To the Graduate Council:

I am submitting herewith a dissertation written by Charles David Shepherd entitled "Skill in Personal Sales: An Examination of Expert Reasoning in Industrial Salespeople." I have examined the final copy of this dissertation for form and content and recommend that it be accepted for the degree of Doctor of Philosophy, with a major in Business Administration.

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We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Provost
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SKILL IN PERSONAL SALES: AN EXAMINATION OF EXPERT REASONING IN INDUSTRIAL SALESPEOPLE

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Charles David Shepherd

December 1989

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ACKNOWLEDGMENTS

Many people contributed to the writing of this dissertation, and I gratefully acknowledge the help that I have received from each of them.

I am indebted to my dissertation chairman, Dr. Joseph O. Rentz, whose continuous support, encouragement and timely advice taught me the meaning of scholarly research. I am also indebted to my committee, Professors Sarah F. Gardial, Michael G. Johnson, and Roger L. Jenkins. With their consultation, criticism and encouragement, I was able to achieve results otherwise impossible. Whatever errors remain in my work, however, are solely my responsibility.

I would also like to thank the participants in this study for their time, patience and understanding. In particular, I am grateful for the cooperation and insights offered by Ken Shepherd of Pet, Inc.

I am also indebted to Jim Caughorn, Debbie Billings and the staff of Graphic Creations, Inc. for the quality of this document and their friendship. Likewise, Steven and Laura Bush, Jill George, Mel Adams, Ruth Ann Mofield, Maria Overstreet, Leslie Fine, Dale and Sylvia Clark, Larry Bush, and Dorn Walker have been true friends, and put up with me throughout this project.

My warmest thanks go to my family. In particular my parents, Clifford and Mildred Shepherd, and sister, May Ledford, have never waivered in their support.

Special thanks also go to Dr. William B. Locander for his insightful contributions during the early stages of this research, and Ann Lacava for her kind support in producing this final document.

Finally, I would like to acknowledge the three scholars who urged me to take up the challenge of an academic career, Dr. Irvin D. Reid, Dr. A. Richard Casavant, Jr., and Dr. Stephen B. Castleberry, and one who pushed me towards completion of this project, Dr. Lawrence P. Etkin.

ABSTRACT

Personal selling has received considerable emphasis in marketing literature. Regrettably, our knowledge in this area has often been found lacking. This dissertation research was designed to counter this weakness by searching for identifiable mental processes that separate the expert from the non-expert salesperson. The differences that emerged should prove valuable in the selection, training, and evaluation of salespeople.

An expert is viewed as one who, by virtue of training and experience, can do things the rest of us cannot. Experts possess an extensive body of operative knowledge. Operative knowledge is knowledge that allows one to perform a given task. In some contexts this is called expertise, in the sales literature it is usually termed skill. Skill has received scant research effort and only recently been added to the dominant model of performance in sales (Churchill et al. 1985). This study focused on explicating the skill construct by borrowing and expanding concepts and methodologies used in the field of cognitive psychology to study expert reasoning in personal sales. Essentially this study consisted of: a) taking a group of expert salespeople and a group of non-expert salespeople, b) subjecting them to a difficult sales situation, and c) examining differences in decision making between the two groups.

The sales situation used in this study was developed using the critical incident technique to isolate elements of the sales job that require exceptional performance. From a population of approximately 150 food broker salespeople, 20 experts and 20 non-experts were selected to participate in the study. This selection was based on a skill measurement instrument developed in the course of this study. The subjects read the problem situation, thinking aloud as they read, and vicariously assumed the role of the salesperson in the problem scenario. Subjects' verbal protocols were recorded, transcribed and analyzed using a procedure outlined by Ericsson and Simon (1984). The results of this analysis produced many insights into: a) time and quality of decision making, b) confidence in decision making, c) the use of experience, d) the structure of knowledge, and e) the process of expert reasoning.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Introduction

Are there identifiable mental processes that separate the expert from the non-expert salesperson? Imagine the following scenario. A newly hired computer salesperson calls on the controller of a local business. The reception is very warm; in fact, the controller is very interested in discussing computers. The discussion continues for approximately two hours. The novice salesperson leaves very excited about the potential for new business. However, a seasoned salesperson in the same situation ascertains that the firm has recently purchased a competitive model computer system, attenuating the probability of any future purchases within the next three to five years. Furthermore, the second salesperson realizes that even though computers are a keen area of interest for the controller, in this situation he has no influence on future computer decisions. The experienced salesperson politely ends the meeting after 15 minutes.

The outcome of this situation has varied depending upon the expertise of the salesperson. In essence, the novice has wasted a considerable amount of a valuable commodity, time available to spend with potential

customers. Alternatively, the expert has accurately assessed the situation and moved on to more profitable use of his time. The difference between these two salespeople is a function of expertise. The purpose of this research is to study expertise in the sales function.

Focus Of The Study

An expert is defined as, "one with special skill or knowledge representing mastery of a particular subject (Webster's Ninth New Collegiate Dictionary 1983)." In other words, an expert is one who, by virtue of training and experience, is able to do things the rest of us cannot. The expert is smooth and efficient in the performance of these tasks. The expert's response to the most difficult situation seems effortless, often even automatic. The expert often uses problem solving heuristics, and is able to see through irrelevant information to get at the basic issues. Experts are particularly good at recognizing situations as instances of ones which are already familiar, generating alternative representations or solutions, and making good choices among the alternatives (Johnson, Johnson and Little 1984).

What the expert possesses, that the non-expert does not, is a body of operative knowledge. Operative knowledge is very different from textbook knowledge. It is the knowledge that actually allows one to perform a given task. An example often used to elucidate this distinction is based

on two possible definitions of a circle (Simon 1969). The circle may be defined as a locus of points equidistant from a given point, or it may be defined by placing a compass on paper so that the sharp end is fixed, and the end with a pencil is rotated through 360 degrees. The first definition is used to prove theorems in geometry, and to understand the concept of the circle. The second definition is the knowledge needed to make a circle. In other words, the second definition is an example of operative knowledge. Ryle (1949) phrased this distinction as "knowing that," as opposed to "knowing how." This operative knowledge or "knowing how" concept appears in the dominant model of salesforce performance (Churchill, Ford and Walker 1985) in terms of the salesperson's skill level. In the context of this research project, the phrases "expertise in sales" and "skill in sales" will be synonymous, and be viewed as operative knowledge in sales. In turn, operative knowledge in sales is defined as the knowledge required to perform the tasks essential for competency in the sales profession.

Regrettably, we currently know very little about expertise in personal selling. Salesforce literature has shown a preoccupation with isolating the determinants of sales performance (Churchill et al. 1985). The result of this stream of research has been rich in theory development, but poor in explanatory power (Dubinsky and Hartley 1986). This shortcoming may be attributed to at least two factors.

First, there has been excessive theorizing with little, and often conflicting, empirical support. This is particularly true in the highly researched areas of salesforce motivation (e.g. Berl, Powell and Williamson 1984) and aptitude (Churchill et al. 1985). Second, the research has concentrated on techniques and activities instead of processes. For example, research has focused on such topics as entertainment activities (Finn and Moncrief 1985), the use of humor in the sales call (Wagle 1985), techniques for gaining customer trust (Swan, Trawwick and Silva 1985), and listing the key activities of salespeople (Moncrief 1986). This focus is on manipulating the behavior of the salesperson to increase sales, often at the cost of understanding the sales function.

In contrast, this program of research centers on the reasoning processes that underlie behavior. Personal selling is a very complex problem solving situation that cannot be understood by simply observing environmental cues and overt behavior. A genuine understanding of the sales situation requires investigating underlying variables such as: (a) the environmental information the salesperson attends to, (b) the meanings s/he ascribes to that data, and (c) the procedural rules s/he applies to adapt to the situation.

The strength of the process oriented approach is its ability to study underlying cognitive processes. At its most fundamental level, the process oriented approach assumes

that individuals are goal directed, and that the overt behavior we observe is only the end result of cognitive processing (see Miller, Gallanter and Pribrim 1960; Neisser 1967; Bettman 1979; Gardner 1984). As stated by Gardner, "Rather than behavior being consequent upon environmental promptings, central brain processes actually precede and dictate the ways in which an organism carries out complex behavior" (1984, p. 13). Therefore, to gain depth in understanding the sales situation the focus must be shifted away from overt behaviors toward underlying processes.

Implications Of The Study

Theory

This research has several significant theoretical implications. First, it directs research attention to the skill aspect of salesperson performance. Skill level is a neglected area of study that has only recently been added to the dominant model of salesperson performance (Walker, Churchill and Ford 1977; Churchill et al. 1985). Research into skill in sales should allow for further refinement of the entire model of salesforce performance, and, specifically, the skill component of the model.

Second, this is one of the first sales research projects to tap the rich field of empirical studies dealing with expert reasoning. It has been stated that marketing's behaviorally

dominated research programs have resulted in understanding of the salesperson that is woefully inadequate (Walker et al. 1977). Instead of this behavioral trend, expert reasoning research tends to focus on the reasoning processes underlying human behavior. The integration of expert reasoning methodology into mainstream sales research should provide greater understanding of the reasoning processes that underlie sales behavior. This perspective has been legitimized by the cognitive revolution in the social sciences (Bettman 1979; Gardner 1984) and should allow greater depth of understanding than could ever be expected from studies simply focusing on behavior. The end product should provide insights into the reasoning processes that separate expert salespeople from those of lesser ability. In other words, this research is designed to help explain why certain salespeople consistently outperform their peers.

Practice

The purpose of this research is to understand expertise in sales through discoverable skills possessed by those recognized as experts. The knowledge gained from this research has several immediate applications in salesforce management. First, the results of this research can be directly applied to the screening of new hires. This is

particularly true in the hiring of experienced salespeople. It may also be utilized in the assessment of existing salespeople as they become candidates for promotion into management. In both these situations, the candidate's possession of certain levels of competency may be assessed using the methodology developed in this research project.

Second, the results of this study can be used to provide organizing principles and instructional materials to enhance sales training programs. With the average cost of training one salesperson estimated at $30,000 (Sales and Marketing Management 1988), it is important to maximize the effectiveness of this large investment.

Finally, the results of this study could provide the rudiments for an artificial intelligence expert based system in the sales area. Such a system would allow the ordinary salesperson access to a reservoir of experience and strategies possessed by experts in the sales profession. This should enhance the salesperson's ability to compete, and to better serve the customer (Rubash, Sullivan and Herzog 1987).

Overview Of The Study

The research was conducted in two phases. In the first phase, specific critical problems encountered in the sales job were gathered using the critical incident technique of job assessment (Flanagan 1954). The critical incidents

were then used to develop a simulated problem situation which was used to differentiate the reasoning processes of the expert from the non-expert. Although this methodology is applicable to any area of professional expertise, concentration on a specific industry tends to both block extraneous variables and increase the power of the study. Further, this approach recognizes that the requirements for success varies with the type of product sold (Churchill, Ford, Hartley and Walker 1985; Kahn and Shuchman 1961; Moncrief 1986).

The second phase of the study entails presenting the problem situation to both non-expert and expert salespeople who verbalize their thought processes as they work through the problem. The outcome of this analysis begins to provide a map of the sequencing of thoughts involved in the subject's decision process as they actually occur (Ericsson and Simon 1980) and document the attributes and structure of operative knowledge underlying expertise. The results contribute insights into the mental processes that separate the expert from the non-expert salesperson.

The research project will be detailed in the following chapters. Chapter 2 serves as a literature review. The literature review starts with a broad focus on salesforce literature. It then proceeds to narrow this focus to concentrate on the skill level of the salesperson. Finally, the literature review ties the sales literature on skill level with

the concept of expertise. Chapter 3 presents a description of the methodology followed in this study. This section includes operational definitions, a detailed explanation of the procedure, and the method of investigation to be used in this project. Chapter 4 documents the results of this study. Finally, Chapter 5 consists of a discussion of the results and the conclusions of the project.

CHAPTER 2

BACKGROUND TO THE STUDY

Introduction

The purpose of this chapter is to evaluate the present understanding of expertise in personal sales by reviewing the available literature. The chapter will first examine the sales literature, specifically focusing on the skill attribute. Second, the chapter will survey literature in the area of expert reasoning. Finally, the integration of these two areas will lead to several questions which will guide this research.

Salesforce Literature

Positive Versus Normative Traditions

One macro approach that has been used to organize marketing literature is the positive/normative dichotomization. The positive approach is a perspective that allows marketing to be examined and described as it naturally exists. In the positive approach there is no effort to make a value judgement. As Hunt (1983, p. 10) states, "Positive marketing adopts the perspective of attempting to describe, explain, predict, and understand marketing activities and phenomena that actually exist." This positive

approach is very evident in the early marketing literature stressing the principles and practices of the field (for example, see Tipper, Hollingworth, Hotchkiss and Parsons 1915; Butler 1917). In fact, most of the marketing literature prior to 1960 was of a positive nature (Hunt 1983).

The alternative to the positive approach is to examine what marketing "ought to be" and what organizations' and individuals' "ought to do." This approach to the study of marketing has been labeled the normative approach (Hunt 1983). Even though early marketing literature was predominantly positive in nature, there were some notable exceptions which took the normative perspective. One of the earliest exceptions was Weld's (1920) publication, "The Marketing of Farm Products." Weld's approach was primarily positive, but he did begin to raise several value laden questions concerning distribution issues. Such questions became more figural in a 1936 publication by Stewart. The normative nature of his article is very evident from its title, "Does Distribution Cost Too Much?"

Weld's and Stewart's publications seem to be harbingers of a trend toward the normative perspective that reached a point of dominance in marketing literature around 1960. Two publications in that year signified the emergence and dominance of the shift to the normative perspective for marketing thought. The first was Levitt's

landmark article, "Marketing Myopia." The second was McCarthy's managerially oriented marketing principles textbook. Since these two publications, the normative approach has dominated marketing literature (Hunt 1983).

This dissertation research focuses on the personal selling aspect of the marketing mix. A review of personal selling literature fails to show the same tendency seen in general marketing literature. That is, sales literature did not start with a positive perspective. Instead, sales literature appears to have a normative predominance throughout its history. This normative perspective has resulted in a preoccupation with influencing the performance of the salesperson.

The first article to study salesperson performance was published by Oschrin in 1918 (Churchill, Ford, Hartley and Walker 1985). The study was an attempt to correlate sales ability with certain mental tests. These tests were predominantly standardized psychological tests, such as word association and word substitution. The subjects were retail saleswomen employed by a large New York City department store. The conclusion of the research was that vocational selection should be made based upon the evidence of performance on such tests. This conclusion has been questioned in later research (see Ghiselli 1969). However, the relevant point is: this study was designed to show the sales manager a technique for selecting the best

recruits. The implication was that the manager should use vocational testing in the selection of salespeople in order to get maximum return from this aspect of the marketing mix.

This same normative approach is seen throughout most of the literature following the Oschrin article. In 1943 Chamberlain stressed that management ought to use aptitude tests to both help develop salespeople to the fullest of their ability, and to help companies upgrade their training programs. The following year an article was published on the use of talking pictures to supplement the salesforce (Francisco 1944). This article took a normative stance, stressing the manager's need to keep sales volumes high to accommodate the growth in output resulting from the war effort.

In later years the normative trend has continued in the salesforce literature. For example, a typical article explained that special incentives should be used to entice the average salesman to do a better than usual job (Haring and Myers 1953). More current literature has been dominated by theorizing on multiple determinants of salesperson performance (see Walker, Churchill and Ford 1977; Churchill et al. 1985; Churchill, Ford, Hartley and Walker 1985). Such research fits the normative rubric by attempting to identify the key variables which management should use to influence the performance of salespeople.

Certainly, there have been salesforce articles published using the positive approach, but they have been few in number. Examples of the positive approach in sales literature include Tosdal's descriptive article detailing significant trends in sales management in 1941. Another example is Applebaum's (1943) case history of sales quotas in the bread business. The positive approach can also be seen in a more current article describing The Sales Executive Club of New York (Chasin 1987). Chasin's article was the first in a series of journal articles detailing organizations and associations which support personal selling and sales management.

In sum, the salesforce literature has not followed the positive/normative trend Hunt (1983) observed in the general marketing literature. Even articles that on the surface appear descriptive seem forced to conclude on a normative note. The general format for such descriptive articles can be seen in recent explorations of the utilization of automation in personal selling (Wedell and Hempeck 1987) and the status of women in professional selling (Gable and Reed 1987). In both cases, the authors start by describing the phenomenon as it exists, but then raise several normative issues.

At this point two important issues should be addressed. The first question is, "Why has the sales literature shown this preoccupation with the normative

approach?" It appears that sales researchers have felt a need to justify their research by stressing the managerial implications of each concept. Salesforce research does not seem to show the desire for knowledge for its own sake that we see in consumer behavior and other areas of marketing (see Anderson 1983). Instead, the literature base is almost exclusively dominated by the desire to increase the performance of the salesperson.

The second question is, "Has this preoccupation with the normative approach been beneficial?" Stressing the goal of influencing behavior in the short run can result in neglect of long term understanding. The emphasis on influencing the behavior of the salesperson or prescribing how to increase sales has resulted in woefully inadequate understanding of that behavior (Walker et al. 1977). Furthermore, it has degraded the image of salesforce studies to the point that Walker, et al. state, "Though effective management of the salesforce is obviously crucial to the success of many organizations, academia has relegated the study of this field to 'second-class' status (1977, p. 156)."

Determinants of Salesforce Performance

The normative nature of the salesforce literature provides a strategy for reviewing that literature base. Following the field's overwhelming interest in improving

sales performance, the literature can be categorized according to the determinants of salesforce performance it explores. Churchill, Ford, Hartley and Walker. (1985) use this technique in their meta-analysis which explores the salesforce literature published between 1918 and 1985. The meta-analysis categorizes the available literature using their model, often referred to as the Churchill, Ford and Walker model, of the determinants of salesperson performance (Walker et al. 1977).

Before consideration of the meta-analysis, the model around which it is framed should be explored. The original model is shown as Figure 1. This model of salesperson performance is a motivational model in the tradition of expectancy theory (Vroom 1964). The central idea of Vroom's model of motivation is that the strength of a tendency to act in a certain manner depends on the strength of an expectancy that the act will be followed by a given consequence and on the value of that consequence to to the actor (Lawler 1973). The Churchill, Ford and Walker model (Walker et al. 1977) hypothesizes that the job performance of a salesman is a function of his level of motivation, his sales aptitude or ability, and his perceptions about how his role should be performed. These role perceptions are hypothesized to influence the salesperson's level of intrinsic and extrinsic satisfaction. In keeping with expectancy theory, the feedback loops in the model

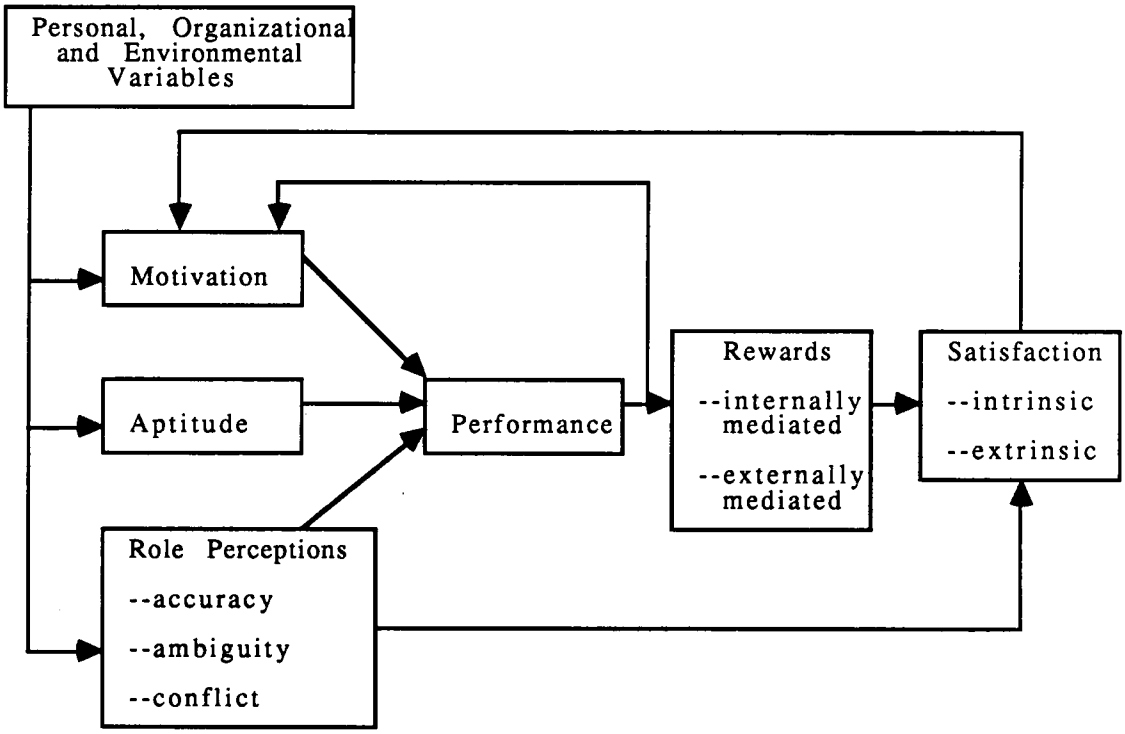

Figure 1. Churchill, Ford and Walker's Model of Salesforce Performance (Walker et al. 1977)

indicate that performance and satisfaction each impact motivation.

The following section will more specifically detail salesforce literature using the Churchill, Ford and Walker model as a framework. In particular, it will examine the literature relating to the following components: motivation, aptitude, role perception, and personal, organizational, and environmental variables.

Motivation. The motivation component is the cornerstone of the Churchill, Ford and Walker. In their conceptualization, motivation is viewed as the amount of effort the salesperson desires to expend on each of the activities or tasks associated with the sales job. In keeping with expectancy theory, motivation is a function of the salesperson's expectancies, or estimates of the probability that expending a given effort will lead to improved performance on a specific dimension, and their valences for performance, or perceptions of the desirability of attaining improved performance on those dimensions. Valence for performance seems to be a function of: (a) the salesperson's instrumentalities, or probability estimates that achieving improved performance on a dimension will lead to increased rewards, and (b) the salesperson's valences for rewards, or his/her perception of the desirability of receiving those rewards. For example, a compensation plan that ties a significant monetary bonus to a sales quota which the salesperson perceives as achievable should result in high motivation.

Almost all research in salesperson motivation is built upon expectancy theory. For example, researchers have investigated the relationship between salespeople's satisfaction with pay and valence levels (Churchill and Pecotich 1982), job characteristics and levels of valence (Becherer, Morgan and Richard 1982), and job expectancy

and instrumentality perceptions (Teas 1981). In general these studies have found that these variables do, in fact, have an impact on motivation (for reviews of expectancy theory research in selling see Evans, Margheim and Schlacter 1982; Comer and Dubinsky 1985).

At least two alternatives to the expectancy theory of motivation have been seen in the recent literature. First, attribution theory has been posed as an alternative perspective on motivation (Weiner 1980). Essentially attribution theory is based on the assumption that individuals seek to know why things happen. In particular, individuals desire to attribute a cause for unexpected negative occurrences. As yet no complete attributional model of salesforce motivation has been empirically tested. However, Teas and McElroy (1986) present an interesting conceptualization that attempts to integrate attribution theory with expectancy theory.

A second alternative theory of motivation is presented by Berl, Powell, and Williamson (1984). This work is based on Herzberg's Motivation-Hygiene theory (Herzberg, Mausner, and Snyderman 1959). Basically, Herzberg's theory assumes that the job environment is made up of two types of variables: (a) hygiene factors, and (b) motivational factors (Berl et al. 1984). Hygiene factors do not actually motivate, but if absent act as dissatisfiers. Job security is often stated as an example of a hygiene

factor. In contrast, when motivational factors are present they act as motivators. Recognition is often identified as an example of a motivational factor. Herzberg's theory has been used to study motivation in life insurance sales (Ewen 1964; Gordon 1965) and industrial salespeople (Berl, Powell, and Williamson 1984). In general, Herzberg's theory has had mixed results (see Bockman 1971; Whitsett and Winslow 1967). None of the sales studies have unequivocally supported the theory. In fact, the industrial sales study (Berl et al. 1984) found no support for Herzberg's dichotomy.

Certainly, the assumption that performance is related to motivation has great intuitive appeal. Regrettably, the link between salesperson motivation and performance has received scant research attention (Comer and Dubinsky 1985). While studies by Bagozzi (1980) and Oliver (1974) found a positive relationship between motivation and performance, a recent study of retail salespeople found motivation unrelated to performance (Dubinsky and Skinner 1984).

In summary, motivation has often been postulated as a determinant of sales performance. Perhaps the greatest research needs in the motivation area are: (a) conceptual development of alternative theories of motivation, and (b) empirical investigations of the link between motivation and performance.

Aptitude. Salesperson aptitude is another determinant of performance in the original Walker et al. (1977) model. The sales aptitude component is largely seen as a constraint on the salesperson's ability to perform the sales job, given an adequate understanding of his role and motivation to perform in that position. Aptitude has often been thought to be a function of personal and psychological characteristics, such as:

1. Physical factors, such as age, height, sex, and attractiveness.
2. Mental abilities, such as verbal intelligence and mathematical ability.
3. Personality characteristics, such as empathy, ego strength, sociability, aggressiveness, and dominance. (Churchill et al. 1985)

It is intuitively appealing to view aptitude as a major determinant of performance in personal selling. As a result, aptitude has traditionally received the greatest amount of research attention (Churchill, Ford, Hartley and Walker 1985). As previously mentioned, the first study published concerning salesperson performance was a 1918 study that investigated the relationship between aptitude and performance. Since this initial study the majority of studies reported in the literature use aptitude as the predictor of performance (Churchill, Ford, Hartley and Walker 1985).

What have we learned from this stream of research? Table 1 is adapted from a previous study by Weitz (1981) to display the inconsistent and contradictory nature of this stream of research. The chart displays studies in which aptitude traits are shown to significantly relate to performance, as well as studies in which the same aptitude traits are shown not to significantly relate to performance.

While many studies have shown a significant relationship between aptitude traits and performance, these studies have been very inconsistent or contradictory in their findings (Weitz 1981). In some cases the inconsistent results may be attributed to methodological differences. For example, the contradictory results of the studies relating forcefulness to performance in oil company sales may result from differences in the method used to study the issue (see Harrell 1960; Miner 1962). However, Weitz (1981, pp. 87-88) points out,

> several studies have used the same methodology across different sales forces and reported inconsistent results (Dunnette and Kirchner 1960; Howells 1968; Mattheiss et al. 1977; Scheibelkhut and Albaum 1973). Even variables that can be assessed with high accuracy and reliability, such as age, education, and sales experience, are related to performance in some studies and unrelated in others.

Table 1. Aptitude and Performance in Previous Research

Related to Performance	Not Related to Performance
Forcefulness	
oil company (Harrell 1960)	oil company (Miner 1962)
life insurance (Mirenda and Clark 1959, Greenberg and Mayer 1964)	life insurance (Zdep and Weaver 1967)
retail/trade (Howells 1968)	retail (Howells 1968)
technical rep (Howells 1968)	stockbroker (Ghiselli 1973)
commodities (Howells 1968)	
mutual fund (Greenberg and Mayer 1964)	
automobile (Greenberg and Mayer 1964)	
trade (Dunnette and Kirchner 1960)	
stockbroker (Ghiselli 1973)	
food, appliance wholesaler (Mattheiss et al. 1977)	
Sociability	
life insurance (Merenda and Clarke 1959)	oil company (Miner 1962, Harrell 1960)
technical rep (Howells 1968)	industrial (Pruden and Peterson 1971)
retail (Howells 1968)	real estate (Scheibelhut and Albaum 1973)
retail/trade food (Howells 1968)	utility (Scheibelhut and Albaum 1973)
	industrial (Bagozzi 1978)
	food, appliance wholesaler (Mattheiss et al. 1977)

Table 1 (Continued)

Related to Performance	Not Related to Performance
Age	
industrial (Kirchner et al. 1960)	household durable (Cotham 1969)
retail (Mosel 1952, Weaver 1969)	life insurance (Meranda and Clarke 1959)
	industrial (Lamont and Lundstrom 1977)
	retail (French 1960)
Education	
life insurance (Merenda and Clarke 1959)	
	speciality food manufacturer (Baehr and Williams 1968)
retail (Mosel 1952, Weaver 1969)	industrial (Lamont and Lundstrom 1977)
	household durables (Cotham 1969)
	retail (French 1960)
Intelligence	
stockbroker (Ghiselli 1973)	oil company (Harrell 1960)
oil company (Miner 1962, Harrell 1960)	
	trade (Dunnette and Kirchner 1960)
	appliance wholesaler (Mattheiss et al. 1977)
Empathy	
new automobile (Tobolski and Kerr 1952)	
	used automobile (Tobolski and Kerr 1952)
automobile (Greenberg and Mayer 1964)	
	industrial (Lamont and Lundstrom 1977)
life insurance (Greenberg and Mayer 1964)	
mutual fund (Greenberg and Mayer 1964)	

Despite the poor performance of aptitude as a determinant of sales performance the research in this area is not without merit. First, it points out the inadequacy of expecting aptitude alone to explain performance in the highly complex, interactive environment of personal selling. Perhaps more importantly for future research, the failure of this stream of research emphasizes the need to consider the task specific nature of personal sales. As Churchill, Ford and Walker (1985, pp. 300-301) state,

> the appropriate definition of aptitude, and the appropriate measures of the construct, may vary greatly from industry to industry, firm to firm, and product line to product line. It depends on what specific tasks must be performed and what dimensions of performance are considered important. The broad measures of aptitude may simply fail to capture the task-specific nature of the construct.

Therefore, the task specific nature of the position should be reflected in future studies of personal selling.

Role Perception. The role perception component shown in Figure 1 concerns the set of activities and/or behaviors to be performed by salespersons. The role of the salesperson is largely determined by the expectations, demands, and pressures communicated to the salesperson by his/her role partners. Role partners are the individuals, both within and outside the firm, who have a vested

interest in the performance of the salesperson. The salesperson's role partners normally include management, customers, and family members. The salesperson's perception of the expectations and demands of these role partners has a strong influence on his definition of his role in the company and his behavior in performing his job.

The role perceptions component is composed of three factors: role accuracy, role ambiguity, and role conflict. The role accuracy component refers to the extent to which the salesperson understands his/her role partners' demands. Perceived role conflict refers to a situation in which the salesperson believes the demands of two or more of the role partners are incompatible and cannot be satisfied at the same time (Parsons 1951; Churchill et al. 1985). Perceived role ambiguity refers to situations in which the salesperson feels he cannot perform his job adequately because of a lack of information. Role ambiguity arises when the salesperson's tasks are ill defined or not defined at all (Levinson 1975). Belasco (1966), Hise (1970), and Walker, Churchill, and Ford (1972) offer more detailed discussions of the salesperson's role perceptions.

Role perception has received considerable research attention in recent years (see Comer and Dubinsky 1985). In general these studies have focused on personal, environmental, and/or organizational variables that may

affect some aspect of role perception. The results of these studies have been inconsistent. For example, job tenure and role conflict have been found to be positively related (Dubinsky and Borys 1981), negatively related (Walker, Churchill and Ford 1975), and unrelated (Teas 1983). In addition, Comer and Dubinsky (1985) state that job performance is inversely related to role ambiguity. Conversely, two studies have found no relationship between role ambiguity and sales volume (Bagozzi 1978; Berkowitz 1980). Finally, studies have shown conflicting results concerning the relationship between role conflict and higher performance (Aaker and Bagozzi 1979; Bagozzi 1978; Dubinsky and Mattson 1979; Dubinsky and Borys 1981; Dubinsky and Skinner 1984; Franke, Behrman, and Perreault 1982).

In summary, while it appears that management can have an impact on the role perception of the salesperson, many inconsistencies emerge when surveying the results across studies. Again, these inconsistencies between studies may result from the task specific nature of sales positions.

Personal, Organizational And Environmental Variables. It has also has been proposed that performance is influenced by personal, organizational, and environmental variables such as: (a) closeness of

supervision (Walker et al. 1975; Churchill et al. 1976; Teas 1981), (b) influence in determining standards of supervision (Churchill et al. 1976; Teas 1983), (c) sales training (Hopkins 1978), and (d) job experience (Dubinsky and Borys 1981; Walker, Churchill and Ford 1975; Teas 1983). In later studies, many other variables have been added to this list, including: company advertising expenditures, the company's market share, performance feedback, span of control, and family size (Churchill et al. 1985).

Personal, organizational, and environmental factors may influence sales performance in two ways. First, these factors may impact each of the other determinants of performance. For example, earlier in this dissertation job tenure, a personal factor, was discussed as an influencer of role clarity, a role perception variable. In turn role clarity is expected to impact performance. Second, these personal, organizational, and environmental factors can have a direct influence on the salespersons performance. For example, territory potential may have a direct influence on the performance of the salesperson.

One interesting stream of research that links personal, organizational, and environmental factors with motivation is proposed by Tyagi (1982 1985). Tyagi suggests that the salesperson's job can be enriched to increase motivation through work redesign. This concept is

based on previous work by Hackman and Oldham (1980). Basically, Tyagi poses that several core job dimensions (skill variety, task identity, task significance, job autonomy and job feedback) of the sales position may be redesigned to increase three critical psychological states: (a) experienced meaningfulness, (b) experienced responsibility for outcomes of the work, and (c) knowledge of the actual results of the work activities. The result of these enhanced critical psychological states is increased: (a) internal work motivation, (b) job satisfaction, and (c) work performance. Tyagi (1985), focusing his empirical investigations on insurance agents, has produced encouraging results. His industry specific research has shown a relationship between job design, job satisfaction and performance.

The fact that personal, organizational, and environmental factors can have a direct impact on performance was not recognized in the Walker, et al. model (1977) until its revision in Churchill, Ford and Walker's text "Sales Force Management" published in 1981, and revised in 1985. The majority of studies in this area have focused on the former, indirect impact to performance. However, as pointed out in the role perception section, these studies have often shown conflicting results. "Overall many questions concerning the effects of personal, organizational, and environmental variables on the other determinants of

sales performance remain unanswered" (Churchill et al. 1985, p. 302).

The scant research in this area seems inconsistent. For example, one study has found job tenure to be positively related to performance (Franke, Behrman and Perreault 1982), but a second study has shown no relationship between the two variables (Cravens, Finn and Moncrief 1983). Furthermore, studies of performance differences between salesmen and saleswomen have displayed inconsistent results (Bush and Busch 1978; Cravens, Finn and Moncrief 1983; Dubinsky and Mattson 1980; Swan and Futrell 1978). A review of this area of study (Comer and Dubinsky 1985) indicates that no strong relationship has been established between these factors and performance.

Skill Level. In their textbook Churchill, Ford and Walker (1981; revised 1985) presented the revised model of the determinants of salesperson's performance shown as Figure 2. One revision to the model, discussed earlier in this dissertation, is the addition of a direct linkage between personal, organizational and environmental variables and the salesperson's performance. The new model allows these variables to interact with other determinants of performance, as well as directly impacting the level of performance. However, the primary reason for showing

the model in its original and revised versions is to stress the fact that skill level was not isolated as a determinant of sales performance until the revised model.

