IDENTIFYING COGNITIVE STYLE DETERMINANTS OF RETAIL PATRONAGE

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INTRODUCTION

The literature on retail patronage can be organized around three major research traditions. The first tradition concentrates on objective factors such as population densities, square footage of shopping area, traffic patterns, and distance measures (for a review, see (1)) The second tradition focuses on store image and compares competing stores in terms of store attributes (a recent example is 17). The third approach tries to understand how consumers differentiate between stores by analyzing their profiles (13 pp. 525-529 provide a good review of this literature). Consumer profiles have been usually defined in terms of socio-demographic variables, psychographics, personality and risk perception variables.

This paper explores yet another characteristic of consumers. It suggests that patronage can be segmented according to the cognitive styles of consumers.The concept of cognitive style refers to relatively permanent differences in the manner in which individuals acquire and process information (19, 34). It was hypothesized that two particular cognitive syles namely "cognitive differentiation" and "tolerance of ambiguity" would have a direct or indirect bearing on the following patronage-related behaviors: a) Consumer's external search for information b) store attribute processing and c) store loyalty. The rationale for these variables and the whole set of hypotheses examined are discussed below.

EXTERNAL SEARCH FOR INFORMATION

Previous research on consumer external search for information (ESI) has concentrated on the amount and direction of search and relating differences across consumers to socio-demographic, attitudinal and situational factors (13 chapter 9, 31, 32). These factors include: (a) the consumers' perceptions of the benefits and costs associated with search (b) buying pressures and opportunities (c) social class, occupation, age and stage in life cycle and (d) general predisposition toward search.

The relationship of personality traits to information search has received limited research attention. The personality characteristic most often shown to be associated with search is specific self confidence (e.g. 20, 25). Several authors (e.g. 11, 22) provide additional evidence that specific self confidence as opposed to general self confidence is indeed a very useful variable for understanding consumers' reactions to perceived uncertainty.

Information processing confidence and perceived uncertainty

Another type of self confidence which has not been investigated in the context of store patronage is "information processing confidence"(44). On a priori grounds, information processing confidence (IPC) and ESI ought to be positively related. In addition IPC should be inversely related to the amount of uncertainty the consumer perceives in the choice environment. Finally the psychological and marketing literature (e.g. 12, 21, 39) suggests that perceived uncertainty (PU) ought to positively influence the extent of search. Consequently the following three hypotheses were offered:

H_1: Consumers with high information processing confidence (IPC) tend to report greater external search for information (ESI).

H_2: Consumers with low information processing confidence (IPC) tend to report higher perceived uncertainty (PU) in their choice environment.

H_3: Consumers who perceive high uncertainty (PU) in their choice environment tend to report greater external search for information (ESI).

The subjects in the study were female members of the household mail panel maintained by the National Family Opinion (NFO), Inc., Toledo, USA, in a large North-Eastern Metropolitan city. They were selected to match the socio-economic and demographic profiles of the residents in the area with the exception that households with annual income below $5,000 were excluded from the sample. A total of 850 questionnaires were mailed during spring, 1978. Usable questionnaires were returned by 673 panel members representing a response rate of approximately 80%.

Each panel member was administered Wright's (44) Information Processing Confidence (IPC) test (see Table 1). The test consists of 10 items, each scored on a 9-point scale with the end points labelled "definetly agree" and "definetly disagree". The range of possible scores is from 10 to 90, with a high score reflecting greater information processing confidence. The mean score for IPC was 63.18. The distribution for IPC was divided into approximately equal fourths with subjects scoring in the bottom fourth (below 56) being assigned to the "low confidence" category and those scoring in the top fourths (above 74) being assigned to the "high confidence" category. The subjects in the middle fourths were excluded from the analysis to obtain groups which differ sharply in terms of IPC.

External search for information (ESI) was measured by an index corresponding to the sum of scores on the four items presented in Table 2. These items were measured on 9-point likert-type scales. A high score reflects greater propensity to engage in external search for information (ESI).

