

ILLUSORY CORRELATION IN MANAGERIAL DECISION MAKING: A PRELIMINARY SEARCH FOR EVIDENCE USING THE PROTOCOL METHOD

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Evidence from an exploratory protocol analysis of small retail managers confirms the use of prior beliefs and prior knowledge in managerial decision making. The potential for illusory correlation is discussed along with its managerial implications.

INTRODUCTION

The types of information used by decision makers that are based on experience from prior situations have been called "prior beliefs" or "prior knowledge" or "prior experience." This is documented in the literature of cognitive psychology, sociology and consumer behavior (Duncan and Olshavsky 1982; John, Scott and Bettman 1986; Simonson, Huber and Payne 1988). Research by cognitive psychologists has also shown evidence of the existence of personal schemas and scripts being used by individuals as they make decisions (Alba and Hutchinson 1987; Fiske, Kinder and Larter 1983; Johnson, Johnson and Little 1984; Sujan, Sujan and Bettman 1988; Venkatraman and Villarreal 1984). Personal schemas and scripts have been described as knowledge structures or sets of expectations which are based on past experience (Brewer and Treyens 1981). "Rules of Thumb" would be included here. Desphande and Zaltman (1982) concluded from their research that managers rely more on prior beliefs and intuition than on marketing research. In light of their conclusions and the extensive consumer-oriented decision making findings cited earlier, there is a need for more study of the use of prior beliefs, knowledge and experience in the marketplace. Further, a focus on the decision processes used by actual managers as they run their businesses would add validity to the exploration.

The objectives of this work are: 1) to explore, using the protocol method, how a small group of independent retail store owner-operators make their promotion decisions, 2) to

search for evidence of the extent to which they appear to use singly, or in combination, prior beliefs, knowledge and experience, 3) to identify the cognitive rules being used 4) to examine the potential use of illusory correlation by the participating decision makers, and 5) to determine the applicability of the protocol method to this task. The work should be viewed as primarily conceptual with the inclusion of a preliminary search for evidence to support the ideas set forth. Also, the authors propose that the protocol method is an appropriate methodological approach to follow.

RELEVANT RESEARCH REVIEW

Schemata theory (Brewer and Treyens 1981) assumes that an individual's prior experiences will influence how he/she processes new information. Individuals have been theorized to have mental schematic structures which govern their expectations concerning existing events (John, 1985). These schemata are developed through experience and observation, and are recalled when information in a new situation must be processed. According to Brewer and Treyens (1981) schemata influence information processing by:

1. determining what is attended to and encoded into memory,
2. acting as a framework for new information,
3. integrating information into specific episode (or situation) frameworks,
4. guiding the retrieval process, and
5. determining what information will be communicated.

That is, individuals have been theorized to have memory structures (schemata) developed from past experiences and observations which they call upon in existing situations for clearer understanding and guidance. Gilovich (1981) studied the affect of analogies and associations formed from prior

experience, beliefs and knowledge upon decision making. He found that, rather than view each new decision making situation as novel, an individual compares the new situation to past events and decisions. From this comparison the individual determines the associations among existing and past events that he/she has experienced. The individual develops the associations and analogies that connect past situations with the current situation. These analogies and associations often influence current decision-making situations, that is, past events are used to help make decisions in the present.

The conceptual and empirical literature dealing with the experience level of decision makers indicates that experienced decision makers have developed extensive schemas which allow them to make quick assessments of problem situations and easily come to solutions (Chi, Feltovich and Glaser 1981; Fiske, Kinder and Larter 1983; Johnson, Johnson and Little 1984; Lurigio and Carroll 1985; Sujun, Sujun and Bettman, 1988). Hence it appears that decision makers with relevant prior experience, beliefs and/or knowledge are able to draw upon internally stored information and apply it to a specific current problem solving situation. Thus, experienced decision makers develop problem specific analogies and associations that can be applied to existing problem situations. In summary, cognitive structures such as schemas, analogies and associations, have been shown to be networks of stored information that individuals have constructed from past experience or prior knowledge and/or prior beliefs. Information is categorized and stored in a useful manner to allow for quick problem assessment and efficient determination of possible solutions.