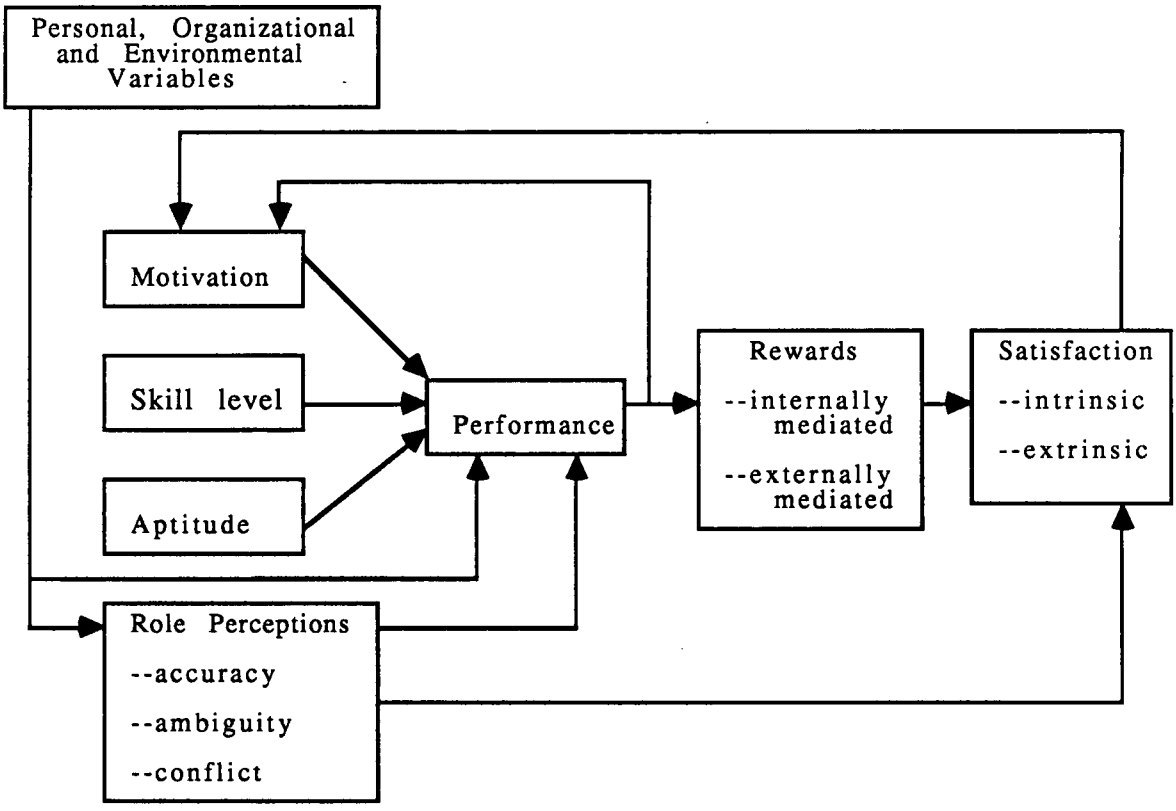

Figure 2. Churchill, Ford and Walker's Revised Model of Salesforce Performance (1981)

Skill level is the individual's learned proficiency at performing the necessary tasks for the job (Churchill et al. 1985). Skill level is closely related to aptitude, but is conceptualized as consisting of less enduring qualities that can be changed through learning and experience. Aptitude, on the other hand, is thought to consist of long lasting

personal abilities, such as personality, intelligence, or physical attractiveness. Conversely, skill level can quickly change through learning and experience. According to Churchill, et al. (1985), the skills needed for good sales performance include:

1. Salesmanship skills, such as knowing how to make a sales presentation and how to close a sale.
2. Interpersonal skills, such as knowing how to cope with and resolve conflicts.
3. Technical skills, such as knowledge of product features and benefits, engineering skills, and the procedures required by company policies.

Several recent articles indicate a trend toward more emphasis on skill as a determinant of sales performance. The first is an article by Leigh (1987) that explores cognitive selling scripts and sales training. Leigh describes a cognitive selling script as a mental representation of a sales approach considered appropriate for a specific selling situation. The collective set of such situation specific scripts is seen as the salesperson's procedural knowledge. The central premise of Leigh's article is that experienced sales personnel can provide lists of actions and/or behaviors as they are typically encountered in a particular selling situation. From these lists generic scripts can be developed by identifying the common activities shared among various selling situations. In a later article, Leigh and McGraw (1989) empirically develop generic scripts for

an initial sales call, a regular sales call and an "out-supplier" sales call. It is suggested that these generic scripts can then be used to enhance sales training programs. Leigh proposes that these generic selling scripts be incorporated into the sales training process through vicarious learning techniques, such as role-playing of the selling situation.

In essence, what Leigh is suggesting is training that would: (a) allow the salesperson to better recognize the nuances of the selling situation, and (b) allow the salesperson to better select the appropriate alternative for action. The emphasis this conceptualization places on activities and behaviors makes it somewhat similar to the canned sales approach (Leigh and McGraw 1989). In the canned sales approach the salesperson selects a memorized sales presentation suitable to the situation. Unfortunately, the canned sales presentation lacks flexibility and limits feedback from the prospective buyer (Berkowitz, Kerin and Rudelius 1986). Leigh's approach does allow the salesperson somewhat more creativity, but it suffers from an emphasis on activities and behaviors. It has been suggested that research should examine the mental processes though which variables act to initiate, direct, and change the behavior of individual salesmen (Walker et al. 1977). This recommendation is in keeping with the movement away from the behavioral approach, as typified

by the Leigh and McGraw (1989) article, toward the cognitive approach seen in the fields of psychology (Miller, Gallanter and Pribrim 1962; Niesser 1967) and consumer behavior (Bettman 1979).

An article by Weitz, Sujan, and Sujan (1986) also indicates an emphasis on skill. The Weitz, et al. article provides a framework for research into the ability component of sales performance. Salesperson's capabilities are conceptualized as abilities and skills. This article is one of the first to conceptually incorporate elements of expertise research into the study of personal selling. As the authors state,

> Salespeople, like other experts in problem-solving situations, operate in an extremely complex domain. Rather than reacting to each new situation uniquely, salespeople accumulate a base of experience and probably organize this experience into categories of selling situations so that it can be readily applied when they confront new customers and new selling situations (Weitz et al. 1986, p. 178).

This article presents several interesting propositions concerning knowledge, motivation, and adaptive behavior. These propositions focus on the structure of knowledge, which is assumed to be categorizational. Furthermore, knowledge is assumed to be either declarative or procedural (Larkin 1979; Chi, Feltovich and Glaser 1981). Declarative knowledge is described as the set of facts

associated with the category. It is a data base for understanding and interpreting the selling domain. Likewise, procedural knowledge is described as consisting of heuristics or action sequences associated with a particular category. It is termed the knowledge that indicates what should be done in the sales situation.

Sujan, Sujan, and Bettman (1988) and Szymanski (1988) present two interesting articles which build upon the concepts presented by Weitz et al. (1986). The former is an empirical test of several of the propositions presented in the Weitz et al. (1986) article. It suggests that more effective salespeople have richer and more overlapping knowledge structures about customer types. Interestingly, this research observes the development of knowledge structures over time as individuals progress from being less effective to more effective in sales. The research found that effectiveness is not related to proliferation of categories, as was proposed in the Weitz, et al. (1986) study, but to a change in the qualitative nature of categories. That is, more effective salespeople have categories containing more detailed information, and more strategies to guide behavior. Furthermore, more effective salespeople seem to perceive greater similarities across categories of customers.

The Szymanski (1988) conceptual article accepts the assumption that knowledge is categorizational. It also

accepts the classification of knowledge as either declarative or procedural. Szymanski allows that effective salespeople may outperform ineffective salespeople because of differences in either declarative or procedural knowledge. However, Szymanski chooses to focus his conceptual effort entirely on declarative knowledge. He justifies this decision as follows:

> Salespeople who differ in effectiveness may have different amounts of procedural knowledge but, before procedural knowledge typically is accessed and applied to the sales encounter, the salesperson must determine from which category the procedural knowledge will come--a phenomenon that requires the salesperson to classify the sales lead accurately. Therefore, a logical investigative point of departure is to examine how declarative knowledge may differ between effective and ineffective salespersons (p. 68).

Szymanski proposes that declarative knowledge allows the salesperson to identify customers' product and selling-related needs. This emphasis on product related needs is not new to marketing (see Churchill et al. 1985). However, Szymanski's customers' selling-related needs is a new conceptualization. Selling-related needs are termed customers' desires and wants in relation to each aspect of the selling process. For example, a customer may need the salesperson to adapt his/her sales presentation to the customer's specific time constraints. Declarative knowledge allows the salesperson to identify, by classification,

customers' product and selling-related needs. Szymanski proposes that differences in the accuracy of this classification results in variation in sales performance.

Finally, a recent article by Rubash, Sullivan and Herzog (1987) calls for development of an artificial intelligence expert system in personal selling. This article describes an expert system as a computer that behaves as a human expert. In this case, the goal is a system "containing all the ingredients previously known by those few master salespersons whose thought processes have proven highly successful" (Rubash, et al. 1987, p. 50). Such a system would be extremely useful, as it would provide the non-expert access to the knowledge of the expert to use in the selling process. While expert systems have been developed in medicine and national defense programs, expert systems in the area of sales are in the early developmental stage.

These articles are significant as they signal a move toward the study of skill in personal selling. Furthermore, each perspective contributes interesting insights that should benefit future research. However, the Leigh (1987), Leigh and McGraw (1989), Weitz, et al. (1986), and Sujan, et al. (1987) articles stress behaviors and cognitive structures with no emphasis on process. Furthermore, the Weitz et al. (1986), and Szymanski (1988) articles show a preoccupation with declarative knowledge, while Leigh

(1987) and Leigh and McGraw (1989) stress procedural knowledge. To understand what separates the effective from the ineffective salesperson an approach is needed that: (a) investigates the cognitive processes that underlie behavior and (b) investigates both declarative and procedural knowledge. The expert system concept presented by Rubash et al. (1987) is a significant move toward this total knowledge process approach. Unfortunately, the article does not adequately explain how this knowledge can be extracted from the expert.

General Conclusions

The Churchill, Ford, Hartley and Walker meta-analysis (1985) differentiates research into categories based on the determinants of salesforce performance. On the average, they find less than 10% of the total variation in salesperson performance to be associated with any one of these single determinants. The authors use this result to stress that a multiple-determinant perspective is necessary for any depth of accurate understanding. However, the results of the available multiple-determinant research are so weak that the authors can only speculate whether the theoretical models on which they are based are on the right track. For example, a path-analytic study using multiple-determinants of performance reached a similar conclusion, "Although the path analysis results suggest that significant

relationships exist in all seven models tested, the explanatory power of the variables is low" (Dubinsky and Hartley 1986, p. 42). In truth, despite intuitive appeal empirical research has not clearly substantiated the Churchill, Ford, Hartley and Walker (1985) position that multiple determinant models are superior.

Another important implication raised by the meta analysis authors is that the strength of the relationships between the determinants and salespeople's performance is affected by the type of products people sell. The authors suggest that sales management must pay more attention to how sales jobs differ. Kahn and Shuchman were the first to suggest that there are differing types of sales positions (1961). In their conceptualization the work of the field salesperson was viewed as two distinct jobs, sales development and sales maintenance. The objective of sales maintenance was defined as the creation of sales from existing customers. Sales development was defined as the creation of customers; in other words, persuading those that are not currently customers to purchase. This conceptualization has been elaborated and expanded by many since the original article. Perhaps, the most notable of these is Moncrief's (1986) taxonomy of sales positions. Moncrief's work is the first to empirically derive its conceptual structure. According to Moncrief there are six types of salespeople. These six categories are:

1). Institutional seller: characterized by salespeople who perform creative selling. These creative salespeople often sell to the ultimate user.

2). Order Taker: characterized by writing up orders, working with these orders, and handling problem orders. The order taker services the account in areas such as shelf stocking, promotional work, and inventory analysis.

3). Missionary salesperson: characterized by salespeople who do not take orders, or service accounts. Instead, these salespeople emphasize advance selling and provide information.

4). Trade Servicer: characterized by high emphasis on service of existing accounts. These creative salespeople perform basically the same task as institutional salespeople, except they normally deal with retailer/wholesaler accounts.

5). Trade Seller: characterized by emphasis on establishing initial sales. They spend much of their time on proposal bids, establishing customer credit/financing, determining price, and taking potential customers to other customer sites. They deemphasize service and emphasize front-end selling.

6). Residual: characterized as a group that is very difficult to interpret. This category is basically a catch all for those that do not fit in the other categories.

Despite these efforts at categorizing the specialized nature of sales jobs, the literature has shown a tendency to focus on determinants across sales types.

The meta-analysis also provides two interesting rankings of the determinants of sales performance. In the first the authors rank the determinants based on the

average degree of their association with performance. The result of this ranking, from strongest to weakest, are as follows: (1) role variables, (2) skill, (3) motivation, (4) personal factors, (5) aptitude, and (6) organizational and environmental factors. However, the rankings change when ordered according to variation not attributable to sampling error. Ordering by real variation the following ranking occurs: (1) personal factors, (2) skill, (3) role variables, (4) aptitude, (5) motivation, and (6) organizational/environmental factors.

While skill level was not isolated as a determinant of performance until the recent revision to this model, in both rankings it is rated higher than aptitude. This should be good news to the sales manager, as skill level is a factor that can be influenced through training and experience. As the authors state, "whom one recruits is important, but probably not as important as what one does with the recruits--and to them--after they have been hired" (Churchill, Ford, Hartley and Walker 1985, p. 117). This conclusion again questions the emphasis that has been placed on aptitude in sales research. Approximately half the studies between 1918 and 1985 focused on aptitude as a determinant of salesforce performance (Churchill, Ford, Hartley and Walker 1985). Although appealing, the results of this stream of research have been shown to be lacking. The average correlation between aptitude and

performance, seen in over 820 correlations in the sales literature, indicates that slightly less than 2% of the variation in performance can be explained by variation in aptitude (Churchill, Ford, Hartley and Walker 1985).

Unfortunately, salesforce researchers have not heeded the suggestions drawn from the meta-analysis. Scholars have continued to study the same isolated determinants of performance. For example, at approximately the same time period as the meta-analysis, an article was published applying Herzberg's motivational theory to the industrial salesforce situation (Berl, Powell and Williamson 1984). The article found no support for the Herzberg theory or any correlation between satisfaction and performance. In 1986 Cron and Slocum published an article focusing on role perceptions and attitudes. Again, the conclusions contradicted general thought on the relationship between role perceptions and attitude. Perhaps, as has been suggested in the literature (Churchill, Ford, Hartley and Walker 1985), this lack of progress is the result of focusing on the wrong variables. It is the position of this dissertation research that skill level is a highly significant determinant of salesforce performance. Furthermore, research focused on better understanding sales experts, those individuals possessing high levels of skill in personal selling, may provide valuable insights into what determines success in personal selling.

Summary

In summary, this review of sales literature has uncovered at least four reasons for the failure of research to successfully delineate the determinants of salesforce performance. These four reasons are:

1. A lack of descriptive studies. Sales literature has shown a paucity of descriptive studies. Descriptive studies, particularly those that help categorize phenomena, are often a first step toward understanding (Hunt 1983). It appears that the emphasis on manipulation in the literature has come at the expense of understanding, and has contributed to a second class status for the area of study (Walker, et al. 1977).

2. Research focus on activities and behaviors. The research on salesforce performance has focused on activities and behaviors without attention to the mental processes that underlie these outward manifestations. A focus on mental processes is the prevailing paradigm in many of the social sciences (e. g. Bettman 1979; Gardner 1984) and has been recommended for the study of salesforce performance (Walker et al. 1977). This approach recognizes that individuals are goal seeking and that behaviors and activities result from underlying mental processes (Miller et al. 1959).

3. Improper attention to the task specific nature of the sales job. Salesforce research has neglected the task specific nature of the sales job. Clearly, the literature has pointed out that an industry specific focus is necessary to increase the explanatory power of the research (Churchill, Ford, Hartley and Walker 1985). The variation between types of sales tasks and types of products sold should be considered in future research.

4. Research emphasis on the wrong variables. The overwhelming weight of research has centered on aptitude, personal factors and other enduring variables. Skill level was not even shown in the dominant model of determinants of sales performance until 1981 (Churchill et al. 1981). The meta-analysis of the determinants of salesforce performance (Churchill, Ford, Hartley and Walker 1985) points out the need to study the more influenceable factors, particularly skill level.

Expertise Literature

Although skill level is only beginning to receive attention in the sales literature, it has long been a subject of research in other disciplines. Much of this research has focused on identifying attributes that allow those with high skill levels, the "experts," to consistently outperform those with low skill levels. In fact, there is a growing interest, and a developing methodology, for studying the process of

expert reasoning and decision making. Research on expert reasoning is burgeoning in such diverse professions as law (Johnson et al. 1984), medicine (Johnson 1981), physics (Chi, Feltovich and Glaser 1981), and teaching (Lienhardt and Greeno 1986). The purpose of this section is to describe this stream of research, and to pose several research questions concerning the generalization of expertise into the sales area.

Chess Skill

The study of expert reasoning is largely based on several early studies designed to discover the unique mental attributes or processes that distinguish the chess master from the novice. The pioneering work in this area was done by de Groot (1965) in studies using some of the world's top chess masters. Chess seems an ideal arena for studying expertise, as it is a very complicated thinking task in which certain players stand out as clearly superior. These master level players consistently make superior decisions and defeat lesser players.

In his studies de Groot showed his subjects, both master and weaker chess players, an interesting positioning of chess pieces and asked them to find the best available move. Furthermore, the subjects were to talk aloud as they considered possible moves. Through analysis of these verbal protocols, de Groot hoped to discover what

it was that differentiated the master chess player from weaker players. However, de Groot was unable to find any quantitative differences that might underlie chess skill. The conclusion of his research was that there was nothing in the gross thought process and the search through possible moves that distinguished the master chess player from weaker players. Nothing in the past 30 years has contradicted that conclusion (Chase and Simon 1973).

At the time of the de Groot study, one speculative reason given for the superiority of the chess master over the novice was the ability to "see" further ahead in the game by mentally exploring many more possible moves, and the long-term consequences of those moves. In truth, de Groot's research found that masters search about as deep, in terms of possible consequences of moves, as weak players. However, masters tend to evaluate fewer alternative moves than novices. The important difference between masters and novices seems to be in the quality of alternatives evaluated. Masters invariably explore strong moves, with the best move or at least a very good move, at the top of his/her list of alternatives. In contrast, weaker players seem to spend considerable time analyzing the consequences of bad moves.

Perceptual and Memory Tests

How does the master consistently recognize strong moves? The answer may lie in the results of a series of perceptual and short-term memory tests conducted by de Groot (1965) and replicated by Chase and Simon (1973). In one of these test situations chess players were shown a meaningful arrangement of chess pieces. That is, the arrangement of chess pieces could have resulted from actual chess play. After viewing the arrangement for five seconds the players were asked to describe the arrangement from memory. Master players were able to recreate the positions of chess pieces with almost complete accuracy. In contrast, there was a sharp decline in ability to reconstruct the arrangement for players below master level.

One possible explanation of the superior ability of masters to remember various arrangements of chess pieces is a general superiority in short term memory. However, when the same experiment was conducted with random arrangement of chess pieces, masters and weaker players had approximately equal memory results. This indicates that masters and weaker players have comparable memory capability. The accepted explanation is that, in the first experiment, the master is perceiving familiar or meaningful constellations of pieces that are already structured in memory (Chase and Simon 1973). The

master's ability to recognize the new arrangement as a familiar pattern of pieces allows for the superior memory results in the first experiment. Of more importance, this ability should enable the master to also recognize, or remember from past situations, a strong next move. It has been estimated that a chess master has roughly 50,000 chess board configurations in memory, while a good club player has only about 1000, and the poor player very few (Simon and Gilmartin 1973). Chess skill, therefore, largely results from the ability to perceive patterns of pieces as instances of familiar patterns already stored in memory.

Further studies have indicated that there is a relationship between the speed with which players can perceive information on the chess board and level of chess skill. Although no causality is implied, it appears that perceptual processing speed increases along with skill level. In sum, the research on chess masters' reasoning points to perceptual processing, or the ability to perceive familiar patterns quickly, as the basic ability underlying chess skill. This ability of the master to find good moves is described as follows (Chase and Simon 1973):

> . . . when he stares at the chess board, the familiar perceptual structures that are evoked from long term memory by the patterns on the board act as move generators (p. 268).

> We conceive this part of long-term memory to be organized as a production system (see Newell and Simon 1972, pp. 728-735). Each familiar pattern serves as the condition part of a production. When this condition is satisfied by recognition of the pattern, the resulting action is to evoke a move associated with this pattern and to bring the move into short term memory for consideration (p. 269).
>
> . . . chess skill depends on a vast, organized long-term memory of specific information about chessboard patterns (pp. 278-279).

As previously indicated, most research in the area of expert reasoning has been built upon the pioneering research of de Groot, and Chase and Simon. In many cases, Chase and Simon's depiction of memory as structured into short-term and long-term stores is dropped in favor of schemata theory (e.g. Johnson et al. 1981). However, for the purposes of this research, the structure of memory is not as important as the processes described. The following three points consistently appear in later studies of expert reasoning (e.g. Johnson et al. 1981; Johnson 1981; Johnson et al. 1984):

1. Experts and novices are similar in the overall form of reasoning they employ.

2. Experts consistently select the best, or at least, one of the best decisions.

3. The ability to quickly recognize new situations in terms of already familiar situations is one of the most important processes that underlie skill.

This last point is crucial to understanding expert reasoning. Expertise is a function of adaptation. That is, the expert is adapting to challenges by fitting his/her perception of the current situation into similar situations stored in memory. From this "fitting" or adapting process appropriate responses are generated based on assessment of previous responses to similar situations. As Johnson, et al. (1984, p. 136) state,

> Expertise serves as a shorthand which allows a determination of the actions which apply in a given situation, without having to adapt to that situation in the same way that an individual without the appropriate expertise would.

Two important questions concerning the structure of expertise arise at this point. First, "What is expertise?" and second, "How is expertise acquired?" These issues will now be addressed.

Defining Expertise

Expertise can be thought of as a shorthand that allows the expert to do things that the novice cannot. This shorthand has been described as a function of operative knowledge (Buckley 1976). For expertise to exist, the individual must have: (a) a rich base of knowledge, (b) organization of that knowledge in a way that permits ready

access, and (c) extensive cross referencing capability should initial access prove unproductive.

Contrasting expert versus novice physicians along these dimensions may help to clarify the nature of expertise. The medical practitioner's disease knowledge content and its organization specifies the range of manifestations that a patient with a particular disease should possess. The content and organization of knowledge available to the novice is constrained by the classic cases normally studied and the probability distribution of diseases that occur at the hospital of his/her study. These constraints may result in the novice overestimating the allowable range in variation for the symptoms of a given disease. This error results in a failure to reject the incorrect diagnosis. Alternatively, the novice's set of expectations may be too specific. This error results in rejection of the correct diagnosis. Finally, the novice may not think of the correct diagnosis. This error results from the novice's lack of cross referencing ability.

In contrast to the novice, the expert diagnostic is "tuned" to the natural variations in findings between cases (Johnson et al. 1981). This tuning is seen as the result of training and experience and allows the expert to properly interpret cases that novices cannot correctly diagnose. When experts make errors it results from overlapping expectations between competing mental models of the

disease manifestations that a patient should possess. That is, the expert will generally only err in diagnosis when the symptoms lack sufficient information to distinguish between disease possibilities (Johnson et al. 1981).

Acquisition Of Expertise

There is no single, widely accepted theory of expertise or learning (Alba and Hutchinson 1987). However, it has been proposed that the acquisition of expertise is a three phase process (Fitts 1964; Johnson et al. 1984). Phase 1 is the stage of cognition in which individuals learn what actions are appropriate in which circumstances. This early phase of skill learning may be of very short duration in simple tasks. According to Fitts (1964), phase 1 covers the time required to: a) understand instructions, b) complete a few preliminary trials, and c) establish the proper cognitive set for the task.

Phase 2 involves the linking or associating of specific responses to specific cues. In essence, the relationships created in phase 1 are repeated until they become smooth and accurate. The result of phase 2, the associative phase, is a cognitive set of specific cues linked to satisfactory responses. This may be thought of as the linking of a data base of declarative knowledge with acceptable responses from a set of procedural knowledge. A fundamental property of the learning process is the fact that

performance of a skill task will speed-up with practice (Alba and Hutchinson 1987).

With enough practice these relationships are over-learned until they can be done without thinking. This is phase 3 in the acquisition of expertise. It has been described as the stage of automaticity, in which overlearned skills can be performed with minimal effort and without conscious control (Johnson et al. 1984; Alba and Hutchinson 1987). Thus, we see expertise as a form of tacit, unconscious operative knowledge that is possessed by those of the highest skill level (Polanyi 1967).

The Effects of Expertise On Decision Making

Overall Similarities. Both experts and novices use heuristics to simplify decision making. In fact, the heuristics used are very similar. The studies of medical reasoning confirm previous speculation that no appreciable differences between novices and experts exist with regard to overall form of reasoning employed. For example, two strategies for medical diagnosis are breadth first and depth first. In the breadth first strategy the medical diagnostic uses a precautionary mode of thinking. That is, all major contending diseases are generated for early consideration. In a depth first approach the most salient contender is identified and processed until data is found that would eliminate it from consideration. Novices and experts are

fairly equal in their selection between these strategies (Johnson et al. 1981).

Implementation Differences. Researchers have speculated, and evidence indicates, that novices and masters differ in the implementation of a reasoning strategy (Johnson et al. 1981). First, the novice may exhibit a more idiosyncratic pattern of responses. This idiosyncratic behavior is attributed to the fact the novice is in the rudimentary stages of reorganizing and personalizing their knowledge. As a result of this intensive reorganization process, the novice may display a less organized pattern of questioning in a difficult problem solving situation.

Second, the novice is often strongly data-driven in their flow of reasoning behavior. Alba and Hutchinson (1987) suggest that novice problem-solving is more influenced by external factors than is expert problem-solving; the novice seems to jump from hypothesis to hypothesis depending upon the most recent information available. In addition, the novice is more likely to pursue and be swayed by irrelevant information. In essence, the novice lacks the stability or anchoring afforded by the expert's organized set of operative knowledge. In contrast, this knowledge base allows the expert to recognize when

his/her preferred hypothesis is incorrect and then provide a good alternative.

Differences in Time Required. Insights into the nature of expertise can also be gained by examining the situations in which individuals fail in their assigned task. In general, unsuccessful individuals take longer to formulate an initial response. It is speculated that unsuccessful subjects take longer to respond because: (a) they have difficulty recognizing the current situation in terms of patterns available in memory, or (b) they have difficulty linking data to possible hypotheses in memory. This observation seems to confirm the earlier suggestion that perceptual processing, the ability to perceive familiar patterns quickly, is the basic ability underlying skill (Chase and Simon 1973).

Errors of Hypotheses Generation and Evaluation. It is also notable that failure in disease diagnostic reasoning can be categorized into two classes. The unsuccessful generally make either errors of hypothesis generation, or errors of hypothesis evaluation. The former, errors of hypothesis generation, exhibit either: (a) a failure to correctly interpret a specific cue so that the correct hypothesis could be triggered from memory or (b) a failure to have the necessary link between a specific cue and the appropriate

disease model in memory. For example, the physician may incorrectly diagnose a disease because s/he incorrectly interprets or overlooks a particular symptom. Alternatively, even with correct interpretation of a symptom the wrong disease may be selected from memory. In a different vein, errors of hypothesis evaluation, seem to result from imprecise, missing, or incorrect expectations for patient data in existing models (Johnson et al. 1981).

It appears that both types of error, hypothesis generation and hypothesis evaluation, can be traced to a failure to correctly recognize or interpret a small number of data items. It has been suggested that the specific heuristics for triggering the needed hypothesis are either missing from memory or are not activated by the data (Johnson et al. 1981). This again implies that expertise is a function of perceptual processing.

Summary

What have we learned from the studies of expert reasoning? First, we have learned much about the similarities of experts and novices. Experts and novices are somewhat parallel in their overall form of reasoning. That is, there appears to be no relationship between level of expertise and choice of overall reasoning strategy selection. Experts just seem to consistently make the best, or at least very good, decisions. Experts do not evaluate more

alternatives than novices, only consistently better alternatives.

Expertise seems to largely be the result of superior perceptual capability. The expert is better at recognizing present situations as instances of familiar situations already encountered. It is suggested that the expert has this capability because s/he has a highly differentiated organized structure of operative knowledge available. This operative knowledge allows the expert insights that are not available to the novice. As a result, the expert is able to quickly select an appropriate response based upon successful previous encounters that are seen as similar.

The novice lacks this structure of operative knowledge. As a result, even though experts and novices use similar overall reasoning strategies, their ability to implement these strategies effectively differs. The novice will appear: (a) less organized in pattern of reasoning, (b) less adept at dealing with irrelevant information, and (c) slower in his/her initial responses. The novice may seem idiosyncratic in reasoning, and often very data dependent in his/her reasoning processes. Errors in reasoning made by the novice or the expert seem directly linked to a failure to properly interpret cues available in the problem situation.

Johnson, et al. (1984, p. 125) provide an excellent description of the expert that will serve as a conclusion for this discussion of the current understanding of expertise:

> An expert is a person who, by virtue of training and experience, is able to do things the rest of us cannot. Experts are not only proficient in what they do, but are also smooth and efficient in the actions they take. Experts know a great many things, and have tricks for applying these things to problems or tasks. Experts are good at plowing through irrelevant information in order to get at basic issues or actual problems. Experts are also good at recognizing problems as instances of ones with which they are familiar, generating alternative solutions, and making good choices among the alternatives.

The Expert Salesperson

Given what is known about expertise, the expert salesperson could be described as follows. Compared to the non-expert, the expert salesperson is better at analyzing the sales situation. This includes both anticipating possible future situations or long-term consequences of their (or their competitor's, actions) and sensitivity to the nuances of the particular situation. In the sales situation experts and non-experts will be very similar in their selection of overall reasoning strategies. However, the expert will be less influenced by each new piece of available information, and be better at sifting through irrelevant information. Experts will consistently focus on a few key pieces of information that allow for a good solution to problem

situations. Furthermore, s/he will seem more consistent, confident, and organized in the flow of his/her reasoning. As a result, the expert will reach a good evaluation of the situation before the non-expert salesperson.

Is it acceptable to generalize from the expertise literature into personal selling? If it is acceptable the expert salesperson should meet the description that has arisen from the expertise literature. This dissertation considers this generalization by evaluating the following hypotheses that arise directly from the expertise literature:

H1 The expert will arrive at a solution to the problem situation before the non-expert.

H2 The expert will use fewer pieces of information in their decision than the non-expert.

H3 The experts will be more consistent in the pieces of information used in their decision than the non-experts.

H4 The expert will have more confidence in his/her choice of processing rules when compared to the non-expert.

H5 The expert will have more confidence in his/her decision when compared to the non-expert.

H6 When confronted with the task of sorting possible sales situations into natural categories the expert will form fewer groups than the non-expert.

In addition to these testable hypotheses careful attention must be focused on the meanings applied to attended information and the processing rules used by expert and non-expert salespeople. In fact, these areas of exploratory work offer potential for very significant contribution to the current knowledge level in both salesforce and expertise research. The following chapter will explain the methodology that was used in this endeavor.

CHAPTER 3

METHODOLOGY

Phase 1

The objective of the first phase of this research is the development of a problem situation that can be used to study expert reasoning in personal sales. The problem situation is developed from a list of critical incidents collected from an industry specific group of sales managers. The details of this collection procedure are presented in this section.

Subjects

The subjects for both the first and the second phases of this study are employees of several food brokers located in the southeastern United States. These food brokers supply similar products to retail grocery stores. The subjects for the first phase of this study were 30 sales mangers employed by these food brokers. As suggested by Flanagan (1954) and others (Bernardin and Beatty 1984; Bemis et al. 1983; Cascio 1982; Wexley and Latham 1981), managers were chosen because they have the opportunity to observe many salespeople in various selling situations.

As a result, they should be able to relate many instances of effective and ineffective performance.

Critical Incident Technique

A survey was administered to this group of sales managers in a personal interview format. The questionnaire used in this survey utilized the critical incident technique originally developed by Flanagan (1954). The critical incident technique is an outgrowth of studies in the Aviation Psychology Program of the United States Army Air Forces in World War II. Its original purpose was to design procedures for selecting and training air crews (Bemis et al. 1983). Beyond this military application, the critical incident technique has been used in many job analysis settings. For example, it has been used to evaluate performance in professions ranging from airline pilots to high school teachers (Flanagan 1950; 1954).

The critical incident technique is a well accepted method of performance appraisal (Bernardin and Beatty 1984; Bemis et al. 1983; Cascio 1982; Wexley and Latham 1981). In a survey of experienced job analysts, the critical incident technique was selected as one of the best job analysis tools available for performance appraisal development (Levine, Ash, Hall, and Sistrunk 1981). However, the critical incident technique has seen limited use in recent years. The main concern of the typical job

analysis is to describe average job performance. Conversely, critical incident analysis is designed to describe behavior involving outstanding performance. As a result, it is difficult to determine average worker behavior from critical incidents. In fact, it may be impossible to develop a complete job description using the critical incident technique alone (Cascio 1982).

The objective of this study is to examine expert performance, not average performance. A complete job description of the average worker is not the goal. Instead, the goal is to explore difficult situations in which the expert responds differently than the non-expert. The inability of the critical incident technique to address average performance actually enhanced its usefulness in the study of expertise by focusing on exceptional performance.

The critical incident technique assumes that certain difficult or unusual situations arise in the normal performance of a job which allow for especially effective or ineffective performance. In personal selling effective performance may be described as behavior adding materially to the overall success of the sales group. In essence, effective performance is the ideal response to the given situation. Conversely, ineffective performance indicates behavior which, if it occurred repeatedly or even once under certain circumstances, would question the competency of the individual.

Flanagan (1954, p. 327) gave the following definitions in explaining the technique:

> By an incident is meant any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act. To be critical, an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effects.

In essence, the technique involves the collection of a large number of anecdotes of job behavior that describe especially good or especially poor performance (Cascio 1982).

Critical Incident Methodology

The critical incident technique involved two steps. In the first step respondents, 30 food broker sales managers, were asked to describe observed incidents illustrating behavior that had been deemed extremely effective or ineffective in achieving the goals of the job. These anecdotes of work behavior include: (a) what led up to the incident, and the context in which it occurred; (b) exactly what the individual did that was effective or ineffective; and (c) the perceived consequences of this behavior (Cascio 1982).

In keeping with procedural suggestions of Flanagan (1954) the critical incident questionnaire: (a) identified the

academic sponsorship of the study, (b) explained that the purpose of the study was to examine successful work in personal selling, (c) pointed out that the respondent was in a position to observe and report first hand on such activities, and (d) stressed the anonymity of the data.

The questionnaire itself, shown in Appendix A, was developed around a format developed by Flanagan in 1954. Each subject was asked to identify one incident that involved effective performance and one incident that involved ineffective performance. Although the critical incident questionnaire is very simple in design, it was pre-tested before it was administered to the sample population.

Critical Incident Questionnaire Pre-test

The pre-test of the critical incident questionnaire began with a focus group consisting of ten doctoral students at the University of Tennessee. The focus group made several suggestions for modifications, primarily semantic changes for the sake of clarity, that were incorporated into the questionnaire. The questionnaire was then presented to a second focus group consisting of three sales managers from the food broker industry. To minimize the possibility of the focus group contaminating the sample, these food brokers had no relationship with the food brokers participating in this study. Again, suggestions offered by this group were used to modify the critical

incident questionnaire. Finally, the questionnaire was administered to three other sales managers on an individual basis before its administration to the sample. These final three managers completed the questionnaire without difficulty, and offered no suggestions for changes in the final document. The first step ended with the collection of critical incidents from the sample of 30 food broker sales managers in personal interviews.

Classification Of Critical Incidents

The next step began with reviewing and summarizing the critical incidents and the associated behavioral responses. A classificational schema was developed on a post hoc basis. This approach allowed the categorical schema to naturally arise from the data. As a check of the validity of this categorization, a cognitive psychology research group at the University of Tennessee, consisting of ten doctoral students and faculty, reviewed the classificational schema. The revised schema that emerged from this session consisted of the following nine categories:

1. Conflict between the customer and the broker
2. Conflict between the customer and the manufacturer
3. Presenting new products
4. New accounts
5. Co-worker interaction
6. Conflict over display space for current products

7. Conflict over shelf space for current products
8. Whole store resets
9. Interaction with manufacturers

These nine categories were used by two raters to categorize the critical incidents. The raters, one a graduate student, the other from the food broker industry, worked separately. The results of this categorization were compared to quantitatively assess inter-rater agreement through the use of Cohen's kappa (Cohen 1960). Cohen's kappa is often recommended to check inter-rater agreement in research using nominal data (Tinsley and Weiss 1975; Garrett and Hughes 1988; Hughes and Garrett 1988). The kappa resulting from this comparison was .82, which is considered an excellent rating for inter-rater agreement (Fleiss 1981)

The final step in phase 1 of this research was the development of a problem situation derived from these critical incidents. First, a prototype problem situation was developed by sequentially linking together elaborated versions of critical incidents representing each of the nine categories. Second, the prototype problem situation was refined through a series of pre-tests. The pre-tests had two main objectives. The first objective was a determination of the clarity of the problem situation. The situation needed to be stated in a manner that all the subjects could understand. The second objective was a determination of the difficulty of the situation. As

previously mentioned, a high level of difficulty was required to show divergence in the reasoning processes of experts and non-experts.

The pre-test was an iterative process in which the situation was presented to one subject and then modified to include any insights offered by subjects or the researcher. This procedure was continued until subjects could no longer offer useful suggestions. This point was reached after pre-testing twelve subjects. The subjects consisted of two college students and ten food broker salespeople with varying levels of experience. As a final pre-test, the refined problem situation was administered to an experienced food broker sales manager. The sales manager had been previously informed of the objectives of the study, and gave final approval on the clarity, difficulty and validity of the problem situation. The final problem situation that emerged from this pre-test procedure is shown in Appendix B.

To enhance reliability the problem situation was administered by the same researcher throughout the pre-test and the study. Also, in all but the first two pre-tests the problem situation was presented via a microcomputer. The use of the microcomputer provided: a) a consistent presentation of the problem situation throughout the study, b) control over what information the subject was attending to at any point in time, and c) a reliable track of the time

each subject spent in arriving at decisions. The use of the microcomputer also seemed to make the reading task appear less overwhelming. Finally, several subjects mentioned that the microcomputer made the research seem more professional and more challenging, which seemed to heighten the involvement of the participants.