TABLE 1

WRIGHT'S MEASURE OF INFORMATION PROCESSING CONFIDENCE* (IPC)

1. I have more trouble concentrating than most people.
2. I am able to solve riddles and puzzles rapidly.
3. My mind seems to work slowly compared to those around me.
4. I am totally confident about my ability to judge messages coming from the mass media.
5. I am certainly able to think quickly.
6. When I hear an argument being presented, I am quick to spot the weaknesses in it.
7. I usually have to stop and think for awhile before making up my mind even in unimportant matters.
8. My thoughts frequently race ahead faster than I can speak them.
9. I am never at a loss for words.
10. I don't seem to be very quick-witted.

TABLE 2

ITEMS USED TO MEASURE EXTERNAL SEARCH FOR INFORMATION* (ESI)

1. I like to compare different brands before deciding which one to buy.
2. I like to shop around in different stores before deciding where to buy.
3. Before making a major purchase decision, I tend to seek out information about the negative aspects of the product and brands.
4. I do not care to look at all the different brands available.

*Measured on 9-point scale with end points labelled "definetly agree" and "definetly disagree".

H_1 was tested through an analysis of variance design. The IPC classification was used as the independent variable and ESI index was treated as the dependent variable. As predicted, subjects with higher information processing confidence reported greater external search for information ($F=14.28$, $df=1,244$, $p=0.00$).

Perceived uncertainty (PU) was measured by the instrument presented in Table 3. Responses to these 7 items were measured on 9-point Likert-type scales, and then summed to obtain an overall index of PU. The higher the value of the index the greater the perception of uncertainty in the choice environment. A univariate analysis of variance was performed with IPC as the independent variable and PU as the dependent variable. As expected subjects with low IPC reported significantly higher PU than did subjects with high IPC ($F=5.49$, $df=4,239$, $p=0.01$).

Hypothesis H_3 was examined by first classifying subjects according to their PU score. Subjects scoring in the bottom fourth (below 34) on the PU index were assigned to the high PU condition. Subjects scoring in the middle were excluded from the analysis to obtain groups differing sharply in terms of PU. An analysis of variance was performed using PU as the independent variable and ESI as the dependent variable. Although subjects with higher perceived uncertainty in the choice environment reported greater external search for information, the difference was not found to be statistically significant ($F=0.82$, $df=1,350$, $p=0.36$). This finding is unexpected but not totally surprising. As indicated by Bauer (4) and others external research is not the only way for the consumer to reduce uncertainty. When confronted with uncertainty the consumer may decide not to externally search for additional information but rather to make a fuller use of information stored in his memory, to limit his choice environment to known or reputed alternatives or to follow advises from personal or impersonal sources.

While ESI can be viewed as an attempt by the consumer to reduce uncertainty, H_1 to H_3 clearly imply that the consumer will be inclined to search where he feels a need for additional information and when he is confident he can utilize the new information. To fully understand ESI two additional factors have to be introduced. These factors have to do with the consumer's attitudes and cognitive styles.

Attitudes regarding shopping

Search behavior may satisfy certain social psychological needs in addition to a need for information. For example, the consumer may engage in extensive shopping for such personal or social motives as diversion, physical activity, sensory stimulation, social encounters and communication (42). If ESI offers benefits other than acquisition of information, then it is reasonable to test the following hypothesis:

H_4: Consumers who have positive attitudes regarding shopping (ASHOP) tend to report greater external search for information (ESI).

H_5: Consumers who have positive attitudes regarding shopping (ASHOP) tend to exhibit a greater need for novelty (NNOV).

TABLE 3

ITEMS USED TO MEASURE PERCEIVED UNCERTAINTY IN CHOICE ENVIRONMENT* (PU)

1. Product quality is hard to judge for most brands.
2. No store is good for everything. Some stores are better than others for certain things.
3. When I pick a brand I wonder what others would think of me.
4. If manufacturer is well reputed, then all his brands are superior to those of competitors.
5. As it stands now, the chances of one ending up with a "lemon" are pretty good.
6. There are stores which are good for certain things, and I know where to go.
7. Many products do not perform the way they are supposed to.

TABLE 4

ITEMS USED TO MEASURE GENERAL ATTITUDE TOWARDS SHOPPING* (ASHOP)

1. Shopping is a pleasurable activity even if I don't buy anything.
2. I enjoy window shopping.
3. Shopping is fun because you get to meet a lot of people.
4. There are no redeeming features of shopping - it's a boring task which has to be performed.

