicated - Very Uncomplicated

Very Subjective - Very Nonsubjective

Information Widely Available - Information Widely Unavailable

Mean scores across all respondents (scaled so that high scores
predict high information use) are presented for each dimension-
decision combination in Table 1.

<div align="center">

Table 1 About Here
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Table 1 shows that general practitioner and pediatrician decisions
are rated high on all dimensions except information availability.[4]
While the furniture decision, like the appliance decision, is perceived
as medium in importance and complexity, the furniture decision is seen
to be highly subjective in nature with relatively high information
availability. Bank and repair decisions are both seen to be relatively
important but uncomplicated and requiring mostly objective information.
The major difference between these two decisions is that a great deal
of information appears to be available about banks, while little is
available about repairs. Finally, the respondents perceived the hair-
dresser decision to be very unimportant and very uncomplicated, but to
be highly subjective and to have a medium amount of information availability.

To develop overall predictions about the relative amount of inform-
ation seeking for each decision, equal weights were assigned to each

dimension since there was no clear scheme for weighting each of the four dimensions. However, since a .ery low score on a given dimension, e.g., information availability, would tend to eliminate search even though scores on other dimensions were high, the four dimensions were assumed to be multiplicative.[5] Therefore final rankings were based on the sum of the logarithms of the average scores for each dimension. These rankings predict that the extent of information source use by new residents will follow the following rank order across decisions: Pediatrician, General Practitioner, Furniture, Appliances, Bank, Repairs, Hairdresser.

Since respondents rarely used more than two information sources for each decision an always used at least one, it was decided to dichomotize the information source use variable into two categories. Table 2, therefore, ranks the seven decisions on the proportion of respondents who used more than one source. As the table indicates, there are indeed significant differences in extent of source use across decision types as proposed in our first major hypothesis. However, the correlation between the ranking in Table 2 and that hypothesized above is only .43 (Spearman's rho), not significant at the .05 level. The principal cause of this low correlation appears to be the large differences between actual and predicted information source/use for the hairdresser and general practitioner decisions. One explanation for these differences may be that the information availability dimension may not have been given enough weight in developing our

predictions about information source use in Table 1. Thus, even

though the hairdresser decision is relatively unimportant and

uncomplicated, substantial amounts of information about the decision

may be collected because it is relatively accessible. On the other

hand, although the general practitioner decision is very important,

complicated and subjective, lack of information may inhibit information

source use to a greater extent than predicted. To some extent this

may also explain why the furniture and pediatrician decisions are

reversed between their predicted and actual order of information source use.

Table 2 About Here

What is still unexplained in Table 2, however, is the large

difference in information source use between pediatrician and general

practitioner decisions. Possibly general practitioner decisions in the

new community are postponed until some emergencies arise requiring

immediate medical attention, such as colds, ear infections, flu, and

the like. In such circumstances, consumers may have little time to

engage in extensive information-seeking behavior. Pediatrician decisions,

on the other hand, are probably most often made under nonemergency

conditions, and are more often seen as establishing a regular relation-

ship for the child for check-ups, vaccinations, and the like, as well

as for emergencies. In this case, time for more extensive search would

be available. This suggests that there is another dimension to information

seeking behavior, lead time, which is not considered in the

proposed mode. This contextual variable, which is incorporated

as an exogenous variable in the Howard-Sheth model (1969, pp. 77-78)

apparently is positively related to the extent of information source use.

Finally, it should be noted that the limited ability of the supply-

demand model to predict rank orders may be due to the confounding

effects of variations in (a) role relationships, and (b) types of

sources used across decision. The effects of role relationships

are reported in the next section. Further analysis of the present

data as to variations in types of sources used across decisions

is presently under way.

The Effect of Role Relationships

Our hypothesis with respect to role relationships was that the

extent of respondents' participation in the decision would have no

affect on the extent of informative source use. The results reported

in Table 3, however, indicate that contrary to our null hypothesis,

there was considerably greater reported information source/use for joint

decisions than for wife-only decisions. With the exception of hair-

dresser choices where (understandably) no joint decisions were made,

all decision categories showed higher source use for joint decisions,

with two categories, furniture and general practitioner, showing

significantly higher source use for joint decisions. Partly because

furniture and appliance decisions tend to involve a relatively high

amount of information seeking (Table 2), and also tend to be made jointly,

source use for joint decisions is significantly greater than for the

wife-only decisions at the .01 level when the data are aggregated across

all decision categories.