Phase 2

Phase 2 of this research project entailed presenting the problem situation, developed in phase 1, to groups of expert and non-expert salespeople. The salespeople were selected from the ranks of the sales managers who participated in the phase 1 critical incident survey. The desired result was identification of mental processes that separate the expert from the non-expert in the field of personal sales.

Identification of Experts and Non-experts

It is not always easy to decide who experts are (Johnson et al. 1984). The original studies of expert reasoning in chess used performance as a measure of expertise (de Groot 1965). However, situational factors, such as inequalities in: a) the size and potential of sales territories, b) responsibilities, and c) management support limit the usefulness of performance as a measure of expertise in personal sales. Experience has also been used

as a surrogate for expertise. Sujan, Sujan, and Bettman's (1988) study is typical of this approach, as it assumes a direct relationship between experience and expertise in sales. However, experience alone does not seem a sufficient criteria for selecting experts. Certainly, some salespeople languish through many years on the job without becoming experts. In other words, experience in sales or similar activities may be necessary, but not sufficient for expertise in sales.

In an attempt to move away from performance and experience as the criteria for selection of experts the Carnegie Commission and the Educational Testing Service have jointly developed a list of criteria for choosing experts (Cooperative Assessment of Experimental Learning 1975). According to this joint report, an expert can be identified by one or more of the following:

1. Recommendation from others who are expert in the same or closely related fields.
2. Published works (e.g., journal or magazine articles, books, etc.)
3. Technical products or artistic works in a related area.
4. A directly related formal academic degree.
5. Other formal credentials such as a license.
6. Awards or honors for achievement in the field.
7. Instruction or teaching experience in the area.
8. Supervisory experience of individuals working in the same field.
9. Membership in organizations with a focus closely related to the subject area.

Regrettably, these criteria for selecting experts do not accommodate the sales field. For example, salespeople seldom publish journal articles or possess a license or other credentials. As a result, a tool for the measure of skill in personal selling was developed for this study. This measurement tool was developed around a paradigm for measurement development proposed by Churchill (1979) and updated by Gerbing and Anderson (1988).

The Measurement Tool

The measure of skill used in this study was built upon Churchill, Ford and Walker's (1985) description of skill in sales. As mentioned earlier, Churchill, Ford and Walker postulate that skill in sales has three components: (a) salesmanship skills, (b) interpersonal skills, and (c) technical skills. In keeping with this foundation a measurement tool was developed that attempted to tap each of these components. This measurement instrument was used to obtain a salesperson self evaluation that could be used to categorize salespeople into expert and non-expert groups. Self evaluation were used to categorize salespeople for three reasons. First, current performance appraisal literature has stressed the usefulness of self ratings as a tool in the employee evaluation process (Bernardin and Beatty 1984; Farh and Werbel 1986; Farh, Werbel and Bedeian 1988). Second, the nature of many of

the questions contained in the skill evaluation demand a personal perspective. For example, two of the interpersonal skill questions ask for an evaluation of the salesperson's ability to present him/herself socially, possibly through acting, and ability to manipulate others to control the situation. Certainly, the salesperson him/herself is in the best position to evaluate his/her own abilities in these areas. In fact, it could be argued that the greater the individual's skill in these areas the less apparent the ability to others. In other words, an individual with low ability to manipulate others may be painfully obvious in such attempts. However, the manipulation efforts of an individual possessing high skill in this area may be undetected by others. Finally, the nature of the sales job under study indicated that a self evaluation would be most appropriate in selection of experts and non-experts. The salespeople in this study tend to work alone, with minimal management and co-worker contact. In fact, many of the salespeople work out of their homes in small outlying communities. Typically, the only vehicle for personal contact with management and co-workers is a weekly sales meeting designed to discuss upcoming promotions.

Bernardin and Beatty (1984), although advocating the usefulness of self evaluations, include one caution. To obtain a valid self evaluation the individual must feel the

evaluation will have little or no impact on their job. In keeping with this advise the self evaluation form included an assurance of confidentiality. The practice of using subjective ratings to separate effective from ineffective salespeople has been established in the salesforce literature (Sujan et al. 1988; Leigh and McGraw 1989).

Salesmanship Skills. Earlier in this paper, salesmanship skills were said to include such areas as knowing how to make a sales presentation and how to close a sale. Although some research has been directed at listing the activities and competencies needed in personal selling, "no detailed empirical investigation of the selling process has been published" (Churchill et al. 1985, p. 85). However, Churchill, et al. suggest a six stage schema of the sales process. The six stages are: (a) prospecting for customers, (b) opening the relationship, (c) qualifying the prospect, (d) presenting the sales message, (e) closing the sales, and (f) servicing the account. These six stages were used as the items for the salesmanship portion of the skill measurement tool because they are complete in regards to the selling process, self explanatory, and suitable for almost any industry.

Interpersonal Skills. Interpersonal skills were described by Churchill, et al. (1985) as including such things as knowing how to cope with and resolve conflict. Seven items were used to measure interpersonal skills. These items were derived from a measurement scale of basic social skills that has been assessed to be acceptable in terms of reliability and validity (see Riggio 1986). The interpersonal skill questions for this part of the questionnaire were formed from Riggio's categories of basic social skills. Riggio's seven categories of basic social skills are: a) emotional expressivity, b) emotional sensitivity, c) emotional control, d) social expressivity, e) social sensitivity, f) social control, and g) social manipulation. A paraphrased summary of Riggio's (1986) original descriptions is shown in Appendix C.

Technical Skills. The final measure of skill in sales was termed technical skills, such as knowledge of product features and benefits, engineering skills, and the procedures required by company policies (Churchill et al. 1985). A 1985 article (Williams and Seminerio) presented attributes buyers liked most from salespeople. Integrating these attributes with the Churchill et al. (1985) definition, and discussions with salespeople, the following six points emerged as dimensions of technical skill:

1. Knowledge of the product line, including product features and benefits.
2. Engineering skills, including, in this specific industry, knowledge of best store and shelf layout. This could include the ability to interact with the retailer in areas such as employee training.
3. Knowledge of the customer's market and product lines.
4. Imagination in supplying products that meet the customer's needs.
5. Knowledge of the competitors' products, services, and sales policies.
6. Knowledge of his/her own company's procedure.

A seven point Likert scale was utilized for each of the items listed under salesmanship, interpersonal, and technical skills. This measure of skill was integrated with scales designed to measure sales motivation, role clarity, and sales aptitude to form the evaluation questionnaires shown in Appendix D. These other constructs were added to the questionnaire to provide information for assessing the validity of the skill measure, and are discussed in more detail in the following section.

Refinement of the Measurement Tool

The questionnaire, along with a cover letter and stamped return envelope, was mailed to 146 salespeople. In addition, 19 sales managers were sent evaluation forms, shown in Appendix D, that had been modified to allow a management evaluation of each salesperson. The

response rate for the salespeople was 71%, and 88% for the sales managers. The returned questionnaires were first checked for internal consistency. Internal consistency checks are performed to assess the reliability of the measure by determining the proportion of variance in a measurement scale that is systematic. The larger the percentage of total variance that is systematic the greater the reliability (Peter 1979). In keeping with a recommendation by Peter (1979), Cronbach's coefficient alpha (Cronbach 1951) was used to assess reliability through internal consistency. First, one summary coefficient alpha was calculated for the entire rating scale including (a) salesmanship skills, (b) interpersonal skills, and (c) technical skills. With a total of 102 cases the coefficient alpha for the management evaluation version of the instrument was .9561, and with 95 cases the self evaluation version was .9512. The overall coefficient alphas were compared with a standard established in the literature by Nunnally (1978). According to Nunnally, an alpha of .70 will suffice for early stages in basic research. Therefore, the instrument displayed a high level of internal consistency. Next, simply for informational purposes, coefficient alphas were calculated for each of the three dimensions of expertise. The alphas from the management evaluation version were: a) salesmanship skills, .8857, b) interpersonal skills, .8899, and c) technical skills, .9273.

The alphas from the self evaluation version were: a) salesmanship skills, .9020, b) interpersonal skills, .8810, and c) technical skills, .9130.

The next step involved an exploratory factor analysis of the ratings obtained from the questionnaire administration. As the skill evaluation was designed around Churchill, Ford and Walker's (1985) tripartite conceptualization of skill, it was anticipated that salesmanship skills, interpersonal skills, and technical skills, would emerge as three distinct factors. Instead, only two factors exceeded the latent root criterion (see Hair, Anderson and Tatham 1987) with eigenvalues of 10.285 and 1.770. Rotation of the factor solution provided no further insights into this analysis. Clearly, the factor analysis was dominated by a one factor solution that this researcher has labeled "skill in personal sales." The fact that all 19 items seem to be tapping one area is emphasized by the magnitude of the unrotated factor loadings, shown as Table 2. This one factor solution could be taken to indicate that the tripartite view of sales skill is an artificial segmentation of skill.

Table 2. Unrotated Factor Loadings of Skill Items

Variable	Factor 1
1. Ability to prospect	.60822
2. Nonverbal ability	.71719
3. Ability to qualify prospects	.72616
4. Customer knowledge	.72514
5. General speaking skills	.66851
6. Knowledge of company policies	80806
7. Ability to open relationships	.77748
8. Understanding nonverbal communications	.72289
9. Control of nonverbal displays of emotions	.57474
10. Competitive knowledge	.67905
11. Acting ability	.54598
12. Manipulative ability	.57443
13. Ability to close	.83133
14. Product knowledge	.86085
15. Knowledge of customers' operations	.77903
16. Ability to present the sales message	.82137
17. Imagination in meeting customer needs	.79484
18. Understanding verbal communications	.83018
19. Ability to service the account	.81619

The next step was to assess the convergent and discriminant validity of this classification of experts and non-experts using the multitrait-multimethod matrix approach suggested by Campbell and Fiske (1959). The multiple methods of measurement were: a) a self rating by the salesperson, and b) a rating of the salesperson by his/her manager. The multiple traits to be measured were: a) sales skill, b) motivation, c) role perception, and d) sales aptitude. Motivation, role perception, and sales aptitude

were selected because of their relationship with sales skill in the Churchill, et al. model of sales performance (1985).

The motivation and role perception questions were taken from previous published studies and have demonstrated acceptable levels of internal consistency in terms of coefficient alpha (Sujan 1986; Teas, Wacker, and Hughes 1979). Unfortunately, no acceptable sales aptitude scale could be found in existing marketing literature. As a result, an eight item scale of sales aptitude was developed for this research based on Churchill, Ford, and Walker's (1985) description of sales aptitude. The eight items used in the sales aptitude scale were: general intelligence, verbal intelligence, mathematical ability, empathy, aggressiveness, dominance, need for achievement, and sociability. The coefficient alphas obtained in this dissertation research are summarized in Table 3 and Appendix E.

As Table 3 indicates the coefficient alphas for motivation are below Nunnally's (1978) requirement for basic research. For measures that fall below the .70 requirement Churchill (1979) has suggested a procedure for improvement. The first step requires the calculation of the correlation of each item with the total score for that dimension. These correlations are then plotted in decreasing order of magnitude. Churchill states that, "items with correlations near zero should be eliminated (p. 68)."

Table 3. Coefficient Alpha Summary

Construct	Self Evaluation	Mgt. Evaluation
Skill	.9512 (n=95)	.9561 (n=102)
Motivation	.6308 (n=104)	.5232 (n=104)
Role Clarity	.8393 (n=104)	.9096 (n=106)
Aptitude	.8265 (n=101)	.8830 (n=100)

Unfortunately, Churchill's procedure did little to improve the motivation coefficient alphas. Perhaps the low coefficient alphas arise because this instrument adapts poorly to food broker sales. It was originally used in a study of salespeople in manufacturing companies selling such items as automotive items, medical supplies, and wines (Sujan 1986). Further, the low coefficient alpha for the manager's evaluation of the salesperson's motivation may result from the design of the measurement instrument. The instrument was designed as a self report tool to evaluate the individual's motivation by measuring intrinsic and extrinsic reward orientation. It appears to perform poorly as a device for the manager to evaluate the salesperson.

The multitrait-multimethod analysis is shown in Table 4. The correlations in the method one heterotrait-monomethod

Table 4. Multitrait-Multimethod Analysis*

		Method 1				Method 2			
		Skill	Motivation	Role	Aptitude	Skill	Motivation	Role	Aptitude
Method 1	Skill	.9512							
	Motivation	.2466	.6308						
	Role	.1522	.1654	.8393					
	Aptitude	.4922	.1420	.2764	.8265				
Method 2	Skill	-.0186	-.0339	.1648	.1194	.9561			
	Motivation	-.0566	.0954	.1752	.1414	.5936	.5232		
	Role	-.0941	-.0887	.1403	-.0368	.6657	.4522	.9096	
	Aptitude	.0494	-.1124	.1637	.2380	.7448	.4971	.6433	.8830

* method 1 indicates self evaluation, method 2 indicates management evaluation

triangle, the upper left triangle, are sufficiently low, when compared to the reliability diagonal, to indicate that different constructs are being measured. That is, in the self evaluations the salespeople seem to be distinguishing between skill, motivation, role clarity, and to a lesser extent, aptitude. The one obvious anomaly in the matrix is

the high correlation between skill and aptitude. However, the large correlation (.4922) is not surprising for two reasons. First, neither literature nor common knowledge has done a good job in distinguishing between skill and aptitude. Second, even if we succeed in distinguishing between the two constructs, a high correlation between skill and aptitude would still be expected, as aptitude is often viewed as a constraint on skill. In other words, although other variables may impact skill development, skill and aptitude tend to be positively related. In spite of this weakness, the multitrait-multimethod analysis does indicate divergent validity between the salespeople's evaluations of skill, motivation, and role clarity.

An investigation of the correlations in the method two heterotrait-monomethod triangle, the lower right triangle, indicates that the management evaluations did not adequately distinguish between any of the constructs. The high correlations in this section imply that a "halo effect" may exist in the manager's rating of salespeople. In other words, the salespeople that were rated highly in one area were also seen to be high in all the other areas. It appears that the best salespeople, based upon whatever criteria the sales manager favors, were rated highest on all factors. Perhaps this halo effect resulted from the difficulty of rating as many as eight subordinates. Certainly, the task was difficult, and possibly even impossible in certain areas.

For example, how would a manager determine if a salesperson's success resulted from aptitude or skill. This halo effect is not uncommon, and has been cited, in performance appraisal literature, as a weakness of management evaluations (Farh and Werbel 1986). As a result of this difficulty, the multitrait-multimethod analysis was not sufficient to firmly establish the convergent and discriminant validity of the measure of skill in personal sales.

As another test of convergent validity, the skill questionnaire required the respondent to give an overall rating of their level of expertise in sales. Evidence of convergent validity was shown by the high correlation (.5173, p= .000) between the 19 skill items and this one item overall self reported measure of expertise. However, convergent validity, without discriminant validity, is not sufficient to establish construct validity. It appears that a stringent test of the discriminant validity of the skill measure would be to compare it to a measure of sales aptitude. Aptitude was selected for this analysis because skill and aptitude are such closely related constructs. By specifying, testing, and modifying various models of the relationship between skill and aptitude, based on theory and logic, we are essentially establishing the construct validity of the skill measure.

Confirmatory factor analysis was used to investigate the factorial structure of the skill measure, to determine which items accurately reflect skill, and most importantly, to determine whether the skill measure and the aptitude measure reflect distinct constructs (Gerbing and Anderson 1988, Long 1983, Rentz, Shepherd and Ladd 1989). The confirmatory factor analysis began by testing two models. The first was a model (Model 1) based on Churchill, Ford and Walker's (1985) conceptualization of skill as consisting of three dimensions or factors: a) salesmanship skills, b) interpersonal skills, and c) technical skills. This model also included a fourth factor representing aptitude. In testing this model the skill items were only allowed to load on the appropriate skill factor and all aptitude items were required to load on the aptitude factor. The second model was designed around the findings of the previously discussed exploratory factor analysis. This model (Model 2) consisted of only two factors. That is, all skill items were fit to load on a single skill factor, and all aptitude items were allowed to load on the aptitude factor. The models were fit using Lisrel VI.

For the two dimensional model (Model 2), the chi-square ratio is 2.281. For the four factor model (Model 1), the chi-square ratio is 2.176. Surprisingly, the model based on our original three-dimensional conceptualization of skill has a better fit than the one-dimensional

conceptualization which was strongly implied by the exploratory factor analysis.

Even though the four-dimensional model fits the data better than the two-dimensional, the fit is not exceptional. As a result, the factor loadings, modification indices, t values, and underlying theories were reviewed to determine if the model could be improved. Based on this review, a third model was designed with the same three skill factors as Model 1, but with the aptitude dimension split into two factors. The first aptitude factor consisted of the general intelligence, mathematical ability, and verbal intelligence items. This factor was labeled cognitive aptitudes. The second aptitude factor consisted of the remaining five aptitude items: aggressiveness, dominance, sociability, need for achievement, and empathy. This factor was labeled non-cognitive aptitudes. The fit of this model was significantly better than Model 1, with a chi-square ratio of 1.803. Furthermore, this model is firmly grounded in theory and conceptually sensible. More importantly, this analysis confirms the construct validity of the skill measure as it demonstrates the measure's ability to distinguish between skill and aptitude.

The result of this refinement process was an evaluation form that could be used to separate the subjects into two group, experts and non-experts. The assignment of individuals to groups was made by computing subjects'

total scores on the salesmanship, interpersonal, and technical skills sections of the questionnaire. A simple criteria for classifying the salespeople had been established prior to administration of the questionnaire. According to this criteria salespeople ranking in the top third of the scores would be considered experts. Conversely, salespeople ranking in the lowest third of the score would be considered non-experts. The decision to take the extreme thirds of the population instead of a median split was based on Kerlinger's (1986) admonition to maximize the variance between groups. The use of extremes to form the groups, instead of a median split, allows greater opportunity for differences between groups to emerge. As the population participating in the study consisted of approximately 100 salespeople, the expert and non-expert groups consisted of approximately 30 subjects. From this subject pool a group of 20 experts and 20 non-experts was selected. This final selection was based on several factors. First, a few of the salespeople were eliminated because they had either: a) left their companies, b) been promoted into management, or c) were unwilling to further participate in the study. Also, the final selection of subjects was influenced by geographic proximity and availability of the salespersons.

The Problem Situation

Each subject was individually presented the problem situation via a personal computer. The subjects were instructed to "think aloud" as they progressed through the problem situation. Each of these personal interview sessions lasted approximately 90 minutes. Subjects' verbalizations were tape recorded and later transcribed without the individual's name to insure confidentiality. Finally, the transcripts were content analyzed using a coding scheme developed on a post hoc basis. The coding scheme is shown in Appendix F.

Immediately after completion of the problem situation each subject participated in a debriefing interview. This interview consisted of a request for elaboration on certain aspects of the problem solving situation. For example, the interview was used to gather more depth into the processing rules mentioned in the verbalization of the problem situation. This information supplemented the content analyzed data in both the hypothesis driven and the exploratory research processes.

Analysis of Hypotheses

Six hypotheses were developed in chapter two of this dissertation. These hypotheses were evaluated with information taken from the content analysis of the verbal protocols and the debriefing interviews. The statistical

analysis of the data primarily consisted of a comparison of the mean scores using a one-tailed t test procedure at a .05 level of significance.

Hypothesis 1 states that the expert will arrive at a solution to the problem situation before the non-expert. This hypothesis was tested by recording the amount of time each subject took to complete the problem simulation task. It was expected that the non-expert would take significantly more time to complete the problem situation.

Hypothesis 2 states that the expert will use fewer pieces of information in their solution to the problem situation than the non-expert. This hypothesis was tested with information gathered in a debriefing session occurring immediately after the subjects completed the problem situation. Each subject completed a questionnaire containing 50 pieces of information taken from the problem situation. The directions for this questionnaire, shown in Appendix G, were as follows:

> The following pieces of information were taken from the story you just read. Some of the information may have been important to you in reaching your solution. Other information may have been largely irrelevant to your solution. Please circle the number that best describes the importance each piece of information had in your solution.

As the directions indicate the subjects were rating the impact each piece of information had in their decision. It

was anticipated that the non-expert would indicate significantly more pieces of information as important than the expert.

Hypothesis 3 states that within groups, the experts will display less variability in the pieces of information used in their decision than the non-experts. This hypothesis was also tested using the information gathered in the debriefing interview. The information was categorized into two mutually exclusive groups: information that had impact on the decision and information that did not have impact on the decision. Agreement across raters was assessed using Cohen's kappa (Cohen 1960). A higher kappa would indicate greater agreement, or consistency, in the items selected for use. It was anticipated that when compared to the non-experts, experts would display significantly higher agreement on the information used. As a result, it was anticipated that experts would display a significantly higher Cohen's kappa.

Hypotheses 4 and 5 concern the confidence the subjects hold for: (a) the processing rules used, and (b) their decision. In each case it was hypothesized that the expert would have higher confidence than the non-expert. These two hypotheses were tested with data obtained during the problem situation. The subjects were requested to rate, on a seven point Likert scale, their confidence in how they made their decision, as well as, their decision

outcome. The Likert scale, shown in Appendix B, ranged from "not at all confident" to "highly confident." It was expected that the non-expert would be significantly less confident in both the processing rules used and their decision outcome.

The final hypothesis concerns a sorting task. As the last step in the debriefing interview, each salesperson was requested to sort a set of 22 cards into natural groups. Each card presented one of the critical incidents collected in phase 1 of this project. Hypothesis 6 states that the experts will sort the situations into fewer categories than the non-experts. This hypothesis provided an interesting test of speculation seen in recent literature on the cognitive structure of successful salespeople (Sujan et al. 1988).

Exploratory Research

The hypothesis testing section of this project offered considerable insight into the differences between non-experts and experts. However, much of the contribution of this research comes from an exploratory investigation of the subjects' verbal protocols. This exploratory research involved the content analysis of the verbal protocols using a coding scheme developed on a post hoc basis. Delaying development of the coding scheme until the researcher was familiar with the data, as opposed to forcing the data to fit a pre-existing scheme, allowed the coding scheme to

emerge from the data. This procedure for content analysis is standard practice in current literature (see Ericsson and Simon 1984). The coding scheme was designed to investigate declarative knowledge and associated procedural knowledge. The coding scheme was checked for validity by three academicians familiar with this study. Finally, the coding scheme was used by two independent raters to classify the verbalizations. One of the raters was a researcher involved in the study, the other was a senior level undergraduate student completely naive to the study. The results of these two raters were quantitatively compared to assess percentage of inter-rater agreement. The 84% level of inter-rater agreement was deemed acceptable. The items of disagreement were reconsidered until complete agreement was achieved between the two raters. These final responses to the coding scheme were the basis for much of the exploratory research.

The coding scheme was designed to contain at least one question from each paragraph in the problem situation. Each question was designed to allow for an exhaustive list of answers and included an option for other, written-in responses. The coding scheme questionnaire also allowed the rater to comment on any trends within individual subjects, or across subjects. These written-in comments, occurring in practice sessions using pre-test data, resulted in the addition of three items to the coding scheme. These

three items requested each rater to count the number of times each subject: a) exhibited prioritizing behavior, b) attempted to establish his/her own credibility, and c) related the problem situation to previous experiences.

The final coding scheme that emerged from this process is shown in Appendix F. The coded items were analyzed using various methodologies including t-tests, Mann-Whitney tests, and correlational analyses. The results of this analysis process is detailed in the following chapter.

CHAPTER 4

DATA ANALYSIS AND RESULTS

Introduction

The purpose of this chapter is to report the results of the data analysis detailed in Chapter 3. The chapter begins with a brief description of the respondents. Next, the results of the analysis of each research hypothesis are presented. Finally, the results of the exploratory investigation of the subject's verbal protocols are discussed.

Description of Respondents

The approximately 105 respondents to the skill questionnaire are all salespeople employed by independent food broker operations located in the southeastern states of Tennessee, Alabama, and Arkansas. Tables 5 and 6 summarize information concerning the respondents to the skill questionnaire. The mean responses to several descriptive questionnaire items paint an interesting profile of the "typical" respondent. First, the typical respondent is male. Only 11% of the respondents are female. Second, s/he is approximately 38 years old. However, respondent ages range broadly from 23 to 71 years. Further, s/he has been in sales for over 14 years, and with his/her current

Table 5. Respondents' Sex

Sex	Frequency	Percent
Male	93	88.7
Female	12	11.3
Totals	105	100

Table 6. Details on Respondents

Attribute	Mean	Minimum	Maximum	Standard Deviation
Age	38.533	23	71	12.78
Quota Achievement	88.533	50	150	13.077
Years in Sales With Current Employer	4.793	.2	28	4.892
Years in Sales In This Industry	7.73	.5	34	8.091
Total Years in Sales	14.289	.5	45	11.873
Skill Score	98.449	41	130	15.071

employer for the last four years. Finally, during the previous year s/he has achieved approximately 88% of his assigned sales quota.

The mean responses of the 40 salespeople selected to participate in phase 2 of the study provide a similar profile. Again, the average age is 38, the average amount

of job tenure is approximately 4 years, and total sales experience is about 14 years. The percent of sales quota achieved in the past year is also very similar with a mean of 85%. However, an interesting divergence is seen the fact that eight of the 40 salespeople selected to participate in phase 2 of the study are female. In other words, two thirds of the women in the original 105 respondents are categorized as either experts or non-experts by the skill evaluation.

Table 7 summarizes information concerning the 20 experts and 20 non-experts selected from the respondent population to participate in phase 2 of the study. The skill evaluation score is one descriptive statistic in this table that should receive special note. The skill evaluation score is based on the responses each respondent gave for each of the 19 skill questions shown in Appendix D. As described in Chapter 3, the skill questionnaire is based on a seven point Likert scale. Therefore, the highest possible score on the skill evaluation questionnaire is 133. The mean score for all respondents is 98.45. The scores range from a low of 41 to a high of 130. The scores of the respondents selected for the expert group range from a low of 106 to a high of 130. The mean score in the expert group is 114.1 with a standard deviation of 6.8. Dividing this mean score by 19, the number of questions on the questionnaire, yields an overall mean response of six for the expert group. The

Table 7. Details on Sample by Skill Level

	NON-EXPERTS				EXPERTS			
Attribute	Mean	High	Low	S.D.	Mean	High	Low	S.D.
Age	39	58	26	11.7	37.9	68	24	11.9
Quota Achieved (Percent)	82	100	65	9.5	89	102	75	9.5
Years with Current Employer	3.9	12	.5	3.0	4.8	16	.75	4.4
Years in Industry	8.8	28	.5	10.5	7.1	30	.75	7.8
Years in Sales	12.9	34	.5	10.6	13.6	40	.75	12.3
Skill Score	84.75	95	41	11.7	114.1	130	106	6.8

skill questionnaire describes a response of six as well above average skill. The scores of the subjects in the non-expert group range from a low of 41 to a high of 95. The mean score in the non-expert group is 84.75, with a standard deviation of 11.7. Dividing this mean score by 19 yields an overall mean response of 4.5 for the non-expert group. The skill questionnaire indicates that a response of 4 reflects average skill, while a 5 indicates slightly above average skill. Therefore, the expert group appears to consider themselves above average while the non-experts appear to view themselves as somewhat average.

Two counter-intuitive statistics are obvious in Table 7. The first concern is the reported percentage of sales

quota achieved last year. First, the mean quota achievement seems rather close for groups of experts and non-experts. However, this seemly anomalous finding is explained by the following two points. First, expert salespeople are often given the most difficult accounts. Second, sales quotas are progressive. Therefore, high performance during one sales period is rewarded with a higher quota during the next sales period. This indicates that the expert may be selling much more than the non-expert, but performing at a lower percent of sales quota.

The second counter-intuitive statistic in Table 7 concerns years of experience. Why have non-experts been in sales positions in this industry longer than experts? The answer may lie in the fact that food broker sales to retail grocery stores is a rather low status sales job. It appears that the better salespeople tend to get promoted within three to five years, or move into a more challenging field. On the other hand, non-experts seem to stay at the same level, but often move from one company to another. Often this movement is a result of low performance, or an attempt to improve some aspect of the job.

Finally, a correlational analysis of these descriptive statistics is performed to highlight any significant relationships. The matrix created by the correlation of each of these descriptive items is shown as Table 8. Notably, the correlation matrix displays a significant

Table 8. Correlational Matrix of Demographic Data

	Skill	Sex	Age	Quota Achieved	Years with Company	Years In Industry	Years In Sales
Skill	1.000						
Sex	-.2001 P=.024*	1.000					
Age	-.0006 P=.498	-.2575 P=.004*	1.000				
Quota Achieved	.3845 P=.000*	-.1209 P=.128	-.0447 P=.339	1.000			
Years with Company	.0589 P=.286	-.2170 P=.014*	.5392 P=.000*	-.0232 P=.415	1.000		
Years In Industry	-.0491 P=.321	-.2133 P.017*	.6838 P=.000*	-.0601 P=.289	.6203 P=.000*	1.000	
Years In Sales	.0439 P=.342	-.1784 P=.040*	.8342 P=.000*	.0579 P=.302	.5521 P=.000*	.7099 P=.000*	1.000

* denotes significant correlation at .05 level.

relationship between skill and performance, operationalized as percent of quota achieved during the previous year. In contrast, the three experience measures included in the study: a) years with current employer, b) years in the food broker industry, and c) years in sales, do not significantly correlate with either performance or skill. These three experience measures are included to

investigate the possibility that industry, or company, specific experience has a greater impact on performance than general sales experience. Unfortunately, the correlational evidence does not shed light on this issue. However, the lack of correlation between experience and performance does offer support for using the measure of skill developed in this study to identify experts and non-experts instead of relying on a simple experience measure.

Hypotheses Tests

Hypothesis 1

The first hypothesis is:

H1 The expert will arrive at a solution to the problem situation before the non-expert.

As the subjects proceed through the problem situation the time they spend with each section of the story is recorded in a completely unobtrusive manner. Total time, in this case, includes the time the subject spends: a) reading the text, b) reaching a decision, and c) verbalizing their thoughts. Decision time is the actual focus of this study. Thus, the impact reading time and verbalization time could have on these results is an issue of concern. Certainly, separation of total time into its three components would be ideal, but impossible given the research design.

To minimize reading time's impact on total time, each of the three decision points within the problem situation is isolated on a screen with a minimum of text. As a result, the reading time component of total time is limited to the time it takes a subject to read a phrase such as, "What should you do now?," or, "How would you handle this request?"

With such a small amount of text presented, at each decision point, it is doubtful that even large discrepancies in reading speed would have the opportunity to impact total time. However, to be conservative a comparison of reading speeds is conducted. This procedure uses an initial screen, shown in Appendix B, containing a lengthy set of directions, to check reading speed. The time each respondent spent reading this screen is recorded and a two tailed t-test, at an alpha level of .05, is calculated to determine if a significant difference exists between the experts and non-experts in reading speed. The mean reading time for the non-expert is approximately 38.9 seconds, while the expert's mean time is approximately 42 seconds. This difference is not large enough to indicate a significant difference between the two groups according to the t-test shown in Table 9. In other words, the empirical test indicates that the expert and non-experts exhibit similar reading speeds. As a result, the brevity of the reading task associated with each question, coupled with

Table 9. Statistical Analysis of Hypothesis 1

	Mean (seconds)	Standard Deviation	t	df	Prob.
Reading Speed					
Non-experts	38.85	8.1			
			-.90	38	.376
Experts	42.00	13.483			(2-tail)
Time					
Total Time (Start to Finish)					
Experts	1672.8	254.54			
			-.73	38	.2335
Non-experts	1782.25	616.38			(1-tail)
Decision Point 1					
Non-experts	56.20	23.845			
			1.59	38	.06
Experts	45.6	17.899			(1-tail)
Decision Point 2					
Non-experts	43.05	19.234			
			2.52	38	.008*
Experts	25.80	23.754			(1-tail)
Decision Point 3					
Non-experts	130.75	45.658			
			2.76	38	.0045*
Experts	93.00	40.846			(1-tail)
Total Decision Time					
Non-experts	230.00	56.874			
			3.36	38	.001*
Experts	164.4	66.394			(1-tail)

* significant (alpha = .05)
(F tests of homogeneity of variance test non-significant)

the result of this t-test, dispels any concern that reading speed impacts the total time each subject requires to solve the problem situation.

The impact verbalization time has on total time is a second area of concern. Although this research methodology offers no opportunity to distinguish between verbalization time and decision time, it can be assumed that verbalization time will normally be greatest for experts. This assumption is based on the fact that previous studies have shown experts to have greater depth of knowledge, as well as more complex, highly interrelated knowledge structures, in their field of expertise (Johnson et al. 1981). As a result, given equal opportunity and motivation, experts should simply have more insights and more to say as they process through the problem situation.

Perhaps the methodology's inclusion of reading time, decision time, and verbalization time actually enhances the conservative nature of this research. First, the research is designed to minimize any impact reading time could have on total time. Second, verbalization time is expected to actually be higher with the expert group. Therefore, for the expert to arrive at a solution before the non-expert, far less decision time will be required.

Before approaching the test of hypothesis 1, four preliminary t-tests are performed for exploratory purposes. The first is a test of the total time involved in

proceeding through the entire problem situation. In other words, the time involved in this test is the total time elapsing from the start of the problem situation until a final solution is given. The average time for all subjects to complete the entire problem situation is 1727.5 seconds or approximately 29 minutes. As expected the experts complete the task faster than the non-experts. The mean time for the experts is 1672.8 seconds or 27.9 minutes. The mean time for the non-experts is 1782.25 seconds or 29.7 minutes. However, also as expected in such a lengthy reading task, the t-test does not show a significant difference between the two groups. Subjects in each group vary greatly in the pace in which they proceed through the problem situation. Apparently this wide variation within each group is due to factors such as the subject's willingness and ability to elaborate on the situation.

The next three preliminary t-tests are performed to compare the mean time required by each subject at the three decision points in the problem situation. The three decision points are noted in the text of the problem situation shown in Appendix B. The first decision point concerns how the subject would prepare for a first meeting with a new account. This t-test indicates no significant difference between the mean time required by each group, 56.2 seconds for non-experts and 45.6 seconds for experts, to complete decision point one. Perhaps this result is

indicative of the simplicity of the question. Preparing for an initial call on a new account is not an unusual part of the food broker salesperson's day. As a result, we would not expect to see significant differences in the time required to make such a typical decision. However, the t-tests concerning the other two decision points: a) handling a request by a new account for confidential information about a competitor, and b) how to handle the entire problem situation, do exhibit significant results.

The final t-test is the actual test of the hypothesis. It is a test of the total time required by the subjects to complete all three decision points in the problem situation. Including all three decision points allows the test to be more representative of the range, from simply to complex, of decisions faced by salespeople. This t-test, also shown in Table 9, supports the hypothesis that the experts use significantly less time in the decision process. The mean total time for the experts is 164.4 seconds, or 2.74 minutes. Non-experts spend significantly more time with a mean total time of 230 seconds, or 3.83 minutes. In other words, it takes the non-experts approximately 40% longer to offer solutions for these three decision points. In contrast, a very small difference, 6%, is seen in the time it takes the subjects to process through the entire problem situation. It appears that the sizeable time difference seen in processing

the three decision points in the problem situation is both statistically and practically significant.

Hypothesis 2

The second hypothesis is:

H2 The expert will use fewer pieces of information in their decision than the non-expert.

To gather data to test this hypothesis a questionnaire is administered to each subject in a post-session interview. The questionnaire, shown in Appendix G, lists 50 pieces of information taken from the problem situation. The subjects are requested to rate the importance, or impact, each piece of information had in their problem solution. As expected, the mean of the non-expert group, 20.45, is higher than the mean of the expert group, 16.45. However, a t-test of these means, shown in Table 10, does not show a significant difference.

The failure of the t-test to support hypothesis 2 may result from the methodology used. This methodology hinges entirely upon the subject's retrospective report. Nisbett and Wilson (1977) strongly question the utility of retrospective reports. Although Ericsson and Simon (1984) counter many of Nisbett and Wilson's arguments, they concede the weakness of reporting from long term memory, as seen in retrospective reporting, as opposed to

Table 10. Statistical Analysis of Hypothesis 2

	Mean	Standard Deviation	t	d.f.	1-tail Prob.
Pieces Of Information					
Non-experts	20.45	11.459	1.19	38	.121
Experts	16.45	9.752			

* significant (alpha = .05)
(F tests of homogeneity of variance test non-significant)

reporting from short term memory, as seen in concurrent reporting. Further, requesting the subject to identify important information, after the fact, may be influenced by a desire to identify the pieces of information the subject feels s/he should heed. In other words, selections may be a demand artifact resulting from a desire to be a good subject. As a result, retrospective reporting may be subject to errors of recall and biasing due to social desirability.

