CONSUMER SATISFACTION WITH IN-STORE INFORMATION PROGRAMS

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ABSTRACT

Prior empirical investigations have found in-store information programs have little effect on sales volume. The current study examined the relationship between point-of-purchase information and consumer purchasing and satisfaction. Consumers who responded positively to the information program were found to purchase more in the relevant product category and to be more satisfied with their purchases and the store environment.

INTRODUCTION

Today's dual earner families are making more decisions at the point- of-purchase. In-store decisions by grocery shoppers have increased from 64.8% in 1977 to 80.7% over the past ten years. Recent reports indicate that between 30 and 40 percent of shoppers prepare a list and only a small proportion of these rely solely on the list (Food Marketing Institute 1991; Yurko 1990). This is primarily due to working families having less time available for shopping related activities such meal planning and travel to the supermarket (Food Marketing Institute 1989). Being cognizant of shifts in shopping behavior, many supermarket chains have developed information programs as a means of increasing sales and market share. Some of these programs are general in that they offer food selection, preparation, and nutritional information over a wide range of products, and others are focused on commodity groups (Johnson, 1983; Achabal, McIntyre, Bell and Tucker, 1987). To what extent are these efforts effective and how can their contribution to sales and profits of the food retailer be measured?

The success of in-store information programs is difficult to assess. Sales data may legitimately be used by a retail store to measure the effects of a focused information program; however, sales volume is only sensitive to purchases of the particular product for which information is provided and not to the overall effect of a formal on-going information program. For example, sales data do not tell us much about possible increased purchasing in the product category or changes in satisfaction with the product category or with the store. It is no surprise then, that previous research using sales data to measure the benefits of information programs have failed to find an effect.

The purpose of this paper is to examine the relationship of an in-store information program to increased purchasing and consumer satisfaction and to determine whether these outcomes are sensitive to the effects of an in-store information program.

PREVIOUS RESEARCH

Numerous empirical studies have been conducted on the use of information sources for the selection of foods. Several have examined the use of a range of these including media advertising, publications on foods and nutrition, personal contacts, and food labels (Feick, Herrmann and Warland 1986; Muller 1984; Hackelman 1981). Others focused on specific forms of information including food labels (Freiden 1981; Patton 1981; unit price (Houston 1972; Russo 1977; Zeithaml 1982) or nutritional information (Olson, Bisogni and Thonney 1982; Russo et al. 1986; Achabal et al. 1987; Levy et al. 1985; Muller 1984). With the exception of unit price, the information studies concluded that consumer awareness and use of various forms of in-store information is dependent on enduring interest or concern for health and nutrition.

Field experiments in supermarkets (Russo et al. 1986; Achabal et al. 1987) and laboratory experiments (Freiden 1981 and Patton 1981) found that consumers did not alter purchasing behavior due to informational content. For the field experiments, sales data on the specific products for which information was provided was the dependent variable. A two year study by Levy et al. (1985) showed modest brand share increases over the duration of the investigation in about one half of the fourteen products labeled for either low cholesterol/low fat or low sodium. Both Russo and Achabal concluded that the only major effect of information programs was to generate good

will. Good will can be interpreted as the firm's side of consumer satisfaction.

Most of the studies reviewed were designed from a public policy rather than a firm's perspective. As a result, behavioral change with regard to food selection was the expected outcome. If these studies had been designed from a firm perspective, increased good will might have been reported as a salient outcome. Bettman (1975) differentiated "policy normative" from "processing normative" information programs in terms of their relevant effects. Accordingly, programs implemented through public policy initiatives such as nutritional labeling have the intended objective of providing information that will change the consumer's behavior. On the other hand, those termed "processing normative" are designed to enhance the consumer decision making process but not necessarily alter their choice behavior.

Bettman (1975) and Houston and Rothchild (1980), suggested that consumers will not immediately adopt an information program. They will not alter their purchasing patterns as a result of the new information; consequently, there will not be an early effect on sales. Because of the lag between the implementation of a program and its adoption, these authors recommended employment of a hierarchy of effects model. Incorporating measures of awareness, comprehension, and attitude would permit measurement along the stages of adoption as well as capturing the good will generated.