* Measured on 9-point scale with end points labelled "definetly agree" and "definetly disagree".

Subjects' attitude regarding shopping (ASHOP) was measured by an index corresponding to the sum of scores on the four items presented in Table 4. The range of possible scores on this index was 4 to 36 with a high score indicating positive attitude towards shopping. To test H_4, subjects scoring above 26 (top fourth) were assigned to the favorable attitude condition and those scoring below 18 (bottom fourth) were assigned to the unfavorable attitude condition. The subjects in the middle were excluded so as to focus on groups which differ sharply with respect to attitude towards shopping.

An analysis of variance was performed with ASHOP as the independent variable and ESI as the dependent variable. As predicted, subjects with a positive attitude towards shopping reported significantly greater external search for information than those with less favorable attitude ($F=27.28$, $df=1,369$, $p=0.00$). Thus, H_4 was confirmed in this study.

To test H_5, subjects' general need for novelty (NNOV) was measured by summing their responses to the four items in Table 5. A high score on this index reflects a greater general need for novelty (NNOV) on the part of the respondent. Univariate analysis of variance with ASHOP as the independent variable and NNOV as the dependent variable was used to test the hypothesis. As predicted, subjects with positive ASHOP exhibited significantly greater NNOV ($F=22.97$, $df=1,370$, $p=0.00$).

Tolerance for ambiguity

A second factor bearing on ESI is the individual's level of tolerance for uncertainty (3). It is commonly assumed that people differ in the way they tolerate status of uncertainty/ambiguity. A given choice environment may be ambiguous (23) because it can be interpreted in multiple, conflicting ways and cannot be dealt with through habitual modes of cognition and behavior. There is accumulating evidence that individuals intolerant of ambiguity avoid being exposed to unfamiliar information (e.g. 40). Because of their greater preference for familiar choice environments, intolerants of ambiguity can be assumed to exhibit limited external search for information (ESI).

H_6: People with low tolerance for ambiguity (TA) tend to report limited external search for information (ESI).

Tolerance for ambiguity (TA) was measured by Budner's (6) test. The test is self-administered, and takes between 10 and 15 minutes to complete. It contains 16 items, each scored along a six-point agree-disagree continuum (Likert-type). A sample item is: "An expert who does not come up with a definitive answer probably does not know too much." The range of possible scores on the test is from 16 to 112 with a high score indicating Intolerance of Ambiguity. The mean score for Tolerance for Ambiquity was 56.75. The distribution of Tolerance for Ambiguity was split into approximately equal fourths and subjects with scores in the top and bottom fourths of the distribution were classified as intolerants (above 63) and tolerants (below 49). Subjects in the middle fourths were excluded so as to obtain groups sharply contrasted with respect to Tolerance for Ambiguity.

TABLE 5

ITEMS USED TO MEASURE GENERAL NEED FOR NOVELTY* (NNOV)

1. I am continually seeking new ideas and experience.
2. I like to experience novelty and change in daily routine.
3. If it was good enough for my mother it is good enough for me.
4. I like to buy new and different things.

*Measured on 9-point scale with end points labelled "definetly agree" and "definetly disagree".

TABLE 6

EFFECT OF TOLERANCE OF AMBIGUITY, ATTITUDE TOWARDS SHOPPING AND PERCEIVED UNCERTAINTY ON EXTERNAL SEARCH FOR INFORMATION

SOURCE	DF	MEAN SQUARES	F	P
Tolerance for Ambiguity (TA)	1	69.39	3.61	0.06
General Attitude Towards Shopping (ASHOP)	1	214.41	11.18	0.00
Perceived Uncertainty in Choice Environment (PU)	1	21.64	1.29	0.29
TA x ASHOP	1	3.22	0.16	0.68
TA x PU	1	2.48	0.12	0.72
ASHOP x PU	1	10.79	0.56	0.45
TA x ASHOP x PU	1	58.44	3.04	0.08
Residual	100	51.07		
TOTAL	107			

H_6 was tested through analysis of variance. ESI was treated as the dependant variable in the analysis and tolerance for ambiguity as the independent variable. As predicted, subjects intolerant of ambiguity reported significantly lesser external search for information than those tolerant of ambiguity ($F=12.85$, $df=1,350$, $p=0.000$).

