

VALIDATING THE VROGM-YETTON NORMATIVE MODEL OF LEADER BEHAVIOR IN
FIELD SALES FORCE MANAGEMENT, AND MEASURING THE TRAINING
EFFECT OF TELOS ON THE LEADER BEHAVIOR OF
DISTRICT MANAGERS

by

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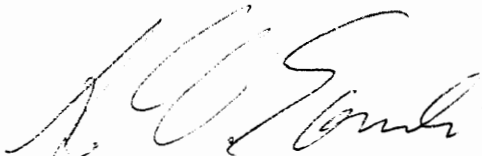
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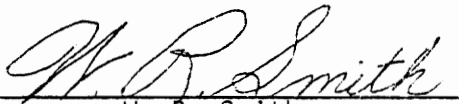
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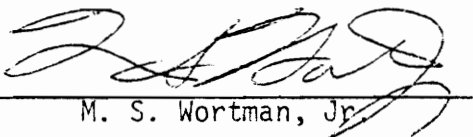
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CHAPTER I

INTRODUCTION

According to a survey of four hundred and eight-five corporate executives, sales force management and personal selling was considered the most important competitive activity for all major types of competitors [92]. In addition, American firms employed 2.5 million field salespeople in 1976, with sales force selling expenses as a percentage of company sales averaging approximately 4.9 percent and 3.1 percent for consumer and industrial goods, respectively [38, 66]. Compared to other parts of the promotion strategy, expenditures on the personal selling function are significantly larger for most firms. Within this framework, the role of the district manager has continued to grow increasingly more important, for it is he¹ who is responsible for planning, organizing, leading, and controlling the activities of a field sales force.²

¹Throughout this study, he is used as a collective term to refer to both male and female sales personnel.

²The field sales force is defined as a group of salespeople who spend most of their time selling either industrial or consumer goods at the customer's place of business, and who report directly to a district manager.

Dodge describes an industrial salesperson as one who sells industrial goods and services which are destined to produce to become parts of other goods and services, or to facilitate the operations of business, public and non-profit enterprises. Fisher

The introductory chapter attempts to: (1) identify and to describe the district manager and his role in the sales organization; (2) highlight the importance of effective leadership by district managers; (3) show clearly the need for leadership training at this level; (4) define the problem; and (5) propose the three major objectives of this study.

The District Manager

In this study, a district manager is defined as the lowest level line manager with authority over and job accountability for field salespeople in clearly defined areas.¹ The district manager

describes a consumer goods sales representative, or more commonly called salesperson as one who sells consumer goods and services to buyers who purchase them for the personal satisfaction of themselves or their families [37]. With consumer goods, no further commercial processing of their physical form is necessary. There is no clearly delineated demarcation between the consumer market and the industrial market. See, Dodge, pp. 221-228 and Fisher, pp. 189-194.

For the purposes of this study, the sales force includes both: (1) industrial salespeople whose customers include manufacturers, resellers, and institutional buyers, and (2) consumer goods salespeople whose customers include resellers (wholesalers and retailers) and ultimate consumers. Excluded from this definition are inside industrial salespeople, technical counsels or specialists, and inside retail sales personnel.

¹There is no one job title used universally to identify this position in the sales organization. MacDonald and Bailey's study of 221 companies concerning the title of their field sales supervisors showed district manager being the most popular designation with thirty-one percent. Other commonly used titles were regional sales manager, sales manager, branch manager, field sales manager, area manager, first level supervisor, first-line supervisor, divisional manager, unit manager, or zone manager. See MacDonald and Bailey, pp. 1-38.

Dodge defines district manager as line officials charged with job accountability for the field sales organization in defined areas. See Dodge, pp. 14-18. Dunn et al. defines district manager as the

occupies a critical position in the sales organization because he implements all marketing strategies formulated by upper management and he exercises leadership over the sales personnel who are primarily responsible for generating the firm's revenue [83].

With respect to other managerial positions, the position of district manager is most comparable to that of a production foreman. According to Spencer:

Each is a "man in the middle" between doers and managers. Effectiveness depends in large measure upon their ability to interact effectively with supervisors and subordinates as well as with peers. The uniqueness of this management position is, of course, that the first-level line manager is the only manager with non-managers as his immediate subordinates. He must, therefore, be thoroughly familiar with the job content of his subordinates' positions as well as being a good supervisor. [83]

Despite the numerous similarities of the two positions, there are pronounced differences between the demands of the district

first line (or initial level) of supervision that links his company to its outside market environment. See Dunn et al., pp. 8-11.