Russo et al. (1986) summarized field studies on diet related information that supported or partially supported Bettman and Houston & Rothchild. Russo found that those studies aimed at reducing processing effort effected a change; that people did, in fact, use the information in decision making. In the studies which attempted to increase perceived benefits, typical of "policy normative" studies, no behavioral change occurred. In his own investigation, Russo (1986) found that consumers' knowledge and attitudes about nutrition changed with the implementation of a nutrition program, although purchasing patterns were not altered. So, there is some empirical support for the notion that information programs effect consumers' information processing activities and that the tenets of the hierarchy of effects model may provide appropriate dependent measures.

Designing Effective Information Programs

Conceptual papers by Aaker (1982), Capon and Lutz (1979), and Day (1976) have recommended that consumer information programs be developed from a marketing point of view. These authors concurred that for a program to be successful, it should provide information that is (1) salient or relevant to consumer choice; (2) not previously known; (3) easily assimilated; (4) presented in a variety of formats or modes to appeal to slightly different audiences and (5) available at the point-of-decision.

Salient Information. The empirical works cited (Olson, et al. 1982; Russo et al. 1986; Levy et al. 1985; and Achabal et al. 1987) examined the use of nutrient information. At the time in which these studies were conducted, only 36% of shoppers considered the provision of nutrient information to be a store's responsibility (Food Marketing Institute (FMI) 1985). While 59% of the respondents in the FMI study indicated that they were very concerned about the nutritional content of what they ate, fewer than 20% indicated specific concerns about either the vitamin/mineral content or the nutritional value of the food they ate. Hence, providing nutrient content alone might not have been salient or relevant to a sufficiently large number of shoppers, and this might have been at least partially responsible for the failure to find an effect in these studies.

Information Not Previously Known. In a field experiment, Achabal et al. (1987) provided nutrient information on six produce categories. In one half of the stores, signs were posted near broccoli, cabbage and other vegetables informing shoppers of the nutrients present in these products. In comparing sales of the specific produce items between the experimental and control stores, no differences were found. It was concluded that the nutrient information did not alter purchasing. While explanations such as "nutrition conscious consumers use vitamin supplements" were offered for the failure to find an effect, it might have been that consumers already know that these fresh vegetables are rich in nutrients and thus the

information did not provide anything new.

Information Must Be Easily Assimilated. Information in these studies was typically presented in a brand-by-nutrient format on posters hung in close proximity to the target products. In Russo's (1986) first experiment, one of the posters included forty-seven different frozen (TV) dinners with information on each including the weight, calories, and percentage of the RDA for protein and seven vitamins and minerals. For the second, a "nutrition quotient" was calculated for each of the dinners, and these 47 were listed in descending order of nutritional value along with the quotient and the weight of the dinner. Russo reported that 5% of the shoppers looked at the poster for at least one second. The one second fixation would not have been sufficient to assimilate the information contained in these complex posters. This might have been at least partially responsible for the failure to find an effect from this information program.

Information Formats and Availability. The studies reviewed all presented information at or near the point of decision. Most utilized a single format for presenting the information, a method which may impede use by those individuals who are not likely to look, for example, at a poster hung from the ceiling. Russo did find that when respondents received a "handout copy" of the posters, their knowledge of nutrition increased. However, when the outcomes of the information program were measured in terms of sales change, no effect was found.

Most of the empirical studies used sales of specific products as the outcome measure of the effects of an information program. One notable exception is a recent study by Levy and Heinbach (1990) in which sales of high fiber cereals, low sodium canned foods, and low cholesterol items were tracked following the dissemination of information on the association between these food types and health. This study found that over time, sales of the more nutritious alternatives increased. No other works were uncovered that used either changes in purchasing or sales over an entire product category (e.g. fresh produce in the Achabal study); and none used measures of satisfaction or good will. Yet, both Achabal and Russo without intending to examine satisfaction issues, reported findings of increased "good will" as a result of the information program.

Aaker (1982) and Day (1976) predicted satisfaction as an outcome of the delivery of consumer information. Aaker, citing Giant Foods market share, suggested that providers of corporate consumer information programs would benefit by improved customer satisfaction and increased profits in the long run. Day (1976) hypothesized that the primary outcome of (mandatory) information disclosure might be satisfaction with the decision process, the product, and with the shopping environment. He reasoned that changes in customer satisfaction might be greatest when they became aware of the information (i.e. the awareness stage) and that behavior change was not requisite to this outcome. For example, consumers becoming aware of information in the environment, might feel that the store is attempting to be helpful and this feeling would increase satisfaction levels (good will). Whether the good will reported in the empirical studies cited led to increased profitability in the long run cannot be ascertained.