Next, it was hypothesized that ESI differences between tolerants and intolerants would be influenced by the level of perceived uncertainties (PU) associated with a given choice environment on one hand, and by the personal/social value attached by consumers to shopping (ASHOP) on the other hand.

H_7: The Tolerance of Ambiguity (TA) x Attitudes towards Shopping (ASHOP) x Perceived Uncertainty (PU) interaction will be related significantly to External Search for Information (ESI).

To test H_7, TA, ASHOP and PU were used as the independent variables in an ANOVA design with ESI as the dependent variable. Table 6 presents the ANOVA results. As predicted interaction between TA, ASHOP, and PU was found to be statistically significant ($F=3.04$, $df=1$, $p=0.08$). This indicates that external search for information (ESI) is influenced by the specific combination of TA, ASHOP and PU and that it can not be explained exclusively by subjects' TA, ASHOP and PU although the main effects of TA and ASHOP were also found to be statistically significant.

STORE ATTRIBUTE PROCESSING

In this section it is assumed that consumers will exhibit differences in the way they use store attributes depending on their cognitive skills and more particularly their level of cognitive differentiation.

The concept of cognitive differentiation (CD) refers to the cognitive ability of the individual to differentiate his environment (5). The individual with higher cognitive differentiation skills is assumed to have available a greater number of dimensions with which to construe his choice environment. Because he is willing and able to use more complex information than an individual with lower cognitive differentiation, he ought to form his store evaluations on the basis of more stores attributes than the individual with lower cognitive differentiation. CD is not likely to operate however if the choice situation does not require special information processing effort. In other terms, one cannot expect to find information processing differences among consumers varying in cognitive differentiation if the information processing demands of the situation are below a certain threshold of complexity/uncertainty. Consequently, it was hypothesized that CD would interact with the perceived uncertainty (PU) of the choice environment to produce variation in the number of determinant store attributes:

H_8: Consumers with high cognitive differentiation ability tend to use more discriminant store attributes, when confronted with store evaluation situations involving high uncertainty than those with low cognitive differentiation. It is predicted that CD and PU will

be positively related to the number of determinant attributes used, i.e. the higher cognitive differentiation and perceived uncertainty, the higher the number of determinant attributes.

What is a determinant attribute? It is well known that an attribute may be important but not determinant. More specifically, if all the alternatives in a choice set are perceived to possess more or less similar levels of an attribute, that attribute even though important will not help consumers to differentiate among the alternatives and hence will not have a determinant influence on the consumer's evaluations. The concept of determinance may be operationalized as follows (1,35):

$$D_{ik} = \lambda_{ik} \; I_{ik} \qquad \text{(I)}$$

where,

D_{ik} = Determinance of the i-th attribute for the k-th respondent,

λ_{ik} = Perceived difference in the i-th attribute among the choice set, and

I_{ik} = The importance weight given to attribute i by the k-th respondent.

A variety of approaches are available to measure λ_{ik}. These include direct questioning, indirect questioning, observation, experimentation. These methods have been fully discussed by Alpert (1), Pras (35), Mahajan et al (26, 27). The entropy measure proposed by Zeleny (45) as an index of the information transmitted by an attribute seems an attractive measure of λ_{ik}. It can be computed as follows:

$$\lambda_{ik} = 1 - e_{ik}$$

$$e_{ik} = \{-1/\mathrm{Ln}(m)\} \sum_{j=1}^{m} (F_{ijk}/H_{ik}) \; \mathrm{Ln} \; (F_{ijk}/H_{ik})$$

$$H_{ik} = \sum_{j=1}^{m} F_{ijk}$$

$$F_{ijk} = B_{ijk}/B^{*}_{ik}$$

$$B^{*}_{ik} = \max_{j} \; (B_{ijk})$$

where, i = 1, 2, ... , n (attributes
j = 1, 2, ... , m (choice alternatives)
k = 1, 2, ... , n (respondents)

such that:

B_{ijk} = k-th respondent 's belief as to the extent to which attribute i is offered by alternative j.

B^{*}_{ik} = Ideal level of the k-th subject on the i-th attribute.

F_{ijk} = Relative proximity of the j-th alternative to the k-th subject's ideal level for the i-th attribute.