Most marketers realize little difference exists between a district manager for an industrial-goods manufacturer and one for a consumer-goods manufacturer with respect to functions performed and his role in the field sales force organization. Dodge contends the most discernible differences are found in the development and stimulation of sales personnel. In most companies, industrial salespeople must be trained extensively, especially in the product knowledge area. In terms of motivation, the industrial district manager must depend more heavily on nonfinancial incentives for motivational stimulus than his consumer counterpart because financial incentives are usually severely limited for him. See, Dodge, pp. 221-228.

manager's job and those of all other managerial positions. The district manager occupies a truly unique position in a company because of:

1. The unique nature of his subordinate's role,
2. The multifarious problem-solving activities demanded of the person occupying this position, and
3. The dynamic environment in which he works.

Uniqueness of a District Manager's Subordinates-- The Field Salespeople

In the current marketing literature, more attention is being paid to the unique characteristics of a field salesperson's job giving the individual occupying this position an important and unique role in the organization.¹ Four important characteristics differentiate the

¹See, for example: James H. Donnelly and John M. Ivancevich, "Role Clarity and the Salesman," Journal of Marketing 39 (January 1975):32-39; Gilbert Churchill, Jr., Neil Ford and Orville Walker Jr., "Measuring the Job Satisfaction of Industrial Salesmen," Journal of Marketing Research 11 (August 1974):254-60; H. O. Pruden and Richard M. Reese, "Interorganization Role-Set Relations and the Performance and Satisfaction of Industrial Salesmen," Administrative Science Quarterly XVII (December 1972):601-609; Orville Walker Jr., Gilbert Churchill Jr., and Neil M. Ford, "Organizational Determinants of the Industrial Salesman's Role Conflict and Ambiguity," Journal of Marketing 39 (January 1973):32-39; James A. Belasco, "The Salesman's Role Revisited," Journal of Marketing 30 (April 1966):339-350; H. O. Pruden, "Interorganizational Conflict, Linkage and Exchange: A Study of Industrial Salesmen," Academy of Management Journal 12 (September 1969):339-350; Orville C. Walker Jr., Gilbert A. Churchill Jr., and Neil M. Ford, "Reactions to Role Conflicts: The Case of the Industrial Salesman," Journal of Business Administration 3 (Spring 1972):25-36; Neil M. Ford, Orville C. Walker, Jr., and Gilbert A. Churchill Jr., "Expectation-Specific Measures of the Role Conflict and Ambiguity Experienced by Industrial Salesmen," Journal of Business Research 3 (April 1975):95-112; Neil Ford, Orville Walker Jr., and Gilbert Churchill, Jr., "The Psychological Consequences of Role Conflict and Ambiguity in the Industrial Salesforce," Proceedings of the 1976 American Marketing Association 3 (1976):403-408.

field salesperson's role from other organizational members. The salesperson:

1. Occupies a boundary role at the interface between the firm and its environment
2. Plays a critical role in determining the success of a firm's revenue-generating efforts
3. Is employed in a semi-innovative occupation often requiring the performance of innovative and creative problem-solving activities and
4. Has insufficient information from his own company and his customers helping to create role ambiguity [22, 15].

Boundary and Revenue-Generating Roles

By occupying a boundary role, a field salesperson is the focal point where interorganizational coordination or linkage must occur. He has been assigned the task of minimizing conflict and of harmonizing the relationship between his company and his customer in order to cultivate and to increase overall economic exchange between the two organizations [75]. To achieve this, a salesperson must possess the ability to cope with role expectations and demands from people both outside his organization such as customers, competitors, and family and from people inside his organization such as peers, supervisors and other employees [15].

As a field salesperson, his most basic function is to sell his firm's products, for the product is the medium through which an organization attains its objectives. The success of the entire company

and its members usually hinges on the revenue-generating performance of its salespeople. Therefore, its other members have a vested interest in trying to influence and to control a salesperson's behavior [15].