In summary, the results of empirical studies indicate that shoppers do not change purchasing behavior as a result of in-store information programs, and use of the information is dependent upon individual concerns for health and nutrition. Most of the studies reviewed were not designed from a marketing perspective; these were not conceived from the consumer's point-of-view as suggested by Aaker. The programs frequently failed to provide information that was either salient or not previously known. The poster display was often the only format used and the complex information was not easily assimilated.

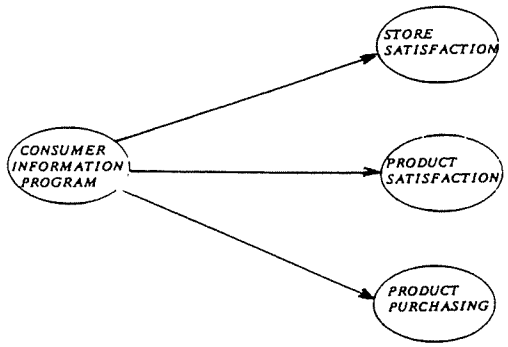
Conceptual papers suggest that the effects of an information program would not be immediate and therefore a hierarchy of effects model might be necessary to capture the full impact. Most of the empirical studies looked at sales data as a measure of the program effect. However, when the outcomes from Day's hierarchy of effects model (1976) were incorporated in the analysis, awareness and knowledge levels increased along with good will. The finding of increased good will has been treated as a tangential factor rather than as a dependent measure of the outcome of an

in-store information program. This paper uses satisfaction measures and purchasing of the entire product category to assess the effects of a focused in-store information program.

THE CONCEPTUAL MODEL

Linkages between the provision of consumer information and benefits to both consumers and corporate providers have been identified in the literature. The primary benefits cited by Aaker (1982) and Day (1976) are consumer satisfaction and long run profits resulting from increased purchasing. A conceptual model depicting these linkages is given in Figure 1.

Figure 1
Conceptual Model



In this model, the consumer information program is defined as one which has been developed from the firm's perspective and is designed to generate consumer response. The program will provide information that is salient, not previously known, and easily assimilated in a variety of formats (Aaker 1982; Capon and Lutz 1979).

Consumers who respond to the program will be expected to increase purchasing within the product category though not necessarily the specific product on which the information is focused. This outcome is anticipated for two reasons: (1) taste and preferences may override the informational influences on the selection of specific food items (FMI 1989), and (2) the provision of information may change perceived product quality (Day 1976). Consumers perception of higher quality products is expected to result in increased purchasing over the long term and thus to increases in long run profits for the retailer.

Consumers responding to the information program are likely to be more satisfied with the product category on which the information is focused and with the store providing the information program. Day (1976) hypothesized that the primary outcome of information disclosure might be satisfaction with the product and with the shopping environment, and that behavioral change was not requisite to this outcome. Oliver (1980, 1982), Day (1982) and Aiello et al. (1977) suggested that satisfaction is multi-stage and that satisfaction with the total store and with the product are separate but interrelated components of the complex relationships of consumer satisfaction. Hence, the two concepts, product satisfaction and store satisfaction, are treated as distinct outcomes of providing consumer information programs.

HYPOTHESES

This study provides an empirical test of satisfaction as an outcome of an in-store information program. The specific objectives of the study were to determine whether an in-store information program was associated with increased purchasing, satisfaction with the product category and satisfaction with the store. Based on these objectives, the following hypotheses were formulated:

H1: An in-store information program focused on a product category will be positively associated with the volume purchased within product category.

H2: An in-store information program focused on a product category will be positively associated with customer satisfaction with the product category.

H3: An in-store information program focused on a product category will be positively associated with customer satisfaction with the store.

METHODOLOGY

A cross sectional design was incorporated into a store intercept study. The data were collected at a warehouse food store where a consumer information program had been implemented one year earlier. Response to the program was measured using a two part instrument incorporating twelve indicators to tap the four constructs of the conceptual model.