It is also obvious from Table 3 that the extent of joint decision making varies considerably across decision categories. Hairdresser and doctor decisions tend to be made by the wife alone, while repair, bank, furniture, and appliance decisions are more often made jointly. These differences, plus the finding that use of information sources is greater for joint decisions, suggest that differences in information seeking across decision categories are partly a function of whether the decision was made jointly or by the wife alone. Controlling for this variable, therefore, in Table 3 indicates that while there is still a significant difference in information source use across categories for joint decisions, this is not the case for wife-only decisions. Furthermore, it is apparent from Table 3 that for joint decisions the rank order of decisions in terms of information source use move closely approximates that hypothesized earlier (Spearman's rho = .83, significant at .05 level).[6] Apparently the lower-than-expected rankings for pediatrician and general practitioner decisions in Table 2 were partly due to the fact that these decisions were often wife-only decisions where the extent of information seeking is likely to be lower than if they were joint decisions.

Variations Across Households

In order to test the strength of the relationships between information source use and household characteristics such as income, education and the like, it was first necessary to control for the affect of decision type and role participation. Since there were marked

differences in extent of information source use across decisions,
and since none of the individuals in our sample participated in every
decision (the average was 2.85 decisions), a major part of this task was
to control for differences across respondents in the decisions in which
they happened to participate.

The procedure used in controlling for these effects was first to
separate the raw data on number of sources used for each decision
category into joint, wife-only categories. Then for each of the four-
teen joint/wife-only categories, the data on number of sources were
standardized. For each respondent, the resulting standard scores
were averaged across all decisions in which she participated.
Specifically, let S_i denote the total information seeking score for
respondent i. Then:

$$S_i = \frac{1}{d_i} \left[\sum_{\substack{j=1 \\ X_{ijk} > 0}}^{7} \sum_{k=1}^{2} \frac{(X_{ijk} - \overline{X}_{jk})}{\sigma_{jk}} \right]$$

where:

d_i = Number of decisions participated in by respondent i.

X_{ijk} = Number of sources used by respondent i for the jth decision
with the kth type of participation (joint or wife only).

$\overline{X}_{jk}$ = Mean number of sources used for the jth decision and the
kth type of participation.

σ_{jk} = Standard deviation of number of sources used for jth
decision and kth type of participation.

> The summation is over those decisions where $X_{ijk} > 0$. only, e.g., only those decisions in which the respondent participated.

Standardizing within each decision category has the effect of removing the influence of factors specific to that decision from each respondents' total information seeking score. Scores are therefore comparable across respondents and not influenced by the type of decisions in which the respondents participated or whether the decisions were made jointly or by the wife only.

In order to test the hypotheses outlined above, the information seeking scores for each individual were regressed on the following independent variables:

1. Income. Dummy variables representing four family income classes were constructed. In 1964 dollars these were: less than $6,000, $6,000 - $7,999, $10,000 - $14,999, $15,000 - $24,999. The remaining category, $8,000 - $9,999 was omitted from the regressions to avoid singularity.

2. Education. A dummy variable representing college graduates was constructed.

3. Moving experience. A dummy variable representing first move between counties was constructed.

4. Responsibility. The Gordon Personal Profile score on responsibility was employed.

5. Sociability. The Gordon Personal Profile score on sociability was used.

Preliminary experiments showed that measures of age, social class, years married, number of children at home, and length of time in the new location contributed little toward explaining the dependent variable. Consequently these were dropped from further consideration.

Regressions in both unweighted and weighted form were run. The weighted regression was constructed because the dependent variable is highly subject to random errors, particularly where the respondent made few decisions. Presumably one would have more confidence in a respondent's information seeking score (S_i) where his standard scores were relatively consistent across decisions rather than highly variable. In order to take this into account, a weighting variable was constructed as 1/standard deviation of the respondents' standard scores, where the standard deviation was computed as:

$$\sigma_i = \sqrt{\frac{\Sigma \ (Y_{ijk} - \overline{Y}_i)^2}{d_i - 1}}$$

where:

Y_{ijk} = Standard score of individual i on decision j and participation in category k.