The Problem-Solving Role

According to Wotruba [9], a salesperson is the "ultimate means of tailoring the firm's offering to the unique needs of each market segment" [p. 342]. In today's market environment, the successful salesperson is a problem-solver who assists his customers in determining their specific needs and problems and in identifying alternative feasible solutions. As such, he is often required to perform innovative and creative activities to help resolve these problems. It is the responsibility of the district manager to support him in these problem-solving activities, and to insure that each salesperson is following the policies and ethical guidelines used by both firms.

Role Conflict and Role Ambiguity for the Salesperson

Recent research by Walker, Churchill, and Ford explored organizational factors causing high levels of role conflict and role ambiguity for field salespeople.¹ The role attached to the social position of salesperson represents the set of desired behaviors or activities

¹Based on the definitions used earlier, their findings are assumed applicable to both industrial and consumer goods salespeople.

that are to be performed, at least approximately, by any person occupying that position [40]. Through the communication of expectations, demands, and pressures for conformity to these demands by his set of role partners, a salesperson's role is largely defined for him. His role set consists of people from both within and outside of his company who have a vested interest in his job performance. It includes his district manager, other management members in his company, his peers, his customers and other members of his customers' organizations, and members of his family [103]. Consequently, the way in which a salesperson perceives various demands, expectations, and pressures placed on him by his role partners profoundly influences how he defines his role in the firm, and ultimately his overall selling performance [40].

In this context, perceived role conflict arises when a salesperson believes the demands of two or more of his role partners are incompatible and he cannot satisfy them all simultaneously [40].¹ Perceived role ambiguity occurs when a salesperson feels he has insufficient information to perform his job adequately. Consequently, he experiences uncertainty about "what some or all of his role partners

¹As mentioned by these authors, the definition of role conflict used throughout their research is limited to "inter-sender" conflict. There are other forms of role conflict which may affect some salespeople, but these have been excluded since "inter-sender" conflict is "likely to be the most pervasive and intensely felt conflict experienced by industrial salesmen." See, Ford, Walker, Churchill, pp. 33-34.

expect of him in different situations, how he should go about satisfying these expectations, or how his performance will be evaluated and rewarded" [40:403].

To date, the results of Walker, Churchill, and Ford's research show that due to the inherent characteristics of the field salesperson's role within a company, the individual occupying this position is particularly vulnerable to role conflict and role ambiguity. Both affect his level of job satisfaction.

Thus, research has determined rather emphatically the "uniqueness" of the field salesperson's role attached to his sales position. As supervisor of these "unique" subordinates, the district manager's role is truly different from all other managerial roles.

Multifarious Problem-Solving Activities of a District Manager

Perhaps the simplest way of presenting the multiplicity of problems and problem-solving activities inherent in the position of district manager is an illustrative diagram. Figure 1 presents an input-output model showing the district manager as a problem-solver. This diagram is not meant by any means to provide an exhaustive and totally encompassing list of problems, areas of knowledge, and activities of a district manager.¹ Instead, an attempt has been made to

¹There are a number of other similar classifications. For example, a popular one is: (1) marketing, (2) selling, (3) financial, (4) personnel, and (5) administrative. See, Evans, pp. 14-21.