Research Design

The study was conducted at a warehouse food store whose in-store information programs met the criteria specified by Aaker (1982) for an effective corporate program. Three different formats which would appeal to different information seeking styles were used. A VCR monitor at the beginning of the meat counter displayed 60 second presentations on the selection and preparation of the featured item. Companion brochures providing descriptions on cuts of the featured meat, nutritional information, and preparation ideas were available at the video monitor. Traditional 3" X 5" recipe cards on a variety of meats were placed along the counter. Information on nutrition, selection, and/or preparation contained on the back of each recipe card. The program materials were developed by the consumer relations department of the food store chain. Prior to implementing this study, program materials were evaluated for accuracy, completeness, and comprehensibility by nutrition specialists.

The information program used for the study was focused on meat. The selection of this focused program was based on the importance of this category to the consumer's food budget (Leet & Driggers 1983; Garman 1990) as well as its documented importance in store choice studies (Arnold, Roth and Tigert 1978; Heller et al. 1983: FMI 1989). The information processing literature (e.g. Bettman 1979; Jacoby, Chestnut and Fisher 1978) suggests that consumers are more likely to be exposed to and attend to information about important products. Hence, it is to be expected that consumers will be attentive to an information program on meats. Finally, it was hypothesized that the information program would result in increased purchasing over a product category; the meat category is sufficiently bounded to allow this type of assessment.

A field study was chosen over an experimental design to enhance the generalizability and existential realism of the results, albeit at the cost of precision in measurement, loss of experimental control and weaker treatment effects which should attenuate power. Prior research using field experiments (Achabal et al. 1987; Muller 1984; Olson et al. 1982; Russo 1986) failed to find an effect. This was true in studies using separate control and experimental stores (Achabal et al. 1987; Olson et al 1982) as well as those in which the experimental treatment was manipulated within the same stores (Muller 1984; Russo et al. 1986). This failure might have been due, at least in part, to the large amounts of informational visual stimuli in the store reducing the noticeability and exposure to the information under study. It might also have been due to the inability to capture changes in purchasing due to the information. Finally where the experimental condition was manipulated within a store, it might be that it was impossible to determine whether the same set of shoppers was in the store under both experimental and control conditions or whether those who were interviewed for the experimental condition had shopped at the store during the control period.

The design was chosen because the single store and point in time insured that the same "want satisfiers," in terms of the information program were available to all subjects. Hunt (1988) cautioned that satisfaction is a specific measure; it is specific to a point in time and specific to a homogeneous set of individuals, specific to a particular socio-cultural-economic group: "It is just an explicit statement that CS/D has to be used very carefully, and all respondents must be brought to the same recognition of the true state of nature and the true state of possible heights of satisfaction before any kind of valid measure can be taken" (Hunt 1988, p.742).

Measures

A four-construct twelve-indicator model was developed to test the hypotheses. The exogenous construct, *Consumer Information Program*, was measured by three indicators of response to the program. These three, use of the information

program (w_1), attitude toward the information program (w_2), and perception of usefulness (w_3) were composite measures.

The three endogenous constructs studied were *Product Purchasing, Product Satisfaction* and *Store Satisfaction. Product Purchasing* was defined by three indicators including the percentage of the meat budget spent at the experimental store (x_1), the number of meat items purchased on the date of the interview (w_w), and whether the percentage of the meat budget spent at the store had changed (w_3).

Product Satisfaction and *Store Satisfaction* were each defined by three indicators including composite measures of product/store attributes, a global measure of satisfaction, and composite measures to assess disconfirmation of expectations; all were Likert scaled. The measures used for these two constructs were based on those used in prior satisfaction research (Aiello et al. 1977; Day 1981; Churchill and Surprenant 1982; Oliver 1982). For *Product Satisfaction* respondents rated the quality, selection, and freshness of the meat. The attribute measure for *Store Satisfaction* was comprised of seventeen items (e.g. assortment, location, cleanliness, low prices). The global measures of satisfaction for these two constructs were single item Likert scaled queries on overall satisfaction with the store. Disconfirmation was assessed by three items for each construct. Respondents were asked to compare satisfaction with the experimental store to the best store, the worst store, and finally to similar stores in which they had shopped.

Instrumentation

The survey instrument developed for this study was divided into two parts on the basis of method of administration. The first was a six page self-administered questionnaire which included the items to measure the product category and store satisfaction. Also included were twenty-one activity, interest, and opinion items related to food shopping and preparation. Several of these were incorporated into the attitude and perception scales. The second part was a personal interview schedule in which respondents were queried about their use of the information program, shopping habits, and demographic characteristics.