$\overline{Y}_i$ = Mean of standard scores on individual i.

d_i = Number of decisions made by individual i.

   The summation is over all decisions in which individual i participated.

Since this weighting variable is an unbiased estimate of the within cell standard deviation for each individual, weighting each set of regression

observations by $1/\sigma_i$ and applying least squares to the weighted data

is optimal from the standpoint of preserving the homoscedasticity

assumption of the least-squares model (Johnston, 1963, pp. 207 - 211).

Provided that the estimates of σ_i are reasonably accurate, more

efficient estimates will result.[7]

The regression results, which are presented in Table 4, indicate

that the weighted regression performed substantially better in terms

of both overall significance and in yielding significant coefficients.

Both regressions suggest that being a college graduate is positively

related to information source use, but that lack of moving experience

is inversely related. The first finding is as predicted, and is in

general agreement with other studies (Katona and Mueller, 1955; Newman

and Staelin, 1972). The second finding, however, contradicts our

hypothesis that lack of moving experience and information source use are

directly related.[8] Possible explanations are that more experience may

release inhibitions to search or that experience provides strategies for

more effective information seeking. Another possibility is that second

and third moves may represent accelerated upward job mobility and thus

impose greater needs for information about new life styles.

<u>Table 4 About Here</u>

The responsibility and sociability measures were insignificant in

both regressions, and the latter had the wrong sign in the weighted

regression. Thus the hypothesized relationships between information source

use and responsibility and sociability cannot be confirmed by our results.

These negative findings are similar to those reported by Green (1966) who found that neither the Allport-Vernon-Lindzey Study of Values test nor the Gordon Personal Profile test could discriminate between consumers who are and are not information sensitive.

The relations between information seeking and income obtained from the regressions in Table 4 are plotted in Figure 1. While both regressions suggest a curvilinear relations between income and source use, this relation is much more pronounced for the weighted regression. This finding of curvilinearity is similar to a result in the early Katona and Mueller study (1955). For both regressions, information seeking is lowest for the lowest income class, suggesting that this group lacks the mobility, time or skill needed to obtain information.

Figure 1 About Here

Conclusions

Analysis of this unique set of data has concluded that the extent of consumer information source use varies significantly both by type of decision and by the extent of participation of the household member in the decision itself. It has further shown that the effects of decision type and role relationship interact. Finally, it has suggested that with the aforementioned variables controlled, the extent of information source use varies directly with education and moving experience but exhibits an inverted - U shaped relationship with income. As has been the case in many earlier studies, self-reported personality traits were found to have no significant relationship to the consumer behavior under investigation.

On a theoretical level, the paper has proposed and tested a parsimonious model for classifying types of consumer decisions. The model, arising out of the information processing approach to decision modelling, suggested that the significant dimensions along which decisions vary are the supply of and demand for information to make those decisions. The present analysis offers partial support for the model, suggesting, after Howard and Sheth, that the addition of a further dimension, time pressure, might significantly improve the model's predictive capability, at least with respect to the extent of information source use.

As with all exploratory research in consumer behavior, the present study raises a number of questions for further research:

1. Is the explanatory power of the supply/demand classification scheme for consumer decisions unique to the present set of decisions? The present set was in fact substantially underrepresentative of decisions in which future repeat purchases were to be expected (e.g. hairdresser decisions). One must ask whether the opportunity for further personal experience in such situations would, for example, significantly after the demand for pre-initial-purchase information.

2. What exactly is the cause of higher information source use in joint decisions? Was it caused by the fact that (a) two rather than one decision maker was involved; (b) participation in joint decision making spurs the participants into more diligent search efforts; or (c) households (or household members) who make decisions

jointly are unique in ways not captured in the present design?

3. Would the same results hold for joint decisions if husbands were interviewed rather than wives?

4. What is the nature of the effect of moving experience on information source use? Are there skills involved in moving that affect information source use? Do second and third moves mean different career consequences for moving households? Again, are multiple-movers different from first-time movers in significant respects not discovered here?