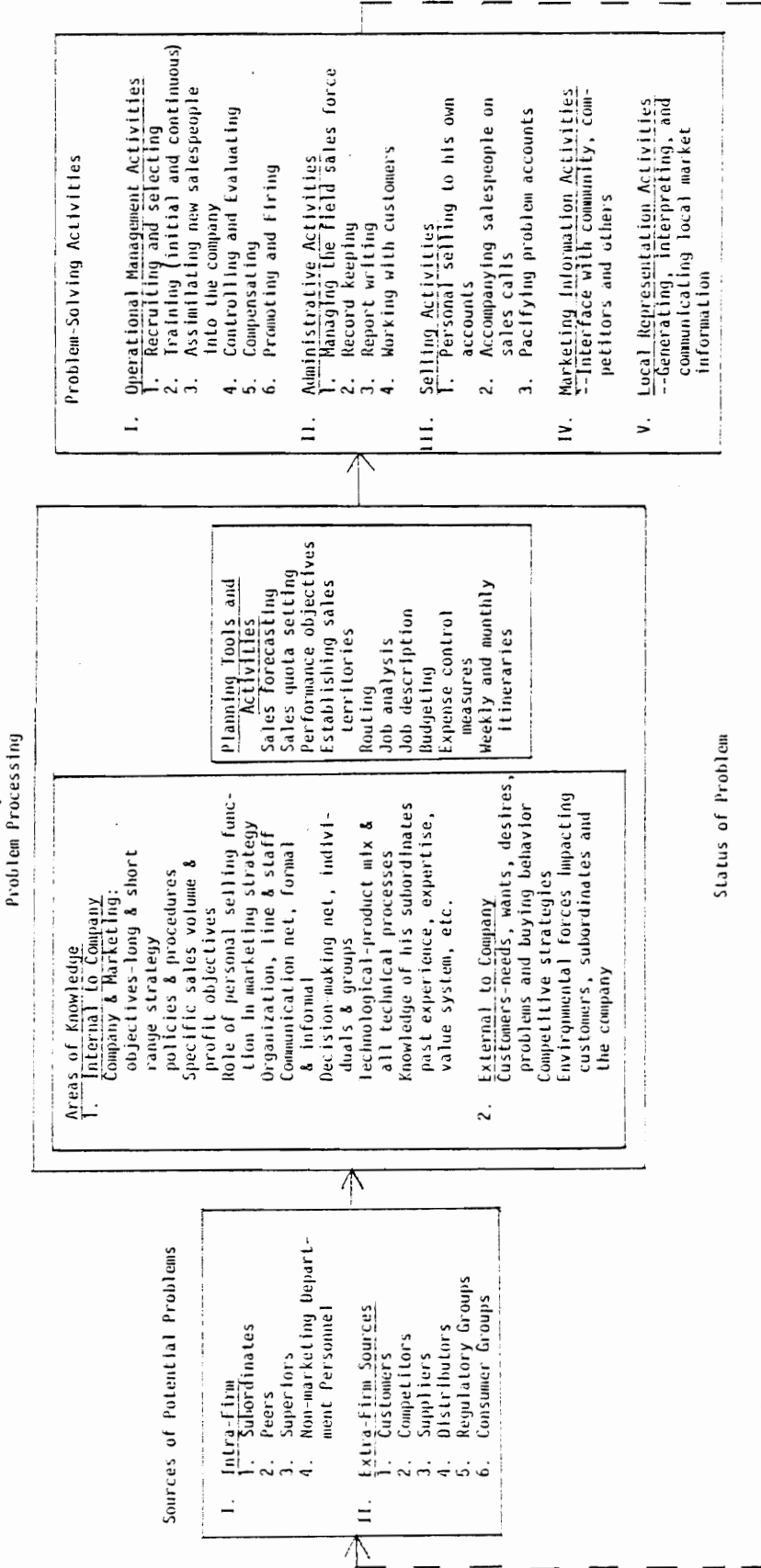


Fig. 1. The field sales force management system. (Adapted from Figure 4-1 in George D. Downing, Sales Management, New York: John Wiley and Sons, Inc., p. 49).

identify critical elements of the job, with primary emphasis on the district manager's interactions with his set of role partners.

Sources of Potential Problems for a District Manager

Figure 1 shows the sources of potential problems as inputs into the field sales force management system. In the milieu of the district manager, he is confronted with a wide variety of problem-solving situations which emanate from the sources displayed in Figure 2 [26]. However, each situation is a unique managerial leadership problem. Moreover, no two problems are exactly the same, yet all require a decision. These sources have been dichotomized into intra-firm and extra-firm.

Required Areas of Knowledge and Planning Activities for a District Manager

To be effective, a district manager must acquire knowledge in several functional areas which can be used by him as a framework or analytic tool for rational problem solving [26]. With this knowledge, he can develop planning tools and activities to help minimize the impact or to eliminate at least temporarily these problem situations. Figure 1 shows areas of knowledge, and planning tools and activities as being the two components of problem processing. In other words, when a district manager confronts various problem-solving situations, he uses these two components to develop and to implement effective problem-solving activities.