Turning now to the concept of illusory correlation, Tversky and Kahneman (1974) found that decision makers use intuitive inferential procedures to reduce the complex tasks of decision making. They identified three inferential procedures: representativeness, availability, and adjustments and anchoring. As shown in Table 1, a number of errors and biases were found to be inherent in these inferential procedures. One of these errors is called "illusory correlation." Illusory correlation is an inferential bias which empirical evidence from the fields of sociology, cognitive psychology and decision making, has shown to result from the use of prior beliefs and stored knowledge in decision making (Thompson 1992). Illusory correlation was defined by Chapman (1967) as "systematic error in reporting of observation by decision makers of a supposed correlation between two classes of events which, in reality, are a) not correlated, b) correlated to a lesser extent than reported, or c) correlated in the opposite direction from which is reported." Illusory correlation has implications for managers in decision-making situations. Decision-making problems involving analysis of alternatives often require judgments of likelihood and probability. An example of this would be the problem relating to the likelihood that a certain promotion budget was correct

for a certain task. The presence of illusory correlates has been shown to blind managers to valid correlates, to increase their confidence in their own potentially erroneous judgments, and to restrict their search for disconfirming evidence (Thompson 1992). If a decision maker formulates a false correlation between variables, such as if business is good there is a decreased need for promotion, or misjudges the magnitude of the correlation, then he will use invalid information for evaluating alternatives and selecting courses of action. Thus, decision making will not be conducted under optimum conditions.

What is the relationship between illusory correlation and the use of cognitive structure? Decision makers have been shown to use an extensive knowledge network that was developed from prior experience, prior beliefs and prior knowledge. The decision maker applies this previously developed network of information to a present situation thought to be analogous to the past situation. Illusory correlation can occur in the development of the knowledge networks, or in the application of the networks to a current situation. Having considered the literature, it was the aim of the authors to attempt to assess the level of presence of cognitive structures among a sample of small independent retailers in a specific marketplace, to preliminarily assess the impact of prior beliefs, knowledge and experience, and to seek evidence of the presence and extent of the of illusory correlation. This would all be done with a specific focus on promotional decision making.

METHODOLOGY

Data Collection

The protocol method of data collection was chosen. The protocol used in this case was the decision maker's description of the steps followed and the thought processes carried out during promotional decision making. It was a verbal trace of the decision making process as it happened, rather than a post hoc reconstruction. Protocol analysis allows for an examination of the decision making process not possible with input-output analysis where the typical emphasis is on the output rather than the process. Stautamoyer and Lindquist (1991) provide a comprehensive discussion of this technique. Using the protocol procedure, the subject is instructed to think aloud while performing a decision task. The subject's verbal report is recorded and the transcription of the decision making process is content analyzed. The protocol method has proven to be successful in studying the decision making process (Alexis, Haines and Simon 1968; Bettman 1970; Bettman and Park 1979, 1980; Bettman and Zins 1977; Crow 1974; Crow, Olshavsky and Summers 1980; Desormeaux and Nantel 1987; Howard and Morgenroth 1968; Hulbert, Farley and Howard 1972; Lussier and Olshavsky 1979; Olshavsky and Acito 1980; Payne and Ragsdale 1978; Russo 1978; Russo and Rosen

TABLE 1
CONCEPTUAL FRAMEWORK FOR ILLUSORY CORRELATION

Judgmental Heuristics*	Intuitive Errors
<u>Representability</u>	Insensitivity to prior probability
	Insensitivity to sample size
	Misconception of chance
	Insensitivity to predictability
	Illusion of validity
	Regression misconstrual
<u>Availability</u>	Biases due to retrievability
	Biases due to effectiveness of search set
	Biases of imaginability
	<u>Illusory correlation</u>
<u>Anchoring and Adjustment</u>	Hindsight bias
	Biases in evaluation of conjunctive and disjunctive events
	Anchoring biases in assessment of subjective probability distribution

*Tversky and Kahneman (1974)

1975; Stautamoyer and Lindquist 1991; Stiles 1972; Wind 1968). Therefore this verbal trace method was thought to be a potentially appropriate choice to investigate small retailers' promotion decision making.

Realistic, though hypothetical, promotion decision situations were used as the bases for collection of the verbal protocols from the retailers. Written scenarios, describing typical decisions involving either the use or non-use of co-operative advertising and discount opportunities offered by a major supplier were given to the promotion decision maker who was often the owner-operator. Written scenarios were used to ensure that all the decision makers had the same information about the decision task. Any differences in the verbal protocol could thus be attributed to individual decision maker differences rather than the decision situation. The scenarios were developed after discussions with retailers similar to those who would be participating in the study and were verified as "typical" and realistic by them. Also, as the data in this preliminary investigation were gathered, the participants were asked to indicate how realistic the scenarios were and all agreed the situation descriptions used typically occurred in their business.