Perhaps some form of concurrent reporting would shed light on this issue. Unfortunately, this research is not designed to allow for a concurrent analysis of the pieces of information used by each subject. One possible way around this limitation is afforded by the record of each subject's verbal protocol. The verbal record cannot identify which pieces of information the subject actually used in making their decision, but it can identify the pieces of

information that the subject verbally referenced. Such a verbal reference may indicate that the subject is taking special note of that piece of information.

For this test the problem situation is first broken down into 81 basic pieces of information. Then two independent raters read each subject's verbal protocol record and note each piece of information that the subject directly referenced. The inter-rater agreement, 89%, is quite high. Disagreement on items is reconciled in a meeting between the two raters. The mean number of pieces of information referenced by each expert is 27.45, while the mean number of pieces of information referenced by each non-expert is 28.7. The results of a t-test, shown in Table 11, indicate that no significant difference exists between experts and non-experts in the mean number of pieces of information referenced.

The same procedure is used to check for pieces of information that seems, to the raters, to be important to each subject. This determination is simple in many cases because subjects clearly state that certain information is important. Other times the determination is more difficult because it requires the raters to make a subjective

Table 11. Additional Statistical Analysis of Hypothesis 2

	Mean	Standard Deviation	t	d.f.	1-tail Prob.
Pieces Of Information Referenced					
Non-experts	28.7	4.868	.57	38	.570
Experts	27.45	8.451			
Pieces Of Information Referenced As Important					
Non-experts	2.7	1.689	-.51	38	.612
Experts	3.1	3.059			

* significant (alpha = .05)
(F tests of homogeneity of variance test non-significant)

evaluation. For example, the following series of quotes indicate that salesperson turnover is an important piece of information,

That's a bad situation. When you have that many different people calling on an account in that period of time, there's something the matter with the company's handling of the salespeople who are handling the account.

That's bad. You want stability.

We are not doing too well. Big turnover in our company. They probably have a bad impression. They probably think we are unstable. We have to reverse that.

The level of inter-rater agreement, 94%, is considered very high. The items of disagreement are reconciled in a meeting between the two raters.

The number of items the raters evaluated as important to the subjects is quite low. The mean for the expert group is 3.1 pieces of information, while the mean for the non-expert group is 2.7 pieces of information. A t-test, also shown in Table 11, does not indicate a significant difference in the mean number of pieces of information deemed important to each subject. However, it must be noted that these are post-hoc attempts to investigate a phenomena, on a concurrent basis, that the research design fails to address. There is no assurance that the information a subject references is actually used in decision making. In like manner, no matter how circumspect the analysis, a subjective third party evaluation of the verbal protocols cannot provide a completely accurate picture of the items used in the decision.

In summary, it appears Hypothesis 2 warrants further research for two reasons. First, the means of the two groups align in the direction predicted. Second, the probability resulting from the original t-test, although not statistically significant, is small enough to suggest that a more refined methodology may support the hypothesis. One possible approach is to design the problem situation text to allow the subject to request the information deemed

necessary at each step in the story. The microcomputer program used to present the problem situation could be designed to make the requested information available, and track the information requested. This approach could be supplemented by requesting each subject to review his/her verbal protocol record and list the pieces of information used in solving the problem. In combination the concurrent and retrospective analysis should provide an interesting answer to the question posed by Hypothesis 2.

Hypothesis 3

The third hypothesis is:

H3 Across groups, the experts will display less variability in the pieces of information used in their decision than the non-experts.

This hypothesis is based on a concept that experts, when compared to non-experts, are more consistent in the information used in their decision. Data for testing this hypothesis is also taken from the questionnaire shown in Appendix G. An inter-rater agreement analysis is used to evaluate the consistency between subjects in each of the two groups. Higher inter-rater reliability would be taken to indicate less variability in the pieces of information used in the decision. Unfortunately, the results of a Cohen's kappa analysis of inter-rater agreement, .109 for non-

experts and .046 for experts, does not show the expected tendency. These results indicate extremely low agreement in both groups. In fact, a kappa of .70 is required to be considered average (Fliess 1981).

As in Hypothesis 2, this conclusion may result from the retrospective nature of the methodology utilized. However, the results of testing Hypothesis 3 seem both troublesome and anomalous. As a result, the literature basis for the hypothesis is reviewed to allow a reconceptualization of the hypothesis.

First, it seems advisable to reconsider exactly what Hypothesis 3 proposes. Hypothesis 3 proposes that experts, across the group, show less variability in the pieces of information used in their decision than non-experts. The test of Hypothesis 3 is designed to compare the consistency across the group of experts as compared to the consistency across the group of non-experts. In other words, it is anticipated that the experts, as a group, will consistently pick the same pieces of information as important. Conversely, it is anticipated that the non-experts, as a group, will show little consistency in the pieces of information they rate as important.

Hypothesis 3 is based on an article by Johnson, et al. (1981). The Johnson, et al. article points out that novices, when compared to experts, exhibit more idiosyncratic behavior in problem solving. Conversely, the article points

out that the expert, in comparison to the novice, is more organized in problem solving behavior. In retrospect the logic of Hypothesis 3 does not follow the evidence presented by the Johnson, et al. (1981) study. The article makes no speculation about consistencies across experts or novices in their choice of information heeded, or processing strategies. In fact, the article presents evidence that novices and experts are fairly equal in their selection of problem solving strategies. To expect consistencies across experts, or non-experts, would be inconsistent with this previous research.

In short, the anomalous findings of Hypothesis 3 result from a speculation that did not logically follow previous research. In fact, evidence supporting Hypothesis 3 would actually be anomalous to previous expertise literature. In light of this review of the original literature, what trends should we expect to see in this study? Simply this: each expert, when compared to the non-expert, should exhibit a more organized problem solving approach. In fact, exploratory research presented later in this chapter will provide empirical evidence that experts are more prone than non-experts to use prioritization as a tool to organize difficult problem solving situations. As such, this ill-conceived hypothesis, and the exploratory research, serve to confirm and expand the previous work of Johnson, et al (1981).

Hypothesis 4

The fourth hypothesis is:

H4 The expert will have more confidence in his/her choice of processing rules when compared to the non-expert.

A confidence question is positioned after each of the three decision points in the problem situation. The subjects rate their level of confidence in the way they reach their decision on the following seven point Likert scale:

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately above average confidence
7 = highly confident

The phrase "the way they reach their decision" is used to assess an evaluation of the decision rules utilized by the subject. On this seven point scale, at decision point one the mean responses of the two groups are similar, 5.25 for non-experts and 5.55 for experts. At decision point two the mean response for the non-expert group is still 5.25, but the mean response for the experts has grown to 6.6. At decision point three both groups show a drop in level of confidence. This drop is to be expected as the scenario has built to a climax at this point. The mean responses at

decision point three are 4.85 for non-experts and 5.7 for experts. Finally, combining all three decision points the non-experts mean response is 15.35, while the experts mean response is 17.85.

A series of t-tests of these means, shown in Table 12, exhibits the same pattern shown in testing the first hypothesis. The first t-test, occurring at decision point one, is not significant. However, the other two t-tests, occurring at decision points 2 and 3, are significant. More importantly, the overall rating, combining the responses from all three decision points, is significant with a one tailed probability of .0085.

The practical significance of a t-test should always be considered. The difference between the mean of the two groups at decision point one is only 6%. This difference swells to 26% and 17% at the more difficult decision points. The percentage difference in the ratings is 16% over all three decision points combined. These differences in confidence do seem significant. However, even greater evidence of the significance of this difference is shown by looking at the mean response for total confidence averaged across each of the three decision points. The result is 5.1, indicating a mean response of slightly above average for the non-expert, and a 5.95, indicating a mean response of moderately high confidence for the experts. Certainly care must be taken to not overstep the limitations of ordinal

data, but this 13% difference in average confidence does suggest a practical, as well as a statistically significant, difference exists between the means of these two groups of respondents.

Table 12. Statistical Analysis of Hypothesis 4

	Mean	Standard Deviation	t	df	1-tail Prob.
Confidence In Decision Rules					
Decision Point 1					
Non-experts	5.25	1.482	-.66	38	.257
Experts	5.55	1.395			
Decision Point 2					
Non-experts	5.25	1.773	-3.18	38	.0015*
Experts	6.60	.681			
Decision Point 3					
Non-experts	4.85	.988	-2.28	38	.014*
Experts	5.70	1.342			
Total Confidence					
Non-experts	15.35	3.588	-2.5	38	.0085*
Experts	17.85	2.681			

* significant (alpha = .05)
(F tests of homogeneity of variance test non-significant)

Hypothesis 5

The fifth hypothesis is:

H5 The expert will have more confidence in his/her decision when compared to the non-expert.

At the end of the problem situation each subject rates his/her confidence in their final decision. The rating is done on a seven point Likert scale identical to the one used in Hypothesis 4. The actual confidence inquiry and response scale can be seen in Appendix B. As expected, the mean of the expert group, 5.6, is higher than the mean of the non-expert group, 4.95. A t-test is then performed to ascertain if the mean responses are significantly different. The t-test, show in Table 13, is not significant, failing to reject the null hypothesis of no significant difference between the means of the two groups. Therefore, this hypothesis is not supported.

Table 13. Statistical Analysis of Hypothesis 5

	Mean	Standard Deviation	t	df	1-tail Prob.
Confidence In Decision					
Non-experts	4.95	1.356	-1.61	38	.0575
Experts	5.60	1.188			

* significant (alpha = .05)
(F tests of homogeneity of variance non-significant)

Possibly this hypothesis is not supported by the t-test because of the methodology used. As with Hypothesis 2, this is a retrospective report. The subjects are actually evaluating their confidence in the manner in which they handled the task just completed. Perhaps a better test of the hypothesis can be obtained by an analysis of the verbal record each subject produces as they proceed through the problem situation. In order to investigate this possibility two raters evaluate each subject's confidence in their final solution. This rating is categorical with only two options, either high or low. Of course, this analysis is only a subjective analysis, but the inter-rater agreement is high at 90%.

Reviewing a few verbal protocol records should help to grasp the flavor of this subjective analysis. These first examples are rated as exhibiting high confidence,

> I don't have a problem. They have a problem. I mean, I told them the facts. I'll go back in there, sit down and say, 'Hey, all I can do is go back and give you the promotion Jerry promised to you. If he gave you extra money, he gave it to you and he worked for us, we gotta stand by it.'

> I'd just tell Tom don't worry about it, just do the best you can. I'll go by there when I leave here and I'll straighten it out with the store.

> I would go back in to the meeting and tell them that I had an emergency that I had to handle and apologize. I would ask then if they would show me statements from Rivendell Food where this 20% had been deducted. I would ask them where is the paperwork showing that they were to get 20%. If I could get them to show me, I would go with that. If they owe us the extra 10%, they're just gonna have to pay.
>
> I'd tell Tom just not to do anything. After the store set he could straighten things out. I would come by later and go over it with him, and straighten things out. ... Then I would go back to the meeting as quickly as I could. I still don't know what Jerry told them. If it's the company's fault, or Jerry's fault, I will tell them we will make it right one way or another. From that point on I would make it clear that they could only have a 10% deduction on Thirstade.

These examples are considered highly confident for several reasons. First, the subject does not panic. S/he remains calm and offers a plan of action. Further, the plan of action seems fair, but firm. Even when the subject apologizes s/he still maintains that the customer will have to pay what they owe. On the other hand, the subject's receiving a low confidence rating seldom offer a clear plan of action. In fact, the low confidence subjects often seem near panic. For example, this subject just wants to get away from the meeting, "I would just tell them I had an emergency and had to leave." Another subject states, "Go back to bed! . . . I would go back in the meeting and tell them I would go

back and look up the files and paperwork and see if it was a mistake on my part." Perhaps, the best example of a subject receiving a low confidence rating states, "I don't know what I'd do, I'd probably quit."

Since the rater's evaluation of the subject's level of confidence is categorical a nonparametric analysis is appropriate. As a result, the rater's evaluations are compared using the Mann-Whitney U test. The Mann-Whitney U test is one of the most powerful nonparametric statistical tests (Runyon and Haber 1980), and can be considered the nonparametric counterpart of the parametric t-test (Gibbons 1976). In fact, Siegel (1956) called the Mann-Whitney U test a powerful test and an excellent substitute for the t test.

To perform the Mann-Whitney U test all observations are combined into one composite distribution and ranked, algebraically, from smallest to largest. Ties are handled by assigning an average of the next two ranks. After all observations are ranked the rank values for each sample are totalled. This total is divided by the number of observations to get a mean rank for each group. More importantly, these totals are used to calculate the U statistic using a formula that can be seen in most statistical or business research texts (e. g., see Downie and Heath 1970; Emory 1976; Gibbons 1976). The U statistic is

evaluated by comparing it to a critical value found in a table of critical values (Siegal 1956).

The result of the Mann-Whitney U test, shown in Table 14, does support the hypothesis that the experts have more confidence in their decision when compared to the non-experts. In other words, at an alpha level of .05 the null hypothesis of identical populations is rejected. The mean rank for the experts is 26, while the mean rank of the non-experts is 15. The magnitude of this difference is evident in the fact that only three of the non-experts receive a high rating for confidence, while 15 of the experts receive a high rating. Additionally, this same approach is used to provide another check of Hypothesis 4, also shown in Table 14, and it also produces significant results strengthening the results stated earlier. The frequency distribution for all the protocol items is shown in Appendix J.

Table 14. Nonparametric Analysis of Hypotheses 4 and 5

Hypothesis	Group	Mean Rank	U	2-tailed P
4	Non-experts	15	90.0	.0024*
	Experts	26		
5	Non-experts	14.5	80.0	.0008*
	Experts	26.5		

* indicates significant results (alpha = .05)

Hypothesis 6

The sixth hypothesis is:

H6 When confronted with the task of sorting possible sales situations into natural categories the expert will form fewer groups than the non-expert.

To provide data to test this hypothesis each subject is asked to sort a group of 22 cards into natural categories. This sorting task is placed at the end of the debriefing interview immediately following the subject's completion of the problem situation. Each card contains a sales situation that has been taken from the critical incident anecdotes obtained in phase 1 of this study. The subjects are told to sort the cards into natural groups. As further explanation the subjects are told that the extreme cases would be one stack of 22 cards or 22 stacks of one card each.

The experts sort the sales situations into an average of 5.8 categories, while the non-experts sorted the same situations into an average of 3.6 categories. To test hypothesis 6 a t-test is performed using the results of the sorting task. The t-test, shown in Table 15, resulted in significant results with a one tail probability of .001. In addition, the magnitude of the difference in the means is evident in the fact that one group is approximately 70%

Table 15. Statistical Analysis of Hypothesis 6

	Mean Categories	Standard Deviation	t	df	1-tail Prob.
Non-experts	3.6	1.635	-3.46	38	.0005*
Experts	5.8	2.331			

* significant (alpha = .05)
(F tests of homogeneity of variance test non-significant)

larger than the other. However, an inspection of the mean responses, 3.6 for non-experts and 5.8 for experts, indicates that the difference in the means is directly opposite what is hypothesized. Therefore, the hypothesis is not supported by the analysis.

The fact that experts sort the cards into more natural categories implies that the experts have more categories in memory. As Sujan, Sujan and Bettman (1988, p. 82) state, "effective performers simply might have more categories to describe the domain." Sujan, et al. continue to reference the Simon and Gilmartin (1973) study estimating the board configurations a chess master holds in memory at 50,000, while a good club player might have only about 1000, and a poor player very few. However, Sujan, Sujan, and Bettman (1988) do reach a differing conclusion in their study. They find no significant difference between more and less effective salespeople in the number of categories

used to classify customers. Why the discrepancy between the two studies? Perhaps the discrepancy results from the types of information sorted. The Sujan, Sujan, and Bettman study uses types of customers while the current study uses sales situations. However, a more important difference may lie in the subjects involved in the study. Sujan, Sujan, and Bettman use students as subjects. The students have received one week of training and are participating in an ongoing telephone operation to raise funds from alumni. The subjects in this dissertation research are full time salespeople that depend on their sales career for their livelihood. Obviously, the use of real subjects in a realistic situation should give a more accurate view of expertise.

Unhypothesized Findings

This research project includes several hypotheses that are clearly tied to previous research in the areas of sales and expertise literature. However, a major emphasis in this dissertation effort lies in the area of unhypothesized exploratory research. As detailed in Chapter 3, this exploratory research is based upon the coding scheme presented in Appendix F. This section presents the results of this exploratory research.

A Measure of Success

Previous expertise literature leads to the conclusion that the expert should be more successful in handling a difficult situation than the non-expert (Johnson, et al. 1984). However, such a hypothesis is difficult to operationalize. That is, given the complexity of the problem situation, compounded by the complexity of human interaction, it would be very difficult to ascertain which approaches to the problem would truly lead to success. As an attempt to investigate this concept, the coding questionnaire includes a request, question 41 on the coding scheme shown in Appendix F, for the rater to evaluate the success of the subject. Thus, we are given a subjective evaluation of the success of the subject by two independent raters.

Perhaps a few examples of responses rated successful, as well as a few rated unsuccessful, will assist the reader in understanding this subjective rating process. First, postponing the problem is not considered handling it successfully. For example this subject receives an unsuccessful rating, "If the meeting was going bad, I would just tell them I had an emergency and had to leave." In some situations an apology seems appropriate, but this response is rated unsuccessful as the subject just seems to want out of the meeting,

> Go back to bed! I would go in the meeting and tell them I would go back and look up the files and paperwork, etc. and see if it was a mistake on my part. And that please forgive me for not being fully prepared for the meeting, but that I would check it out and see if there was a mistake on my part.

Several subjects receive unsuccessful ratings because they do not ask the customer for their perspective on the problem. Many unsuccessful subjects tend to just restate the facts and fail to ask the subject why the problem exists. For example, this subject reacts to being called a liar, then leaves without asking for any explanation,

> Well I first go back in and tell the buyers that I am not a liar. I would explain that I have documentation for each point I have brought up. Then I tell them that I have an emergency and have to leave.

On the other hand, successful ratings are given to those subjects who tend to listen to the customer's side of the story. For example, this subject places a high priority on finding out why the customer has been deducting too much from their invoice,

> Now I need to find out a way to restate the problem without accusing, and probably ask them what Jerry had promised. What he had told them about the account. Obviously, they have information I don't have. Why did they deduct too much? What were they told to deduct? Probably need to find out

about that. Not accuse anybody, or say anybody lied. Do not accuse them of trying to short-change anyone. I need to find out what the situation is and we'll work it out.

A successful rating is also given to this subject because s/he seems to have a firm plan, but be willing to listen to the customer,

> Before I got there I would have had a plan, knowing that they have been deducting 20%, and knowing that I had only 10%. I would try to get them to show me paperwork allowing them to deduct 20%. If our people had given them written authorization to deduct the 20% then our company would have to pick up the tab. I want them to understand that what I'm giving them in writing is our authorized discount. If the previous salesman gave them an unauthorized discount our company will have to stand behind it.

The rater's evaluations of the success of the subjects are compared using a Mann-Whitney test. The Mann-Whitney test, shown in Table 16, does support the hypothesis that experts are significantly more successful in handling the situation than non-experts. In fact, the magnitude of this difference can be seen in the fact that the raters feel only two of the non-experts have handled the problem situation successfully while they rate ten of the experts successful. The raters responses to all the protocol analysis questions can be seen in Appendix J.

Table 16. Analysis of Subjective Evaluation of Success

Group	Mean Rank	U	2-tailed P
Non-experts	16.5	120.0	.0304*
Experts	24.5		

* indicates significant results (alpha = .05)

As a final check of the relationship between this subjective evaluation of success and skill level a Spearman correlational analysis is performed. In this analysis the subjects are dichotomized as either non-expert or expert. At a conservative alpha level of .05 the analysis displays a significant relationship between skill level and success. The correlation coefficient for this relationship is .4364. This correlation coefficient indicates that 19% of the total variation in success can be explained by skill level.

Relating to the Past

Expertise literature has indicated that experts see new situations in terms of already familiar situations (Johnson, et al. 1981; 1984). The coding questionnaire includes a request for the rater to evaluate the number of times the subject relates to previous experiences. Often this reflection on past experience is obvious as the salesperson states, "This sort of thing happens all the time",

"You have that happening a lot", or "That happen to me last year at XYZ company." However, perhaps the best examples are, "It reminds me of what I got into one time." and, "The reason I say this is because I have been in the same situation."

According to the subjective analysis experts relate to past experiences an average of 4.35 times during the problem situation. On the other hand, non-experts only relate to past experiences an average of 1.25 times during the problem situation. A t-test is used to compare the means of these two groups. The result of this analysis, shown in Table 17, indicates that experts do relate to previous experiences more often than non-experts. This difference cannot be attributed to experience differences as the two groups were shown to be very similar in experience (see Table 7), and a correlational analysis showed no significant difference between frequency of relating to past experiences and years of experience in sales ($r = -.1651$, $p = .158$). In this case the F test of homogeneity of variance is significant, so the separate variance estimates are used (Nie et al. 1975).

Inspection of the means shown in Table 17 displays the magnitude of the difference in the number of times subjects relate to past experiences. The means indicate that the experts relate to past experiences

Table 17. Analysis of Relating to Past Experiences

	Mean	Standard Deviation	t	df	2- tail Prob.
Non-experts	1.25	1.517	-3.17	22.09	.002*
Experts	4.35	4.107			

* indicates significant results (alpha = .05)

almost four times as often as the non-experts. Further evidence of the relationship between skill level and the tendency to relate to past experiences is shown in the results of a Pearson correlational analysis between skill and the number of times the subject relates to past experiences. At an alpha level of .05 the analysis displays a significant relationship. In fact, the correlation coefficient, .4569, indicates that over 20% of the variation in number of times the subject relates to past experiences can be explained by skill level. Clearly, this is a very important relationship.

Establishment of Credibility

In presenting the problem situation to the subjects it seems that the experts are more inclined, than the non-experts, to emphasize a need to establish their own credibility. For example, experts often mention selling

themselves as the main purpose of the first call on a new account. As one subject states, "Number one I need to present myself, and number two I need to talk about Thirstade." Another subject states, "I would have to go in there and make them think that I'm going to take care of them; that I will be around and will do everything I can for them." Another subject states, "I'm going in there to prove to those people that mine is a good company and that I can be the best salesperson they've got." A final example of these attempts to establish credibility is seen in this subject's opening comments to a new account,

> Yes I am looking forward to working with you. I am new to your account, but not to the company. I'm here to work with you, to get your problems worked out so we can work together.

The tendency to stress the subject's credibility is not seen in previous literature and seems worthy of investigation. Thus the coding questionnaire includes a request for the rater to evaluate the number of times the subject attempts to establish his/her own credibility. The mean number of times the subjects are seen to attempt to establish their own credibility is 4.1 for the experts as compared to 1.65 for the non-experts. Such a large discrepancy in the size of the means appears important, and the t-test shown in Table 18 confirms that a statistically significant difference in the means exists. The

F test of homogeneity of variance is significant, so the separate variance estimates are used (Nie et al. 1975) in this analysis.

Table 18. Analysis of Efforts to Establish Credibility

	Mean	Standard Deviation	t	df	2- tail Prob.
Non-experts	1.65	1.137	-3.70	25.39	.001*
Experts	4.10	2.732			

*indicates significant results (alpha = .05)

Additional evidence of the relationship between skill level and the number of attempts to establish one's own credibility is shown in the results of a Pearson correlational analysis. At a conservative alpha level of .05, the analysis displays a significant relationship between skill and number of attempts to establish one's own credibility. The correlation coefficient in this case, .5149, indicates that over 20% of the variation in number of attempts to establish credibility can be explained by skill level. This indicates an important relationship according to accepted guidelines (Kerlinger 1986).

Prioritizing

In presenting the problem situation to the subjects it seems that the experts are more inclined, than non-experts, to organize or simplify the situation through a prioritizing approach. For example, one subject states, ". . . my priority for this first call is to solve this deduction problem." In a difficult situation another subject states, "My goodness, let's get our priorities right." Others express this idea using different terms, such as, ". . . it is the most important thing in the meeting." This inclination has not been seen in previous literature and seems worthy of investigation. The coding questionnaire includes a request for the rater to evaluate the number of times the subject seems to utilize a prioritizing strategy. The coders are instructed to look for phrases like "the most important" or "the highest priority"

The mean number of times the subjects attempt to prioritize is 3.3 for the experts as compared to 1.4 for the non-experts. In other words, experts exhibit prioritizing behavior over twice as often as non-experts. To check the statistical significance of this difference a one tail t-test is conducted. As the F test of homogeneity of variance is significant separate variance estimates are used in this analysis (Nie et al. 1975). The results of this t-test, shown in Table 19, indicate that the experts do prioritize significantly more than the non-experts.

Table 19. Analysis of Efforts to Prioritize

	Mean	Standard Deviation	t	df	2- tail Prob.
Non-experts	1.4	1.188	-3.48	29.77	.002*
Experts	3.30	2.130			

*indicates significant results (alpha = .05)

Further evidence of the relationship between skill level and the tendency to prioritize is shown in Table 20 which details the results of a Pearson correlational analysis. At a conservative alpha level of .05 the analysis display a significant relationship between skill and tendency to prioritize. In fact, the correlation coefficient, .4921, is very large for basic behavioral research, and indicates that approximately 24% of the variation in occurrences of prioritizing behavior is explained by skill level.

Table 20. Skill Correlated with Findings

	PEARSON CORRELATIONAL ANALYSIS		
Item	Correlation Coefficient	Cases	P Value
Prioritize	.4921	40	.001*
Establish Credibility	.5149	40	.000*
Relate to Past	.4569	40	.002*

* indicates significant results (alpha = .05)

Planning Versus Researching

Questions nine and ten of the coding scheme, which can be seen in Appendix F, concern preparation for a meeting with a new account. Question nine concerns researching the account. This research could take many forms. For example, subjects often mention looking through the company files or talking to previous sales people assigned to the account. As one subject states, "What files that I did have, I would read." A Mann-Whitney test, shown in Table 21, does not show a significant difference between the two groups in researching the account as the mean ranks are an identical 20.5.

Table 21. Analysis of Research and Planning Questions

MANN-WHITNEY ANALYSIS

	Group	Mean Rank	U	2-tailed P
Research	Non-experts	20.5	200	1.000
	Experts	20.5		
Planning	Non-experts	16.5	120.0	.0304*
	Experts	24.5		

* indicates significant results (alpha = .05)

It appears that both groups appreciate the necessity of research before approaching a new account. However, planning the first call is a different matter. Question ten concerns the subject's planning for the meeting. A few subjects mention planning some aspect of the meeting, such as the handling of objections that might arise. As one subject states,

> I have to get my act together from beginning to end. In your mind you have already gone over all the facts and know what you can do and what you can't do. So you get your scratch sheets and check retail prices and profit margins. You simply get your act together and anticipate his questions.

A Mann-Whitney test, also shown in Table 21, does show a significant difference between the two groups in the area of planning the sales call. The experts are significantly more inclined to mention some aspect of planning for the meeting, as can be seen by the variation in mean rank, 16.5 versus 24.5. In fact, Table 22 displays that over twice as many experts as non-experts mention planning for the meeting.

Further evidence of the importance of this planning is encountered in a correlation between question ten and skill. The correlation methodology used is Spearman's (Siegel 1953), as the rating for question ten is categorical in nature. As shown in Appendix I, there is a significant relationship between skill and planning. In fact, the

Table 22. Responses for Research and Planning Questions

		FREQUENCY OF RESPONSES	
		Experts	Non-experts
Research	Yes	18	18
	No	2	2
	Total	20	20
Planning	Yes	14	6
	No	6	14
	Total	20	20

correlation coefficient, .4000, is quite large and indicates that 16% of the variation in planning can be explained by skill level.

Request for Confidential Information

In the problem situation the salesperson is calling on a new account. The head buyer for the account requests the salesperson divulge confidential information about one of the buyer's competitors. Responses to this request vary from, "I'd get the information and give it to her" to "I wouldn't give her any information." If the subject's responses to this request are dichotomized into one group that flatly refuses the request versus another group that somehow complies with the request, an interesting trend

emerges. This request is refused by 16 of the 20 experts. Only 8 of 20 non-experts refuse the same request.

There seems to be an obvious difference between these two groups on this question. To check this observation a Mann-Whitney test is conducted. The mean ranks in this case are divergent, 16.5 for the experts and 24.5 for the non-experts. The lower mean rank is indicative of the expert's tendency to refuse to divulge confidential information. The Mann-Whitney test, shown in Table 23, confirms that a significant difference exists between the two groups, with the experts significantly more inclined to refuse the request.

Table 23. Analysis of Request for Confidential Information

MANN-WHITNEY TEST RESULTS
CONCERNING CONFIDENTIAL INFORMATION REQUEST

Group	Mean Rank	U	2-tailed P
Non-experts	16.5	120.0	.0304*
Experts	24.5		

* indicates significant results (alpha = .05)

A Spearman correlation, shown in Appendix I, is conducted to investigate the relationship between skill level and the subject's responses to this request for

confidential information. The Spearman correlational evidence shows a significant relationship between these two variables. In fact, the correlation coefficient, -.4082, indicates that almost 17% of the variation in response to this request is explained by skill level. The negative relationship indicates that a high skill level reduces the probability of divulging confidential information. Further, a significant relationship is shown between the subject's confidence and his/her refusal to divulge confidential information. In this case, confidence is operationalized as the combination of the subject's responses to the three questions, imbedded in the problem situation, concerning ability to make the decision. The correlation coefficient is .3358, which indicates that over 11% of the variation in response to this request for confidential information can be explained by confidence level. It appears that confidence and skill are significantly related to this ethical question.

Problem Solving Behaviors

At the end of the problem situation the customer is very upset with the salesperson and his firm. Several common behaviors are often seen in the subject's attempts to resolve the problem. Five subjects, one expert and four non-experts, attempt to postpone the confrontation. For example, one person uses an emergency telephone call interruption (see Appendix B) as an avenue to leave the

appointment. Other behavior often seen include: a) simply restating of the facts as the salesperson knew them, b) apologizing, c) asking the customer for their side of the story, d) asking the customer for any documentation they had to substantiate their position, e) assuring the customer that the firm would support whatever the previous salesperson had promised, and f) offering to compromise.

A Mann-Whitney test is conducted to ascertain if the mean ranks of the two groups differ on any of these behaviors. As can be seen in Table 24, no significant difference is found in the mean ranks of any of these behaviors. Following a procedure outlined by Siegal (1956), a second Mann-Whitney analysis is conducted. This second Mann-Whitney analysis, also shown in Table 24, is a less conservative analysis that includes a correction for ties. In this less conservative approach a significant difference is detected in two behaviors. First, the corrected Mann-Whitney analysis displays a significant difference in the mean ranks of these two groups in the area of apologizing. Experts are seen as more inclined to apologize. In fact, only one non-expert apologized while six of the experts apologized. Second, the corrected Mann-Whitney analysis displays a significant difference in the mean ranks of these two groups in the assurance of support. Experts are seen as more inclined to offer the support of their company. Further, a Spearman nonparametric correlation,

Table 24. Analysis of Common Behaviors

MANN-WHITNEY TESTS RESULTS

Restate Facts

Mean Rank	Cases	
19.0	20	Non-expert
22.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	380.0	.4291	-.9675	.3333

Apologize

Mean Rank	Cases	
18.0	20	Non-expert
23.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	360.0	.1826	-2.0545	.0399*

Ask for Documentation

Mean Rank	Cases	
21.0	20	Non-expert
20.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	420.0	.7994	-.3333	.7389

Ask for Customer's Story

Mean Rank	Cases	
21.0	20	Non-expert
20.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	420.0	.7994	-.3158	.7521

Assurance of Support

Mean Rank	Cases	
17.5	20	Non-expert
23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-2.3419	.0192*

Table 24. (Continued)

Offer Compromise

Mean Rank	Cases	
18.5	20	Non-expert
22.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	370.0	.2888	-1.7489	.0803

*indicates significant results (alpha = .05)

shown in Table 25, displays a significant relationship between skill level and both these behaviors. The correlation coefficients for apologizing behavior, .3290, and assurance of support, .3750, both seem to indicate important relationships. In other words, skill level explains approximately 10% of apologizing behavior and 14% of the assurance of support behavior.

Finally, one other behavior, an offer to compromise, is shown in the Spearman correlational study to be positively related to skill level. However, the Mann-Whitney analysis does not show a significant difference in the mean ranks of the two groups.

Table 25. Correlation of Common Behaviors with Skill

SPEARMAN CORRELATION OF SKILL LEVEL WITH COMMON PROBLEM SOLVING BEHAVIORS

Behavior	r	Cases	P value
Restate Facts	.1549	40	.170
Apologize	.3290	40	.019*
Ask for Documentation	-.0534	40	.372
Ask for Customer's Story	-.0506	40	.378
Assurance of Support	.3750	40	.009*
Offer Compromise	.22801	40	.040*

* indicates a significant p value at .05 level

The Sorting Task

The sorting task placed at the end of the subject's post-session interview provides an interesting hypothesis testing situation. Furthermore, inspection of the categories formed by the experts and non-experts gives some interesting insights into these two groups. In this sorting task the subjects have been instructed to sort 22 cards, containing sales situations, into natural categories. The subjects are also told that they will not be asked to reveal their rationale for sorting the cards. It is felt that such a request could lead the subject to build categories that could

be easily justified, or justified in a socially desirable manner. Such a restriction on the subject's imagination could have significant impact on the results of this sorting task. As a result, no record of the subject's rationale for forming categories in this sorting task is available. However, an inspection of the categories formed by the subjects can lead to several speculative results.

In reviewing the situations that were sorted by the salespeople, it should be remembered that the situations are taken from the critical incidents given by sales managers in phase 1 of this study. The managers have given the situations in response to a request for incidents in which sales people had shown exceptionally good or poor performance. In other words, the situations can be viewed as stories of success or failure. Based on this perspective, 10 of the 22 situations selected for the sorting task are success stories, while 12 are failure stories.

Inspection of the non-expert's categories indicates close adherence to this good versus poor performance classification. In fact, four of the 20 non-expert subjects form only two categories, and seem to clearly follow this dichotomy. Further, seven of the non-experts form three categories that appear to follow the good/poor dichotomy with only the exception of subdividing one of the two categories. Three of the seven subdivide the poor group into two groups, while the other four subdivide the good

group into two groups. It appears that the subdivision is based upon the level of good or poor performance. In other words, some of the poor performance may appear poor, but acceptable, while other incidents seem completely unacceptable. For example, the following two situations are often associated together:

> This salesperson prepared an outstanding store reset plan. However, in the presentation the salesperson was intimidated by the forceful objections of the store manager.

> This salesperson is at a store reset. The section with his product has already been reset by a competitor. The reset is unfavorable for his product. The salesperson does not approach the store manager.

Certainly these two situations are examples of poor performance, but this performance may be acceptable in some circumstances. For example, a new salesperson may be expected to make such errors while gaining experience. On the other hand, some behavior, even if it happens only once, can be considered grounds for dismissal. The following two situations are often grouped together and may be viewed as prototypes of completely unacceptable performance:

> This salesperson was under pressure from management to get additional business. As a result, the salesperson makes promises to customers he cannot fulfill to get the business.

> A store manager found out the details of a special pricing program the broker had with a competitive grocery. When confronted with this information the salesperson gave away confidential information.

A similar trend can be observed in the responses of those subjects who choose to subdivide the good performance category. One category seems to include behavior that, although good, we would expect from any adequate salesperson. On the other hand, the second category may be thought of as truly exceptional performance. Examples of the former category include:

> This was the salesperson's first call on a large account. The salesperson prepared a typed presentation including projected profits and ordering suggestions. The presentation was very complete.

> This salesperson presented a new line of products to a customer. He was turned down on two occasions. The salesperson formulated a new program with the same product and made a third attempt.

Examples of the latter category include:

> Salesperson is pushing a new product line. He makes a presentation to buyers and their spouses, or guest at a local restaurant. The presentation, and samples, were given to both the buyer's and their guest. The product line was accepted.

> A product line was scheduled for deletion by a retail chain because of slow movement. The

> salesperson formulated a plan in which both the manufacturer and retailer lowered their prices and increased promotional effort.

The final nine non-experts form four to seven categories. These subjects continue to display the trend of refining the good/poor schema by levels of performance. Interestingly, only four of these subjects modify the standard good/poor taxonomy by incorporating a situational slant to the classificational structure. For example, one subject forms separate categories for examples of good or poor behavior in dealing with new accounts. However, the obvious overriding theme throughout the non-expert categorization is a good versus poor dichotomy with refinement for level of performance. Situational considerations are rarely seen in the categories formed by this group.

Also interesting, the non-experts display a tendency to misclassify several situations. The term misclassify, in this case, suggest the subject failed to place a situation into the category originally intended by the manager submitting the situation. The following three situations are designed to be examples of poor performance, but are misclassifed by at least three non-experts:

> This salesperson prepared an outstanding store reset plan. However, in the presentation the salesperson was intimidated by the forceful objections of the store manager.