Eight attributes frequently used to measure consumers choices for stores were retained in the study (see Table 7). Nine stores listed in Table 8, operating in the metropolis were selected for the study on the basis of their differentiation and ability to provide a wide spectrum of choices to the consumers. These 9 stores include national chains, discount stores, and reputed department stores. Respondents were requested to provide: (a) the relative importance of each attribute (I_{ik}) in selecting a store to shop at and (b) the relative evaluation of each store on the selected attributes (B_{ijk}).

Attribute determinance scores were computed for each subject according to formula (1) using entropy as a measure of λ_{ik}. An attribute was considered to be discriminant for a given subject if its determinance score was greater than the mean of the 8 determinance scores corresponding to the individual. Pinson's (33) test was used to measure cognitive differentiation (CD). The distribution of test scores was divided into approximately equal fourths and subjects in the lowest and highest fourths were classified as complex and simple. The total number of discriminant attributes for each subject was used as the dependent variable and CD and PU as the independent variables in an analysis of variance design. The results are presented in Table 9. As predicted, the interaction between CD and PU was found to be statistically significant ($F=3.61$, $df=1,97$, $p=0.06$).

STORE LOYALTY

The term store loyalty (STLY) refers to the Shopper's tendency to patronize a given store. Variations in store loyalty have been explained by a variety of factors (9). STLY is believed (e.g. 18) to vary across product classes. Furthermore, store loyalty has been found to be negatively associated with such factors as frequency of shopping, size of the food budget and tendency to mix food and non food purchases (36).

External search and store loyalty

A study by Goldman (18) suggests that STLY is negatively related to prepurchase store search and knowledge about the store system. Those customers who are store loyal tend to engage less in comparative prepurchase search among stores, to know less about other stores and to have actually visited a smaller number of stores. The data collected for the present study provided the opportunity to further test this relationship between external search for information (ESI) and store loyalty (STLY).

TABLE 7

STORE CHOICE CRITERIA

1. Variety and Selection of Merchandise.
2. Store Personnel (Presence, Helpfulness, Friendliness, etc.,).
3. Value for Money.
4. Store Service (Ease of Merchandise-Return, Delivery, etc.,).
5. Price of Merchandise.
6. Physical Facilities (Layout, Lighting and Display, Parking, etc.,).
7. Quality of Merchandise.
8. Informativeness and Helpfulness of the Advertisements.

TABLE 8

DEPARTMENT STORES

1. Saltler's
2. A,M&A's
3. Jenss
4. Hens and Kelly
5. Wm. Hengeres Co.
6. Berger's
7. J.C. Penney
8. Sears, Roebuck & Co.
9. K-Mart.

H_9: Consumers who exhibit strong store loyalty (STLY) tend to report limited external search for information (ESI).

Different ways of operationalising store loyalty (STLY) have been suggested (9). STLY can be measured by percentage of budget allocated to a given store (e.g. 10), by percentage of purchase of certain products done at a given store (e.g. 10, 18, 24), by number of stores patronised during the survey period (e.g. 30, 36, 41, 43), by the number of trips made to the favourite store (e.g. 38, 41), or by a combination of the above (e.g. 7, 8, 14, 15). Alternatively, STLY can be measured using psychographic scales (e.g. 37).

In the present study STLY was measured by two different methods. The first measure STLY-1 was obtained by summing up response scores on the following two questions:

a - "I like to shop around in different stores before deciding where to buy".

b - "I do most of my shopping in the same store I have always shopped".

Answers were recorded on 9 points (9=agree, 1=disagree). This index (STLY-1) combines report of actual store loyalty (question b). Because of the uncertain validity of this instrument, a second measure of store loyalty STLY-2 was used. Subjects were presented with a list of 16 personal care, beauty, fashion and household merchandise items (see Table 10). They were asked to indicate among the stores listed in Table 8, the ones they are most likely to shop at for the listed merchandise. For each subject an index of loyalty to each of the nine stores was constructed by adding the number of items the consumer indicated she would buy in that given store. To compare store loyalty patterns across subjects, the coefficient of variation (16) of loyalty indices was computed for each subject. This coefficient constitutes the second measure of store loyalty - STLY-2. A high value of STLY-2 indicates that the subject tends to disproportionately concentrate her purchases at selected stores and hence tends to be more store loyal.