The Sample

Protocol data collection and analysis is both complex and time consuming, hence a small sample is typically used. Since this was an exploratory search for evidence to support a conceptual framework and to test the applicability of the methods, a small sample was deemed appropriate. The sampling frame was a pool of 28 independently owned and operated furniture stores in a Metro Area of 250,000 in the midwest. The managers of eight (8) stores where co-operative advertising was used agreed to participate. The owner-operators of six stores were selected for the data collection. The remaining two retail furniture store owner-operators were used to offer a preliminary validation of the findings of the other six. Also, each of the participants read the summary of their individual transcripts to assess accuracy, and minor changes were made where necessary. The participants were very experienced in the marketplace and in the furniture business. Hence the group provided the researchers with an excellent pool of individuals who had faced the promotion decision process numerous times in the past.

Data Analysis

The analysis was carried out with the goal of finding

TABLE 2
USE OF COGNITIVE PHRASES IN THE VERBAL PROTOCOL

Respondent	I Think	I Feel	I Believe	Total
1	15	4	4	23
2	41	7	1	49
3	43	2	9	54
4	6	0	2	8
5	14	7	0	21
6	48	0	3	51
Totals	167	20	19	206

TABLE 3
COGNITIVE STATEMENTS CLASSIFICATION

Statement Type	Mention Frequencies		
	Prior Beliefs	Prior Knowledge	Prior Experience
<u>Promotion Decision Making</u>			
Doing What Works	5	0	17
Advertising Budget	8	1	4
Advertising Medium	15	0	3
When to Advertise	5	3	5
What to Advertise	2	1	1
Why Advertise	3	0	0
<u>Planning</u>	3	0	3
<u>Pricing</u>	2	0	2
<u>The Customer</u>	13	0	1
<u>The Weather</u>	1	0	4
<u>General Rules</u>	7	0	4

evidence of the application of prior beliefs, knowledge and/or experience to the decision situations faced by the retail store decision makers in the sample. In order to identify the cognitive structure being used, the taped verbal protocols were transcribed and then content analyzed. Two judges were selected. They discussed how to evaluate the transcripts. One of the judges was experienced in selecting indicator words or phrases and she trained the second judge. Each then independently evaluated the transcribed protocols. Using an approach described by Read (1987) for the reconstruction of knowledge structures, each judge looked for terms which were thought to

be associated with prior beliefs and prior knowledge. Three phrases, "I think", "I feel", and "I believe", were chosen as representative clues of cognitive structure because their use was representative of data or knowledge from the respondent's memory store. For example, "I think two-career couples plan more" was a statement used by one of the respondents to justify a promotion decision. In this statement, "I think" indicated a use of knowledge that came from outside the decision making situation and was not provided by the researchers, i.e. arguably from the respondent's memory store. Statements of this type were considered to be applica-

tions of cognitive structure, built on prior beliefs or prior knowledge or prior experience, to the decision making situation at hand. Next, evidence of the use of analogies and associations was sought out. Each judge independently recorded the use of statements which were thought to be cognitive decision rules. Information bits from past events that were associated with present situations were of interest in helping to preliminarily identify these "rules." After the preliminarily identification of rules was completed, these rules were used throughout the cognitive and illusory correlation analyses.

The rules were grouped into logical categories independently by each judge. Changes were made as necessary by consensus. The authors then assigned names to the groups.

FINDINGS AND DISCUSSION

Table 2 is a display of the use of the cognitive phrases by each respondent. The use of "I think" was most common (8 to 1), however, the frequency of use varied among the respondents. The overall level of use of these phrases was evidence that prior beliefs and prior knowledge was apparently important in the promotion decision making situation for this small group of respondents. As a group, these frontline small business promotion decision makers used from 8 to 54 cognitive phrases during their protocol verbalizations. On average about 30 such phrases were used.

Next, 120 cognitive statements that were decision-specific were identified. Examination yielded 113 usable and non-redundant statements which were then grouped into 11 categories. Since the scenarios and the processes followed were focused on promotional strategy elements, one would expect the classification of cognitive statements to be heavily skewed in that direction -- this was the case. Table 3 is a summary of the findings of the content analyses of the protocols as it relates to these cognitive statements. Here the perspectives are on decision statement type and classification based on the judges' interpretation of influence of "prior beliefs," "prior knowledge" or "prior experience."