During a store reset a salesperson gets into a disagreement with a competitor over shelf space. The salesperson leaves the store to discuss the disagreement with management.

This salesperson represented several dominant product lines. A major retail account was due for a reset. The salesperson did not aggressively try to retain or improve shelf space.

How could the non-experts confuse these examples of poor performance with good performance? To answer this question each situation must be evaluated separately. The first situation does state that the salesperson prepares an outstanding store reset plan. Perhaps these subjects based their classification on the key word "outstanding" without considering the entire situation. Such an over reaction seems possible as previous research has pointed out the tendency of non-experts to be highly data driven (Alba and Hutchinson 1987). Another feasible explanation is that the subjects feel that the salesperson is doing the right thing by yielding to the store manager's objections.

The second situation has the salesperson in a disagreement with a competitor over shelf space during a store reset. The salesperson leaves the site to discuss the problem with his/her manager. The sales manager that originally presented this situation stated that the salesperson should have remained on the site until the

reset was complete. The manager continued to explain that the competitor had used the salesperson's absence to reset the section entirely in the competitor's favor. The manager was proud of his salesperson's concern over shelf space, but felt that his choice to leave the site was poor. Perhaps the non-experts see this situation as an example of a conscientious salesperson seeking management input when needed.

The non-experts tendency to misclassify the last situation as an example of good performance is difficult to explain. The salesperson has a dominant product line but does not seem to aggressively do his/her job. Perhaps, as in the earlier situation, the non-experts simply key their classification on the phrase "dominant product lines" and do not consider the entire situation. Naively, the dominance of a product line could be taken to indicate the salesperson is a good performer.

Finally, at least three non-experts misclassified the following situation:

> A customer had been neglected and was upset over a series of problems. The new salesperson allowed the store manager to vent his hostilities.

This situation was originally presented as an example of good performance. In its entirety the store manager becomes a good customer after the salesperson listens to

his complaints. Perhaps the non-experts see this situation as an example of a salesperson being intimidated by his account. In other words, the non-experts may view this salesperson as not being forceful enough with this account.

Certainly, many possible reasons can be given to explain why the non-experts fail to classify the situations as they are originally intended. We may view these patterns as errors by the non-experts. On the other hand, the "misclassifications" may not be errors but simply the result of a different perspective. That is, the non-experts may simply see these situations from a different perspective than originally intended by the managers. Regardless of any reasons why the subjects misclassify these situations, the key point is that non-experts have difficulty classifying these four situations as the managers originally intend.

In summary, three main points emerge from an inspection of the categories created by the non-experts in sorting the sales situation cards. First, the categories are few in number and very simple in nature. In fact, 60% consist of three or fewer categories. Further, almost all the categories appear to be derived from a simple good versus poor performance dichotomy. Only four subjects seem to attempt a more sophisticated situational based sorting. Finally, the non-experts often err, when compared to the

original intent of the situation, in the classification of situations within the simple good versus poor schema.

An inspection of the expert's sorting patterns displays very different trends. First, the categories are not few in number or simple in nature. The mean number of categories for the experts is 6 as compared to 4 for the non-experts. No expert forms fewer than three categories. In fact, 70% of the experts sort the sales situations into five or more categories.

The six experts with four or fewer categories basically follow the same good versus poor performance categorization seen with the non-experts. Further, the good versus poor performance categorization is noticeable in the sorting patterns of 17 out of the 20 expert subjects. Also, in keeping with the trend of the non-experts, the experts often refine their sorting categorization by dividing the good or bad categories by level of performance. However, a difference in the two groups seems to appear in the incorporation of situational factors into the categorizational refinement. The experts often display a trend to refine the good versus poor taxonomy by incorporating situational factors. Situation factors, such as new product or new account situations, are included in the categorizational schema of 13 experts. In short, the expert's classificational schemata are far more complex than the non-experts and often incorporated some situational factors.

The experts also depart from the trend of the non-experts in their ability to classify the situations. Reviewing the expert's sorting patterns, only one situation is misclassified in more than two situations, based upon the good versus poor classificational schema. The misclassified situation is:

> A customer had been neglected and was upset over a series of problems. The new salesperson allowed the store manager to vent his hostilities.

This incident was originally given by a sales manager as an example of good performance. However, it is classified as an example of poor performance on seven occasions by the expert subjects. This sorting mismatch may have resulted from the summarization of the incident. As speculated for the non-experts, the experts may interpret this situation to depict a salesperson being intimidated by a customer. Perhaps the situation would be sorted correctly if another sentence had been included with the situation indicating that after venting their hostilities the account became a very good customer. However, the key point is that the non-experts often misclassify four situations, while the experts consistently misclassify only one situation. This could lead to a speculation that the experts view the world from a perspective similar to their managers.

A final theme shown in a review of the expert's sorting patterns concerns ethical behavior. The following situation clearly illustrates unethical behavior on the part of the salesperson:

> A store manager found out the details of a special pricing program the broker had with a competitive grocery. When confronted with this information the salesperson gave away confidential information.

None of the non-experts separate this situation from the other examples of poor behavior. However, 25% of the experts isolate this situation into a separate category. In addition, six other experts place this situation into a category with only one or two other situations. The other situations are not as clearly unethical as divulging confidential information, but can be considered questionable. However, this sorting pattern leads to a speculation that the experts are more cognizant of ethical issues.

In summary, four themes emerge from an investigation of the sorting patterns exhibited by the experts and non-experts. First, the experts sort into more categories than the non-experts. Second, the experts use several more criteria to refine the categorization structure than the non-experts. Although most experts retain some variation of the basic good versus poor dichotomy, the

experts are more attuned to situational variations. Third, based upon a simple good versus poor taxonomy, only one situation seems difficult for the experts to classify, while the non-experts have difficulty with four situations. Finally, the experts display a sensitivity to ethical issues not seen in the non-experts. In short, the experts seem far more sophisticated in their ability to sort the situations. This sophistication implies that the experts possess a superior organization of knowledge. This speculation parallels earlier research in the area of expertise in medicine (Johnson et al. 1981). The earlier work has speculated that the expert diagnostic is "tuned" to the natural variations in findings across cases. In like manner, this dissertation research implies that the expert salesperson is "tuned" to the natural variations across sales situations.

Descriptive Analysis of Decision Rules

In the cognitive sciences human problem solving has often been depicted as a series of if = then statements, or decision rules (see Newell and Simon 1972). Miller, Galanter and Pribram (1986) give the following example of an if = then statement:

IF goal = hammering
AND Nail-head not flush
AND hammer up
THEN strike nail.

In other words, if a certain event occurs, then perform the appropriate response.

As described earlier, the problem situation encountered by the subjects in this study includes three decision points. The first decision point is a request to describe the salesperson's preparation for their first meeting with a new account. The second decision point occurs at the point the new account buyer makes a request for confidential information. The final decision point occurs at the end of the story. At this point the salesperson is called a liar by a customer and has a co-worker in trouble at one of his accounts. These decision points are available in Appendix B for more detailed review.

A descriptive review of the decision rules verbalized by each subject at each of these decision points may offer insights into the nature of expertise in sales. To investigate the decision rules two raters are requested to highlight decision rules occurring in the subject's verbal protocol text. These decision rules are then listed as they appear in the text. Finally, the decision rules are summarized. The summarized decision rules are then reviewed by both raters to insure the accuracy of the summarization process.

A detailed presentation of the summarized decisions rules for all three decision points is shown in Appendix L.

The first decision point, preparing for a first call on a new account, is a normal part of the job for the food broker salesperson. As a result, significant differences are not expected between the experts and the non-experts in their approach to this situation. The strong similarities between the two groups can be seen in the abridged summary of the decision rules shown in Table 26. For example, in preparing to make the call three experts and three non-experts plan to talk to their supervisor. Strong similarities are shown in their decisions to go through past records, to search external sources for information, to talk to the customer, and to stress a positive attitude.

However, one strong distinction does arise in investigating the summarized decision rules at the first decision point. Of the experts 60%, 12 out of 20, stress a need for planning or organizing before the meeting. Conversely, only 25%, 5 out of 20, of the non-experts mention planning or organizing prior to the meeting. Interestingly, of the subjects that do stress planning or organizing, about the same number, 3 for experts and 4 for non-experts, comment on preparing their best deals for Foodland. However, a distinction is shown in the area of preparing the actual sales call presentation. Only one non-expert comments on preparing a presentation for Foodland,

while 8 of the experts list preparing a presentation as a decision rule. This interesting divergence adds confirming evidence to the earlier speculation that experts are more inclined to plan before the sales call.

In summary, decision point one is a rather ordinary part of the job of most food broker salespeople. As a result, there are more similarities than differences exhibited in an investigation of the decision rules verbalized at this point. However, one significant divergence is shown by the analysis. Experts are far more likely to stress the need to organize prior to the sales call and plan their presentation.

Table 26. Summarized Decision Rules for First Decision

	Experts	Non-experts
1. Talk to supervisor	3	3
2. Go through past records	10	9
3. Gather information	4	5
4. Talk to Foodland	6	4
5. Organize or plan	12	5
6. Attitude	2	2

The second decision point, a request for confidential information, appears to be more difficult and results in sharper differences between the groups. The summarized decision rules, shown in Appendix L and Table 27, show that 16 of 20 experts refuse to comply with a request for

Table 27. Summarized Decision Rules for Second Decision

	Experts	Non-experts
1. Refuse	16	8
With trust explanation	6	3
Just don't know explanation	2	0
May hurt yourself rationale	2	0
2. Give information freely	1	9
3. Give limited information	3	3
Refuse pricing information	3	1
Give common knowledge only	2	2
Refuse advertising information	0	1

confidential information, while only eight of 20 non-experts refuse such a request. Conversely, only one expert agrees to freely give away confidential information, while nine non-experts freely comply with the request. Thus, an analysis of decision rules confirms the results obtained from the earlier protocol analysis. It appears that the experts standard decision rule for this situation is a simple refusal, while the non-expert is much more divided on how to handle the situation. Perhaps this variation in behavior is an instance of the idiosyncratic behavior Johnson, et al. (1981) attribute to non-experts. Interestingly, six of the 16 experts that refuse the request for confidential information feel it necessary to explain to the buyer that giving away such information would indicate a breach in trust. As one expert states,

> The first thing I'd tell her is I'd say, 'Look, how would you feel if you were opening up a new store and I gave you all these promotions and you told me all the deals and everything, and I walked out ... and told your competitor.' You wouldn't have any trust or respect for me. And, if I told you what they were doing, you wouldn't have any trust in me.

In other words, these six experts explain that divulging this information indicates that they can not be trusted. Only three of the non-experts offer this rationale. However, one of the non-experts does offer the interesting idea that this request might be a test designed to see if the salesperson can be trusted. This trust rationale is the only explanation offered by the non-experts. On the other hand, two of the experts mention that giving away such information can have long-run detrimental effects. Finally, two of the experts offer what is probably the simplest solution to the request. These two experts respond that they would tell the buyer they just did not know anything about the account. This solution allows the subject to avoid: a) giving away the information, and b) upsetting the buyer.

Decision point three is composed of two problems. First, we have the inexperienced salesperson, Tom, in trouble at a store reset. Tom is sent to handle the reset so the more experienced salesperson, the subject, can attend the Foodland meeting. Tom's trouble results from his deviation from the store reset specifications, the plan-o-gram. As can be seen in Table 28, and Appendix L, several

subjects in each group tell Tom to explain his error, stress his inexperience and apologize. Further, ten of the experts state they would go help Tom after completing the Foodland call, while only six of the non-experts suggest the same strategy.

Table 28. Summarized Decision Rules for Third Decision

	Experts	Non-experts
Concerning Tom		
1. Tell him to explain	5	8
Stress inexperience	3	4
Apologize	3	5
2. Talk to reset manager	1	1
3. Go help Tom	10	6
4. Tell him to handle it himself	6	3
5. Tell him to reset to plan-o-gram	5	0
6. Tell him to relax	2	0
Liar Accusation		
1. Restate or show documentation only	4	4
2. Restate with additional information	8	5
Assurance of support	1	1
Request for documentation	1	2
Offer to reschedule	2	1
Apology	4	0
3. Apologize	5	2
4. Ask for story or documentation	8	8
5. Offer compromise	5	1

The real divergence in these two groups in the handling of this situation seems to emerge in items four, five and six of Table 28. Six of the 20 experts tell Tom to handle the situation himself, while only three of 20 non-experts offer Tom the same advise. Five of the experts tell

Tom to go back and reset the section to plan-o-gram specifications, while none of the non-experts offer the same advise. Finally, two of the experts tell Tom to relax, while none of the non-experts offer such advise. For example, one expert states,

> I would tell Tom not to worry about it. It's my store. I'd just go back and take care of it later. Because, they know me and they know I'll take care of it as far as the resetting. I would tell him to calm down and do his best, try not to get into any more trouble and leave. As far as the place I was at now (Foodland), it's the number one priority and it's in a little bit of a mess.

This type of response to Tom's problem may indicate that the expert has the situation in perspective. That is, the expert seems to realize that the reset is less important than the call on Foodland, and that the inexperienced man should be able to handle the situation without serious consequences.

On the other hand, the non-experts do not seem to share such a perspective. For example, one non-expert states,

> That's a tough situation. Depending on how far away the store was from where I was, I would let him know that I would be there as soon as I possibly could.

Even more succinctly, one non-expert states that in this situation s/he would, "go back to bed", while another suggests quitting. Such responses confirm earlier research that suggest the non-expert is more data-driven, lacking the stability or anchoring afforded by the expert's organized set of operative knowledge (Alba and Hutchinson 1987). That is, the expert keeps the entire situation in focus, while the non-expert seems to be easily swayed and focus his/her limited attention on any event that arises.

The second part of decision point three concerns the buyer's accusation that the salesperson is a liar. As can be seen in Appendix L and Table 28, experts and non-experts follow similar patterns in responding to this situation. Two interesting differences in the responses of the two groups have already been pointed out earlier in this dissertation. First, upon returning to the meeting five experts, compared to only one non-expert, apologize. Second, five of the experts offered to work out a compromise, while only one of the non-experts made such an offer.

It appears to the raters that one of the most interesting distinctions between the two groups, at decision point three, is in the detail of the subject's response to the situation. To evaluate this speculation an average of the number of decision rules expressed by each subject at this decision point is calculated. The experts average 5.35

decision rules in their attempt to satisfy decision point three. Conversely, the non-experts average only 3.6 decision rules in response to decision point three. For example the following is a typical expert response,

> First thing I would do would be to tell Tom to go back to the section and figure something out. To look and try to justify the additional space based on movement, or shelf location. Just get the reports out and justify the extra space. If it couldn't be taken care of now, I would be there as soon as I finished with the meeting to take care of it. As far as the Alpo, good going. I'd have done it too if I could have gotten away with it. Then I would sit down a few minutes and gathered myself on the problem of facing this guy who has just called me a liar. I would probably go in and say well, I'm sorry but that I was just going by the information given to me. And that some way or another we were gonna have to work it out or there would be the chance of no more deals for Foodland which in turn hurts them. Because items we have are big items and when you don't take advantage of the deals you don't make a big profit. If we can't sit down and work this out, I'll go back to my office and discuss it with my boss, but we cannot continue the 20%. I'd get my info together and come back. If I had the invoice, I would show them.

On the other hand, the following is a typical non-expert response to decision point three,

> If the meeting wasn't going that bad, I would just tell them I had an emergency and had to leave. Reschedule another meeting and we could cool down. And then go over and help Tom with store set. I would use the emergency to reschedule if I could.

These typical responses exhibit the greater detail that is shown in the expert's response to this decision point. Of course, the number of decision rules should not be viewed as an indicator of the quality of the response. However, this might be indicative of the expert's larger repertoire of procedural knowledge.

Probing Approach

As already discussed, Ericsson and Simon (1984) stress the importance of limiting any leading directions in a verbal protocol analysis. In their opinion, observer interaction can change the content of the subject's short-term memory and the verbal protocol record. As a result, the interviewer's comments during the problem situation session are limited to simple instructions. In fact, examination of the verbal protocol records displays that the interviewer rarely says more than, "keep talking". However, during the debriefing interview, the interviewer is free to ask questions to probe deeper into the decision rules used by the subject.

As a result of the length of the interview session and the subject's limited time, it is determined that the interviewer should focus on details of the decision rules generated in response to the request for confidential information. The approach used by the interviewer can be called a snowballing approach. That is, the interviewer

asks the first subjects for situations in which they would give away confidential information. For example, one of the first subjects states that he would be more inclined to divulge the confidential information if he knew the buyer better. In turn, the interviewer asks the next subject if s/he would be more inclined to divulge confidential information if s/he were better acquainted with the buyer. The interviewer then requests any other situations in which the subject would be inclined to give away such information. This procedure allows the interviewer to accumulate a set of common decision rules.

Using the snowballing approach to probe for decision rules the interviewer is able to build the list of decision rules often used by non-experts shown in Table 29.

Table 29. Decision Rules Used by Non-experts

I would be more inclined to give confidential information if:

Decision Rule	Frequency
1. I knew the buyer better	6
2. It were requested by a large account	4
3. It will not hurt anyone	2
4. It will help you	5
5. You knew you could trust buyer requesting	3
6. If you can get this account the same deal	2
7. If approved by supervisor	1
8. If it will not hurt you	3
9. The information is common knowledge	4
10. Information did not include price	3
11. I would refuse to divulge such information	6

Using this approach two of the eight non-experts that had originally stated they would not give away confidential information explain that under certain circumstances they would divulge the information. Using the same approach one of the experts changes their original statement. Table 30 shows the decision rules used by the experts.

Table 30. Decision Rules Used by Experts

I would be more inclined to give confidential information if:

Decision Rule	Frequency
1. I knew the buyer better	2
2. It were requested by a large account	1
4. It will help you	2
4. Information does not include price	1
5. Request does not include personnel information	1
6. It will not hurt you	1
7. I would refuse to divulge such information	15

Two speculations may be extended from this decision rule probing. First, the greater number of differing decision rules exhibited by non-experts may be evidence of more idiosyncratic behavior (Johnson et al. 1981). Perhaps the non-expert is still in the rudimentary stages of organizing their knowledge in this area of ethical issues. The second speculation is methodological. It appears that a probing interview allows for more elaboration in the analysis of decision rules. Certainly, the probing interview

described in this section adds depth to the verbal protocol analysis used in this dissertation research.

Information Heeded Patterns

In the discussion of Hypothesis 2 a procedure is described in which two independent raters note the pieces of information referenced by each subject as they proceed through the problem situation. The raters do this analysis by reading the verbal protocol records and noting the referenced items on a coding sheet. In like manner, the raters are asked to note any of the noted items appearing important to the subject. Often this is very simple as the subject would actually state that a piece of information is important. Each rater is instructed to be conservative on this analysis. As a result, subjects must strongly emphasize a piece of information before raters evaluate the information as important. For example, mere mentioning that the subject's boss had threatened the subject is not deemed important. However, the following text is an example of a subject that does seem to view this threat as important,

> When somebody tells me to go look for another job, I'd be looking but wouldn't tell them until I found one. I'd be scared of this. Looking at it right now, I wouldn't want the account.

As has been seen in many previous studies (de Groot 1965; Chase and Simon 1973), this analysis displays more similarities than dissimilarities between experts and non-experts. As mentioned in the hypotheses testing section, no significant difference is found in the mean number of items referenced or the number of items evaluated as important. However, the pattern of responses, as shown in Appendix M, does offer some interesting insights.

First, the frequency of reference is significantly different between experts and non-experts on eight pieces of information. These differences appear in a Mann-Whitney analysis that has been corrected for ties and has an alpha level set at .10. This methodology and alpha level is selected to provide a more liberal measure of statistical difference in this exploratory research. Table 31 presents the results of the Mann-Whitney tests for these eight items.

Several insights into the differing perspectives of experts and non-experts can be seen in the patterns that emerge when investigating the subjects' frequencies of responses. First, a statistically significant difference is shown in only eight of a possible 81 pieces of information. Stated differently, in almost all cases a similar number of experts and non-experts reference each piece of information. As already mentioned, such similarities are

Table 31. Analysis of Pieces of Information Referenced

Jerry is no longer with the firm

Mean Rank	Cases	
18	20	Non-expert
23	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	360.0	.1826	-1.6667	.0956*

Jerry won a sales contest

Mean Rank	Cases	
22.5	20	Non-expert
18.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	450.0	.2888	-1.7489	.0803*

High turnover in people handling Foodland

Mean Rank	Cases	
22.5	20	Non-expert
18.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	450..0	.2888	-2.0817	.0374*

Jerry's reputation for taking shortcuts

Mean Rank	Cases	
23.5	20	Non-expert
17.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	470.0	.1081	-1.8829	.0597*

June is a UT graduate

Mean Rank	Cases	
17.5	20	Non-expert
23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-2.1633	.0305*

Table 31. (Continued)

Temporary nature of your assignment to Foodland

Mean Rank	Cases	
17.5	20	Non-expert
23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-1.8829	.0597*

John warning you not to see June today

Mean Rank	Cases	
23.0	20	Non-expert
18.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	460.0	.1826	-1.7483	.0804*

June's concern over MSG

Mean Rank	Cases	
23.5	20	Non-expert
17.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	470.0	.1081	-1.8829	.0597*

*indicates significant results at alpha level of .10

often seen in expertise literature (de Groot 1965; Chase and Simon 1973). Second, the experts seem less concerned with the specifics of Jerry's background. Only one expert, as compared to five non-experts, references Jerry's winning a sales contest. Further, only six experts, as compared to 12 non-experts, mention his reputation for taking shortcuts. The non-experts are also more likely to reference: a) a warning by a competitive salesperson that

the buyer for Foodland does not want to see any other salespeople, and b) the concern the head buyer expressed over the ingredients of one of the salesperson's products.

On the other hand, the experts are more likely than the non-experts to reference: a) the high turnover that has been seen in the Foodland account, b) the temporary nature of the salesperson's assignment to Foodland, and c) the fact that June is a University of Tennessee graduate. In reference to these first two items several experts stress the need for consistency in the account. June's academic status is usually referenced as a means to start a conversation and establish rapport on a first call. Table 32 presents the number of times each of the statistically significant items were referenced by subjects.

Table 32. Referenced Information Differences

INFORMATION ON WHICH EXPERTS AND NON-EXPERTS DISPLAYED A SIGNIFICANT DIFFERENCE		
	Frequency Heeded	
Piece of Information	Experts	Non-experts
1. Jerry is no longer with the firm	9	4
2. Jerry had won a sales contest	1	5
3. High turnover	16	8
4. Jerry's reputation for taking shortcuts	6	12
5. June is a UT graduate	8	2
6. Temporary nature of your assignment	14	8
7. John warning you not to see June today	12	17
8. June's concern about MSG	6	12

The pattern that emerges from these differences leads to a speculation that non-experts are somewhat reactive in their approach to this unfolding situation. When given a new account they seem to focus on any problems or expectations that may carry over from the previous salesperson. For example, one non-expert states, "First off I would think that if he had outstanding sales the last quarter, that they would probably expect me to try to keep sales as good." In other words, it seems that the non-expert is reacting to a concern about meeting the previous salesperson's performance, and problems he may have left behind. In a similar manner, the non-expert's high number of references to the warning about June's mood and June's concern about MSG give further evidence of a tendency to react to information that is somewhat irrelevant to the problem at hand.

Conversely, the expert seems to take a more proactive stance in the problem situation. Instead of commenting about Jerry's past, the experts seem to focus on ways to approach the new account. Although they note that high turnover of salespeople often leads to problem accounts, they tend to exhibit confidence that they can turn the account around. As a result, several experts stress that they should keep the account on a permanent basis. As one expert states,

> I feel if you are giving me the Foodland account it needs to stay with me. Because this is part of the problem we have with this account is this lack of continuity. We have had too many people with the account. They have 30% of the local market but are only 5% of our business. They should be 30% of our business.

Finally, the experts tendency to note the head buyer's academic career also seems proactive as the expert seeks information to aid in establishing rapport.

When faced with this problem situation why would the non-experts seem more reactive and the experts more proactive? Perhaps the experts, as a result of self confidence, aggressiveness, or some combination of attributes, do not feel as constrained by Jerry's previous performance as the non-experts. As one expert states, "Jerry's gone and we need to move on. Discussing Jerry, or the past will not help." Second, previous literature has shown that non-experts are more likely to be swayed by irrelevant information (Alba and Hutchinson 1987). As a result, the non-expert can be expected to seem more reactive as they respond to each new piece of information. In contrast, the expert seems to doggedly focus on the overall problem, often ignoring new information that seems irrelevant. Hence, to the observer, the expert seems less reactive and more proactive as s/he constantly moves to change the situation in his/her favor.

Summary

This chapter presented the results of the program of study outlined in Chapter 3. Many of the suggested hypotheses were upheld. Furthermore, several notable findings resulted from the unhypothesized exploratory research. The next chapter will present the conclusions, limitations, and contributions of this study. In addition, a programmatic plan for future research will be presented.

CHAPTER 5

DISCUSSION

Introduction

This chapter will serve several purposes. First, it will begin with a synopsis of this research project. This summary should serve to crystalize the concepts and methodologies presented in chapters 1 through 4. The chapter will continue with sections that present the conclusions, contributions, and limitations of this study. Finally, suggested directions for future research will be presented.

Summary of the Study

Personal selling is the most expensive tool in the promotional mix, costing American firms approximately $172 billion in 1984 (Kotler 1988). Given the magnitude of the investment, considerable research in marketing should certainly focus on salesforce issues. Regrettably, our knowledge in the area of personal selling has often been found lacking (Walker et al. 1977; Churchill et al. 1985; Dubinsky and Hartley 1986). This dissertation research was designed to counter this weakness by searching for identifiable mental processes that separate the expert from

the non-expert salesperson. The differences that emerged should prove valuable in the selection, training, and evaluation of salespeople.

Generally, an expert is viewed as one who, by virtue of training and experience, can do things the rest of us cannot. What the expert possesses, that the non-expert does not, is a body of operative knowledge (Johnson et al. 1984). Operative knowledge is knowledge that allows one to perform a given task. In some contexts this is called expertise, in the sales literature it is usually termed skill. Skill has only recently been added to the dominant model of performance in sales (Churchill et al. 1985). This study focused on explicating the skill construct by borrowing and expanding concepts and methodologies used in the field of cognitive psychology to study expert reasoning in personal sales.

Essentially this study consisted of: a) taking a group of expert salespeople and a group of non-expert salespeople, b) subjecting them to a difficult sales situation, and c) examining differences in decision making between the two groups. However, this procedure raised two major problems. First, can we determine who is really an expert and who is really a non-expert? Second, can we develop a problem situation that is difficult enough to allow differences between the two groups to emerge? The latter question was solved by using the critical incident technique

of performance evaluation developed by Flanagan (1954) to isolate situations that call for exceptional performance, and fashioning a problem story around these situations.

Isolating experts and non-experts was a more difficult task. Experience and performance are measures that have often been used as surrogates for skill. However, experience alone does not ensure skill. In addition, the many factors that influence performance, such as inequalities in territories and quality of management, make its legitimacy as a surrogate for skill questionable. Furthermore, a review of the sales literature did not produce a usable skill measure. As a result, an instrument was developed to measure sales skill using the traditional paradigm for measurement development (Churchill 1978), as well as confirmatory factor analysis.

The refined skill questionnaire was administered to approximately 150 salespeople in the food broker industry. From this population 20 experts and 20 non-experts were selected. These 40 subjects read the problem situation, thinking aloud as they read, and vicariously assumed the role of the salesperson in the problem scenario. Subjects' verbal protocols were recorded, transcribed and analyzed using a procedure outlined by Ericsson and Simon (1984). The results of this analysis produced many insights into the reasoning processes, behaviors, and knowledge structures

of the expert salesperson that should prove useful to both academicians and practitioners.

Research Findings

Table 33 summarizes the findings of this study within five categorical areas. The first category concerns the speed and quality of decision making exhibited by experts and non-experts. Confirming previous research (de Groot 1965) experts were found to arrive at a solution to the problem situation faster than non-experts. In fact, the difference in time was sizable as non-experts required approximately 40% more time than experts to accomplish the same task. The possibility that this time difference was attributable to differences in reading speed was dispelled by minimizing the text at the actual decision point and assessing reading speeds.

Previous studies of expertise in medical diagnostic reasoning have linked speed with quality of decision making (Johnson et al. 1981). In these studies unsuccessful individuals took longer to formulate responses. The same tendency appears in sales expertise. The experts not only responded faster, but with solutions that were rated superior to the non-experts. Along with greater success in reaching the final decision, experts were shown to be less likely to mis-classify sales situations. Therefore experts in sales, much like experts in other areas of human behavior,

Table 33. Summary of Findings

1. Time and quality of decision making.
   A. Experts reach a solution faster than non-experts.
   B. Experts reach a better solution than non-experts.
2. Confidence in decision making.
   A. Experts hold more confidence in their decision rules.
   B. Experts hold more confidence in their final solutions.
3. The use of experience.
   A. Experts are more likely to relate to past experiences.
   B. Experts are more likely to stress their own credibility.
4. The structure of knowledge.
   A. The expert exhibits more categories in memory.
   B. Experts seem to possess a more complex structure of knowledge.
5. The process of expert reasoning.
   A. Experts are more grounded in their problem solving.
   B. Experts are more organized in reasoning processes.
      1. Experts stress prioritization.
      2. Experts stress planning as an organizational tool.

are able to quickly reach a superior decision. In contrast, non-experts are slower and often reach inferior decisions.

The second category of findings concerned the expert's and non-expert's level of confidence. Experts were found to have more confidence in their choice of processing rules than non-experts. The experts were also shown to have more confidence in their final decision when compared to non-experts in an analysis using independent subjective ratings of the verbal protocols. Investigation of the verbal protocols also indicated that the experts stressed information they could use to change the situation in their favor. This proactive stance of the expert implies a high level of confidence in his/her own abilities. In contrast, the non-expert seemed to feel very constrained by the situation, and exhibited what seemed a lack of confidence by simply reacting to the situation.

The third category concerns the use of experience by experts and non-experts in decision making. Throughout expertise literature it is assumed that experts perceive new situations in terms of familiar situations. This study provides empirical support for this assumption by showing that experts are more likely than non-experts to relate to past experiences in the decision making process. In addition, experts were often seen to use their past experiences in the process of establishing credibility with their customers. In fact, experts were shown to be far more

likely than non-experts to stress the need to establish their own credibility. This tendency had not been seen in previous literature.

The fourth category of findings concerned the structure of knowledge. When dealing with sales situations, experts seemed to have significantly more knowledge categories in memory than non-experts. This conclusion conforms with previous cognitive psychology literature (Simon and Gilmartin 1973; Brewer, Dull, and Lui 1981), while also clarifying inconsistencies seen in recent sales force literature (Sujan et al. 1988). Along with a prolification of categories, this study indicates that the expert's knowledge structure is far more complex. While non-experts' knowledge seems to be categorized in very simple schemes, experts' knowledge seems to be categorized in a far more complex schemes which include situational factors. In addition, the study suggests that experts' categorizational structures are far more likely to include ethical considerations. This sensitivity to ethical issues was one of several factors that lead to a speculation that experts possess a more sophisticated knowledge structure than non-experts.

The fifth category of findings concerns the process of expert reasoning. In essence, it appeared the expert's reasoning processes were more firmly anchored in their more sophisticated knowledge structure. It certainly

appears that experts use more criteria in the category formation process. As a result, experts exhibited reasoning processes that seemed more focused, accurate, and detailed. First, experts seem more focused as they are less likely to be swayed by each new piece of information. Instead, the experts seemed to be able to sift through irrelevant information and focus on the problem at hand. Second, the experts were shown to be more accurate in the classification of sales situations. Third, when asked for a final decision on handling the problem situation, the experts tended to give a longer, more detailed list of decision rules.

Also related to reasoning processes, this study confirmed earlier research that suggests experts and non-experts are very similar in overall reasoning strategies, but vary in implementing those strategies. One implementation difference is the more organized approach used by the expert in problem solving. This study identified prioritizing and planning as tools often used by experts to organize problem situations. Non-experts were far less likely to organize the problem situation through the use of such organizing methods. A high likelihood to stress planning has been seen in expertise in teaching (Lienhardt and Greeno 1986), but prioritizing has not been seen in previous expertise literature.

Implications of the Study

This study offers several potentially significant implications for both academicians and practitioners.

Academicians

This research is significant to the academician because it: a) focuses on skill, b) delineates what skill is, c) integrates expertise literature into salesforce research, and d) displays a process oriented methodology for studying skill in sales. First, this research has focused on the skill construct. Skill has been shown to be one of the most significant, but least researched, determinants of sales performance (Churchill, Ford, Hartley and Walker 1985). In fact, skill was only recently isolated as a construct in the leading model of salesforce performance (Churchill et al. 1981; 1985). The encouraging results of this research should stimulate more attention to the skill construct.

Second, this study has delineated the abilities that make up the skill construct. Specifically, researchers can now use the proposed measure of skill as the rudiments of a model of skill in personal sales. As a model, the skill measure isolates the variables that are relevant to the study of skill in sales (salesmanships skills, interpersonal skills, and technical skills). For example, the listing of relevant variables seen in the skill measure should help researchers focus on skill instead of confounding this

construct with aptitude. The model should also stimulate research into the nature of inter-relationships between the variables in the model. For example, how are salesmanship skills and interpersonal skills interrelated? Does high interpersonal skills always lead to high salesmanship skills? If not, what other variables may constrain this development? In addition, this scale can be used as a pedagogical tool to facilitate students' understanding of skill in sales. The scale will assist the student in gaining a perspective on what skill in sales is, and what it is not. This should help to crystalize the concept of skill in personal selling and elucidate the often murky distinction between skill and other constructs, primarily sales aptitude. In essence, this study has served to refine the skill construct, and its relationship with the other constructs that impact salesperson performance.

Third, this study opens a new body of knowledge to the marketing academician. It has demonstrated the use of expertise literature to gain insights into the nature of skill in personal sales. This positions the marketing researcher to take advantage of a rich and growing body of literature, with its accompanying theory and methods. However, identifying the experts was only the first step in this study. The most significant results were insights into the mental processes separating experts from non-experts. Several of these mental processes were predicted by previous

research in other disciplines. Importantly, we now know that skill in sales is much like skill in various other realms of human activity. Equally important, this study has identified several mental processes utilized by expert salespeople that have not been predicted by prior research. As such, this study takes a significant step beyond previous research.

Finally, this study should be a springboard to future research by providing a means to categorize salespeople based on their level of skill, and a blueprint for process oriented research. How will this facilitate future research? In the past the selection of experts in sales has been highly problematic. As a result, any research into the nature of expertise in sales has been limited. While other fields, such as medicine and law, have had formal guidelines for the selection of experts, marketing has been shackled by the use of experience, performance, and/or management intuition in the selection of experts. Marketing researchers will now have a quick, accurate means to isolate experts in the field of sales. This should allow more research emphasis on the thought processes and behaviors of experts. For example, the isolation of experts has been one of the roadblocks to the development of artificial intelligence expert systems in sales (Rubash et al. 1987).

In a similar vein, this study has the potential to significantly impact the field by providing a methodology

that other researchers can follow to answer several questions central to the study of expert reasoning in sales. The methodology breaks from the salesforce research tradition of focusing on behavior. Instead, it provides a blueprint for process oriented research in sales. Walker et al. (1977) has pointed out that a process oriented approach is fundamental to understanding the mental activity that underlies the salesperson's overt behavior. Until we begin to understand these processes we cannot hope to understand what determines successful performance in sales.

In particular, this dissertation has included two useful methodological approaches seldom seen in salesforce research. The first is verbal protocol analysis. Verbal protocol analysis has been shown to be a useful tool in the study of thought processes. Further use of protocol analysis should offer continued insights into the thought processes of salespeople and their role partners, such as customers and managers. The second is the critical incident technique. The critical incident technique was shown to be useful in identifying the elements of the sales job that require expert performance. Specifically, verbal protocol analysis and critical incidents were shown to be vehicles for development of problem situations that are industry and task specific. As a result, this methodology could be integrated into existing streams of sales research

to reflect the task specific nature of the sales job. For example, this methodology could easily integrate into Leigh's (1987) work on generic sales scripts to provide more concrete, industry/task specific scripts. By using both generic and specific scripts, the commonalities and dissimilarities of sales jobs should emerge.

In summary, this research has not only integrated two streams of research with synergistic elements, it has also offered additional insights into the nature of skill and the mental strategies used by experts to implement this skill in problem situations. As such, it has expanded the boundaries of our knowledge in both the sales and the expertise areas. Furthermore, it has pointed the direction for a productive and highly useful stream of research.

Practitioners

It is widely accepted that the requirements for success vary from one sales position to the next. The methodology contained in this research allows the sales manager to develop selection, training, and management tools that are tuned to the industry specific nature of the sales job. These opportunities are very visible in the area of salesforce training. As previously mentioned, Leigh (1985) has presented a strong argument for the use of sales situations in the training of salespeople. His methodology entails vicarious learning through role

playing. However, Leigh's methodology is limited to developing generic sales situations. The methodology developed in this study expands upon existing sales training approaches by providing practitioners a paradigm for development of problem situations tuned to the nuances of the particular industry.