I. Intra-Firm Sources

1. Subordinates

- a. failure to attain sales targets
- b. low job satisfaction
- c. inability to cover assigned territory
- d. poor rapport with accounts
- e. excessive expenses
- f. ineffective selling skills
- g. inefficient selling practices
- h. low morale
- i. turnover

2. Peers

- a. unwilling to cooperate
- b. lack of coordination between district managers
- c. lack of goal congruence
- d. territorial encroachment

3. Superiors

- a. unrealistic demands
- b. inadequate advanced notice on critical matters
- c. inaccessibility
- d. poor decision-making

4. Non-marketing Department Personnel

- a. poor planning and coordination
- b. condescending attitude
- c. production-oriented philosophy

II. Extra-Firm Sources

1. Customers

- a. unrealistic and uncompromising demands on salespeople
- b. irrational and whimsical buying behavior
- c. frequent return of merchandise

2. Competitors

- a. constant changes in marketing strategy
- b. hiring away your better salespeople

3. Suppliers

- a. unavailability of promotion materials

4. Distributors

5. Regulatory Groups

6. Consumer Groups

Fig. 2. Sources and types of typical problems confronting a district manager. (Adapted from Figure 4-1 in George D. Downing, Sales Management, New York: John Wiley and Sons, Inc., 1969, p. 49).

Problem-Solving Activities of a District Manager

In Figure 1, problem-solving activities have been categorized into five major types: operational management, administrative, selling, marketing information and local representation. All major problem-solving activities performed by a district manager can be subsumed under one of these categories. As Figure 1 illustrates, they are the outputs of problem processing, i.e., the actual measures or activities performed by him to solve a current problem and to insure against its reoccurrence.

The dotted line flowing out of problem-solving activities and into sources of potential problems is simply a feedback mechanism. After a problem-solving activity has been implemented, a district manager receives information from intra-firm and extra-firm sources concerning the results of his decision. This appears in the diagram as an input.

As a problem-solver, the district manager is involved in a wide variety of problem-solving activities requiring different areas of knowledge, skills, activities, and overall expertise. Because of the diverse and unusual demands placed on this individual by his set of role partners, he is a unique manager in any company.

Dynamic Environment of Field Sales Force Management

A district manager has line authority and typically he spends most of his time in the field performing both interorganizational and

intraorganizational linking functions as illustrated in Figure 3. With respect to the former, he is accountable for overseeing the selling operations of his salespeople who link clients and prospects in the market environment to their firm. Consequently, the district manager oftentimes contacts these customers either individually or by joint call. Intraorganizational linkage occurs between the firm and its sales force through its district managers, each of whom occupies a pivotal managerial-linking position in the company.

In his intermediating role, a district manager does not perform the majority of his problem-solving or linking activities inside an office, but outside while he is covering his assigned sales region. His work environment is usually a number of sales territories composed of present and potential customers who are assigned to members of his sales force in clearly delineated geographical areas [84]. Because he and his salespeople work mainly in the field, they feel the full impact of the uncontrollable variables of weather, traffic, natural barriers such as mountain ranges, rivers, and many others. All of these affect their selling performance upon which the district manager is evaluated, thereby further complicating his role in the company. In short, a district manager is asked to supervise subordinates who operate in a dynamic, uncertain environment while other managers supervise usually within the confines of an office building or plant which are both more closed and structured work environments.

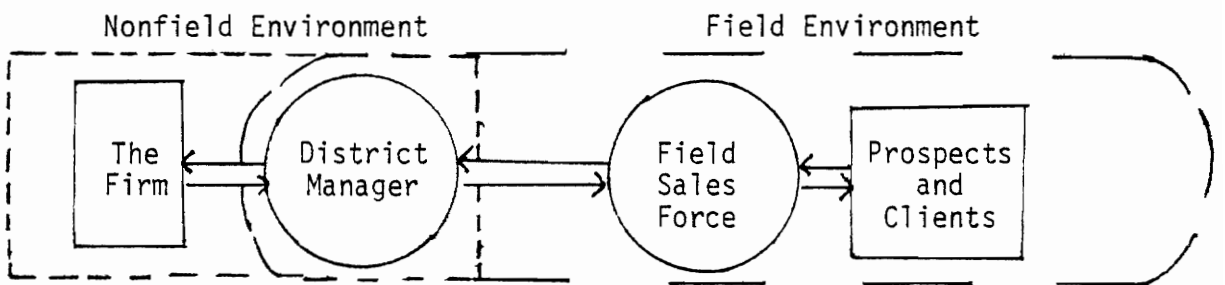


Fig. 3. Intraorganizational and interorganizational linking functions of a district manager.

In addition to the boundary role of his subordinates, his multifarious problem-solving activities, and dynamic work environment, additional characteristics distinguishing a district manager's job from others are:

1. The uncertainty of remunerative and psychic payoff from individual effort expended,
2. The distance from his central headquarters, and
3. The relative infrequency of interaction with both his peers and superiors [83].