Sample

Two hundred seventy-seven shoppers were interviewed at the warehouse store during a four week period. Data were collected on Thursdays, Fridays, and Saturdays because 39% of consumers shop on these days (FMI 1991). The offer of a token gift resulted in a response rate greater than eighty percent.

The sample represented typical warehouse food store clientele (Langrehr and Robinson 1981; Reed and Robbins 1983). The average household size was four persons and the largest share of shoppers interviewed was between the ages of 25 and 34 years. The largest proportion (38%) were high school graduates with most of the remaining respondents having had some college or being college graduates. Fifty percent reported an average weekly food bill of $100.00. Half of those interviewed currently shopped at the warehouse store once per week and half had been shopping this store for more than three years. However, only 22% reported shopping exclusively at this store. Of the total, 29.8 percent spent less than 50 percent of their meat budgets at this store compared to 11.3 percent who spent less than 50 percent of their total food budget at the warehouse foodstore.

Previous analysis of this data did not find response to the information program to be moderated by any of the demographic variables, nor was it moderated by the length of time shoppers had patronized the store, or the frequency with which they shopped at the warehouse store. In addition, the percentage of the total food budget spent at this store and the actual dollar amount spent, were not found to be associated with the information program on meats. Finally, when psychographic variables such as preferences for meat, and enjoyment of food preparation were entered into analyses, no relationship between these and response to the information program was found.

DATA ANALYSIS AND RESULTS

Analysis of the data to assess the model (see the conceptual model in Figure 1) was divided into two sections. The first section examines the reliability and validity of the measures; the second

tests the hypothesized set of relationships using the estimation procedures for simultaneous equations (LISREL VI) developed by Joreskog and Sorbon (1986). The results are based on the four matrix solution.

Reliability and Validity

Cronbach's alpha was computed for each of the constructs in the model. The standardized alpha coefficients for the indicators of response to the Consumer Information program were .779 for *Use* of the information program, 750 for *Attitude* toward the information, and .773 for *Perception of Usefulness* of the information. Cronbach's alpha for the three measures of response to the *Consumer Information Program* (.761), *Product Satisfaction* (.891), and *Store Satisfaction* (.788) were above the .70 specified for widely used measures (Nunnally 1967). A lower alpha (.639) for *Meat Purchasing* is due to these measures not being parallel. When nonparallel measures are used, as in this instance, alpha underestimates the reliability (Kenny 1979, p. 79).

Manipulation Check

Because the study utilized a store intercept design and interview technique, there was a strong likelihood of demand artifactual response. In addition to the response effects of the setting, it is also possible when gathering satisfaction data that consumer attributions about shopping behavior might mediate the response (e.g. "If I have made the decision to shop here, I must be satisfied"). If consumers attributed their high levels of satisfactions to their choice of food stores, we might expect all consumers to be uniformly satisfied regardless of their level of knowledge from the information program. In order to assess the magnitude of this source of error in the results, t-tests were conducted on the differences in satisfaction between those who were and those who were not able to (1) describe the video program, (2) describe the contents of a brochure they had picked up in the past, (3) describe the information on a recipe card or the recipe prepared. The results of this validity check are given in Table 1.

Table 1
Satisfaction and Product Purchasing Differences Between Those Who Were and Were Not Able to Describe the Information Program. [n = 277]

Measure of Use	Product Purchasing	Product Satisfaction	Store Satisfaction
	t-test statistic		
Describe the Video	3.22**	1.10	1.08
Describe the Brochure	2.97**	1.80	3.03**
Prepare Recipe or Recall Card Information	4.87***	1.94*	2.06*

* $p < .05$
** $p < .005$
*** $p < .000$

As shown by the table, those who were able to describe some aspect of the program thereby demonstrating that they had actually used (assimilated) the information, differed in response to at least one of the outcome measures. This suggests that differences in store satisfaction are due to factors other than patronage attributions. The actual use of the information, however, was more closely associated with the purchasing outcome than with the satisfaction measures.