Further, this study isolates several behaviors and thought processes that experts exhibit more often than non-experts. In many cases, non-expert salespeople can be taught to emulate many of the thought processes and behaviors of the experts. For example, this study indicates that experts are more likely to actually plan for a selling situation. In this context planning included items such as rehearsing responses to customer objections and planning the flow of the meeting. It is assumed that performance would increase if the non-experts began to plan like experts. To this end, managers could start stressing planning in future sales meetings. A very simple approach would be to arrange a sales meeting in which sales people share planning tips. In the vernacular of the sales manager, the non-expert would be trained to work smarter. Will such approaches increase performance? This should be a fruitful area for joint research between academics and practitioners.

Furthermore, this research has contained some particularly good news for the salesforce manager. Skill, a

variable that the manager does have the ability to influence, has a significant relationship on sales performance. This research has provided the manager with a tool, the skill measurement instrument, that can be very valuable in the selection and management of the salesforce. As a first step, the sales manager should customize the skill measure to his/her particular industry and type of sales. Certainly, some terminology should be changed to reflect the requirements of the particular job. Perhaps some items may be added or deleted to reflect the nature of the job. As a second step, the manager should add a subjective weighting to reflect the importance each item carries in the particular job. For example, the technical skill items may be more important in computer sales than in food broker sales.

In the selection process the manager could use the skill measure to rate each applicant's level of ability. The results of the skill measure may also be integrated with other procedures, such as interviews and aptitude tests, in rating candidates for sales positions. In a similar manner, the skill measure can be used to evaluate the performance of the existing salesforce. The skill measure allows the manager to programmatically evaluate the salesperson's development of the skills necessary for success in their job. It can also serve as a tool to offer feedback to the salesperson. The skill measure should be integrated with

other measures, such as quota achievement, in a periodic evaluation process.

Limitations

The contributions of this study should be considered within the context of its conceptual and methodological limitations.

1) Three limitations should be noted concerning the methodology used in this study. First, all quantitative analytical techniques have certain limitations. As this dissertation research has used an array of quantitative tools, and since most readers are aware of the shortcomings these techniques, no attempt will be made to list the weaknesses of each technique. In general it should be remembered that any statistical procedure starts with imperfect data. Kerlinger's (1986) textbook on behavioral research offers a general discussion of the limitations of many of the quantitative techniques used in this dissertation. For a more detailed discussion of: a) exploratory factor analysis, see Hair et al. (1987), b) confirmatory factor analysis, see Long (1983), and c) non-parametric techniques, see Gibbons (1976). At this point a warning to consider the inherent limitations of any quantitative analysis method should suffice.

Second, this study often used retrospective data. The shortcomings of retrospective data are well documented (Nisbett and Wilson 1977; Ericsson and Simon 1984). A chief criticism is that there is no guarantee the retrospective report is an accurate description of reality. For example, were the subjects telling the researcher what they really thought, or simply what they wanted the research to believe they were thinking? Although the research was designed to minimize these shortcomings by using a conservative approach suggested by Ericsson and Simon (1984), the possible limitation should still be recognized.

Third, the analysis was often based upon subjective analysis. In other words, the analysis often depended upon a second party's subjective appraisal of the subject's verbal protocol record. Certainly a host of variables, including the biases of the second party, could have confounded the results. However, strict adherence to accepted practices of using multiple independent raters and quantitative inter-rater agreement checks were utilized to minimize the limitations inherent in subjective analysis. For example, the raters were selected to represent differing perspectives on the data. One of the raters was a student completely naive to the study, while the other was a researcher involved in the project.

2) The specificity of the research must be recognized as a possible limitation. First, by design this study was confined to one specific industry, the food broker industry. This approach was deemed necessary to increase the explanatory power of the research given the task specific nature of the sales job. However, it is possible this research may not be generalizable across other industries or categories of sales positions. Second, a very task specific problem situation was integral to this research. It was felt that a task specific situation (calling on a new account with a very specific set of opportunities and problems) as opposed to a generic situation (simply calling on a new account) would increase both the difficulty and the realism of the problem, allowing greater insights into the nature of expertise. It is possible that the results of this research may not be generalizable across other situations. However, great care was taken to design the problem situation to integrate many aspects of the food broker sales job.

3) Questions may be raised concerning the artificiality of this methodology. The subjects were presented the written problem situation in a laboratory setting. Perhaps some would advocate a more anthropological approach in which the researcher actually goes into the field and observes real sales situations. However, care was taken to make the problem situation as

realistic as possible. Further, to heighten the realism of the study it was conducted in the salesperson's office.

Research Priorities

This research has contributed to the field by answering several questions concerning skill in personal selling. Perhaps, it has contributed more by raising several new questions. This research has certainly not uncovered all there is to know about skill in sales. Research should continue to explore the mental processes of those possessing a high level of skill in sales. What other mental problem solving strategies can be identified by continuing to compare experts with non-experts? It is important that research proceed in a programmatic fashion (Shepherd and Woodruff 1989). To that end, a program of research will now be discussed.

Refinement of the Methodology

The logical first step in continuing this stream of research is to refine areas of this methodology which seem problematic. First, a new methodology should be developed to study the information subjects use in resolving the problem situation. This methodology should avoid the weaknesses of retrospective data, such as social desirability biasing, by tracking information usage on a concurrent basis. Perhaps the computer program used to

present the problem situation could be modified to allow the subject to request information deemed necessary at each stage of the problem. Tracking the information requested by subjects would provide a map of information usage. This procedure would not only indicate what information was deemed necessary to the subject, but also map the order in which the information was deemed necessary. It may be that certain types of information seem more relevant at differing stages in the problem solving process.

A second refinement in the current methodology concerns the sorting task. In this study the subjects were not asked to verbalize as they sorted the situations, or to explain their rationale for category formation. Certainly more could be learned about the process of category formation, and the meanings placed on these categories, by requiring the subjects to think aloud as they sort the cards into categories. Further, upon completion of the sorting task the subjects should be asked to review the rationale behind the categorization. This approach should offer insights into the structure of categories, as well as the process of category formation.

A third refinement of the methodology concerns the investigation of decision rules used by the subjects. The rigorous use of protocol analysis described by Ericsson and Simon (1984) limits the interaction between the observer

and the subject during the problem situation. However, this study has shown that a more probing interview format is necessary to uncover many of the decision rules used by subjects. As a result, the debriefing interview should be expanded to allow the observer to probe, using the snowballing technique utilized in this study, for more insights into the decision rules used by subjects. The acquisition of this knowledge is a necessary step in the development of artificial intelligence expert systems as called for by Rubash et al. (1987).

Finally, the methodology should be refined to ascertain more information concerning the background of the subjects. Currently, the study includes three experience measures: a) years in sales with current employer, b) years in sales in the food broker industry, and c) years in sales. However, it seems likely that many interpersonal and salesmanship skills are developed in realms of social contact other than sales. For example, an inexperienced salesperson may be very adept at presenting him/herself socially as a result of an acting background. More information concerning the background of the subjects may offer insights into the nature and acquisition of skill in sales.

These four refinements in the methodology will considerably lengthen the interview session. As the interviews in this study often lasted longer than one hour,

it may be advisable to shorten the problem situation. However, care must be taken to maintain the situation's level of difficulty as the situation is shortened. For example, it appears that the first decision point could be dropped without impacting the difficulty of the situation or the knowledge gained for the study. Of course, any changes to the problem situation should include a thorough pre-testing.

Replication

The next step in this research stream is replication of the study using the refined methodology. This replication process should be designed to allow a gradual broadening of our knowledge concerning expertise. The first replication should use a group of subjects similar to the subjects used in this study. By holding as many variables as possible constant, such as geographic location and type of sales, this replication has the potential to both confirm, and expand, the results of this dissertation research. Further, this replication will test the proposed refinements in the dissertation methodology. Of course, the results of this replication may indicate that the methodology requires further refinement.

If the refinements of the methodology are significant, further replication with similar populations may be necessary. If, however, the refinements are simply minor

adjustments, research can proceed to the next levels of replication. First, this study should be replicated using the same type of salesperson in a differing geographic setting. Perhaps some of the findings of this dissertation research are indigenous to the southern location. Second, the study should be replicated with various types of sales jobs. This series of replications should offer insights into the task specific nature of skill in sales. Will similar trends emerge in a study of expertise in a sales population that sells a more technical product? Will similar trends emerge in a study of expertise in sales with a more highly trained sales organization? For example, how do the rules for success vary between food broker sales and computer sales? It would seem that computer sales would require more emphasis on skill in the area of product knowledge. However, does emphasis in technical areas allow the computer salesperson to de-emphasize other areas of skill? In short, how do the results of this study generalize to other sales populations?

The next stage in the replication process concerns the use of this methodology to study expertise outside the realm of sales. This study has demonstrated that experts in sales have many similarities with experts in various other fields, such as chess and medicine. However, what similarities and dissimilarities will be discovered in spreading this analysis to other realms of human

endeavor? In other words, are there aspects of skill in sales that would not be shared by individuals highly skilled in other realms of human behavior? This replication process should certainly broaden our knowledge base concerning expert reasoning, both in sales and in general.

Conceptual Development

The replication program just described should continue to uncover mental processes that distinguish experts from non-experts. However, many more questions should be asked about skill in sales. The issue now becomes one of focusing conceptual development in the appropriate areas.

Perhaps more insight into the nature of skill in sales can be gleamed by broadening the central research question under scrutiny. The broadened question would be: Are there identifiable mental processes that separate the expert from the non-expert in sales that can be taught to non-experts to increase performance? This broaden question extends the research focus to include the teaching of mental processes to non-experts, and monitoring the impact on performance.

First, conceptual effort should focus on teaching expertise. Three central questions emerge: a) how do experts learn the mental processes that separates them from non-experts?, b) are these mental processes

trainable?, and c) how do other variables impact the learning and use of operational knowledge? Focusing on the first question, it could be speculated that expertise is learned through emulation of experts. However, Fitts (1964) has pointed out that expert reasoning is an automatic process that operates without conscious control. Certainly, the non-expert could learn to emulate some of the behaviors of the expert, but it would seem unlikely s/he would be able to identify, and learn, thought processes that are unconscious to the expert. Perhaps the expert learns these mental processes through repetitive trial and error methods as explained by classical or instrumental conditioning (Engel, Blackwell and Miniard 1986). On the other hand, this learning process may be better explained by the cognitive learning theories stemming from the studies of Kohler (1925) and discussed by Gardner (1985).

The second question concerns the ability to train non-experts to think and behave like experts. The manner in which expertise is learned has impact on the ability to train non-experts to use these mental processes. If prioritizing, for example, is a mental process learned by repetitive trial and error in the field, can this trial and error learning be simulated in the training room. Perhaps a vicarious role playing approach, as suggested by Leigh (1987), may simulate this trial and error approach to learning.

However, it is not yet established that these mental processes can be taught in the classroom. In essence, we are asking if there are short cuts to experience. These seem useful areas to conceptually integrate learning theory into the study of expert reasoning.

The third question concerns how other variables impact the learning and use of operational knowledge. Perhaps a good starting point would be to further examine the relationship between skill and the other determinants of salesforce performance (aptitude, role perception, personal and organization variable, and motivation) identified in the Churchill et al. (1985) model. For example, the distinction and relationship between skill and aptitude needs explication. The existing distinction that skill is the individual's learned proficiency and that aptitude consist of long lasting personal abilities is not adequate. Clearly, general intelligence is an aptitude, while knowledge of the product line is a skill. But, is aggressiveness a skill or an aptitude? Although aggressiveness is normally considered an aptitude, it would seem that salespeople can learn to be more aggressive. Further, the relationship between these two variables is also unclear. Is the assumption that sales skill follows, and is dependent on, sales aptitude cogent? Conversely, one could argue that skill actually enhances certain aptitude variables. In fact, an argument could be made for considering skill and aptitude as two

manifestation of the same construct. These issues suggest that researchers should continue to question the nature of the skill construct and its interaction with other related variables.

In particular, this study raised some interesting ideas concerning ethics and expertise. Why were experts significantly less likely to divulge confidential information? Are they more sensitive to ethical issues as suggested by the results of the sorting task? Could it be that the experts are operating on a higher level of moral development? A follow-up study integrating Koldberg's Stages of Moral Development (1973) could shed light on this question. On the other hand, did the difference simply result from experience or self confidence? Conceptual effort should be focused on the relationship between ethical development and expertise. In fact, ethical development may be a construct that should be added to the Churchill et al. model of salesforce performance (1985).

Performance was the second issue raised by the broaden research question. The question is, "Will teaching non-experts to think and behave like experts result in improved performance?" Perhaps, as some have suggested, the best salespeople are born, not made, and no amount of expert emulation will increase the poor salesperson's performance. This is a question that must be answered. However, caution must always be used in the selection of

the measures of performance. The measure of performance should include monitoring the utilization of the desired thought processes or behaviors, as well as their impact on the performance of the tasks necessary for success in the particular sales job. For this research to get the practitioner's attention it must demonstrate that training has a measurable impact on sales volume. This seems an area in which performance appraisal literature can be used by the sales force researcher in the conceptualization of measurement techniques.

Conclusions

As with any piece of research, the results of this study should not be used without thoughtful consideration of the conceptual and methodological shortcomings. However, this research does provide academicians and practitioners a better understanding of skill in personal sales. For example, scholars should find useful insights into the skill construct found in the leading model of performance in personal sales (Churchill et al. 1985). Additionally, sales managers should find guidance useful in the selection and management of the sales force. From a very practical standpoint this study enhances our knowledge of skill in personal sales and points the direction for future research.

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APPENDIXES

APPENDIX A

CRITICAL INCIDENT RECORD FORM

CRITICAL INCIDENT RECORD FORM

Introduction

This job analysis is being conducted to determine what makes the difference between an effective and an ineffective salesperson. By effective performance, I mean behavior you have seen in the past that you wished all salespeople would do under similar circumstances. By ineffective performance I mean behavior which, if it occurred repeatedly or even once under certain circumstances, would make you doubt the competency of the individual.

You are being asked to do this because you are aware of the aims and objectives of the food broker sales position, you frequently observe people in this job, and you are able to discern competent from incompetent performance. Please do not give your name or the names of any individuals to whom you are referring.

Directions for Part 1

Think back over a period of time (six months or so) long enough for you to have observed the activities of many salespeople representing food brokers. Focus your attention on any one thing that one salesperson has done that made you think of him or her as an outstandingly good or very effective salesperson. In other words, think of a distinct, concrete incident in which a salesperson's exceptional performance added materially to the overall success of his/her sales group. Please do not record any names of persons involved in the following incident.

What were the general circumstances leading up to this incident?

Tell exactly what the salesperson did that was so effective at the time.

How did this particular incident contribute to the overall effectiveness of his/her sales group?

Directions for Part 2

Think back over a period of time (six months or so) long enough for you to have observed the activities of many salespeople representing food brokers. Focus your attention on any one thing that one salesperson has done that made you think of him or her as an outstandingly poor or very ineffective salesperson. In other words, think of a distinct, concrete incident in which a salesperson's exceptionally poor performance materially reduced the overall success of his/her sales group. Please do not record any names of persons involved in the following incident.

What were the general circumstances leading up to this incident?

Tell exactly what the salesperson did that was so ineffective at the time.

How did this particular incident reduce the overall effectiveness of his/her sales group?

APPENDIX B

PROBLEM SITUATION TEXT

Screen 1

In this study we are interested in what you think about when you encounter problems in your job. In order to do this I am going to ask you to THINK ALOUD as you read a story composed of events that could arise in your job. What I mean by think aloud is that I want you to tell me EVERYTHING you are thinking from the time you start reading the problem until you finish. I would like you to talk aloud CONSTANTLY form the time you start reading until you have finished. Please approach the problem as if you are the salesperson involved. I don't want you to try to plan out what you say or try to explain to me what you are saying. Just act as if you are alone in the room speaking to yourself. It is most important that you keep talking. If you are silent for any long periods of time I will ask you to talk.

Do you understand what I want you to do?

Screen 2

Good, before we turn to the study, I should stress that your responses are completely confidential. Your responses have no impact on your job, either now or in the future. NO ONE IN YOUR COMPANY WILL EVER SEE ANY OF YOUR RESPONSES. Also, please remember there are no right or wrong answers, all we want to know is whatever thoughts come to mind as you read through the story.

Good, now we will have one practice problem:

Screen 3

You are presenting a 10 ounce package of an unadvertised, secondary label coconut to a buyer. To display the quality of your product you present samples of your product compared to samples of the name brand product carried by this grocery. Your coconut is clearly equal to the name brand in quality and priced less.

Screen 4

The buyer agrees that your coconut seems as good as the name brand his store is carrying. However, he feels the price is too high. He states that it will take a significantly lower price to entice customers to buy the unknown product. The account is important to you, so you immediately state that you can lower the price of your coconut by 40 cents per case.

Screen 5

The buyer becomes very upset because he had not been offered the best price first. He states, "You had a better price yet did not want to offer it to us. We will not buy your product at any price."

Screen 6

Friday Morning

You need to make some quick decisions. How had you got into this situation? I guess it all started yesterday afternoon at about 3:00...

Jim, your supervisor, had called you into his office. "I am assigning you a new account. I want you to take over the Foodland buying group," Jim said.

Screen 7

Jerry Donovan had been handling the Foodland account for about six months. Jim informed me that Jerry was no longer with our firm. Jerry had cleaned out his desk and would not be back. Jerry had a history of poor performance, but he had produced outstanding sales last quarter, and had won a contest for selling display promotions.

Screen 8

Now you were being handed Foodland, a buying group of independent local groceries that has about 30% of the local market. Our sales to Foodland have been rather poor over the last few years. Before Jerry, Foodland had been called on by a series of three different salespeople that had left the company for one reason or another. Prior

to that, Foodland had been Jim's account. In total Foodland had been serviced by five different salespeople over the last two years.

Screen 9

Next Jim stated that you were to meet with Foodland's buyers Friday morning at 10:00. Of course, you already had plans for Friday morning. You were scheduled to participate in a store reset at one of your accounts. However, Jim explained that Tom could handle the reset as you were only resetting the household cleaners. Tom is a new salesman we hired six weeks ago straight out of college.

Screen 10

You asked about postponing the Foodland meeting so you could handle both accounts. Jim replied that would not be a good idea as a buyer from Foodland had requested the meeting to resolve a problem with Rivendell Food. Rivendell had threatened to stop shipping Foodland products because Foodland had been deducting too much from their invoices on Thirstade for the last 90 days. Also, Foodland had recorded unusually high sales volume with Thirstade during that period.

Screen 11

You were beginning to doubt if you should get involved with this account. You suggested either: a) postponing the call, b) giving it to Tom, or c) letting Jim make the call himself. However, when you suggested these alternatives Jim became really upset. In some of his strongest language Jim stated you would be at Foodland at 10:00 to make the call, or look for another job. Furthermore, Jim pointed out that you should use this account to help achieve your annual bonus.

Screen 12

Tom was waiting for you when you came out of Jim's office. He wanted to know about Jerry's leaving. Tom had heard that Jerry was going to work for a competitor. Tom continued to mention that he had always admired Jerry's

attitude of "doing whatever it takes" to get the business. As you recalled Jerry was actually known for taking whatever shortcuts necessary to get the business.

Screen 13

You then discussed the reset of your account with Tom. Tom seemed fairly knowledgeable about household products. You explained that the reset would start with a meeting at 9:00 A.M. to review and make any last minute changes to the plan-o-gram. Tom seemed excited, but also a little nervous. To calm his nerves you told him he could telephone you at Foodland if he had any problems.

Screen 14

How would you prepare for the meeting?

(Decision Point 1)

Screen 15

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Screen 16

Our sales to Foodland have been growing over the last three months but are still not very significant. At present about 5% of our total sales are to Foodland. However, as a result of Jerry's work they have bought several products, including Thirstade, in large quantities for displays over the last three months. According to our records Foodland was entitled to a 10% promotional allowance on each case of Thirstade. According to Rivendell they had been deducting 20% from their invoiced price.

Screen 17

Later that afternoon, as you attempted to prepare for the Foodland meeting, Jim came into your office. He said he was sorry he blew up. His excuse was that Jerry's leaving had upset him. Jim implied that Jerry may have promised more than we could deliver in several accounts. He then asked if you needed any help with the Foodland account.

Screen 18

You suggested that Jim make the call with you since he already knew the account. Unfortunately Jim could not make the call with you because of a prior commitment concerning his divorce. "What can you tell me about the buyers at Foodland?", you asked. Jim speculated that I would find June Smith, the head buyer, to be a shrewd negotiator. She had been a store manager with Kroger until she took the job at Foodland two years ago. Jim also pointed out that June is a University of Tennessee graduate and an avid Volunteer football fan.

Screen 19

Jim explained that we could not cancel the meeting because Jerry had missed his last two appointments with Foodland. Jim did not know the other two buyers at Foodland. However, he stressed that he felt Foodland could become a very good account with proper attention. Furthermore, he stated that after Tom had more experience he would be assigned the account, but for now he needed me to use my experience to turn the account around.

Screen 20

Jim stressed that we needed to do more than resolve the deduction problem in the Foodland meeting. He wanted me to portray our company as aggressive and innovative. First, Jim suggested that you use the meeting to present a special promotion on a group of high profit, slower moving items. The manufacturer's of these products are offering promotional prices and a bonus program to your company. To achieve the bonus there is currently a sales contest on these items.

Screen 21

Second, Jim suggested you present a new line of cereal from General Mills. Finally, Jim suggested you present the concept of installing secondary display racks for Accent Flavor Enhancer. Accent is produced by our largest principal, Pet Incorporated. It is one of the most profitable items in the grocery. Pet's rep, a close friend of the owner of our company, had recently stated that Accent's sales increase an average of 67% with the addition of a secondary display rack hanging above the meat case. Pet had supplied attractive, red plastic racks for these secondary displays.

Screen 22

The previous salespeople had left little documentation about the account. You were forced to proceed with the limited information available. As a last step you typed an agenda for the meeting as follows:

1. Special Promotion on High Margin Items
2. New Cereal Presentation
3. Accent Secondary Location
4. Thirstade Deduction Resolution

You intentionally placed the deduction resolution last on the list so you could build rapport and trust during the first three items.

Screen 23

You arrived at June's store, the site for the meeting, fifteen minutes early. As you entered you met John Farley on his way out of the store. John is an old friend that works for Paramount Brokers. John was obviously upset. He stated that June was in a bad mood. John suggested that her mood may result from her pregnancy. Whatever the reason, she did not buy anything from John. In fact, she had told John she did not want to see any other salespeople today. John recommended that you try coming back another day.

Screen 24

You knew that you had to make the call so you continued on into the store. The first thing you noticed in the store was the huge Thirstade display. As you walked to the meat section you wondered if Jerry had given the unauthorized discount to get the display space. In the meat section you hung one of the Accent secondary display racks over a meat counter. Your plan was to bring the buyers out to see the rack during the presentation. Experience had shown you that this approach was superior to simply talking about the display.

Screen 25

You reached June's office at about 10:00. June's first statement was, "Another new salesman!" She stated that she was concerned about your firm's high turnover. You introduced yourself and told June you looked forward to working with her.

Screen 26

June invited you into her office. "What special promotions will Food Lion be using in their grand opening," she questioned. Food Lion was preparing to open its first two stores in your area. You had met with a Food Lion store manager and did have some inside information about Food Lion's opening promotional strategies. However, the information might be considered confidential. Before you responded June stated, "You can dig up the information and report back to me, I believe the other buyers are waiting in the conference room."

Screen 27

How would you handle this request?

(Decision Point 2)

Screen 28

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Screen 29

When you entered the conference room the other two buyers, Ted and Steve, were waiting. You were glad to see Ted. He had recently left a job at a store you had served for several years. You had always had a good relationship with Ted. As a part of the introductions you found out that Steve had been with Foodland for ten years and was Jerry Donovan's brother-in-law. You had no idea Jerry was related to a Foodland buyer. Steve stated that Jerry was a great guy and that Foodland really appreciated his efforts. June then requested that you proceed with your presentation.

Screen 30

You started the meeting by passing out the agenda. When you mentioned the promotion on high margin, slow moving items, June pointed out what they really needed were fast moving, well advertised items for a truckload sale planned to counter the Food Lion opening. June then gave you a list of items Foodland planned to use in the truckload sale, none of which were on your list of special promotions.

Screen 31

We continued through the agenda. Item two concerned the new cereal from General Mills. Ted stated that the cereal section was full and that they would have to drop a product to add a new cereal. Steve stated that Foodland did not need a new cereal. You considered

pressing the issue. You had worked up some profitability estimates that favored the new cereal, but it would be about two weeks until you had complete details on General Mills promotional plans for the new product.

Screen 32

You decided not to press the issue of the new cereal until you have more details. You simply stated that part of your job was to make Foodland aware of all new products. You continued to point three, the Accent secondary display rack. You mentioned the rack you had hung in the meat section. June countered that her pregnancy had made her more concerned about health issues. "Isn't Accent essentially MSG?", she questioned. You had heard this concern voiced before because Accent is essentially MSG (Mono-Sodium Glutamate). You had one of Pet's fact sheets defending the safety of MSG in your briefcase.

Screen 33

Working from Pet's factsheet you attempted to present Accent as a safe product. You continued by showing Pet's figures that depict Accent as one of the most profitable items in the grocery. As the discussion continued you gathered that June was also irritated that you put the rack in the store without first getting her approval. You were then ready to discuss point four. By this point you were a little nervous as you had not been very successful on any of the first three points.

Screen 34

You moved to point four by simply presenting the facts, concerning Rivendell's promotional discount policy. You pointed out that Foodland had been deducting twice the allowable discount for three months. At this point Steve became furious. He stated that you were a liar and that he did not blame Jerry for leaving your firm. Just as Steve began speaking a secretary entered the room and gave a message to June. June interrupted before you could speak and stated that you had an emergency telephone call. She suggested that you take the call in her office while we all cool down a little.

Screen 35

The telephone call was from Tom. He was having a problem and considering leaving the account to find Jim. You explained that Jim was away from the office handling personal matters and that you were in the middle of a meeting. This prompted Tom to explain his problem. While resetting the cleaners he had noticed that the person resetting the dog food section had left the store without finishing that section. Tom had gone over and finished the section giving our product, Alpo, a few more facings than specified in the plan-o-gram.

Screen 36

Unfortunately, the other salesperson had returned, he had only left for supplies, and was rather upset. In fact, he had complained to the manager in charge of the reset. Tom said things were in bad shape and he needed help. You told him to give you a second to consider the alternatives. This was not shaping up to be a good day. You had just been called a liar by a buyer at an important account. You had to go back into the meeting very soon. You also had a co-worker in trouble at one of your accounts.

Screen 37

What should you do now?

(Decision Point 3)

Screen 38

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Screen 39

How confident are you in your final solution to this situation?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Screen 40

Now tell me what you remember about the situation.

APPENDIX C

CATEGORIES OF BASIC SOCIAL SKILL

Emotional expressivity refers to the individual's ability to express himself in a nonverbal manner. Individuals who are high in emotional expressivity are animated and energetic and able to emotionally arouse or inspire others because of their ability to transmit their emotional state.

Emotional sensitivity refers to the degree to which the individual is aware and understands the nonverbal communications of others.

Emotional control refers to the ability to control and regulate nonverbal displays of emotion. People high in emotional control make good actors and are good at hiding their feelings.

Social expressivity refers to general speaking skill. People high in social expressivity are outgoing, adept at both initiating conversation and engaging others in social interaction.

Social sensitivity refers to the awareness and understanding of verbal communications. It also includes general knowledge of appropriate social behavior. People high in social sensitivity are very attentive of others.

Social control refers to skill in social self-presentation. Tactful, socially adept, self-confident, sophisticated, and wise are words and phases used to describe those high in social control. These people are skilled in acting and can easily take on various social roles.

Social manipulation refers to an attitude that in certain situations it is necessary, and useful, to manipulate others. Those high in social manipulation may often alter elements of the situation to affect the outcome of social encounters. These outcomes may not always be in the favor of the social manipulator. The social manipulator is simply willing and able to affect the social situation and its outcome.

APPENDIX D

SALESPERSON RATING FORMS

SALESPERSON RATING FORM

The purpose of this study is to better understand the skills possessed by salespeople. Please rate each of your sales people on all of the dimensions below, and complete each section in order.
Your answers will remain strictly confidential. Thank you for your time and cooperation.

Name of salesperson to be rated _____

Section 1: Selling Skills

Directions: Please rate the salesperson on each of the following factors. For each factor, please circle the number that best describes your rating of the salesperson. Circling: 1 indicates highly unskilled, 2 indicates well below average skill, 3 indicates slightly below average skill, 4 indicates average skill, 5 indicates slightly above average skill, 6 indicates well above average skill, and 7 indicates highly skilled. Remember, you are comparing this salesperson to other salespeople throughout the food broker industry, not just in your company.

Example- if you feel this salesperson has average skill in servicing accounts, you would circle 4 as follows:

A. Ability to service the account	1	2	3	(4)	5	6	7

	Highly Unskilled			Average			Highly Skilled
1) Ability to prospect for customers	1	2	3	4	5	6	7
2) Ability to express him/herself nonverbally	1	2	3	4	5	6	7
3) Ability to qualify prospects	1	2	3	4	5	6	7
4) Knowledge of customers' markets and products	1	2	3	4	5	6	7
5) Ability in general speaking skills	1	2	3	4	5	6	7
6) Knowledge of his/her own company's procedures	1	2	3	4	5	6	7
7) Ability to open relationships with prospects	1	2	3	4	5	6	7
8) Awareness and understanding the nonverbal communications of others	1	2	3	4	5	6	7
9) Ability to control and regulate nonverbal displays of emotion	1	2	3	4	5	6	7
10) Knowledge of competitor's products, services, and sales policies	1	2	3	4	5	6	7
11) Ability in presenting him/herself socially, possibly through acting	1	2	3	4	5	6	7
12) Ability to manipulate others to control the situation	1	2	3	4	5	6	7
13) Ability to close the sale	1	2	3	4	5	6	7
14) Knowledge of product line, including product features and benefits	1	2	3	4	5	6	7
15) Knowledge of customers' operations, such as store and shelf layout, and employee training	1	2	3	4	5	6	7
16) Ability to present the sales message	1	2	3	4	5	6	7
17) Imagination in supplying products and services that meet the customers' needs	1	2	3	4	5	6	7
18) Awareness and understanding the verbal communications of others	1	2	3	4	5	6	7
19) Ability to service the account	1	2	3	4	5	6	7

Section 2: Motivation

Directions: Please rate the salesperson on each of the following factors. For each factor, please circle the number that best describes your rating of the salesperson. Circling 1 indicates highly disagree, circling 2 indicates moderately disagree, circling 3 indicates slightly disagree, circling 4 indicates neither agree nor disagree, circling 5 indicates slightly agree, circling 6 indicates moderately agree, and circling 7 indicates highly agree.

	Highly Disagree			Neutral			Highly Agree
1) This salesperson gets a lot of satisfaction and reward out of just doing his/her job	1	2	3	4	5	6	7
2) Selling is not much fun to this salesperson	1	2	3	4	5	6	7
3) If this salesperson could start over, s/he would still choose to do the kind of work s/he is doing now	1	2	3	4	5	6	7
4) For this salesperson, selling is basically a means to get the good things in life	1	2	3	4	5	6	7
5) Essentially this salesperson works at his/her job for the material rewards s/he gets	1	2	3	4	5	6	7
6) This salesperson works primarily for money and other tangible rewards	1	2	3	4	5	6	7

Section 3: Role Clarity

Directions: Please rate the salesperson's feeling of certainty on each of the following factors. Circling 1 indicates the salesperson is not at all certain, circling 2 indicates the salesperson is moderately uncertain, circling 3 indicates the salesperson is slightly uncertain, circling 4 indicates the salesperson is neither certain nor uncertain, circling 5 indicates the salesperson is slightly certain, circling 6 indicates the salesperson is moderately certain, and circling 7 indicates the salesperson is very certain.

	Salesperson is Not at all certain			Neutral			Salesperson is very certain
1) The salesperson's certainty about his/her authority	1	2	3	4	5	6	7
2) The salesperson's certainty that there are clear, planned goals for his/her job	1	2	3	4	5	6	7
3) The salesperson's certainty that his/her time is properly divided between tasks	1	2	3	4	5	6	7
4) The salesperson's certainty about his/her responsibilities	1	2	3	4	5	6	7
5) The salesperson's certainty that s/he knows exactly what is expected of him/her	1	2	3	4	5	6	7
6) The salesperson's certainty of receiving clear explanations of what has to be done in the job	1	2	3	4	5	6	7

Section 4: General

1. Salespersons' sex. (Circle number of your answer)
   1. Male 2. Female

2. What percentage of assigned sales quota did this salesperson achieve last year? _____ %

3. Overall how would you evaluate the sales expertise possessed by this salesperson?

   Highly Unskilled 1 2 3 4 5 6 7 **Highly Skilled**

SALESPERSON RATING FORM (Part 2)

The purpose of this study is to better understand the aptitudes possessed by salespeople. Your answers will remain strictly confidential. *Thank you for your time and cooperation.*

Name of salesperson to be rated _____

Section 1

Directions: Please rate this salesperson **as compared to other salespeople** in the food broker industry on each of the following factors. For each factor, please circle the number that best describes your rating of this salesperson on the following scale:

Circling 1 = extremely low rating
Circling 2 = well below average rating
Circling 3 = slightly below average rating
Circling 4 = average rating
Circling 5 = slightly above average rating
Circling 6 = well above average rating
Circling 7 = extremely high rating

For example- if you rate this salesperson slightly below the average for salespeople in this type of business in verbal intelligence, you would circle 3 as follows:

A. Verbal Intelligence	1	2	(3)	4	5	6	7
	Extremely Low			**Average**			**Extremely High**
1. General Intelligence	1	2	3	4	5	6	7
2. Mathematical Ability	1	2	3	4	5	6	7
3. Verbal Intelligence	1	2	3	4	5	6	7
4. Aggressiveness	1	2	3	4	5	6	7
5. Dominance (shrewd, ambitious)	1	2	3	4	5	6	7
6. Sociability (likes meeting people, genial)	1	2	3	4	5	6	7
7. Need for Achievement (drive to do one's best)	1	2	3	4	5	6	7
8. Empathy (the ability to feel as the other fellow does in order to be able to sell him a product or service)	1	2	3	4	5	6	7

Section 2

Directions: In this section you will be asked to rate this salesperson on several questions. The questions concern the salesperson's personality and interests. There are no right or wrong answers because everyone has the right to his/her own views. All you have to do is answer what you believe is true for this salesperson by circling the letter next to the best answer.

1. This salesperson would find it more interesting to work in a business:
   a. talking to customers,
   b. in between,
   c. keeping office accounts and records.

2. This salesperson would rather have a house:
   a. in a sociable suburb,
   b. in between,
   c. alone in the deep woods.

3. This salesperson would rather take the gamble of a job with possibly large but uneven earnings, than one with a steady, small salary.
   a yes b. uncertain c. no.

4. People sometimes call this salesperson careless, even though they think s/he is a likable person.
   a yes b. in between c. no.

5. This salesperson is known as the type of person who almost always puts forward some ideas on a problem.
   a yes b. in between c. no.

6. This salesperson is always glad to join a large gathering, for example, a party, dance, or public meeting.
   a yes b. in between c. no.

7. In traveling abroad, this salesperson would rather go on an expertly conducted tour than plan by him/herself the places to visit.
   a yes b. uncertain c. no.

8. This salesperson will hold back from criticizing people and their ideas.
   a. yes b. sometimes c. no.

9. In starting a useful invention, this salesperson would prefer:
   a. working on it in the laboratory,
   b. uncertain,
   c. selling it to people.

10. This salesperson considers him/herself to be a very sociable, outgoing person.
   a yes b. in between c. no.

11. If this salesperson saw two neighbors' children fighting, s/he would:
   a. leave them to settle it,
   b. uncertain,
   c reason with them.

12. When a bit of diplomacy and persuasion are needed to get people moving, this salesperson generally is the one asked to do it.
   a yes b. in between c. no.

13. When this salesperson sees "sloppy," untidy people, s/he will:
   a. just accept it,
   b. in between,
   c. get disgusted and annoyed.

14. This salesperson is better described as:
   a. polite and quiet,
   b. in between,
   c. forceful.

15. This salesperson occasionally tells strangers things that seem important to the salesperson, regardless of whether they ask about them.
   a yes b. in between c. no.

16. In thinking of difficulties in their work, this salesperson will:
   a try to plan ahead, before s/he meets them,
   b. in between,
   c. assume s/he can handle them when they come.

17. If someone tells this salesperson something which s/he knows is wrong, s/he is more likely to think:
   a. "That person is a liar,"
   b. in between,
   c. "Apparently that person is misinformed."