Six of the categories were directly related to the hypothetical promotion decision making situation. These were: "doing what works", "advertising budget", "advertising medium", "when to advertise", "what to advertise" and "why advertise." The balance of the statements related to planning, pricing, the customer, the weather and general rules. The cognitive rules, which are summarized in Appendix A, were also the basis for the illusory correlation analysis. Specific statements or "rules" used by the respondents shed light on the potential for illusory correlation. For example, one respondent indicated that when business was good, the advertising budget should be reduced: "When you're really rolling then

you can go a little bit less in your advertising because they're coming to you anyway". That is, when called upon to budget for promotion, the manager applied this rule reducing the advertising budget when business had been good. He applied a previously developed association to the current situation that he thought to be analogous to a past situation. If the correlation between good business and reduced need to advertise is incorrect or the correlation between the past good-business situation and the present situation is incorrect, illusory correlation occurs. The decision maker may not make the optimum decision because there is no need to look for disconfirming evidence. Here a representative rule, easily applied, is available for use so there is no need to look any further.

Another example concerns the rule "Doing What Works." Respondents indicated that promotion decisions were made based on what had worked in the past, what was consistent with past policy, and what the competition had been doing. But, what if the present situation was different from the past? What if something new would work better? When the past is correlated with a present situation, without concern for its applicability to the present, a search for another solution to the problem will not be considered. Potentially better solutions go unused. With the "Time to Advertise" rule, the respondents indicated certain days of the week were better days to advertise than others. They did not indicate if this was true of all products, all sales, or all markets, but rather these days were just considered the best. Without formal research, it is difficult to ascertain the appropriateness of these rules. However, since the rules have been applied in the past, and have been stored and then correlated to the present situation, it is unlikely that the user would seek-out disconfirming evidence. Thus, the cognitive rules, which reflect the individual's use of prior beliefs and prior knowledge, continue to have the possibility of existing long past their usefulness or suitability. As Tversky and Kahneman (1974) noted, without feedback concerning the lack of success of outcomes, these rules go unchallenged. Users may consider outcomes to be successful because they are unaware of poor results or potentially more successful outcomes. They are confident in their judgments and thus continue to use the rules to reduce decision making difficulties. Decision making thus takes place under less than optimal conditions.

In summary, the research did provide a way to preliminarily explore how a specific group of independent retail store owner-operators made their promotion decisions. Second, the search for evidence to determine to what extent these retailers appear to use singly, or in combination, prior beliefs, knowledge and experience was deemed successful (See Table 2). The third objective of the research was to identify the cognitive rules being used in promotion decision making by the respondents. A listing of these rules is in Appendix A and a summary of the types of cognitive statements is contained in Table 3 and was discussed earlier. Next, this

exploratory research design was constructed to examine the potential use of illusory correlation by the participating decision makers. Again, an examination of Appendix A and Table 3 with the supporting discussion point toward the potential use of illusory correlation in the promotion decision making process by the participants. Finally, the question of the applicability of the protocol method in the context of such research was posed. This method does appear to have merit in such investigations.

LIMITATIONS

This work was basically conceptual in nature coupled with a preliminary search for evidence to support the concepts considered. Therefore, no attempt to generalize from the data should be undertaken. The data collection and analysis provided preliminary indications of the use of prior beliefs, knowledge and experience as influences on the promotional decisions made by the respondents. There was also preliminary confirmatory evidence of the use of illusory correlation among the respondents.

The sample size was small but acceptable considering the conceptual/exploratory nature of the work. The use of experienced decision makers and the depth of their protocol participation adds a degree of face-validity to the findings. There was insufficient verbalization information about the decision makers' cognitive structures. The authors used "think," "feel" and "believe" as indicators, but additional research is needed to validate or modify this approach. For example, answers are needed to such questions as where was knowledge obtained and why do they think, believe or feel the way they do.

MANAGERIAL IMPLICATIONS

Recent marketing management literature promotes the proposition that the only sustainable competitive advantage available to the company of the future will be the ability to learn faster and react quicker than the competition (De Geus 1988; Dickson 1992; and Stalk 1988). Successful companies will be the ones that can identify changes in the environment and react quickly to new opportunities. Accurate environmental analysis will be critical to the organization's success. Dickson (1992) concludes that "routine rigidity and functional fixedness" will trap organizations in prevailing operational routines making the organization less capable of innovating, imitating and implementing. He further notes that, "one of the most powerful psychological effects that can be observed in human behavior is the inability of the actor to shift mentally from a successful, but inefficient, habitual production rule or activity sequence and see a more efficient way of solving a problem or achieving a goal."