To test H_9 distributions of STLY-1 and STLY-2 were independently split into approximately equal fourths. Subjects in the top and bottom fourths were classified as store switchers and store loyals. Analysis of variance with ESI as the dependent variable and STLY-1 as the independent variable was used to validate the hypothesis. As predicted, store loyal subjects exhibited significantly lower ESI ($F=178.39$, $df=1,318$, $p=0.0$). However, the results were not found to be statistically significant when the analysis was repeated with STLY-2 as the independent variable ($F=1.627$, $df=1,328$, $p=0.20$).

TABLE 9

EFFECT OF COGNITIVE DIFFERENTIATION AND PERCEIVED UNCERTAINTY IN THE CHOICE ENVIRONMENT ON THE NUMBER OF DETERMINANT ATTRIBUTES USED IN STORE EVALUATION

SOURCE OF VARIATION	DF	MEAN SQUARES	F	P
Cognitive Differentiation (CD)	1	0.20	0.24	0.62
Perceived Uncertainty (PU)	1	0.35	0.42	0.51
CD x PU	1	2.97	3.61	0.06
Residual	97	0.82		

TABLE 10

PRODUCT CATEGORIES USED TO DETERMINE STORE LOYALTY PATTERNS

1. Women's Sportswear.
2. Women's Day Dresses.
3. Women's Evening Dresses.
4. Women's Coats.
5. Lingerie and Body Fashions.
6. Junior Merchandise.
7. Men's Apparel.
8. Children's Apparel.
9. Shoes.
10. Cosmetics.
11. Jewellery.
12. Housewares
13. Furniture and Bedding.
14. Sheets and Towels.
15. Draperies.
16. Latest and Most Fashionable Merchandise.

Individual determinants of store loyalty

There is emperical evidence that certain consumer characteristics are also responsible for variations in store loyalty (STLY). For example STLY was shown to be (inversely) related to such socio-economic characteristics as education (14, 37), occupation of the head of the family (14), income (18, 37), and stage in the family life cycle (36). Store loyalty has also been linked to certain psychological variables, although it is widely acknowledged (e.g. 9) that these relationships are not very strong. For example store loyal customers tend to exhibit higher needs for exhibition, achievement, and affiliation (14).

In this study it was expected that the psychological variables of tolerance for ambiguity (TA), cognitive differentiation (CD), need for novelty (NNOV) and information processing confidence (IPC) would have a bearing on the extent of store loyalty (STLY). These hypothesis are formulated below.

Tolerance of ambiguity

H_{10}: Consumers who are intolerant of ambiguity (TA) tend to exhibit more store loyalty (STLY) than those who are tolerant.

This hypothesis is self explanatory and intuitively appealing. Because they favor familiar situations, intolerants should develop more stable preferences for certain store(s). Also, as they have been shown to engage in limited external search for information (see H_6° they should have fewer opportunities to question their existing store loyalties.

H_{10} was tested through univariate analysis of variance with TA as the independent variable and STLY-1 as the dependent variable. As predicted, subjects intolerant of ambiguity were found to be significantly more store loyal than those tolerant of ambiguity ($F=9.95$, $df=1,354$, $p=0.00$). However, similar differences were not observed when the second operationalization of store loyalty-STLY-2 was used as the dependent variable in the analysis of variance ($F=2.16$, $df=1,350$, $p=0.14$). Hence the above finding must be accepted with caution.

Need for novelty

H_{11}: Consumers with a high need for novelty (NNOV) tend to exhibit less store loyalty (STLY).

Underlying H_{11} is the simple idea that store loyalty limits one's opportunities to experience new situations. To test H_{11}, STLY-1 was used as the dependent variable and NNOV as the independent variable in an analysis of variance framework. Consumers with a higher need for novelty were found to be significantly less store loyal than those with lower need for novelty ($F=31.94$, $df=1,387$, $p=0.00$). However, the hypothesis was not validated when STLY-2 was used as the dependent variable in the analysis ($F=1.30$, $df=1,384$, $p=0.25$).

Information processing confidence

H_{12}: Consumers with low information processing confidence (IPC) tend to exhibit more store loyalty (STLY).