5. Finally, does the type of source use interact with the extent of source use and can the former be predicted from the significant variables identified here?[10]

FOOTNOTES

*   Alan R. Andreasen is Professor of Business Administration and Research Professor, University of Illinois, and Brian T. Ratchford is Assistant Professor of Marketing, State University of New York at Buffalo. The authors gratefully acknowledge the support of the Marketing Science Institute in the data collection phase of this study. All opinions and conclusions expressed in this study, as well as errors, are solely our responsibility.

1   Examples of this research are Katona and Mueller (1955), Alderson and Sessions (1962), LeGrand and Udell (1964), Dommermuth (1965), Bucklin (1966), Cunningham (1966), Udell (1966), Dommermuth and Cundiff (1967), and O'Brien (1972a, 1972b).

2   That is, factors which govern the demand for information about the decisions studied (complexity, importance, subjectivity), as well as the availability of information to make these decisions, would not seem to have changed. In fact, geographic variation in these factors might exceed variation over time.

3   For example, how does one measure the information obtained in two one-minute conversations vs. one two-minute conversation with the same friend? Confronted with the same problem, Bennett and Mandell apparently also followed our procedure of counting each source once. Newman and Staelin, on the other hand, apparently counted the number of mentions of each source being consulted.
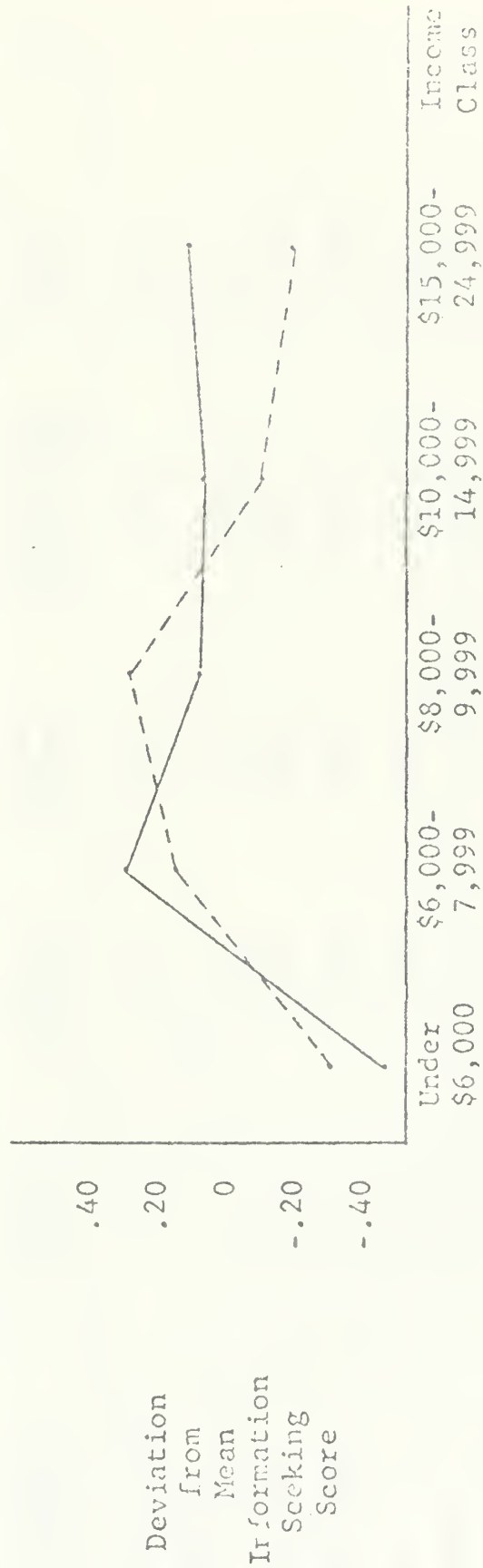
This procedure, however, places extreme demands on respondents' memories, and is therefore likely to be less reliable than the one employed in this study. While both of the above studies also assigned importance weights to each source, the weights were quite arbitrary, and therefore were not employed here.

4   For a complete analysis of these data, see Ratchford and Andreasen (1973).

5   This multiplicative formulation was suggested by Professor James Bettman of the University of California at Los Angeles. Lanzetta and Driscoll (1968) however suggest that the relationship should be additive. Fortunately, adding the raw average scores across four dimensions in the present study gives the same ranking of decisions.