The exploratory study of the retail promotion decision

making presented here points toward the possibility that front line decision makers may be using such habitual cognitive rules for problem solving. If, as Stalk (1988) suggests, quick response time will become one of the most important strategic weapons for organizations, one can expect even more reliance upon quickly recalled cognitive rules in order to speed-up decision making. The question of "suitability" of previously developed rules to the present situation will potentially be of interest. Thus, illusory correlation or other perceptual biases may occur and decision making will take place under less than optimal conditions. As Dickson (1992) noted in his article, little attention has been paid in the literature as to how marketing decision makers scan the marketplace, structure their environmental analysis and use new research technologies in their decision making. This study was a preliminary attempt to understand the cognitive processes that a small group of managers used in their attempt to find solutions to their managerial problems. The evidence of the use of cognitive rules and the potential for perceptual bias found in the study makes one wonder how prior beliefs, prior experience and prior knowledge are successfully applied in decision making situations in a broader context. How do successful individuals and organizations develop the informational structures (cognitive rules) that increase their ability to respond quickly to change? How do they evaluate the appropriateness of their cognitive rules? How do they avoid routine rigidity, functional fixedness and perceptual biases? A recent article by Goolsby and Hunt (1992) may provide insight into the difference between successful managers' cognitive structures and those of the less successful. Using a set of standardized scenarios, they identified three levels of cognitive moral development (CMD). Summarized, these were:

Level 1: Primarily application of one's own rules while learning society's rules.

Level 2: Application of society's rules and living up to what one perceives is expected of him/her.

Level 3: Society's rules are upheld, however, they are applied in a more situational manner. Respect for individual dignity and personal commitment exists.

That is, individuals start off with few cognitive rules about morality. As they learn the rules, they first apply them rigidly and then, as their cognitive moral development progresses, they are able to make situational adaptations of their cognitive moral rules. An obvious question, relevant to the research discussed in this manuscript, is whether managerial decision makers also have levels of cognitive decision making development (CDMD). Thus, the research discussed in this work lays a preliminary framework for studying how cognitive rules can increase the potential for bias and how successful organizations overcome this potential bias and use their cognitive decision making development to successfully respond to opportunities

resulting from environmental changes. It also points toward the need to find ways to help independent retailers and others develop more useful "rules of thumb."

Considering research implications, Dickson (1992) suggests that there is a need for exploration into, "how to increase perceptual alertness of decision makers, reduce their perceptual biases and increase their implementation planning skills." From a methodological standpoint, a wider array of retailers in numbers and types of businesses represented should be studied. This would allow for generalization. Also, the approach could be used to study government and non-profit organizations to see whether the decision making process differs in the application of prior beliefs, experiences and knowledge. Further, more refinement is needed in determining the words and phrases that most accurately reflect the cognitive rules being used by decision makers. Research on

the relative importance of rules used and how they are applied in different situations is needed. Both individual and group decision making should be studied. In the latter case, for example, an appropriate question might be whether the group's collective schemata increase or decrease the potential for illusory correlation. The contribution of the exploratory work reported here includes a preliminary identification of the use of cognitive rules in actual managerial decision making situations and the potential for illusory correlation when these cognitive rules are applied. Also, the protocol methodology appears to be a viable approach to the study and understanding of these challenging topics. Using experienced decision makers resulted in the opportunity for a realistic look a microcosm of promotion decision making. Further, though the managerial problems highlighted were not resolved, a series of practical managerial questions for further research were raised and a seance of research direction was offered.