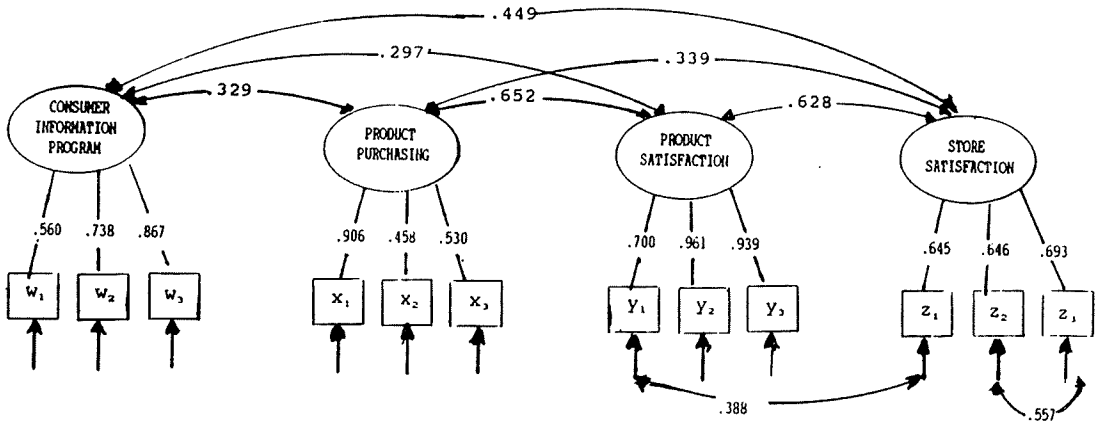
The Measurement Model

A nonsignificant chi-square (X^2 (46) 57.37; $p = 0.121$) obtained for the model along with the goodness-of-fit index of .967 indicated that the data were consistent with the model. This nonsignificant chi-square value was obtained after correlating the errors as shown in the model.

Correlated Errors

Modification indices in the initial measurement model suggested that the y_1 and z_1 errors be correlated as well as the z_2 and z_3 errors. Correlating these errors substantially improved the fit of the initial model (X^2 (48) decreased from 110.78 to 57.37 and the goodness-of-fit index increased to .939). That these errors are

Figure 2
Measurement Model



correlated is not without theoretical relevance. The items included in y_1 and z_1 were drawn from the same twenty-two item scale. The z_2 z_3 indicators asked essentially the same question. The former was measured by a five point Likert scaled question which asked how satisfied the shopper was with the store. The latter (z_3), an adjacent measure, provided an anchored scale by querying respondents on satisfaction compared to *the best store, the worst store,* and other *warehouse stores* at which they had shopped. It should be noted that the indicators y_2 and y_3 were parallel except that they asked about satisfaction with the product category (i.e. the meat department). Correlating errors for these two measures only provided marginal improvement in model fit.

Factor Loadings

The factor loadings were all significant as shown in Table 2. Examination of the factor loadings shows that loadings for y_2 (.961) and y_3 (.939) are critically close to 1.000 and that they may lack discriminant validity. To test for this possibility, both loadings were set to 1.000. The resulting chi-square [X^2 (48) = 148.80] was significantly different [worse] from the model in which the loadings were free to vary. Therefore, it was concluded that the items did discriminate.

Correlations Between Constructs

The correlations between the constructs (Psi) were all significant ($p < .001$). The correlations along with the t values are presented in Table 3. The size of the coefficients is sufficiently large to indicate some overlap and a relationship between them, but yet not close enough to 1.000 to bring discriminant validity into question.

The Structural Model

Estimation of the path coefficients (Beta) for the model resulted in support for each of the hypothesized relationships (see Figure 3). Modification indices suggested that either significant paths existed between the endogenous variables or that the errors were correlated. The review of the literature in this area did not uncover any consistently sound theoretical basis for directional paths among these variables and they were not identified a priori. There is, however, some theoretical basis for correlating errors among the endogenous variables. For example, Day (1982) stated that feelings of satisfaction from consumption are part of a broader experience encompassing the decision to purchase, the shopping process and the consumption process. Aiello et al. (1977) also concluded that satisfaction incorporates many facets of the consumption

Table 2
Significance of the Factor Loadings

Construct Indicator	Factor Loadings	t[a]
Consumer Information Program		
Use of information (w_1)	0.569	9.325
Attitude toward info. (w_2)	0.738	12.320
Usefulness of info. (w_3)	0.867	14.590
Product Purchasing		
% of [meat] budget (x_1)	0.906	14.587
Items purchased (x_2)	0.458	7.304
Change in purchasing (x_3)	0.530	8.530
Product Satisfaction		
Attribute satisfaction (y_1)	0.700	13.129
Global satisfaction (y_2)	0.961	21.182
Disconfirm./expect. (y_3)	0.939	20.328
Store Satisfaction		
Attribute satisfaction (z_1)	0.645	9.857
Global satisfaction (z_2)	0.646	9.341
Disconfirm./expect. (z_3)	0.693	10.216

[a]Factor loadings were significant at $p < .001$.