18. In situations which may become dangerous, this salesperson will make a fuss and speak up even if calmness and politeness are lost.
   a yes b. in between c. no.

19. This salesperson is a fairly strict person, insisting on always doing things as correctly as possible.
   a true b. in between c. false

20. This salesperson eats his/her food with gusto, not always so carefully and properly as some people.
   a yes b. uncertain c. no.

21. This salesperson get slightly embarrassed if s/he suddenly become the focus of attention in a social group.
   a yes b. in between c. no.

22. This salesperson will tend to keep quiet in the presence of senior persons (people of greater experience, age or rank).
   a yes b. in between c. no.

23. For special holidays and birthdays, this salesperson:
   a. likes to give personal presents,
   b. uncertain,
   c feels that buying presents is a bit of a nuisance.

24. This salesperson would find it would be more interesting to be:
   a. an artist,
   b. uncertain,
   c. a secretary running a club.

25. This salesperson likes it when s/he knows so well what the group has to do that s/he naturally becomes the one in command.
   a yes b. in between c. no.

SALESPERSON SELF RATING FORM

The purpose of this study is to better understand the skills possessed by salespeople. Please rate yourself on all of the dimensions below, and complete each section in order.
Your answers will remain strictly confidential. Thank you for your time and cooperation.

Your Name _____

Section 1: Selling Skills

Directions: Please rate youself on each of the following factors. For each factor, please circle the number that best describes your rating. Circling: 1 indicates highly unskilled, 2 indicates well below average skill, 3 indicates slightly below average skill, 4 indicates average skill, 5 indicates slightly above average skill, 6 indicates well above average skill, and 7 indicates highly skilled. Please remember you are comparing yourself to other salespeople throughout the food broker industry, not just in your own company.

Example- if you feel that you have average skill in servicing accounts, you would circle 4 as follows:

A. Ability to service the account	1	2	3	(4)	5	6	7

	Highly Unskilled			Average			Highly Skilled
1) Ability to prospect for customers	1	2	3	4	5	6	7
2) Ability to express yourself nonverbally	1	2	3	4	5	6	7
3) Ability to qualify prospects	1	2	3	4	5	6	7
4) Knowledge of customers' markets and products	1	2	3	4	5	6	7
5) Ability in general speaking skills	1	2	3	4	5	6	7
6) Knowledge of your own company's procedures	1	2	3	4	5	6	7
7) Ability to open relationships with prospects	1	2	3	4	5	6	7
8) Awareness and understanding the nonverbal communications of others	1	2	3	4	5	6	7
9) Ability to control and regulate nonverbal displays of emotion	1	2	3	4	5	6	7
10) Knowledge of the competitors' products, services, and sales policies	1	2	3	4	5	6	7
11) Ability in presenting oneself socially, possibly through acting	1	2	3	4	5	6	7
12) Ability to manipulate others to control the situation	1	2	3	4	5	6	7
13) Ability to close the sale	1	2	3	4	5	6	7
14) Knowledge of product line, including product features and benefits	1	2	3	4	5	6	7
15) Knowledge of customers' operations, such as store and shelf layout, and employee training	1	2	3	4	5	6	7
16) Ability to present the sales message	1	2	3	4	5	6	7
17) Imagination in supplying products and services that meet the customers' needs	1	2	3	4	5	6	7
18) Awareness and understanding the verbal communications of others	1	2	3	4	5	6	7
19) Ability to service the account	1	2	3	4	5	6	7

Section 2: Motivation

Directions: Please rate yourself on each of the following factors. For each factor, please circle the number that best describes your rating. Circling 1 indicates you highly disagree, circling 2 indicates you moderately disagree, circling 3 indicates you slightly disagree, circling 4 indicates you neither agree nor disagree, circling 5 indicates you slightly agree, circling 6 indicates you moderately agree, and circling 7 indicates you highly agree.

	Highly Disagree			Neutral			Highly Agree
1) You get a lot of satisfaction and reward out of just doing your job	1	2	3	4	5	6	7
2) For you, selling is not much fun	1	2	3	4	5	6	7
3) If you could start over, you would still choose to do the kind of work you are doing now	1	2	3	4	5	6	7
4) For you, selling is basically a means to get the good things in life	1	2	3	4	5	6	7
5) Essentially you work at this job for the material rewards you gets	1	2	3	4	5	6	7
6) You work primarily for money and other tangible rewards	1	2	3	4	5	6	7

Section 3: Role Clarity

Directions: Please rate your feelings of certainty on each of the following factors. Circling 1 indicates you are not at all certain, circling 2 indicates you are moderately uncertain, circling 3 indicates you are slightly uncertain, circling 4 indicates you are neither certain nor uncertain, circling 5 indicates you are slightly certain, circling 6 indicates you are moderately certain, and circling 7 indicates you are very certain.

	Not at all Certain			Neutral			Very Certain
1) Your certainty about your authority	1	2	3	4	5	6	7
2) Your certainty that there are clear, planned goals for your job	1	2	3	4	5	6	7
3) Your certainty that your time is properly divided between tasks	1	2	3	4	5	6	7
4) Your certainty about your responsibilities	1	2	3	4	5	6	7
5) Your certainty that you know exactly what is expected of you	1	2	3	4	5	6	7
6) Your certainty of receiving clear explanations of what has to be done in your job	1	2	3	4	5	6	7

Section 4: General

1. Your sex. (Circle number of your answer)
   1. Male 2. Female
2. Your present age: _____ Years
3. What percentage of assigned sales quota did you achieve last year? _____ %
4. How many years have you worked with this company in sales? _____ Years
5. How many years have you worked in this industry (food broker sales) in a sales capacity? _____ Years
6. How many years have you worked in a sales position in any type of business? _____ Years
7. Overall how would you evaluate your sales expertise?
   Highly Unskilled 1 2 3 4 5 6 7 **Highly Skilled**

SALESPERSON SELF RATING FORM (Part 2)

The purpose of this study is to better understand the aptitudes possessed by salespeople. Your answers will remain strictly confidential. *Thank you for your time and cooperation.*

Your Name _____

Section 1
Directions: Please rate yourself **as compared to other salespeople** in the food broker industry on each of the following factors. For each factor, please circle the number that best describes your rating of yourself on the following scale:

Circling 1 = extremely low rating
Circling 2 = well below average rating
Circling 3 = slightly below average rating
Circling 4 = average rating
Circling 5 = slightly above average rating
Circling 6 = well above average rating
Circling 7 = extremely high rating

For example- if you rate yourself slightly below the average for salespeople in this type of business in verbal intelligence, you would circle 3 as follows:

A. Verbal Intelligence	1	2	(3)	4	5	6	7
	Extremely Low			**Average**			**Extremely High**
1. General Intelligence	1	2	3	4	5	6	7
2. Mathematical Ability	1	2	3	4	5	6	7
3. Verbal Intelligence	1	2	3	4	5	6	7
4. Aggressiveness	1	2	3	4	5	6	7
5. Dominance (shrewd, ambitious)	1	2	3	4	5	6	7
6. Sociability (likes meeting people, genial)	1	2	3	4	5	6	7
7. Need for Achievement (drive to do one's best)	1	2	3	4	5	6	7
8. Empathy (the ability to feel as the other fellow does in order to be able to sell him a product or service)	1	2	3	4	5	6	7

Section 2

Directions: In this section you will be asked several questions to see what interests you have and how you feel about thing. There are no right or wrong answers because everyone has the right to his/her own views. All you have to do is answer what you believe is true for you by circling the letter next to your answer.

1. It would be more interesting to work in a business:
   a. talking to customers,
   b. in between,
   c. keeping office accounts and records.

2. I would rather have a house:
   a. in a sociable suburb,
   b. in between,
   c. alone in the deep woods.

3. I would rather take the gamble of a job with possibly large but uneven earnings, than one with a steady, small salary.
   a yes b. uncertain c. no.

4. People sometimes call me careless, even though they think I'm a likable person.
   a yes b. in between c. no.

5. I am known as the type of person who almost always puts forward some ideas on a problem.
   a yes b. in between c. no.

6. I am always glad to join a large gathering, for example, a party, dance, or public meeting.
   a yes b. in between c. no.

7. In traveling abroad, I would rather go on an expertly conducted tour than plan by myself the places I wish to visit.
   a yes b. uncertain c. no.

8. I hold back from criticizing people and their ideas.
   a. yes b. sometimes c. no.

9. In starting a useful invention, I would prefer:
   a. working on it in the laboratory,
   b. uncertain,
   c. selling it to people.

10. I consider myself a very sociable, outgoing person.
   a yes b. in between c. no.

11. If I saw two neighbors' children fighting, I would:
   a. leave them to settle it,
   b. uncertain,
   c reason with them.

12. When a bit of diplomacy and persuasion are needed to get people moving, I am generally the one asked to do it.
   a yes b. in between c. no.

13. When I see "sloppy," untidy people, I:
   a. just accept it,
   b. in between,
   c. get disgusted and annoyed.

14. I think I am better described as:
   a. polite and quiet,
   b. in between,
   c. forceful.

15. I occasionally tell strangers things that seem to me important, regardless of whether they ask about them.
   a yes b. in between c. no.

16. In thinking of difficulties in my work, I:
   a try to plan ahead, before I meet them,
   b. in between,
   c. assume I can handle them when they come.

17. If someone tells me something which I know is wrong, I am more likely to say to myself:
   a. "That person is a liar,"
   b. in between,
   c. "Apparently that person is misinformed."

18. In a situation which may become dangerous, I believe in making a fuss and speaking up even if calmness and politeness are lost.
   a yes b. in between c. no.

19. I am a fairly strict person, insisting on always doing things as correctly as possible.
   a true b. in between c. false

20. I eat my food with gusto, not always so carefully and properly as some people.
   a yes b. uncertain c. no.

21. I get slightly embarrassed if I suddenly become the focus of attention in a social group.
   a yes b. in between c. no.

22. I tend to keep quiet in the presence of senior persons (people of greater experience, age or rank).
   a yes b. in between c. no.

23. For special holidays and birthdays, I:
   a. like to give personal presents,
   b. uncertain,
   c feel that buying presents is a bit of a nuisance.

24. It would be more interesting to be:
   a. an artist,
   b. uncertain,
   c. a secretary running a club.

25. I like it when I know so well what the group has to do that I naturally become the one in command.
   a yes b. in between c. no.

APPENDIX E
COEFFICIENT ALPHA SUMMARY

COEFFICIENT ALPHA SUMMARY

Category	Self Evaluation	Mgt. Evaluation
Skill	.9512 (n=95)	.9561 (n=102)
Motivation	.6308 (n=104)	.5232 (n=104)
Role Clarity	.8393 (n=104)	.9096 (n=106)
Aptitude	.8265 (n=101)	.8830 (n=100)

APPENDIX F

PROTOCOL CODING SCHEME

PROTOCOL CODING SCHEME
Subject _____

Data Cues	Strategies (circle only one)
1. Assigned New Account (paragraph 1)	A. Concerns about new account voiced B. No concern about problems voiced C. Other _____
2. High Turnover/Low Sales Customer(paragraph 2)	A. Admit Problem or Blame B. Build Rapport - Extra attention C. Other _____
3. Conflict In Plans (paragraph 3)	A. Try to handle both accounts B. Ignore reset C. Other _____
4. Tom's handling reset (paragraph 3)	A. Concern expressed B. No Concern expressed C. Other _____
5. Postponing call suggestion (paragraphs 4 and 5)	A. Would not suggest B. Would suggest C. Other _____
6. Ultimatum (paragraph 5)	A. No offense taken B. Offense taken C. Other _____
7. Office Gossip (paragraph 6)	A. Refuse to discuss B. Discuss C. Other _____
8. Tom's nervousness (paragraph 7)	A. Allow him to call you B. Do not allow him to call you C. Other _____
9. Research for meeting (paragraph 8)	A. No research B. Research (Files, Invoices, etc.) C. Other _____

10. Prepare for meeting (paragraph 8)

A. No planning
B. Plan presentation
C. Other _____

11. Deduction problem (paragraph 9)

A. No blame placed
B. Blame salesperson or customer
C. Other _____

12. Offer of Help (paragraph 10)

A. Yes
B. Not now, maybe after call
C. Other _____

13. Facts about Buyer (paragraph 11)

A. Did not heed
B. Use understand buyer/icebreaker
C. Other _____

14. Temporary nature of assignment (paragraph 12)

A. Question
B. Do not question
C. Other _____

15. Agenda (paragraphs 13 and 14)

A. Acceptable approach
B. Unacceptable approach
C. Other _____

16. John's warning (paragraph 15)

A. Continue on with call
B. Postpone call
C. Other _____

17. Hanging rack (paragraph 16)

A. Permission questioned
B. No concern about permission
C. Other _____

18. Meeting June (paragraph 17)

A. Simply introduce yourself
B. Promote self and/or company
C. Other _____

19. Request for confidential information (paragraph 18)

A. Refuse the request
B. Comply with request
C. Other _____

20. Meeting Ted
(paragraph 19)

A. To your advantage
B. No comment
C. Other _____

21. Meeting Steve
(paragraph 19)

A. Suspicion of dirty dealing
B. No comment on dirty dealing
C. Other _____

22. June's list of items
(paragraph 20)

A. Go with your items or her wants
B. Package your items/her wants
C. Other _____

23. Lack of information on new product
(paragraph 21)

A. Press the issue
B. Postpone until later
C. Other _____

24. MSG
(paragraph 22)

A. Confront problem
B. Accept June's position
C. Other _____

25. Three rejections
(paragraph 23)

A. Proceed with confidence
B. Proceed cautiously or not at all
C. Other _____

26. Emergency Phone Call
(paragraph 24)

A. Take it
B. Refuse it
C. Other _____

27. Tom's Problem
(paragraph 25)

A. He's on his own
B. Plan for Tom to stall, or handle it
C. Other _____

28. Liar Accusation
(paragraph 25)

A. Confront
B. Postpone confrontation
C. Other _____

If you circle C (Confront) then circle all the following that apply:

29. Restate facts
30. Apologize
31. Ask for documentation
32. Ask for their story
33. Assurance of support
34. Offer compromise
35. Other _____

How many times in this story did the subject attempt to:

36. Prioritize _____

37. Established own credibility _____

38. Related to past experiences _____

39. Your estimation of the confidence level this subject holds in the manner in which they reached their decisions.

High _____ Low _____

40. Your estimation of the confidence level this subject holds in their final decision.

High _____ Low _____

41. In your opinion did this person successfully resolve this problem?

Yes _____ No _____

42. Please note any other salient points about this particular subject's responses:

43. Please note any trends that you are beginning to notice in the subject's responses (across subjects):

APPENDIX G

INFORMATION RATING FORM

The following pieces of information were taken from the story you just read. Some of the information may have been important to you in reaching your solution. Other information may have been largely irrelevant to your solution. Please circle the number that best describes the importance each piece of information had in your solution. Circling: 1 indicates not at all important, 2 indicates of little importance, 3 indicates a neutral rating, 4 indicates of some importance, 5 indicates very important.

1. Jerry's recent increase in sales.
   Not at all Important 1 2 3 4 5 Very Important

2. Foodland's 30% share of the local market.
   Not at all Important 1 2 3 4 5 Very Important

3. High turnover in salespeople handling Foodland.
   Not at all Important 1 2 3 4 5 Very Important

4. Tom's inexperience.
   Not at all Important 1 2 3 4 5 Very Important

5. Foodland's calling for the appointment.
   Not at all Important 1 2 3 4 5 Very Important

6. Your boss's threat that you make the call or find another job.
   Not at all Important 1 2 3 4 5 Very Important

7. Rivendell's threat to stop shipments.
   Not at all Important 1 2 3 4 5 Very Important

8. Foodland buyer's are waiting for you to reenter the meeting.
   Not at all Important 1 2 3 4 5 Very Important

9. Deduction error had been going on for 90 days.
   Not at all Important 1 2 3 4 5 Very Important

10. Tom's nervousness.
    Not at all Important 1 2 3 4 5 Very Important

11. Recent increase in sales to Foodland.
    Not at all Important 1 2 3 4 5 Very Important

12. Your company's poor sales history with Foodland.
    Not at all Important 1 2 3 4 5 Very Important

13. Size of authorized Thirstade discount (10%).
Not at all Important 1 2 3 4 5 Very Important

14. Size of unauthorized discount taken on Thirstade (20%).
Not at all Important 1 2 3 4 5 Very Important

15. Tom's plan to leave the site of the reset.
Not at all Important 1 2 3 4 5 Very Important

16. Jim's current divorce problems.
Not at all Important 1 2 3 4 5 Very Important

17. June's negotiating ability.
Not at all Important 1 2 3 4 5 Very Important

18. Jerry's missing the last two meetings with Foodland.
Not at all Important 1 2 3 4 5 Very Important

19. Temporary nature of your assignment with Foodland.
Not at all Important 1 2 3 4 5 Very Important

20. Large Thirstade display at Foodland.
Not at all Important 1 2 3 4 5 Very Important

21. Accent's large sales increase with secondary location.
Not at all Important 1 2 3 4 5 Very Important

22. June's pregnancy.
Not at all Important 1 2 3 4 5 Very Important

23. June's bad mood.
Not at all Important 1 2 3 4 5 Very Important

24. Your company's sales contest on slow moving/high profit items.
Not at all Important 1 2 3 4 5 Very Important

25. Jerry's going to work for a competitor.
Not at all Important 1 2 3 4 5 Very Important

26. June's concern about turnover.
Not at all Important 1 2 3 4 5 Very Important

27. Jerry's reputation of "taking shortcuts".
Not at all Important 1 2 3 4 5 Very Important

28. Pet's position as your largest principal.
Not at all Important 1 2 3 4 5 Very Important

29. The friendship between the Pet rep and your company's owner.
Not at all Important 1 2 3 4 5 Very Important

30. Food Lion's grand opening.
Not at all Important 1 2 3 4 5 Very Important

31. Accent is primarily MSG.
Not at all Important 1 2 3 4 5 Very Important

32. Lack of information on promotional plans for new cereal.
Not at all Important 1 2 3 4 5 Very Important

33. Your good relationship with Ted Dawson (the other buyer).
Not at all Important 1 2 3 4 5 Very Important

34. Steve Clark's relationship with Jerry (brother-in-law).
Not at all Important 1 2 3 4 5 Very Important

35. Tom reset of the dog food section with extra facings.
Not at all Important 1 2 3 4 5 Very Important

36. Jerry's previous poor performance.
Not at all Important 1 2 3 4 5 Very Important

37. June's interest in UT football.
Not at all Important 1 2 3 4 5 Very Important

38. John Farley's warning you not to see June today.
Not at all Important 1 2 3 4 5 Very Important

39. The directions to portray your company as innovative.
Not at all Important 1 2 3 4 5 Very Important

40. Foodland's cereal section is full.
Not at all Important 1 2 3 4 5 Very Important

41. The MSG factsheet was published by Pet.
Not at all Important 1 2 3 4 5 Very Important

42. Lack of information on why Jerry left your company.
Not at all Important 1 2 3 4 5 Very Important

43. The number of buyers in the meeting (three).
Not at all Important 1 2 3 4 5 Very Important

44. Pet's supplying attractive, red plastic racks.
Not at all Important 1 2 3 4 5 Very Important

45. The head buyer at Foodland is a woman.
Not at all Important 1 2 3 4 5 Very Important

46. You have four items listed on your agenda for the meeting.
Not at all Important 1 2 3 4 5 Very Important

47. Jim's insistence that Foodland could become a good account.
Not at all Important 1 2 3 4 5 Very Important

48. Tom will be taking over the Foodland account at some point.
Not at all Important 1 2 3 4 5 Very Important

49. June's irritation over your hanging the rack without approval.
Not at all Important 1 2 3 4 5 Very Important

50. Jim's reluctance to make the call at Foodland with you.
Not at all Important 1 2 3 4 5 Very Important

APPENDIX H

CODING SCHEME STATISTICS

Mann-Whitney U -- Wilcoxon Rank Sum W Results

Coding Scheme Questions Grouped by Skill Level

Question	Mean Rank	Cases	
1	20.5	20	Non-expert
	20.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
200.0	410.0	1.000	.000	1.000

Question	Mean Rank	Cases	
2	19	19	Non-expert
	20	19	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
171.0	361.0	.7951	-.3219	.7475

Question	Mean Rank	Cases	
3	18.78	18	Non-expert
	19.21	19	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
167.0	338.0	.9163	-.1416	.8874

Question	Mean Rank	Cases	
4	18.5	20	Non-expert
	22.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	370.0	.2888	-1.3093	.1904

Question	Mean Rank	Cases	
5	19.5	20	Non-expert
	21.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	390.0	.6017	-1.4327	.1519

Question	Mean Rank	Cases	
6	18.5	20	Non-expert
	22.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	370.0	.2888	-1.3628	.1730

Question	Mean Rank	Cases	
7	22.5	20	Non-expert
	18.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	450.0	.2888	-1.3628	.1730

Question	Mean Rank	Cases	
8	20.5	20	Non-expert
	20.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
200.0	410.0	1.000	.000	1.000

Question	Mean Rank	Cases	
9	20.5	20	Non-expert
	20.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
200.0	410.0	1.000	.000	1.000

Question	Mean Rank	Cases	
10	16.5	20	Non-expert
	24.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
120.0	330.0	.0304*	-2.498	.0125*

Question	Mean Rank	Cases	
11	20.5	20	Non-expert
	21.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	400.0	.7994	-.3158	.7521

Question	Mean Rank	Cases	
12	19.58	19	Non-expert
	17.29	17	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
141.0	294.0	.5308	-.7805	.4351

Question	Mean Rank	Cases	
13	19.5	20	Non-expert
	21.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	390.0	.6017	-1.0408	.2980

Question	Mean Rank	Cases	
14	22.0	20	Non-expert
	19.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	440.0	.4291	-.9475	.3434

Question	Mean Rank	Cases	
15	19.0	20	Non-expert
	22.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	380.0	.4291	-.9379	.3483

Question	Mean Rank	Cases	
16	21.0	20	Non-expert
	20.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	420.0	.7994	-1.000	.3173

Question	Mean Rank	Cases	
17	21.5	20	Non-expert
	19.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	430.0	.6017	-.6276	.5302

Question	Mean Rank	Cases	
18	20.37	19	Non-expert
	19.65	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
183.0	387.0	.8567	-.2523	.8008

Question	Mean Rank	Cases	
19	16.5	20	Non-expert
	24.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
120.0	490.0	.0304*	-2.5495	.0108*

Question	Mean Rank	Cases	
20	21.5	20	Non-expert
	19.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	430.0	.6017	-.6276	.5302

Question	Mean Rank	Cases	
21	18.5	20	Non-expert
	22.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	370.0	.2888	-1.4422	.1492

Question	Mean Rank	Cases	
22	17.63	19	Non-expert
	22.25	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
145.0	335.0	.2138	-1.500	.1336

Question	Mean Rank	Cases	
23	19.5	20	Non-expert
	21.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	390.0	.6017	-.6374	.5239

Question	Mean Rank	Cases	
24	20.47	20	Non-expert
	19.5	19	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.5	370.5	.7919	-.9747	.3297

Question	Mean Rank	Cases	
25	20.0	16	Non-expert
	17.3	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
136.0	320.0	.4592	-.8944	.3711

Question	Mean Rank	Cases	
26	20.0	20	Non-expert
	21.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	400.0	.7994	-1.000	.3173

Question	Mean Rank	Cases	
27	21.5	20	Non-expert
	19.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
180.0	430.0	.6017	-.8745	.3819

Question	Mean Rank	Cases	
28	22.0	20	Non-expert
	19.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	440.0	.4291	-1.4162	.1567

Question	Mean Rank	Cases	
29	19.0	20	Non-expert
	22.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	380.0	.4291	-.9675	.3333

Question	Mean Rank	Cases	
30	18.0	20	Non-expert
	23.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	360.0	.1826	-2.0545	.0399*

Question	Mean Rank	Cases	
31	21.0	20	Non-expert
	20.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	420.0	.7994	-.3333	.7389

Question	Mean Rank	Cases	
32	21.0	20	Non-expert
	20.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
190.0	420.0	.7994	-.3158	.7521

Question	Mean Rank	Cases	
33	17.5	20	Non-expert
	23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-2.3419	.0192*

Question	Mean Rank	Cases	
34	18.5	20	Non-expert
	22.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	370.0	.2888	-1.7489	.0803

Question	Mean Rank	Cases	
35	19.0	20	Non-expert
	22.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
170.0	380.0	.4291	-1.4162	.1567

Question	Mean Rank	Cases	
36	14.63	20	Non-expert
	26.38	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
82.5	292.5	.0010*	-3.2353	.0012*

Question	Mean Rank	Cases	
37	14.8	20	Non-expert
	26.2	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
86.0	296.0	.0016*	-3.1638	.0016*

Question	Mean Rank	Cases	
38	14.55	20	Non-expert
	26.45	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
81.0	291.0	.0009*	-3.2743	.0011*

Question	Mean Rank	Cases	
39	26.0	20	Non-expert
	15.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
90.0	520.0	.0024*	-3.6667	.0002*

Question	Mean Rank	Cases	
40	26.5	20	Non-expert
	14.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
80.0	530.0	.0008	-3.7659	.0002

Question	Mean Rank	Cases	
41	24.5	20	Non-expert
	16.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
120.0	490.0	.0304*	-2.7255	.0064*

* indicates significant results (alpha = .05)

APPENDIX I

CORRELATIONS

Spearman Correlation of Skill With Coding Scheme Items

Item	Correlation Coefficient	Cases	P Value
1	.0000	40	.500
2	.0529	38	.376
3	.0236	37	.445
4	.2097	40	.097
5	.2294	40	.077
6	.2182	40	.088
7	-.2182	40	.088
8	.0000	40	.500
9	.0000	40	.500
10	.4000	40	.005
11	.0506	40	.378
12	-.1319	40	.222
13	.1667	40	.152
14	-.1517	40	.175
15	.1502	40	.177
16	-.1601	40	.162
17	-.1005	40	.269
18	-.0409	39	.402
19	-.4082	40	.004*
20	-.1005	40	.269
21	.2309	40	.076
22	.2433	39	.068
23	.1021	40	.265
24	-.1581	39	.168
25	-.1512	36	.189
26	.1601	40	.162
27	-.1400	40	.194
28	-.2268	40	.080
29	.1549	40	.170
30	.3290	40	.019*
31	-.0534	40	.372
32	-.0506	40	.378
33	.3750	40	.009*
34	.2801	40	.040*
35	.2268	40	.080
36	.4684	40	.001*
37	.5048	40	.000*
38	.5006	40	.001*
39	-.5871	40	.000*
40	.6030	40	.000*
41	-.4364	40	.002*

* indicates a significant p value at .05 level

Spearman Correlation of Confidence With Coding Scheme Items

Item	Correlation Coefficient	Cases	P Value
1	-.0898	40	.291
2	.0899	38	.296
3	.1902	37	.130
4	.2147	40	.092
5	.0400	40	.403
6	.0262	40	.436
7	-.1736	40	.142
8	.0982	40	.273
9	.2107	40	.096
10	.2048	40	.102
11	-.0022	40	.495
12	.1120	40	.258
13	.0145	40	.465
14	-.0066	40	.484
15	.2335	40	.074
16	-.2233	40	.083
17	-.1161	40	.238
18	-.1682	39	.153
19	-.3358	40	.017*
20	-.0460	40	.389
21	.0302	40	.427
22	.2214	39	.088
23	.1223	40	.226
24	.1958	39	.116
25	-.2240	36	.094
26	.2512	40	.059
27	.0397	40	.404
28	-.0955	40	.279
29	.1778	40	.136
30	.0115	40	.472
31	-.0465	40	.388
32	-.0683	40	.338
33	.0790	40	.314
34	.0519	40	.375
35	.2899	40	.080
36	.4648	40	.001*
37	.3232	40	.021*
38	.3777	40	.008*
39	-.3862	40	.007*
40	-.1902	40	.000*
41	-.4364	40	.120

* indicates a significant p value

APPENDIX J

CODING SCHEME FREQUENCIES

CODING SCHEME FREQUENCIES

Question	Response	Frequency	
		Experts	Non-experts
1	A	9	9
	B	11	11
	C	0	0
2	A	10	11
	B	9	8
	C	1	1
3	A	8	8
	B	11	10
	C	1	2
4	A	5	9
	B	15	11
	C	0	0
5	A	18	20
	B	2	0
	C	0	0
6	A	12	16
	B	8	4
	C	0	0
7	A	8	4
	B	12	16
	C	0	0
8	A	13	13
	B	7	7
	C	0	0
9	A	2	2
	B	18	18
	C	0	0
10	A	6	14
	B	14	6
	C	0	0
11	A	11	12
	B	9	8
	C	0	0
12	A	12	11
	B	5	8
	C	3	1
13	A	1	3
	B	19	17
	C	0	0
14	A	10	7
	B	10	13
	C	0	0
15	A	8	11
	B	12	9
	C	0	0

16	A	20	19
	B	0	1
	C	0	0
17	A	12	10
	B	8	10
	C	0	0
18	A	6	5
	B	14	14
	C	0	1
19	A	4	12
	B	16	8
	C	0	0
20	A	12	10
	B	8	10
	C	0	0
21	A	3	7
	B	17	13
	C	0	0
22	A	10	14
	B	10	5
	C	0	1
23	A	7	9
	B	13	11
	C	0	0
24	A	19	19
	B	1	1
	C	0	0
25	A	13	8
	B	7	8
	C	0	4
26	A	19	20
	B	1	0
	C	0	0
27	A	4	2
	B	16	18
	C	0	0
28	A	19	16
	B	1	4
	C	0	0
29	NO	6	9
	YES	14	11
30	NO	14	19
	YES	6	1
31	NO	14	13
	YES	6	7
32	NO	9	8
	YES	11	12
33	NO	15	19
	YES	5	1
34	NO	15	19
	YES	5	1

35	NO	16	19
	YES	4	1
36	0	1	6
	1	5	5
	2	1	4
	3	5	5
	4	2	0
	5	1	0
	6	4	0
	7	1	0
	8	0	0
	9	0	0
37	0	0	2
	1	4	8
	2	4	7
	3	0	2
	4	2	0
	5	6	1
	6	3	0
	7	1	0
	8	0	0
	9	0	0
	10	1	0
	12	1	0
38	0	2	9
	1	1	5
	2	6	1
	3	2	2
	4	4	3
	5	0	0
	6	0	0
	7	2	0
	10	1	0
	13	1	0
	15	1	0
39	LOW	1	12
	HIGH	19	8
40	LOW	5	17
	HIGH	15	3
41	LOW	10	18
	HIGH	10	2

APPENDIX K

SUMMARIZED SORTING SITUATIONS

1. A grocery was known to be difficult to sell new products. The newest salesperson was assigned to the account. Although inexperienced the salesperson aggressively worked the account with regular calls and new product presentations. The account became one of the broker's best customers.

2. Salesperson is pushing a new product line. He makes a presentation to buyers and their spouses/guest at a local restaurant. The presentation and samples were given to both the buyers and their guest. The product line was accepted.

3. This salesperson presents a new item in a slow turnover category to a store manager. The salesperson arrives at the meeting late and is unprepared.

4. This salesperson has a meeting to present a new product. The salesperson mailed samples for the meeting in advance. The samples were lost in the mail and he has no backup samples for the meeting.

5. A principal wanted changes in a retail grocery chain's plan-o-gram. The salesperson explained to the buyer why the changes would be in the retailer's best interest.

6. This salesperson represented several dominant product lines. A major retail account was due for a reset. The salesperson did not aggressively try to retain or improve shelf space.

7. A salesperson was assigned to a new account. It was well known that the store manager did not like salespeople. The salesperson avoided the store manager.

8. This was the salesperson's first call on a large account. The salesperson prepared a typed presentation including projected profits and ordering suggestions. The presentation was very complete.

9. A store manager found out the details of a special pricing program the broker had with a competitive grocery. When confronted with this information the salesperson gave away confidential information.

10. This salesperson prepared an outstanding store reset plan. However, in the presentation the salesperson was intimidated by the forceful objections of the store manager.

11. A customer had been neglected and was upset over a series of problems. The new salesperson allowed the store manager to vent his hostilities.

12. A manufacturer was shorting products to a buying group. The salesperson found other sources for the shorted items, including obtaining them from competition.

13. This salesperson is at a store rest. The section with his product has already been reset by a competitor. The reset is unfavorable for his product. The salesperson does not approach the store manager.

14. A major retailer was buying truckload quantities from a salesperson. A competitor of the retailer offered some of the same products at a price below the retailer's cost. The salesperson involved avoided the retailer's calls.

15. A grocery chain of 7 stores sent out a plan-o-gram that did not meet the shelf standards of one of the broker's principals. The salesperson presented proposed plan-o-gram changes to each of the 7 stores.

16. This salesperson was under pressure from management to get additional business. As a result, the salesperson makes promises to customers he cannot fulfill to get the business.

17. This salesperson was known to have a negative attitude. During a meeting between the broker's sales force and a manufacturer he made a negative comment about the principal's new product line. It was not corrected.

18. At a food show an upset customer approached a salesperson about promotional money that had been owed the retailer for over 6 months. The salesperson reacted in a hostile manner.

19. A product line was scheduled for deletion by the retail chain because of slow movement. The salesperson formulated a plan in which both the manufacturer and retailer lowered their prices and increased promotional efforts.

20. This salesperson presented a new line of products to a customer. He was turned down on two occasions. The salesperson formulated a new program with the same product and made a third attempt.

21. A principal told a broker that they would lose their product line if it was not given more attention. The salesperson responsible was having time management problems and did not give the product line any extra effort.

22. During a store reset a salesperson gets into a disagreement with a competitor over shelf space. The salesperson leaves the store to discuss the disagreement with management.