REFERENCES

- Alba, Joseph and J. Wesley Hutchinson (1987), "Dimensions of Consumer Expertise," *Journal of Consumer Research*, 13 (March), 411-441.
- Alexis, Marcus, George H. Haines, Jr., and Leonard Simon (1968), "Consumer Information Processing: The Case of Women's Clothing," in *Marketing and The New Science of Planning, Proceedings of the Fall Conference*, Robert L. King, ed., Chicago: American Marketing Association, 197-205.
- Bettman, James R. (1970), "Information Processing Models of Consumer Behavior," *Journal of Marketing Research*, 7 (August), 370-376.
- Bettman, James R. and C.W. Park (1979), "Implications of a Constructive View of Choice for Analysis of Protocol Data: A Coding Scheme for Elements of Choice Processes," in *Advances in Consumer Research*, (7), Jerry C. Olson, ed., San Francisco: Association for Consumer Research, 148-153.
- Bettman, James R. and Michel A. Zins (1977), "Constructive Processes in Consumer Choice," *Journal of Consumer Research*, 4 (September), 75-85.
- Brewer, William and Treyens, J. (1981), "Role of Schemata in Memory for Places," *Cognitive Psychology*, (13), 207-230.
- Chapman, L.J. (1967), "Illusory Correlation in Observation Report," *Jnl of Verbal Learning and Verbal Behavior*, (73) 193-204.
- Chi, Michelen, P. Feltovich and R. Glaser (1981), "Categorization and Presentation of Physics Problems by Experts and Novices," *Cognitive Science*, (5), 121-152.
- Crow, Lowell E. (1974), "An Information Processing Approach to Industrial Buying: The Search and Choice Process," Ph.D. dissertation, Indiana University.
- Crow, Lowell E., R. W. Olshavsky, and John O. Summers (1980), "Industrial Buyers' Choice Strategies: A Protocol Analysis," *Journal of Marketing Research*, (Feb), 34-44.
- DeGues, Arie P. (1988), "Planning as Learning," *Harvard Business Review*, (March-April), 70-74.
- Desormeaux, Robert and Jacques Nantel (1987), "Protocol Analysis: An Appropriate Methodology for the Study of Salespersons," in *Developments in Marketing Science*, (10), Jon Hawes and G. Glisan, eds., Akron, OH: Academy of Marketing Science, 326-329.
- Deshpande, Rohit and Gerald Zaltman (1982), "Factors Affecting the Use of Market Research Information: A Path Analysis," *Journal of Marketing Research*, 19 (February), 14-20.
- Dickson, Peter (1992), "Toward a General Theory of Competitive Rationality," *Journal of Marketing*, 56 (January), 55-68.
- Duncan, Calvin and Richard Olshavsky (1982), "External Search: The Role of Consumer Beliefs," *Journal of Marketing Research*, 19 (February), 32-43.
- Fiske, Susan, Donald Kinder and W. Michael Larter (1983), "The Novice and The Expert: Knowledge-Based Strategies in Political Cognition," *Journal of Experimental Social Psychology*, (19) 381-400.
- Gilovich, Thomas (1981), "Seeing the Past in the Present: The Effect of Associations to Familiar events on Judgments and Decision," *Journal of Personality and Social Psychology*, (40 #5), 797-808.
- Goolsby, Gerry R. and Shelby D. Hunt (1992), "Cognitive Moral Development," *Journal of Marketing*, 56 (January), 55-68.

- Howard, John A. and William M. Morganroth (1968), "Information Processing Model of Executive Decision," *Management Science*, 14 (March), 416-428.
- Hulbert, James, John U. Farley, and John A. Howard (1972), "Information Processing and Decision Making in Marketing Organizations," *Journal of Marketing Research*, 9 (February), 75-77.
- John, Deborah Roedder (1985), "The Development of Knowledge Structures in Children," in *Advances in Consumer Research*, (12), Hirschman, Elizabeth and Morris Holbrook, eds., New York, N.Y.: Association of Consumer Research, 329-333.
- _____, Carol Scott and James Bettman (1986), "Sampling Data for Covariation Assessment: The Effect of Prior Beliefs on Search Patterns," *Journal of Consumer Research*, 13 (June), 38-47.
- Johnson, Paul, Michael Johnson and Raleigh Little (1984), "Expertise in Trial Advocacy: Some Considerations for Inquiry into Its Nature and Development," *Campbell Law Review*, (7 #2), 119-143.
- Lurigio, Arthur and John Carroll (1985), "Probation Officers Schemata of Offenders: Content, Development and Impact on Treatment Decisions," *Journal of Personality and Social Psychology*, (48 #5), 1112-1126.
- Lussier, Dennis A. and Richard W. Olshavsky (1979), "Task Complexity and Contingent Processing in Brand Choice," *Journal of Consumer Research*, 6 (September), 154-165.
- Olshavsky, Richard and Franklin Acito (1980), "An Information Processing Probe Into Conjoint Analysis," *Decision Sciences*, (11), 451-470.
- Payne, John and E.K. Easton Ragsdale (1978), "Verbal Protocols and Direct Observation of Supermarket Shopping Behavior: Some Findings and a Discussion of Methods," in *Advances in Consumer Research*, (5), H. Keith Hunt, ed., Ann Arbor, MI: Association for Consumer Research, 571-577.
- Read, Stephen (1987), "Constructing Causal Scenarios: A Knowledge Structure Approach to Causal Reasoning," *Journal of Personality and Social Psychology*, (52 #2), 288-302.
- Russo, J. Edward (1978), "Eye Fixations Can Save the World: A Critical Evaluation and a Comparison Between Eye Fixations and Other Information Processing Methodologies," in *Advances in Consumer Research*, (5), H. Keith Hunt, ed., Chicago, IL: Association for Consumer Research, 561-570.
- _____, and Larry (1975), "An Eye Fixation Analysis of Multi-alternative Choice," *Memory and Cognition*, (May), 267-276.
- Simonson, Itamar, Joel Huber and John Payne (1988), "The Relationship Between Prior Brand Knowledge and Information Acquisition Order," *Journal of Consumer Research*, 14 (March), 566-578.
- Stalk, G. (1988), "Time-The Next Source of Competitive Advantage," *Harvard Business Review*, (July/August) 41-50.
- Stautamoyer, Gail and Jay Lindquist (1991), "Constructing a Comprehensive Promotion Decision Making Model for Small Retailers," in *Developments in Marketing Science*, (14), Robert L. King, ed., Richard, VA: Academy of Marketing Science, 308-312.
- Stiles, Gerald (1972), "An Information Process Model of Industrial Buyer Behavior," Ph.D. dissertation, University of Minnesota.
- Sujan, Harish, Mita Sujan and James R. Bettman (1988), "Knowledge Structure Differences Between More Effective and Less Effective Salespeople," *Journal of Marketing Research*, 25 (February), 81-86.
- Thompson, Ann Marie (1992). "Illusory Correlation: Managerial Implications and Suggestions for Further Research," *Journal of Marketing Management*, (2 #1), 63-70.
- Tversky, Amos and Daniel Kahneman (1974), "Judgment Under Uncertainty: Heuristics and Biases," *Science*, 185 (September), 1124-1131.
- Venkatraman, Meera and Angelina Villarreal (1984). "Schematic Processing of Information: An Exploratory Investigation," in *Advances in Consumer Research*, (9), Kinnear, Thomas C., ed. Provo, UT.: ACR, 335-360.
- Wind, Yoram (1968), "Applying the Behavioral Theory of the Firm to Industrial Buying Decisions," *The Economic and Business Bulletin*, 10 (Spring), 22-28.