Being store loyal obviously reduces the information processing demands on the consumer. This strategy can be expected to be favored by those individuals who lack information processing confidence. This hypothesis was tested by using, respectively, STLY-1 and STLY-2 as dependent variable and IPC as the independent variable in univariate analysis of variance. Subjects with low IPC were found to be significantly more store loyal (as measured by SLTY-2) than those with high IPC ($F=2.71$, $df=1,242$, $p=0.10$). However, these results did not hold when STLY-1 was used to measure store loyalty.

Cognitive differentiation

H_{13}: Consumers low in cognitive differentiation (CD) tend to exhibit more store loyalty (STLY).

There is some emperical evidence (e.g. 28, 29) indicating that people with high cognitive differentiation are more prone to consider a larger array of purchase alternatives. This suggests that they may be more reluctant to patronize a limited number of stores. Analysis of variance with CD as the independent variable and STLY-1 as the dependent variable was used to test this hypothesis. As predicted, cognitively simple subjects exhibited significantly higher store loyalty ($F=4.95$, $df=1,238$, $p=0.02$). The results were also confirmed with the second measure of store loyalty STLY-2 ($F=6.68$, $df=1,237$, $p=0.01$).

Interactive effects

It is possible to gain further insight into the determinants of store loyalty by investigating the interactions among the major variables introduced so far. As noted by Monroe and Guiltinan (30), store choice research has focused on identifying the types of variables that may influence the store choice process without really trying to empirically specify the relationships among these variables. The study findings presented so far suggests that store loyalty may happen when: a) shopping is not viewed by the consumer as satisfying his social and individual needs (such as a general need for novelty), and b) when the perceived uncertainty in the choice environment cannot be expected to be reduced by external search for information. This may occur because the individual lacks confidence in his ability to process this additonal information or because the individual is deeply adverse to gathering and being confronted with unfamiliar situations.

To translate the above statement into an emerically based model of the directional effects of the various variables examined so far is beyond the scope of this paper. Rather a more modest effort was made to investigate the interactive influence of only three major variables on store loyalty. The variables selected were a) attitude regarding shopping

(ASHOP), b) perceived uncertainty in the choice environment (PU), and c) tolerance of ambiguity (TA). The following hypothesis was formulated:

H_{14}: ASHOP, PU and TA are expected to have a positive interactive influence on ESI. The main effects of ASHOP, PU and TA will be in the following directions: store loyal consumers will tend to have less uncertainty in their choise environment and to be more intolerant of ambiguity.

H_{14} was tested by a three-way ANOVA design with ASHOP, PU and TA as the independent variables and STLY-1 as the dependent variable. The results are presented in Table 11. As predicted, store loyal customers were observed to hold less positive attitude towards shopping ($F=3.12$, $df=1,99$, $p=0.08$), perceived less uncertainty in their choice environment ($F=4.77$, $df=1,99$, $p=0.03$); and were less tolerant of ambiguity ($F=30$, $df=1,99$, $p=0.08$). Furthermore, their interaction was also found to be statistically significant ($F=7.58$, $df=1,99$, $p=0.00$) suggesting that specific combination of personality and situational characteristics magnify individual propensity to be store loyal. However, similar statistically significant results were not observed when STLY-2 was used as dependent variable in the analysis.

CONCLUSION

Findings from this study suggest that store patronage behavior is determined by a combination of individual and situational factors (see fig. 1). The store loyal customer can be tentatively represented as an individual who limits his external search for information either because he does not view shopping as a socially or personally gratifying activity or because he does not have the information processing confidence or the tolerance necessary to gather additional information. The findings reported in this paper are by no means definite answers. It is fully recognized that the nature of the relationships among the key determinants of store patronage behavior remains very elusive and incomplete. Techniques of causal analysis will probably permit to develop better insight into the store patronage behavior.