6   Because there were no observations, the hairdresser decision was dropped from this calculation. The rank order of decisions in terms of information seeking drawn from Table 3 should, of course, be interpreted with caution because there are very few observations in certain categories.

7   Notice that we use $d_i - 1$ in calculating σ_i, and if $d_i = 1$ (the respondent only made one decision), σ_i becomes effectively infinite. Accordingly the 15 respondents who reported only one decision were dropped from this analysis. The weight variable σ_i employed here is crude because of the small number of observations within each cell (in most cases two or three).

8   In their study of automobile purchases, Bennett and Mandell (1969) also found no significant relationship between experience at purchasing autos and search. However, Newman and Staelin (1971) did find an inverse relation between experience and search in their study of auto and appliance purchases.

9   While we did not study information seeking for husband-only decisions, we did collect data on number of decisions made by the husband alone. We counted 36 husband-only bank decisions, compared with 39 and 11 for the joint and wife-only categories respectively (Table 3). Similarly we counted 16 husband-only repair decisions compared with 20 and 11 for joint and wife-only; this suggests that bank and repair decisions are generally made either jointly or by the husband. On the other hand, we counted 4 husband-only furniture decisions, and 4 appliance decisions. Apparently these decisions are most often made jointly. This finding agrees with LeGrand and Udell (1964).

10   As noted earlier, an analysis of this issue is presently under way.

Figure 1

RELATION BETWEEN INFORMATION SEEKING AND INCOME,
OTHER VARIABLES HELD CONSTANT
(FROM REGRESSION RESULTS IN TABLE 4)

Deviation from Mean Information Seeking Score

.40 .20 0 -.20 -.40

Under $6,000 | $6,000-7,999 | $8,000-9,999 | $10,000-14,999 | $15,000-24,999 | Income Class

Heavy line (———) refers to unweighted regression.

Dashed line (---) refers to weighted regression.

Table 1

MEAN SCORES OF SELECTED CONSUMER DECISIONS
ON INFORMATION-RELATED CHARACTERISTICS[a]

Decision Category	Impor- tance	Com- plexity	Subjec- tivity	Information Availability	Sum of Logs[b]	Rank
Pediatrician	7.03	5.84	5.97	3.06	2.8751	1
General Practitioner	6.75	5.69	6.01	3.09	2.8533	2
Furniture	4.30	3.45	6.54	6.07	2.7701	3
Appliances	4.72	3.36	4.90	6.60	2.7099	4
Bank	5.96	2.81	3.27	6.82	2.5722	5
Repairs	4.75	3.91	3.27	2.64	2.2050	6
Hairdresser	1.91	1.99	6.33	4.34	2.0188	7

[a]Mean scores on a nine-point scale (9 = very important, very complicated, etc.; 1 = very unimportant, very uncomplicated, etc.) across 67 respondents. For details, see Ratchford and Andreasen (1973).

[b]Obtained by taking the logarithm of the mean scores and summing across characteristics.

Table 2

PERCENTAGE OF RESPONDENTS
USING MORE THAN ONE INFORMATION SOURCE
BY DECISION CATEGORY

Decision Category	No. of Responses	Pct. Using More Than One Source[a]	Predicted Rank
Furniture	42	64%	3
Pediatrician	26	50	1
Appliances	27	48	4
Hairdresser	54	44	7
Bank	50	32	5
General Practitioner	52	31	2
Repairs	31	26	6
	282	42%	

[a] $\chi^2 = 17.05$, 6 d.f., significant at .01 level.

Table 3

PERCENTAGE OF RESPONDENTS
USING MORE THAN ONE INFORMATION SOURCE
BY DECISION TYPE
AND BY TYPE OF INVOLVEMENT IN DECISION MAKING

Decision Category	Joint Decisions		Wife-Only Decisions	
	No. Responses	Pct. Using More Than One Source[a]	No. Responses	Pct. Using More Than One Source[b]
Furniture	38	71%	4	0%[c]
Pediatrician	5	80	21	42
Appliances	21	52	6	33
Hairdresser	0	0	54	44
Bank	39	33	11	27
General Practitioner	17	47	35	23[d]
Repairs	20	30	11	18
	140	49%	142	34%[e]

[a]For difference between decision categories, on joint decisions only, X^2 = 16.33, 5 d.f., significant at .01 level.