Table 3
Correlations Between Constructs

Constructs	Psi	t[b]
CIP/Product Purchasing	0.329	4.897
CIP/Product Satisfaction	0.297	4.725
CIP/Store Satisfaction	0.449	6.243
Prod. Purch./Prod. Satisfaction	0.652	13.589
Prod. Purch./Store Satisfaction	0.339	4.439
Prod. Satis./Store Satisfaction	0.628	11.197

[a]All correlations were significant at $p < .001$.

system as well as many attributes of the product. Based on these assertions, the disturbances were correlated as shown in Figure 3. The X^2 (46) = 57.37; p = .121 for this model indicates that the data are consistent with the model.

Hypotheses Tests

The three hypotheses of this study suggested a positive relationship between the provision of consumer information and (1) the volume purchased within the product category (2) customer satisfaction with the product category and (3) customer satisfaction with the shopping environment. These hypotheses were supported. For H1, which focused on increased purchasing within the product category, the Eta coefficient (eta = 0.327) was significant ($p < .001$) and indicated a positive association between the constructs. The path coefficient (t = 4.367) indicated directionality and further supported the hypothesis.

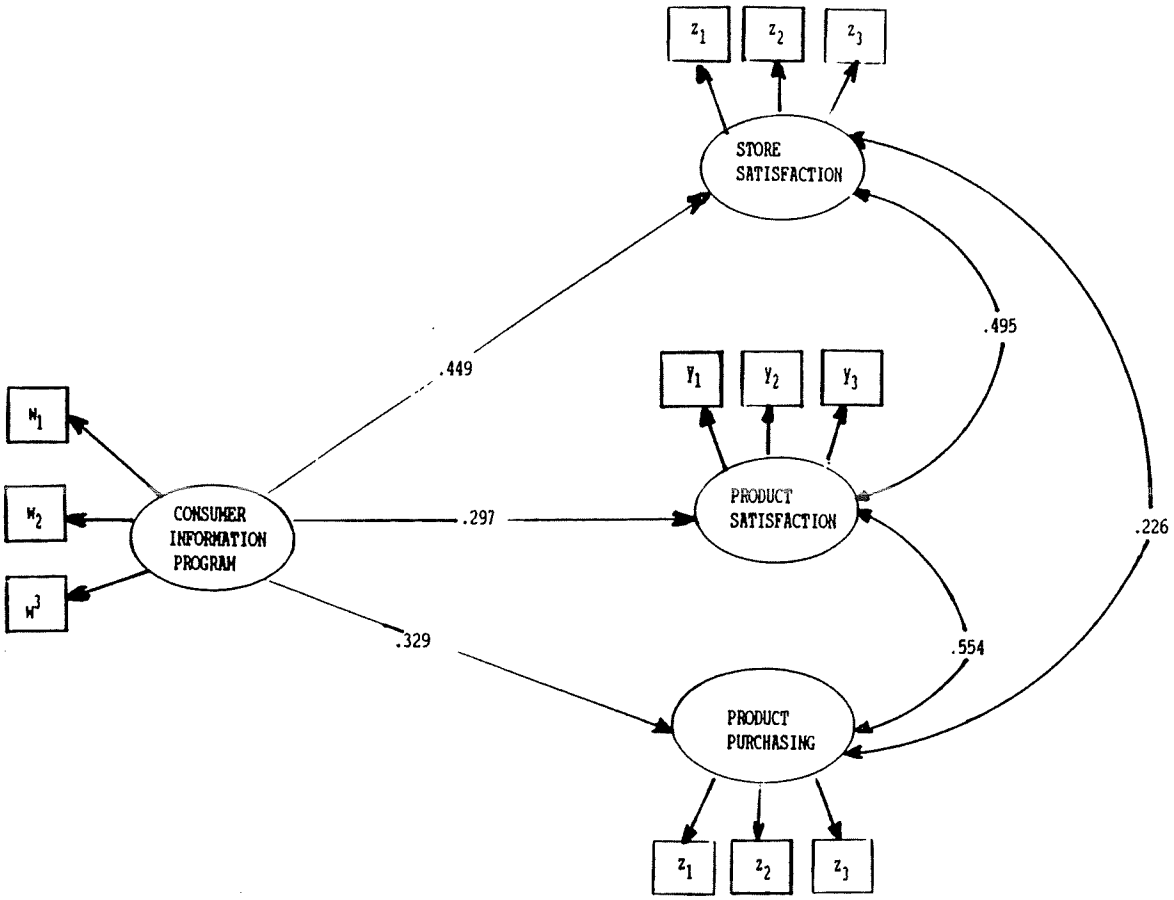
The data also supported H2 and H3. For H2, which dealt with satisfaction with the product category, Eta and the path coefficient (eta = 0.297 and t = 4.309) were also significant ($p < .001$). The final hypothesis, H3, relating to satisfaction with the store was also significant (eta = 0.449, t = 4.986, $p < .001$).