TABLE 11

EFFECT OF ATTITUDE REGARDING SHOPPING (ASHOP), PERCEIVED UNCERTAINTY (PU) IN THE CHOICE ENVIRONMENT AND TOLERANCE OF AMBIGUITY (TA) ON STORE LOYALTY

SOURCE OF VARIATION	DF	MEAN SQUARE	F	P
ASHOP	1	37.20	3.12	0.08
PU	1	56.86	4.77	0.03
TA	1	35.73	3.00	0.08
ASHOP x PU	1	7.12	0.59	0.44
ASHOP x TA	1	0.52	0.04	0.83
PU x TA	1	0.41	0.03	0.85
ASHOP x PU x TA	1	90.30	7.58	0.00
Residual	99	11.91		

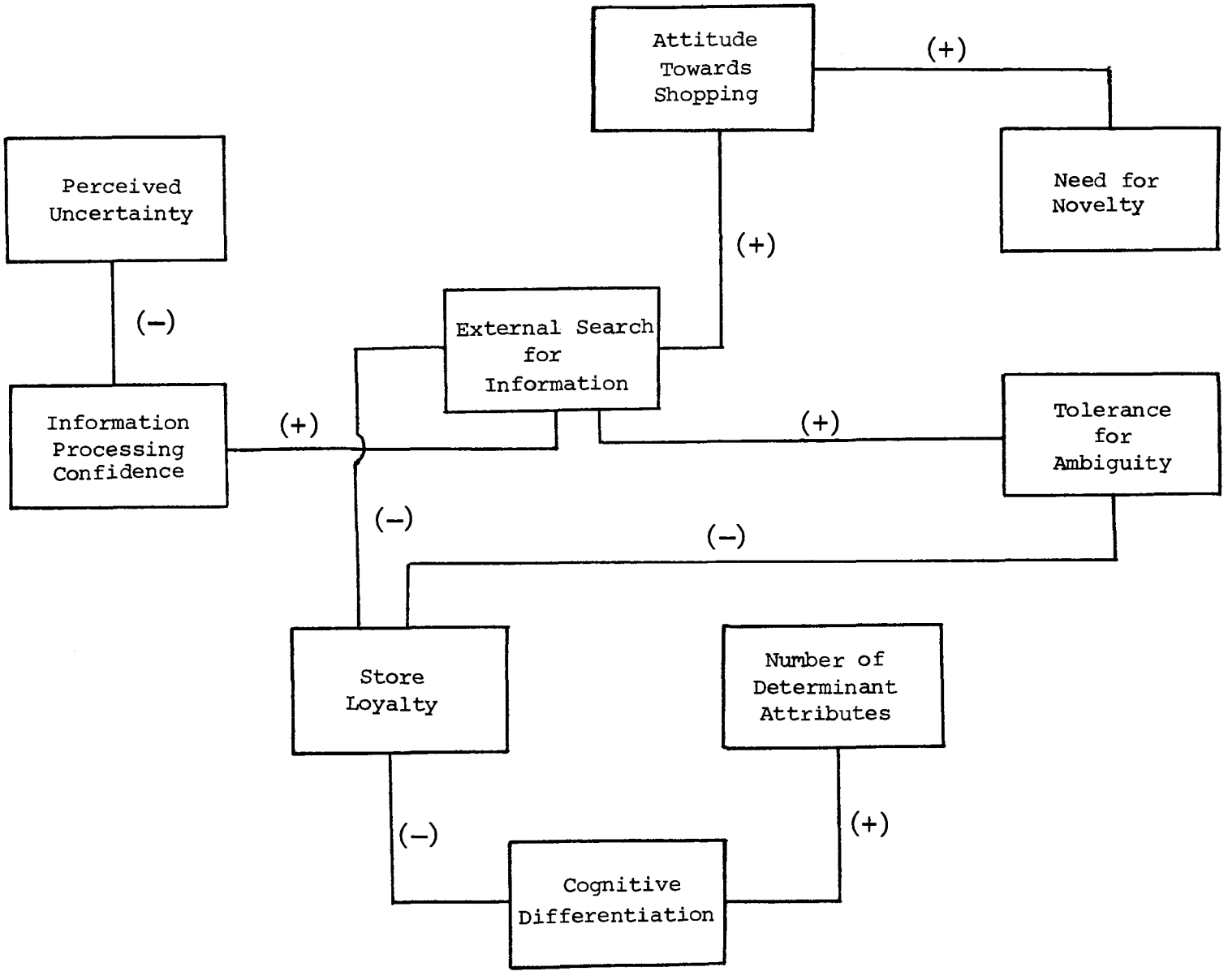

FIGURE 1

A REPRESENTATION OF THE OBSERVED DETERMINANTS OF STORE PATRONAGE BEHAVIOR

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