[b]For difference between decision categories on wife-only decisions, X^2 = 7.64, 5 d.f., (furniture and appliances were combined because of small cell sizes), significant at only .20 level.

[c]Difference in extent of source use for joint vs. wife decisions significant at .02 level for furniture category (Fisher's exact test).

[d]Difference in extent of source use for joint vs. wife decisions significant at .10 level for general practitioner category (X^2 = 3.15, 1 d.f.).

[e]Difference in extent of source use for joint vs. wife decisions significant at .01 level for overall decision categories (X^2 = 6.95, 1 d.f.).

Table 4

REGRESSIONS OF TOTAL SOURCE USE
ON VARIOUS DETERMINANTS

Regression of Total Source Use Score On:	Unweighted			Weighted		
	B	Beta Wt	t- Ratio	B	Beta Wt	t- Ratio
Income Dummies:						
Under $6,000	-.575	-.257	-2.19*	-.528	-.298	-2.60**
$ 6,000- 7,999	.238	.143	1.13	-.020	-.012	- .10
$10,000-14,999	-.079	-.050	- .40	-.267	-.203	-1.71^t
$15,000-24,999	.001	.001	.00	-.442	-.187	-1.80^t
College Graduate	.327	.202	1.83^t	.599	.307	3.28**
First Move	-.156	-.111	-1.01	-.240	-.243	-1.86^t
Responsibility	.015	.111	.98	.008	.018	.88
Sociability	.006	.043	.39	-.012	-.030	-1.41
Intercept	-.410			.027		
R^2		.171			.411	
F		1.85^t			5.65**	

Sample size = 83 (15 observations dropped due to missing data).

*Indicates significant at .05 level.

**Indicates significant at .01 level.

^{t}Indicates significant at .10 level.

APPENDIX

A PROFILE OF THE SAMPLE USED IN THIS STUDY

A. Number of Respondents: 98

		Percent of Respondents
B.	Income (1964 dollars):	
	Under $6,000	11%
	$ 6,000 - 7,999	24
	8,000 - 9,999	27
	10,000 - 14,999	28
	15,000 - 24,999	10
C.	Social Class (as estimated by interviewer):	
	Lower - Lower Middle	26%
	Middle	58
	Upper - Upper Middle	16
D.	Age:	
	18 - 29	43%
	30 - 39	34
	40 - 49	18
	50 - 59	5
E.	Education:	
	High School or Less	37%
	Some College	37
	College Grad or More	26
F.	Children at Home:	76%
G.	First Move:	54%
H.	Transferred:	54%
I.	Increase in Income:	71%

J. Years Married:

      Mean   9.93
      Standard Deviation   9.07

K. Months after Move at Time
    of Interview:

      Mean   3.02
      Standard Deviation   1.22

REFERENCES

1. Alderson and Sessions, Inc. "Basic Research Report on Consumer
    Behavior," in Ronald E. Frank, Alfred A. Kuehn, and William F.
    Massy, Quantitative Techniques in Marketing Analysis. Homewood:
    Richard D. Irwin, 1962.

2. Andreasen, A. R. "Geographic Mobility and Market Segmentation,"
    Journal of Marketing Research, 3 (November 1966), 1-7.

3. Aspinwall, L. "The Characteristics of Goods Theory," in William
    Lazer and Eugene Kelley, Managerial Marketing: Perspectives and
    Viewpoints. Homewood: Richard D. Irwin, 1962.

4. Bennett, P. and R. Mandell. "Prepurchase Information Seeking
    Behavior of New Car Purchasers -- The Learning Hypothesis,"
    Journal of Marketing Research, 6 (November 1969), 430-3.

5. Berlyne, D. E. Conflict Arousal and Curiosity. New York: McGraw-
    Hill Book Company, Inc., 1960.

6. Bettman, J. "Perceived Risk and Its Components," Journal of
    Marketing Research, 10 (May 1973), 184-9.

7. Bucklin, L. "Retail Strategy and the Classification of Consumer
    Goods," Journal of Marketing, 27 (January 1963), 50-5.

8.   _____. "Testing Propensities to Shop," Journal of Marketing,
       30 (January 1966), 22-7.