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APPENDIX A COGNITIVE RULES

Doing what works...

1. No sense in doing things that are not compatible.
2. We have records, and we know what works.
3. Everything is subject to differences, and what works one time will not work another time.
4. In other words, when I get an ad that I know works, like this lamp shade heaven is working like gangbusters, I'm going to run that until I'm sick and tired of it.
5. People do not stick with a plan.
6. But it's hard to argue with success.
7. Copy exactly what I see someone else doing.
8. I certainly copy others.
9. Really copy what they do, 60% of the time.
10. I do keep all my ads.
11. Can also watch their ads... which ads they're rerunning because they're only going to rerun the ones that work.
12. The ads they repeat are winners, are ones the work. I certainly repeat my good ads.
13. And you can also see that is four of your five competitors are running chair ads the third week in December, the best possible thing to sell the third week of December is probably chairs, because you're not going to have all these guys doing it consistently, unless it's the best.
14. They wouldn't repeat it if it didn't work.
15. I would go look at our track record.
16. Look at what you did last year.
17. Regardless, you've got to compare to what you did last year when you start.
18. Now, it doesn't matter what you did last year, you can't always bank on that.
19. Get the numbers, get the door checks, look at what you did last year, what it is that worked.
20. Consistent
21. Trial and error. We usually know what works. We've been in business 52 years.
22. No real good rule of thumb, no hard and fast rule as to how you judge advertising.

The consumer is...

1. But they're not very impressed by saving one dollar.
2. People tend to gravitate from a smaller market to a larger market.
3. Buying public is very smart, and they're well educated.
4. City A people don't trust you.
5. They're looking for deals.
6. City A is a real strange town. City A and City B yeah... well we have a store in City A. If I had it all to do again, I wouldn't be in City A. Absolutely not. It's too weird of

- a town.
7. Comfort breeds complacency, and the consumer is always changing.
8. They really want a genuine sale.
9. Uh, dual income families plan.
10. They're not going to read that Saturday paper and change their whole day around and say let's go...
11. You got two people working in a household, and you're pretty much booked before the weekend even gets there.
12. Everybody loves a bargain.
13. Hey the demand is there.
14. Because if the store looks the same as it always does, for an anniversary sale, a January clearance or something else, the customer who has been in before says well nothing has changed. They're just trying to trick me.

The weather...

1. In other words, the sun comes out, let's advertise... if it's a snow storm, let's back off.
2. Well there's no doubt in my mind that the full moon has an influence. More activity, including the negative type. I can't prove it scientifically, but I'll bet Person A gets more customer service issues at full moon times than not.
3. Patterning. Sales patterning. There's also weather on there... Cloudy day, rainy day, nice day.
4. Nasty days we do more...
5. I watch the weather very closely.
6. We consider the weather sometimes.