DISCUSSION AND IMPLICATIONS

Sales data, used as a measure of the effect of in-store information programs, has not in prior research has not been shown to be successful. The empirical studies which sought to measure behavior change, operationalized as sales data, concluded that consumers did not change their behavior as a result of information availability and that the only effect of information programs was to generate *good will.* This finding was generally disappointing for researchers looking at public policy initiatives. Yet, from a marketing perspective, it is precisely this *good will* that is the anticipated outcome. Conceptual papers (Aaker 1982; Capon and Lutz 1979; Day 1976) on information programs postulated that satisfaction (the consumer side of good will) would be the primary outcome along with increased profits in the long run. However, none of these promised immediate profits or increased sales of the product for which information was provided.

The results of the present study supported the conceptual papers cited. The satisfaction measures were found to be sensitive to the effects of an in-store information program. Positive response to the three dimensions of the program was associated with higher levels of satisfaction with both the product category and with the shopping environment. In addition, shoppers who responded positively to the information program, purchased more of the product category (meat) at

Figure 3
Structural Model



the store than did those who responded negatively.

A hierarchy of effects model provided the rationale for measuring responses to the information program. Cognitive and affective measures of response were used along with use and behavioral measures. Including these measures was more effective than behavior measures alone (see Table 2). As expected, the factor scores for attitude toward the information and perception of usefulness were slightly higher than those for use of the information.

Use of product information was treated differently than in previous studies. In prior research, *use* was operationalized as behavior change with sales data as the indicator of change. It was inferred that the change in sales resulted from the use of the information. In this study, *use* was operationalized as consumer self-reports of actually using the information materials rather than purchase behavior or sales volume changes. Thus, consumers who could describe the video presentation, recall information from a brochure or recipe card, or relate an experience preparing a recipe from a card, indicated that they had used the information.

The reported *use* of the information (in conjunction with affective and cognitive response) was found to be associated with purchase behavior as evidenced by the significant Eta and path coefficients. In looking at the t-test results for the manipulation check (Table 1), it becomes apparent that reported *use* of the information was more

closely associated with purchasing behavior than with the satisfaction outcomes.

The two indicators of attitude and perception of usefulness were more closely associated with the two satisfaction outcomes than with purchasing behavior as shown by the correlations in Figure 2. This finding confirms Day's (1976) hypothesis that changes in satisfaction might be greatest at the cognitive and affective stages of the hierarchy of effects and that behavior change was not requisite to this outcome. Additionally, the Eta coefficients show that satisfaction with the store was more closely associated with the information program than was satisfaction with the product category on which the information was focused. A plausible explanation for this outcome is that shoppers, aware of the information provided and believing that the store is attempting to be helpful, become more confident in the retailer (Day 1976) and therefore more satisfied with the shopping environment.

The results of this study have greater implications for retailers than for manufacturers or producers because of the use of product category information rather than individual or groups of items. Retailers are generally interested in building total sales volume, or increasing sales within a category and are less concerned with building brand sales. Additionally, retailers might be more interested in building sales for non-branded, or commodity goods which do not receive the benefit of national advertising. Within commodity groups of dairy, produce, meat and fish, or bakery, retailers might be particularly interested in providing information programs with the projected outcome of increasing the product category sales. Consumers, too, would benefit in that their in-store decision time would be decreased leading to increased satisfaction with the product category and with the shopping environment.

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