APPENDIX L

SUMMARIZED DECISION RULES

Summarized Decision Rules for First Decision Point

	Experts	Non-experts
1. Talk to supervisor	3	3
2. Go through past records	10	9
A. Look for anomalies	4	3
B. Jerry's files	1	3
C. What they buy	3	2
D. Thirstade files	1	1
E. Investigate past deals, etc.	2	2
F. Carry records to meeting	2	0
3. Gather information	4	5
A. Visit stores	1	1
B. Talk to previous salespeople	0	1
C. Talk to Rivendell	0	0
D. Ask about buyers	1	1
E. Ask about products	0	2
4. Talk to Foodland	6	4
A. Show records	2	1
B. Listen-feel them out	3	1
5. Organize	12	5
A. Prepare presentation	8	1
B. Deals	3	4
6. Attitude	2	2

Summarized Decision Rules for Second Decision Point

	Experts	Non-experts
1. Refuse	16	8
A. with trust explanation	6	3
B. just don't know explanation	2	0
C. may hurt yourself rationale	2	0
2. Give information freely	1	9
3. Give limited information	3	3
A. refuse pricing information	3	1
B. give common knowledge only	2	2
C. refuse advertising information	0	1

Summarized Decision Rules for Third Decision Point

	Experts	Non-experts
Concerning Tom		
1. Tell him to explain	5	8
A. stress inexperience	3	4
B. apologize	3	5
2. Talk to reset manager	1	1
3. Go help Tom	10	6
4. Tell him to handle it himself	6	3
5. Tell him to reset to plan-o-gram	5	0
6. Tell him to relax	2	0
Liar Accusation		
1. Restate or show documentation only	4	4
2. Restate with additional information	8	5
A. Assurance of support	1	1
B. Request for documentation	1	2
C. Offer to reschedule	2	1
D. Apology	4	0
3. Apologize	5	2
4. Ask for story or documentation	8	8
5. Offer compromise	5	1

APPENDIX M

INFORMATION HEEDED FREQUENCIES

SUBJECT:_____

Piece of Information	Heeded		Important	
	Expert	Non-expert	Expert	Non-expert
1. Assignment to a new account	16	19	0	0
2. Jerry is no longer with the firm	9	4	0	0
3. Jerry had cleaned out his desk	2	1	0	0
4. Jerry's history of poor performance	8	5	1	0
5. Jerry's recent increase in sales	6	9	0	0
6. Jerry had won sales contest *	1	5	0	0
7. Foodland's 30% share of the local market	2	1	0	1
8. Your company's poor sales history with Foodland	4	2	0	0
9. High turnover in salespeople handling Foodland *	16	8	7	8
10. Foodland had been Jim's account	2	0	0	0
11. Conflict in scheduling for Friday morning	18	20	2	1
12. Tom's inexperience	9	0	1	0
13. Suggestion to postpone Foodland meeting	5	4	1	1
14. Foodland's calling for the appointment	1	1	0	0
15. Foodland's problem with Rivendell	16	15	6	8
16. Stokley's threat to stop shipping products	4	1	0	0
17. Problem had existed 90 days	0	0	0	0
18. Threat that you make the call or find another job	13	10	3	3
19. Foodland's high Thirstade sales	0	0	0	0
20. Jerry may have gone to work for a competitor	2	1	0	0
21. Tom's admiration of Jerry	1	3	0	0
22. Jerry's reputation for taking shortcuts *	6	12	0	1
23. Tom's knowledge of household products	1	1	0	0
24. Foodland uses a plan-o-gram	2	3	0	0
25. Tom's nervousness	6	5	0	0
26. Tom can call you at Foodland	15	11	0	0
27. Recent increase in sales to Foodland	0	0	0	0
28. 5 % of total sales are to Foodland	0	0	0	0
29. Size of authorized Thirstade discount (10%)	9	12	0	0
30. Size of unauthorized discount taken on Thirstade	15	17	0	0
31. Jim's apology	5	3	1	0
32. Jerry may have over-promised	8	5	0	1
33. Jim's offer of help	15	18	2	0
34. Jim's reluctance to make the call at Foodland	1	1	0	0
35. Jim's current divorce problems	0	0	0	0
36. Head buyer is female	3	2	2	0
37. June is a shrewd negotiator	3	6	0	0
38. June had been a Kroger manager	5	3	0	0
39. June is UT graduate *	8	2	0	0
40. June is a UT football fan	14	15	2	0
41. Jerry missed last two meetings with Foodland	3	3	0	0
42. Insistence that Foodland can be a good account	1	0	0	0
43. Temporary nature of your assignment	14	8	8	6
44. Jim's confidence in your experience	3	2	0	0
45. Direction to show company as aggressive	1	0	0	0
46. Your sales contest on slow moving/high profit items	4	6	0	0
47. New cereal from General Mills	4	3	0	0
48. Accent's large sales increase with secondary location	10	13	0	0
49. Pet's position as your largest principal	1	0	0	0
50. Management's friendship with Pet rep	0	0	0	0
51. Pet's supplying attractive, red plastic racks	0	0	0	0

52. Lack of documentation	2	2	0	0
53. Typed agenda	0	1	0	0
54. Order of agenda	17	15	2	0
55. Deduction resolution last on list	15	16	3	3
56. Early arrival at June's store	0	2	0	1
57. John Farley's warning you not to see June today *	12	17	1	0
58. June's bad mood	6	6	0	0
59. June's pregnancy	4	4	0	0
60. Large Thirstade display at Foodland	4	5	0	1
61. Possibility of unauthorized discount	6	4	0	0
62. Hang Accent rack	17	19	0	0
63. June's concern about turnover	13	16	1	1
64. Food Lion's grand opening	2	1	0	0
65. June's request for confidential information	18	20	2	2
66. Good relationship with Ted (the other buyer)	10	10	1	3
67. Steve Clark's is Jerry's brother-in-law	10	13	2	1
68. Request for fast moving items not on your list	19	19	1	0
69. Foodland's cereal section is full	6	8	0	0
70. Lack of information on promotion for cereal	13	11	0	0
71. June's concern about MSG *	6	12	0	0
72. Accent is primarily MSG	0	0	0	0
73. You have an MSG factsheet published by Pet	14	11	0	0
74. June's irritation over your hanging the rack	12	14	1	1
75. Your nervous	3	6	1	0
76. Present facts	5	8	0	1
77. Liar accusation	11	15	8	7
78. Emergency phone call	15	17	0	0
79. Tom's plan to leave the site of the reset	2	1	0	0
80. Tom reset of the dog food with extra facings	9	13	0	0
81. Foodland buyer's are waiting for you to reenter	6	5	0	0

* indicates significant difference in mean number of times referenced
(Mann-Whitney-Wilcoxon analysis, alpha = .05)

APPENDIX N

SIGNIFICANT INFORMATION HEEDED

MANN-WHITNEY-WILCOXON TESTS RESULTS

Jerry is no longer with the firm

Mean Rank	Cases	
18	20	Non-expert
23	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	360.0	.1826	-1.6667	.0956*

Jerry won a sales contest

Mean Rank	Cases	
22.5	20	Non-expert
18.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	450.0	.2888	-1.7489	.0803*

High turnover in people handling Foodland

Mean Rank	Cases	
22.5	20	Non-expert
18.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
160.0	450..0	.2888	-2.0817	.0374*

Jerry's reputation for taking shortcuts

Mean Rank	Cases	
23.5	20	Non-expert
17.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	470.0	.1081	-1.8829	.0597*

June is a UT graduate

Mean Rank	Cases	
17.5	20	Non-expert
23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-.2.1633	.0305*

Temporary nature of your assignment to Foodland

Mean Rank	Cases	
17.5	20	Non-expert
23.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	350.0	.1081	-1.8829	.0597*

John warning you not to see June today

Mean Rank	Cases	
23.0	20	Non-expert
18.0	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
150.0	460.0	.1826	-1.7483	.0804*

June's concern over MSG

Mean Rank	Cases	
23.5	20	Non-expert
17.5	20	Expert

U	W	Exact 2-tailed P	Corrected for Ties Z	Corrected for Ties 2-tailed P
140.0	470.0	.1081	-1.8829	.0597*

*indicates significant results at alpha level of .10

APPENDIX O

TYPICAL PROTOCOL RECORDS

TYPICAL NON-EXPERT PROTOCOL RECORD

Friday Morning

You need to make some quick decisions. How had you got into this situation? I guess it all started yesterday afternoon at about 3:00...

Jim, your supervisor, had called you into his office. "I am assigning you a new account. I want you to take over the Foodland buying group," Jim said. Jerry Donovan had been handling the Foodland account for about six months. Jim informed me that Jerry was no longer with our firm. Jerry had cleaned out his desk and would not be back. Jerry had a history of poor performance, but he had produced outstanding sales last quarter, and had won a contest for selling display promotions.

If I had a record of Jerry's sales book while he was there, that would help. I need to know as much as I can about this account.

Now you were being handed Foodland, a buying group of independent local groceries that has about 30% of the local market. Our sales to Foodland have been rather poor over the last few years. Before Jerry, Foodland had been called on by a series of three different salespeople that had left the company for one reason or another. Prior to that, Foodland had been Jim's account. In total Foodland had been serviced by five different salespeople over the last two years.

I don't really know what you want on that one. He had several sales people on it and haven't had one particular one.

What did you think as you read through that?

I think that I was gonna be servicing the account now. Be handling the product.

Keep talking

I was planning on being there a few years; I was not planning on leaving. I'll take care of it.

Next Jim stated that you were to meet with Foodland's buyers Friday morning at 10:00. Of course, you already had plans for Friday morning. You were scheduled to participate in a store reset at one of your accounts. However, Jim explained that Tom could handle the reset as you were only resetting the household cleaners. Tom is a new salesman we hired six weeks ago straight out of college.

I could meeting at 10:00 of course. You get somebody else to do your reset. It would be more important to meet the buyers than it would the reset. Even with a new man out there, you've got help on a store reset anyway. Tom could handle the reset.

You asked about postponing the Foodland meeting so you could handle both accounts. Jim replied that would not be a good idea as a buyer from Foodland had requested the meeting to resolve a problem with Rivendell Food. Rivendell had threatened to stop shipping Foodland products because Foodland had been deducting too much from their invoices on Thirstade for the last ninety days. Also, Foodland had recorded unusually high sales volume with Thirstade during that period.

I'd like to have both accounts. At the same time, it's more important for the sales account that the store set. The meeting would be more important. We don't want him to stop buying products.

You were beginning to doubt if you should get involved with this account. You suggested either: a) postponing the call, b) giving it to Tom, or c) letting Jim make the call himself. However, when you suggested these alternatives Jim became really upset. In some of his strongest language Jim stated you would be at Foodland at 10:00 to make the call, or look for another job. Furthermore, Jim pointed out that you should use this account to help achieve your annual bonus.

I'd rather be involved in the account myself. I don't want to postpone it. Well, Jim wouldn't have to push the point. I'd be there to make the call anyway.

Tom was waiting for you when you came out of Jim's office. He wanted to know about Jerry's leaving. Tom had heard that Jerry was going to work for a competitor. Tom continued to mention that he had always admired Jerry's attitude of "doing whatever it takes" to get the business. As you recalled Jerry was actually known for taking whatever shortcuts necessary to get the business.

I'm not gonna take no shortcuts to get their business, but they wanted to know why Jerry was leaving. I don't know what to tell you. . . .

What do you think you would tell them?

About Jerry leaving? Just tell them that he was leaving.

You then discussed the reset of your account with Tom. Tom seemed fairly knowledgeable about household products. You explained that the reset would start with a meeting at 9:00 A.M. to review and make any last minute changes to the plan-o-gram. Tom seemed excited, but also a little nervous. To calm his nerves you told him he could telephone you at Foodland if he had any problems.

I'd just go ahead and tell Tom to set the planogram. They have that to go by. The supervisor would be there with him in case he ran into problems. If he had any problems he could call me. I could tell him what to do.

How would you prepare for the meeting?

I'd get all my brochures and things together. My deal and all; have everything together and go over and see them.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

I'd say average confidence. A four.

Our sales to Foodland have been growing over the last three months but are still not very significant. At present about 5% of our total sales are to Foodland. However, as a result of Jerry's work they have bought several products, including Thirstade, in large quantities for displays over the last three months. According to our records Foodland was entitled to a 10% promotional allowance on each case of Thirstade. According to Rivendell they had been deducting 20% from their invoiced price.

If he's been deducting 20% and he's only entitled to deduct 10%; we would take care of it. Since Jerry's already gone and we would just give him some previews or something to take care of the difference on it. In other words, 10% promotional allowance, that was it; unless we can get it authorized.

Later that afternoon, as you attempted to prepare for the Foodland meeting, Jim came into your office. He said he was sorry he blew up. His excuse was that Jerry's leaving had upset him. Jim implied that Jerry may have promised more than we could deliver in several accounts. He then asked if you needed any help with the Foodland account.

Well, if I had some problem, and I couldn't sell them on it, I would send for some help. Right now I don't think I need any help. In other words, if I needed any help I would ask Jim.

You suggested that Jim make the call with you since he already knew the account. Unfortunately Jim could not make the call with you because of a prior commitment concerning his divorce. "What can you tell me about the buyers at Foodland?", you asked. Jim speculated that I would find June Smith, the head buyer, to be a shrewd negotiator. She had been a store manager with Kroger until she took the job at Foodland two years ago. Jim also pointed out that June is a University of Tennessee graduate and an avid Volunteer football fan.

I'd try to find June; go in there and since she went to Tennessee I'd try to talk to her about Tennessee football; try to get on her good side. Work from there.

Jim explained that we could not cancel the meeting because Jerry had missed his last two appointments with Foodland. Jim did not know the other two buyers at Foodland. However, he stressed that he felt Foodland could become a very good account with proper attention. Furthermore, he stated that after Tom had more experience he would be assigned the account, but for now he needed me to use my experience to turn the account around.

I'd just go on in and introduce myself to the two buyers.

Jim stressed that we needed to do more than resolve the deduction problem in the Foodland meeting. He wanted me to portray our company as aggressive and innovative. First, Jim suggested that you use the meeting to present a special promotion on a group of high profit, slower moving items. The manufacturer's of these products are offering promotional prices and a bonus program to your company. To achieve the bonus there is currently a sales contest on these items. Second, Jim suggested you present a new line of cereal from General Mills. Finally, Jim suggested you present the concept of installing secondary display racks for Accent Flavor Enhancer. Accent is produced by our largest principal, Pet Incorporated. It is one of the most profitable items in the grocery. Pet's rep, a close friend of the owner of our company, had recently stated that Accent's sales increase an average of 67% with the addition of a secondary display rack hanging above the meat case. Pet had supplied attractive, red plastic racks for these secondary displays.

You all are the ones that restrict your high-profit items. Most of the time your high-profit items are on you floor items. That's where the profit's at, sometimes.. . . . .Plus if we sell a display like that, you can achieve some special bonuses.

The previous salespeople had left little documentation about the account. You were forced to proceed with the limited information available. As a last step you typed an agenda for the meeting as follows:

1. Special Promotion on High Margin Items
2. New Cereal Presentation
3. Accent Secondary Location
4. Thirstade Deduction Resolution

You intentionally placed the deduction resolution last on the list so you could build rapport and trust during the first three items.

Well, you always want to push the secondary locations, on any product. Accent's one of the most profitable items in the store.

Keep talking

You gonna put your secondary racks in several places in the store.

Keep talking

Well the best thing to do, not write the special promotions. Your high market items, first discuss them. Then your new items can come in there, present those. Number three, would be your Accent; secondary locations. The resolution on Thirstade, you need to take care of it, I don't have any problem with it being last.

You arrived at June's store, the site for the meeting, fifteen minutes early. As you entered you met John Farley on his way out of the store. John is an old friend that works for Paramount Brokers. John was obviously upset. He stated that June was in a bad mood. John suggested that her mood may result from her pregnancy. Whatever the reason, she did not buy anything from John. In fact, she had told John she did not want to see any other salespeople today. John recommended that you try coming back another day.

Always try to be early; don't ever want to be late for a meeting. I don't think I'd come back another day. June might change her mind if I can talk to her. A lot of times, it's your personality. Or who you know!

You knew that you had to make the call so you continued on into the store. The first thing you noticed in the store was the huge Thirstade display. As you walked to the meat section you wondered if Jerry had given the unauthorized discount to get the display space. In the meat section you hung one of the Accent secondary display racks over a meat counter. Your plan was to bring the buyers out to see the rack during the presentation. Experience had shown you that this approach was superior to simply talking about the display.

It's a good idea to take your display racks in. As you go in, go ahead and place them if you can place them. I say bring the buyer out and let him look at them. If it's not right, change it to satisfy the buyer.

You reached June's office at about 10:00. June's first statement was, "Another new salesman!" She stated that she was concerned about your firm's high turnover. You introduced yourself and told June you looked forward to working with her.

It won't be the first time for another new salesman. Tell them I'd been there for a while, just changing routes and I'd be there to help her anytime she needed any help.

June invited you into her office. "What special promotions will Food Lion be using in their grand opening," she questioned. Food Lion was preparing to open its first two stores in your area. You had met with a Food Lion store manager and did have some inside information about Food Lion's opening promotional strategies. However, the information might be

considered confidential. Before you responded June stated, "You can dig up the information and report back to me, I believe the other buyers are waiting in the conference room."

How would you handle this request?

I don't think I'd tell her everything that . . .
I don't think I would tell. I would get her some information about the store opening on the promotion, but I don't think I would tell her anything that she would like to hear. Nothing special.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Well, I think it would be a 4, average confidence again.

When you entered the conference room the other two buyers, Ted and Steve, were waiting. You were glad to see Ted. He had recently left a job at a store you had served for several years. You had always had a good relationship with Ted. As a part of the introductions you found out that Steve had been with Foodland for ten years and was Jerry Donovan's brother-in-law. You had no idea Jerry was related to a Foodland buyer. Steve stated that Jerry was a great guy and that Foodland really appreciated his efforts. June then requested that you proceed with your presentation.

Well, it would be good to see Steve and Ted an old friend like that. It would help if you have some friend as a buyer in there. Just introduce myself to Steve and talk to him and see how he and his family's been doing and get on with business.

You started the meeting by passing out the agenda. When you mentioned the promotion on high margin, slow moving items, June pointed out what they really needed were fast moving, well advertised items for a truckload sale planned to counter the Food Lion opening. June then gave you a list of items Foodland planned to use in the truckload sale, none of which were on your list of special promotions.

I would still present my slow-moving items with the high-profit and I'd just tell June I'd get back with her on some other fast-moving items in the future.

We continued through the agenda. Item two concerned the new cereal from General Mills. Ted stated that the cereal section was full and that they would have to drop a product to add a new cereal. Steve stated that Foodland did not need a new cereal. You considered pressing the issue. You had worked up some profitability estimates that favored the new cereal, but it would be about two weeks until you had complete details on General Mills promotional plans for the new product.

I just thing we're gonna promote of General Mills product. I would want to make them familiar with all the new products coming out. Give them the information that you do have. As soon as possible I want to get them the promotional plan.

You decided not to press the issue of the new cereal until you have more details. You simply stated that part of your job was to make Foodland aware of all new products. You continued to point three, the Accent secondary display rack. You mentioned the rack you had hung in the meat section. June countered that her pregnancy had made her more concerned about health issues. "Isn't Accent essentially MSG?", she questioned. You had heard this concern voiced before because Accent is essentially MSG (Mono-Sodium Glutamate). You had one of Pet's fact sheets defending the safety of MSG in your briefcase.

Well it seems if June was concerned with it, but the Accent doesn't have it. Accent doesn't have MSG in it.

Working from Pet's factsheet you attempted to present Accent as a safe product. You continued by showing Pet's figures that depict Accent as one of the most profitable items in the grocery. As the discussion continued you gathered that June was also irritated that you put the rack in the store without first getting her approval. You were then ready to discuss point four. By this point you were a little nervous as you had not been very successful on any of the first three points.

Well, that is one of the most profitable items in the store. Well, I went ahead and placed the rack in the store but without her approval. But otherwise, I want to get her approval and then if she didn't approve I'd take it out.

You moved to point four by simply presenting the facts, concerning Rivendell's promotional discount policy. You pointed out that Foodland had been deducting twice the allowable discount for three months. At this point Steve became furious. He stated that you were a liar and that he did not blame Jerry for leaving your firm. Just as Steve began speaking a secretary entered the room and gave a message to June. June interrupted before you could speak and stated that you had an emergency telephone call. She suggested that you take the call in her office while we all cool down a little.

I'd just tell Steve that we had the facts the way they were. And they've deducted more than he should. If it's an emergency call, I would take the call. If it wasn't an emergency, I wouldn't take it.

The telephone call was from Tom. He was having a problem and considering leaving the account to find Jim. You explained that Jim was away from the office handling personal matters and that you were in the middle of a meeting. This prompted Tom to explain his problem. While resetting the cleaners he had noticed that the person resetting the dog food section had left the store without finishing that section. Tom had gone over and finished the section giving our product, Alpo, a few more facings than specified in the plan-o-gram. Unfortunately, the other salesperson had returned, he had only left for supplies, and was rather upset. In fact, he had complained to the manager in charge of the reset. Tom said things were in bad shape and he needed help. You told him to give you a second to consider the alternatives. This was not shaping up to be a good day. You had just been called a liar by a buyer at an important account. You had to go back into the meeting very soon. You also had a co-worker in trouble at one of your accounts.

What should you do now?

I think Tom done a good job. That's the way he oughta done. I go over to the dog food section and finish it up and get more placements on it too.

OK. What should you do now?

I'd just go back to the store manager, go over there where he reset the dog food section and talk to the man who'd been setting the planogram up. And we'll work out a compromise on it.

You're in the office on the phone now.

Yes. Then I'm going back in to the office. I would tell Tom what to do on the reset. Talk to the set man and the store manager and work out the problem. Tell him he left over there and you were just doing what you thought was right.

Then I go back in the meeting and resolve the problems. See what else comes up.

OK. What do you plan to do?

Just go in there and tell them I had the facts. That they were charging double on the promotional monies. See what goes from there.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence

4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

I still go with four again.

How confident are you in your final solution to this situation?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Still go with average. Four.

TYPICAL EXPERT PROTOCOL RECORD

Friday Morning

You need to make some quick decisions. How had you got into this situation? I guess it all started yesterday afternoon at about 3:00...

Jim, your supervisor, had called you into his office. "I am assigning you a new account. I want you to take over the Foodland buying group," Jim said. Jerry Donovan had been handling the Foodland account for about six months. Jim informed me that Jerry was no longer with our firm. Jerry had cleaned out his desk and would not be back. Jerry had a history of poor performance, but he had produced outstanding sales last quarter, and had won a contest for selling display promotions.

All right. At this point I would wonder how he, if he was a poor salesperson like this says I wonder how he did so well and I would instantly think there was going to be a big mess. You know, he's made some dirty deals or something; a big mess to cover up when I got in there. And I would be apprehensive. I'm in that position right now. That's why I'm thinking, I can relate to all this. I would just instantly think it's going to be a big mess to take care of.

Now you were being handed Foodland, a buying group of independent local groceries that has about 30% of the local market. Our sales to Foodland have been rather poor over the last few years. Before Jerry, Foodland had been called on by a series of three different salespeople that had left the company for one reason or another. Prior to that, Foodland had been Jim's account. In total Foodland had been serviced by five different salespeople over the last two years.

My thoughts would be people will automatically assume I'm not going to be there very long because of the history of this, and that might inhibit their buying or they might not take me seriously because of this history. I would have to go in there and make them think that I'm going to take care of them; I will be around and will do everything I can for them.

Next Jim stated that you were to meet with Foodland's buyers Friday morning at 10:00. Of course, you already had plans for Friday morning. You were scheduled to participate in a store reset at one of your accounts. However, Jim explained that Tom could handle the reset as you were only resetting the household cleaners. Tom is a new salesman we hired six weeks ago straight out of college.

I would let Tom go ahead to the reset because my supervisor has said it's more important I be at this Food Land meeting on Friday morning and, straight out of college he can do it, because I did it. I'm sure he will do just fine. You have to have your priorities. I'll go to the meeting and let him have the reset.

You asked about postponing the Foodland meeting so you could handle both accounts. Jim replied that would not be a good idea as a buyer from Foodland had requested the meeting to resolve a problem with Rivendell Food. Rivendell had threatened to stop shipping Foodland products because Foodland had been deducting too much from their invoices on Thirstade for the last ninety days. Also, Foodland had recorded unusually high sales volume with Thirstade during that period.

This is again one thing that I have never experienced because I don't call on warehouses. So, I would just go ahead to the warehouse, because that's the most important as opposed to a store.

You were beginning to doubt if you should get involved with this account. You suggested either: a) postponing the call, b) giving it to Tom, or c) letting Jim make the call himself. However, when you suggested these alternatives Jim became really upset. In some of his strongest language Jim stated you would be at Foodland at 10:00 to make the call, or look for another job. Furthermore, Jim pointed out that you should use this account to help achieve your annual bonus.

My thoughts, after he told me I had to make this, it didn't matter what I thought I had to be at this appointment at 10:00. I would go because, the same thing, this is priority. It's just whatever is most important and Food Land sounds like it would be most important and your supervisor is always right. You know, you can argue a little bit, but if they say no, you go ahead and do what they say. Ultimately, they have the final word.

Tom was waiting for you when you came out of Jim's office. He wanted to know about Jerry's leaving. Tom had heard that Jerry was going to work for a competitor. Tom continued to mention that he had always admired Jerry's attitude of "doing whatever it takes" to get the business. As you recalled Jerry was actually known for taking whatever shortcuts necessary to get the business.

I would talk to this Tom, this new person. Explain to him that this is a terrible trap to get into trying to do what the person did before you. First of all, he is six weeks out of college. He can reset the section but as far as doing the business deals he can get in over his head very fast. I would sit down and talk to him, explain to him to just do it by the books until he got comfortable with it. And then, if he felt like doing a little extra that's fine, but just wait until you're comfortable because you could get somebody in a big mess.

You then discussed the reset of your account with Tom. Tom seemed fairly knowledgeable about household products. You explained that the reset would start with a meeting at 9:00 A.M. to review and make any last minute changes to the plan-o-gram. Tom seemed excited, but also a little nervous. To calm his nerves you told him he could telephone you at Foodland if he had any problems.

I would not have Tom phone me at Food Land because I have an appointment. Especially with buyers. I would have him call the office and talk to his boss. I'm not his boss; it sounds like somebody else is his boss. Even though it's my store I'd have him call the supervisor and not bother me in a meeting like that especially if they are irate over everything that has happened in the past.

How would you prepare for the meeting?

I would just get all the files and go through them. I would see if they had some questions about deductions from the invoices. I would go through and see what I owed them and see what they needed. See what the problems were and see what I could about them and I would get with my supervisor and see what can be done.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

I would say 4, average confidence because I've never dealt with calling on a warehouse. So I'm just speculating what should be done. There might be a lot more things that need to be done. I've never dealt with it.

Our sales to Foodland have been growing over the last three months but are still not very significant. At present about 5% of our total sales are to Foodland. However, as a result of Jerry's work they have bought several products, including Thirstade, in large quantities for displays over the last three months. According to our records Foodland was entitled to a 10% promotional allowance on each case of Thirstade. According to Rivendell they had been deducting 20% from their invoiced price.

Says, according to this, they had been deducting 20%. Who? Food Land. They're really only allowed a 10%. And you gotta explain to those people at Food Land that they should only have deducted 10%. I would get all the records out and look through it to make sure I was right, that somebody had not misprinted or anything. I would get the contracts and get with my supervisor, because they have to know everything that's going on and I would just have to go to Food Land and show them there's been a mistake. And if they had something conflicting with that, that the previous sales rep had done you just have to work around it, because you can't lose a customer. You have to

find some way to make up that money and explain we will take care of it because it was promised but that something like that won't happen again.

Later that afternoon, as you attempted to prepare for the Foodland meeting, Jim came into your office. He said he was sorry he blew up. His excuse was that Jerry's leaving had upset him. Jim implied that Jerry may have promised more than we could deliver in several accounts. He then asked if you needed any help with the Foodland account.

He wants to know if I need help. I would say 'yes', no one person can do everything themselves. If you have a question, by all means, ask. I would definitely have questions, wondering how to get this money to these people and would ask my boss for some help.

You suggested that Jim make the call with you since he already knew the account. Unfortunately Jim could not make the call with you because of a prior commitment concerning his divorce. "What can you tell me about the buyers at Foodland?", you asked. Jim speculated that I would find June Smith, the head buyer, to be a shrewd negotiator. She had been a store manager with Kroger until she took the job at Foodland two years ago. Jim also pointed out that June is a University of Tennessee graduate and an avid Volunteer football fan.

This is a female interested in UT. I'd be all set; I graduated from UT. I would use it; you have to use whatever you can, and I would. And she is real shrewd. So, I would go and just find some interests she's had-- football. I know a little about UT. So I would bring that up, just as an icebreaker and then talk a little about that and then get into the business part of it. Try to get her in a good mood before I had to explain that we really did not have the extra 10% that they were deducting.

Jim explained that we could not cancel the meeting because Jerry had missed his last two appointments with Foodland. Jim did not know the other two buyers at Foodland. However, he stressed that he felt Foodland could become a very good account with proper attention. Furthermore, he stated that after Tom had more experience he would be assigned the account, but for now he needed me to use my experience to turn the account around.

So, I just have this account temporarily. Tom's more experienced; he's going to get the account. I would ask him. . . I would mention to him that it wouldn't be very good give them another person; that they've had 5 people in two years. I'd be the 6th person and as soon as this person is trained they're going to make that 7 and that's not going to be giving them that stability in this. I would mention that to my supervisor and hope he would listen. He had a good reason not to do that, I'm sure they would let me know.

Jim stressed that we needed to do more than resolve the deduction problem in the Foodland meeting. He wanted me to portray our company as aggressive and innovative. First, Jim suggested that you use the meeting to present a special promotion on a group of high profit, slower moving items. The manufacturer's of these products are offering promotional prices and a bonus program to your company. To achieve the bonus there is currently a sales contest on these items. Second, Jim suggested you present a new line of cereal from General Mills. Finally, Jim suggested you present the concept of installing secondary display racks for Accent Flavor Enhancer. Accent is produced by our largest principal, Pet Incorporated. It is one of the most profitable items in the grocery. Pet's rep, a close friend of the owner of our company, had recently stated that Accent's sales increase an average of 67% with the addition of a secondary display rack hanging above the meat case. Pet had supplied attractive, red plastic racks for these secondary displays.

I was trying to think of the three things that Jim wanted me to do. Since Pet's our largest account, I'm not saying this because you want to hear it, but that's something they would probably let us go ahead and put the secondary racks. That's not a big problem. I'd go ahead and do that first, kind of get them on a roll, because it would be definitely yes, they'd let us do it. The new cereal, I'd do second. Present that because I knew they were going to say yes on that. The cereal, you don't know what they're gonna say, probably yes. The third thing, the slow moving items, that would take more time. I would go ahead and do that third. Talk to them about it and use all the ammunition they had given me. In the presentation try to convince them of different ways to make it move faster.

The previous salespeople had left little documentation about the account. You were forced to proceed with the limited information available. As a last step you typed an agenda for the meeting as follows:

1. Special Promotion on High Margin Items
2. New Cereal Presentation
3. Accent Secondary Location
4 Thirstade Deduction Resolution

You intentionally placed the deduction resolution last on the list so you could build rapport and trust during the first three items.

The way they have this, the special promotion first, the cereal second, and then the Thirstade--it is good to build up the trust and everything. The first three items are unimportant compared to this money problem. There's very little documentation. That is a real big problem. So you'd have to see everything they were holding and compare it to what you had and write down what you didn't have that they had. Just check on everything. You need to build up the trust but then they're gonna get tired of listening to you after the first three things. It could go either way. That's a good order.

Please keep talking.

I would probably put something they were definitely going to say yes to at the end. And put the Thirstade more in the middle. But again, I'm trying to build as much rapport as I can with a couple of things and then get into the Thirstade. And stop on a good note.

You arrived at June's store, the site for the meeting, fifteen minutes early. As you entered you met John Farley on his way out of the store. John is an old friend that works for Paramount Brokers. John was obviously upset. He stated that June was in a bad mood. John suggested that her mood may result from her pregnancy. Whatever the reason, she did not buy anything from John. In fact, she had told John she did not want to see any other salespeople today. John recommended that you try coming back another day.

I would go ahead and go because I have the appointment. She's a professional; I'm a professional. I would go ahead and make my appointment. If she was in a bad mood I would kind of go around it. Obviously, she's pregnant. I wouldn't understand any better than Mr. Farley about her condition, but I would go ahead. Even though she's in a bad mood she'll overcome that. At least I did what I said I was going to do. I was there on time, presented everything I had and I'm sure she would respect that.

You knew that you had to make the call so you continued on into the store. The first thing you noticed in the store was the huge Thirstade display. As you walked to the meat section you wondered if Jerry had given the unauthorized discount to get the display space. In the meat section you hung one of the Accent secondary display racks over a meat counter. Your plan was to bring the buyers out to see the rack during the presentation. Experience had shown you that this approach was superior to simply talking about the display.

It's going to be hard to get them to come out and walk through the store. Once they're in a meeting and they have another appointment after me it's gonna take that much longer. I would try to get them to look at it, that's a good idea. Because the secondary locations are a lot of times better than the primary locations because you don't think about, "you know, I need Accent." when you're in the spice section. You think about it when you're picking out your meat. I would try to get them out of there. I would definately wonder if he had an unauthorized discount, given all this other information.

You reached June's office at about 10:00. June's first statement was, "Another new salesman!" She stated that she was concerned about your firm's high turnover. You introduced yourself and told June you looked forward to working with her.

I can understand her reluctance to another new salesman. The more salespeople you have the worse it gets as far as your records. Everybody has a different system. I would explain to

her that I had reviewed all the files; I knew what we needed to do. I was willing what needed to be done. Go through everything with her.

June invited you into her office. "What special promotions will Food Lion be using in their grand opening," she questioned. Food Lion was preparing to open its first two stores in your area. You had met with a Food Lion store manager and did have some inside information about Food Lion's opening promotional strategies. However, the information might be considered confidential. Before you responded June stated, "You can dig up the information and report back to me, I believe the other buyers are waiting in the conference room."

How would you handle this request?

That account is none of her business. I would not let her know what they were doing.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

Highly confident. A seven.

When you entered the conference room the other two buyers, Ted and Steve, were waiting. You were glad to see Ted. He had recently left a job at a store you had served for several years. You had always had a good relationship with Ted. As a part of the introductions you found out that Steve had been with Foodland for ten years and was Jerry Donovan's brother-in-law. You had no idea Jerry was related to a Foodland buyer. Steve stated that Jerry was a great guy and that Foodland really appreciated his efforts. June then requested that you proceed with your presentation.

I would proceed to the presentation -- that had to do with their store and nothing else.

You started the meeting by passing out the agenda. When you mentioned the promotion on high margin, slow moving items, June pointed out what they really needed were fast moving, well advertised items for a truckload sale planned to counter the Food Lion opening. June then gave you a list of items Foodland planned to use in the truckload sale, none of which were on your list of special promotions.

I don't understand on this question why I'm not giving them any special promotions.

You've carried in a list of items that were on promotion.

I see. Well, since they're not deal there's not a whole lot I can do about that. I'd just have to explain to her that when they came on deal we would have something for them but the particular items we had at this point would move if they were properly advertised and had a good price on them.

We continued through the agenda. Item two concerned the new cereal from General Mills. Ted stated that the cereal section was full and that they would have to drop a product to add a new cereal. Steve stated that Foodland did not need a new cereal. You considered pressing the issue. You had worked up some profitability estimates that favored the new cereal, but it would be about two weeks until you had complete details on General Mills promotional plans for the new product.

A new cereal, and they need to drop some. I would explain that it would be two weeks before I had complete details but they would highly promote it since it was a new item. There are bound to be some items that are just wasting their shelf space, that they could rid of to put my new cereal in.

You decided not to press the issue of the new cereal until you have more details. You simply stated that part of your job was to make Foodland aware of all new products. You continued to point three, the Accent secondary display rack. You mentioned the rack you had hung in the meat section. June countered that her pregnancy had made her more concerned about health issues. "Isn't Accent essentially MSG?", she questioned. You had heard this concern voiced before because Accent is essentially MSG (Mono-Sodium Glutamate). You had one of Pet's fact sheets defending the safety of MSG in your briefcase.

I would get the fact sheet out because everyone is so health conscious these days. I would show them the fact sheet and read from it and point things out that it would not be harmful to their health. You know, anything used in excess is gonna be harmful and that's basically what they've been doing these days. I would definitely get the fact sheet out and show her that it's not gonna hurt her.

Working from Pet's factsheet you attempted to present Accent as a safe product. You continued by showing Pet's figures that depict Accent as one of the most profitable items in the grocery. As the discussion continued you gathered that June was also irritated that you put the rack in the store without first getting her approval. You were then ready to discuss point four. By this point you were a little nervous as you had not been very successful on any of the first three points.

I would just have to go ahead. I would still be very confident. Just try not to get disappointed by the rejection and go to the third point. Or the fourth point. And that's probably what they are really worried about anyway. They're concerned with their money. I would go ahead.

You moved to point four by simply presenting the facts, concerning Rivendell's promotional discount policy. You pointed out that Foodland had been deducting twice the allowable discount for three months. At this point Steve became furious. He stated that you were a liar and that he did not blame Jerry for leaving your firm. Just as Steve began speaking a secretary entered the room and gave a message to June. June interrupted before you could speak and stated that you had an emergency telephone call. She suggested that you take the call in her office while we all cool down a little.

I'll go ahead and take the call, but I doubt if anything would be that important.

The telephone call was from Tom. He was having a problem and considering leaving the account to find Jim. You explained that Jim was away from the office handling personal matters and that you were in the middle of a meeting. This prompted Tom to explain his problem. While resetting the cleaners he had noticed that the person resetting the dog food section had left the store without finishing that section. Tom had gone over and finished the section giving our product, Alpo, a few more facings than specified in the plan-o-gram. Unfortunately, the other salesperson had returned, he had only left for supplies, and was rather upset. In fact, he had complained to the manager in charge of the reset. Tom said things were in bad shape and he needed help. You told him to give you a second to consider the alternatives. This was not shaping up to be a good day. You had just been called a liar by a buyer at an important account. You had to go back into the meeting very soon. You also had a co-worker in trouble at one of your accounts.

What should you do now?

I would tell Tom not to worry about it. It's my store. I'd just go back and take care of it later. Because, they know me and they know I'll take care of it as far as the resetting. I would tell him to calm down and do his best, try not to get into any more trouble and leave. As far as the place I was at now (Foodland), it's the number one priority and it's in a little bit of a mess. I would go back into the meeting and again I would apologize for the call, because it just shouldn't happen. I would again go over everything again. Explain to Steve that that was Rivendell's policy and we would take care of it for now and please don't deduct anymore. We'll stick with what's in writing right now. Any deals made beforehand would be honored but they were null and void as of now. As far as their being upset, I would stay calm.

How confident are you in the way you reached your decision?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

I would say moderately high confidence, 6.

How confident are you in your final solution to this situation?

1 = not at all confident
2 = moderately low confidence
3 = slightly below average confidence
4 = average confidence
5 = slightly above average confidence
6 = moderately high confidence
7 = highly confident

I would be again moderately high confidence, 6.

VITA

Charles David Shepherd was born in Dalton, Georgia on February 14, 1953. In June of 1976, he graduated from David Lipscomb College in Nashville, Tennessee with a Bacholar of Science degree in Business Administration. Upon graduation he entered the field of computer sales with the Burroughs Corporation and rapidly rose into sales management.

While with Burroughs, Mr. Shepherd entered graduate school at the University of Tennessee at Chattanooga on a part time basis. In the spring of 1982 he completed the Masters of Business Administration degree with a concentation in marketing.

During his MBA studies Mr. Shepherd developed a strong desire to pursue an academic career. In January of 1985 he left Burroughs and began doctoral studies at the University of Tennessee in Knoxville. He received his Ph. D. in business administration with a concentration in marketing in 1989.

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