Advertising budget...

1. If they can give me 30% off for a major sales promotion, I'm going to be looking instantly at my buying relationship with that firm, because I'm assuming that I'm paying too much normally.
2. That co-op, normal co-op allowances are typically 50 percent of the amount that is spent, usually related to purchases.
3. We have a target in mind, usually in the 5 to 6 percent range.
4. I would like 10% to be my rent. (the other 90% wasn't budgeted)
5. Anything will help you if it's free.
6. About a 10% ad bud.
7. Unless you can afford to buy across the board, you're not going to reach the entire audience.
8. Come in on a certain percentage.
9. But as long as at the end of the year, dollars spent on advertising are a certain percent.
10. Just shoot from the hip, I don't know... flip a coin. How much have you spent, can we afford to do it?
11. Money plays a big part.

12. When you're really rolling then you can go a little bit less in your advertising because they're coming to you anyway.
13. From our past, well visiting seminars and experience here, that seems to be a productive number.

Advertising medium...

1. Electronic media, it's over and done with, and people are not apt to remember any specifics.
2. You're better off without a lot of pictures.
3. Too many pictures in a sale type brochure are questionable.
4. Half of these flyers or perhaps more than we send out are not read.
5. In newspaper, you get buried in.
6. They're getting so tight on deadlines and there are so many people putting stuff in the paper,
7. that if you don't do it as good as you can, you're not going to get a good ad.
8. Print does have residual. Television has some residuals. Radio has no residuals.
9. We as a rule don't use radio on a regular basis any more.
10. Windows are real important to drag people in.
11. You can just buy the most expensive spots they have and you're assured of getting the right spots. Because there is a reason that they're more expensive.
12. Standing rule, I won't pay for an ad that's placed in the wrong place.
13. Shopper, I think is more for retired people and quite possibly, I guess, blue collar, if you had to draw a line and say there people...
14. Best place to buy is local news.
15. Television... used as an image builder.
16. You can't underestimate word of mouth.
17. Instruction that no two ads are to appear on the same page.
18. People will read signs.

Time to advertise...

1. After Christmas is a good time.
2. Sunday is the day you should advertise.
3. Sunday... it is the most read paper.
4. Home Life Section. It's the most read section of the Gazette.
5. January, February, and March, January and February especially, you can buy television for nothing.
6. January and February is the hot time for innerspring sales, mattresses and box spring sales.
7. The industry says that's when you'll sell most of your bedding.
8. Different things sell better at the different times of the year.
9. You have Sunday, Monday, and Thursday, are your biggest circulation days.
10. Afternoon drive I think is better.
11. Thursday night simply because my ad stands out a little more.
12. Piggy back, then send out twice, okay. Simply because you stand twice the chance of being read.
13. Obviously Saturday's your biggest day.

What to advertise...

1. You look at your inventory and see what you got... It depends on inventory. Inventory is a strong driver of what you advertise.
2. We try to offer a broad diversity of products, that we appeal to a lot of different markets.
3. Advocate of the more you tell, the more you sell.
4. There is an old rule of thumb in advertising, don't advertise what doesn't sell. If you could sell it without advertising, advertise it.

Why advertise...

1. Pretty hard to buy groceries with image.
2. Image building... that's a waste of money.
3. The people who spend all their money on advertising are the ones that don't have to.

Planning...

1. A lot of panic reaction.
2. It's extremely difficult to plan that far ahead.
3. Well, first you have to set a goal.
4. Know your market, know your target; I think that's the biggest thing to know your target and intelligently advertise to them. Don't just throw it out in the wind.
5. Planning in advance, don't do it spur of the moment. Not too far in advance because market positions change.
6. Most ads that don't work, it had never been thought through properly.

Pricing...

1. Thing that is important in our operation, is the pricing.
2. So we think it's important to have only two prices.
3. Prices very often don't change a whole lot for sales.

General rules...

1. That's life.
2. There's just no way that you can hope to survive in business and not be civic-oriented.
3. As we come up through life, a lot of times we carry excess baggage.
4. Do it right the first time.
5. If it's worth doing it's worth doing well...
6. If you're not having fun at what you're doing, forget it and get out of it.
7. Not going to please everybody.
8. When business is bad, business is bad.
9. But service is so vital.
10. You've got to learn how to play the game. It's that more than anything else.
11. You get whatever you can.