9.   Cox, D. F., ed. Risk Taking and Information Handling in Consumer
       Behavior. Boston: Graduate School of Business Administration,
       Harvard University, 1967.

10.   Cunningham, S. M. "Perceived Risk as a Factor in the Diffusion of
       New Product Information," in Raymond M. Hass, Science, Technology
       and Marketing. Chicago: American Marketing Association, 1966.

11.   Davis, H. A. "Dimensions of Marital Roles in Consumer Decision
       Making," Journal of Marketing Research, 7 (May 1970), 168-177.

12.   _____. "Measurement of Husband-Wife Influence in Consumer Purchase
       Decisions," Journal of Marketing Research, 8 (August 1971), 305-312.

13.   Dommermuth, W. P. "The Shopping Matrix and Marketing Strategy,"
       Journal of Marketing Research, 2 (May 1965), 128-32.

14.   _____ and E. Cundiff. "Shopping Goods, Shopping Centers and Selling
       Strategies," Journal of Marketing, 31 (October 1967), 32-6.

15.   Engel, J. F. and D. T. Kollat and R. D. Blackwell. Consumer Behavior.
       New York: Holt, Rinehart and Winston, Inc., 1968.

16. Granbois, D. H. "A Study in the Decision Making Process in the
     Purchase of Major Household Durable Goods," unpublished doctoral
     dissertation, Indiana University, 1962.

17. Green, P. E. "Consumer Use of Information," in Joseph W. Newman,
     On Knowing the Consumer. New York: John Wiley and Sons, Inc., 1966.

18. Howard, J. A. and J. N. Sheth. The Theory of Buyer Behavior.
     New York: John Wiley and Sons, Inc., 1969.

19. Johnston, J. Econometric Methods. New York: McGraw-Hill Book
     Company, Inc., 1963.

20. Katona, G. and E. Mueller. "A Study of Purchase Decisions," in
     Lincoln H. Clark, Consumer Behavior: The Dynamics of Consumer
     Reaction. New York: New York University Press, 1965.

21. Kogan, N. and M. Wallach. Risk Taking: A Study in Cognition and
     Personality. New York: Holt, Rinehart and Winston, 1964.

22. Lanzetta, J. T. and J. M. Driscoll, "Effects of Uncertainty and
     Importance on Information Search in Decision Making," Journal of
     Personality and Social Psychology, 10, 4 (1968), 479-86.

23. Le Grand, B. and J. Udell. "Consumer Behavior in the Market Place -
     An Empirical Study in the Television and Furniture Fields with
     Theoretical Implications," Journal of Retailing, 40 (Fall 1964),
     32-40 and 47-8.

24. Lutz, R. J. and P. Reilly. "An Exploration of the Effect of Perceived Social and Performance Risk on Consumer Information Acquisition," in S. Ward and P. Wright, <u>Advances in Consumer Research</u>, Vol. 4. Urbana: Association for Consumer Research, 1974.

25. Newman, J. and R. Staelin. "Multivariate Analysis of Differences in Buyer Decision Time," <u>Journal of Marketing Research</u>, 8 (May 1971), 192-8.

26. _____. "Prepurchase Information Seeking for New Cars and Major Household Appliances," <u>Journal of Marketing Research</u>, 9 (August 1972), 249-57.

27. O'Brien, T. V. "An Empirically Validated Model of Consumer Information Processing," <u>Proceedings,</u> Nineteenth International Meeting of the Institute of Management Science, 1972a.

28. _____. "Information Use in Consumer Decisions," <u>Proceedings</u>, 80th Annual Convention of the American Psychological Association, 1972b.

29. Ratchford, B. T. and A. R. Andreasen. "A Study of Consumer Perceptions of Decisions," in S. Ward and P. Wright, <u>Advances in Consumer Research</u>, Vol. 4. Urbana: Association for Consumer Research, 1974.

30. Udell, J. "Prepurchase Behavior of Buyers of Small Electrical Appliances," <u>Journal of Marketing</u>, 30 (October 1966), 50-2.

31. Woodruff, R. B. "Brand Information Sources, Opinion Change and Uncertainty," <u>Journal of Marketing Research</u>, 9 (November 1972), 414-8.