To appreciate fully the uniqueness of the district manager's role in comparison to those of other managers, consider this description of his job:

The sales manager spends much of his time in the field (some studies indicate as much of 60% of his working time); he must be away from home overnight frequently; he regularly works on an expense account; only infrequently can he see his subordinate salesmen face-to-face, yet he is responsible for their performance; he regularly entertains customers; he regularly works evenings and weekends; customers hold him responsible for delivery failures and other problems over which he has no direct control; generally he can not dictate the kind of product his men sell or at what price and on what delivery schedules and terms of sale; he is the first-line of supervision that links his company to its outside environment, competition, economic and social conditions; he and his men represent his company to customers, competitors, and the general public; he is responsible for coordinating his men's personal selling efforts with advertising, publicity, sales promotion, and other efforts his company may undertake to promote sales; he must coordinate his men's activities with other functional specialties in the company such as warehousing, personnel, delivery, credit, and other department and functions concerned with selling; in addition, he must coordinate all he and his men do toward the common company goals. [23:11].

In summary, research suggests rather strongly that the district manager occupies a truly unique and critical managerial position. Throughout the entire field sales force management system, he performs the managerial functions of planning, organizing, leading and controlling. The next section of this study examines the importance of effective leadership at the district manager level.

Leadership Role of a District Manager

According to Rensis Likert:

. . . research demonstrates clearly that the productive capability of an organization is affected as much as 20 to 40 percent by the style of managerial leadership provided throughout the organization. [60:4].

Although his research on leadership deals with managers throughout the entire organization, it seems logical to assume that the productive capacity of a field sales force is affected significantly by the leadership behavior of its district managers.

Dodge emphasizes that:

Promotion of a salesman to field sales management has had all too often an adverse impact on the sales organization. What happens is the company loses a good salesman and gains in exchange a poor manager. The adversity of the resulting situation is obscure and hence overlooked principally because even the poorest of field sales managers can fall back on his selling powers and maintain sales levels. [20:33].

A large number of authors have written in the sales management area but there exists a paucity of empirical investigations dealing with the role of district managers in sales organizations. However, the results of two major research efforts in this area appear to be germane to the present study.

In the first study, which was carried out within the sales organization of a packaged foods manufacturer in Northeastern United States, Spencer sought

. . . to compare perception of qualifications for the district manager's job at four different organizational levels: the salesman himself, the district manager, the district manager's superior (the divisional manager) and home office sales management. [83:98].

Figure 4 [83] classifies the qualifications for the position of district manager used in both personal interview and a mailed questionnaire.¹ A total of 53 qualifications are listed. The researcher conducted a total of fourteen one-hour interviews and the field sales personnel returned 212 usable questionnaires out of a total of 300 mailed out, representing approximately 70 percent (70%) of the regular and testing mailing.

According to Spencer

In order to provide a quantitative basis for comparison of perception from different levels, a ranking scale was used in which four points were allotted for a qualification ranked first in importance, three points for a qualification ranked second, two points for a third and one for fourth. A total (weighted) raw score for each qualification thus become available. Ranked or normalized scores were developed next by dividing the total raw score by the number of respondents in the particular group being analyzed. [83:100].

¹ Spencer identified the district manager as "the first managerial level with authority over and responsibility for field sales personnel. He is the first level, field sales manager." His definition and job description match perfectly with the definition used in this study. See, Spencer, pp. 98-99.

Sales performance	Political instinct
Education	Ability to get along with people
Length of service	Ability to get along with customer
Background	Leadership
Physical activity	Progressiveness
Adaptability	Trust
Persistence	Maturity
Integrity	Coordination
Dependability	Resourcefulness
Good judgment	Attention to detail
Self-confidence	Commitment
Ability to move up	Training
Imagination	Well-adjusted home life
Initiative	Sales aptitude
Far-sighted	Fortunate circumstances
Intellectual ability	Good superior
Inquisitiveness	Attitude
Self-motivation	Following company policy
Effort	Followership
Drive	Ability to see the whole picture
Desire	Ability to accept criticism
Aggressiveness	Independence
Enthusiasm	Prestige
Communication ability	Outspoken or candid with superiors
Knowledge	Critical self-evaluation
Experience	Organization and managerial ability
Favorable personality	

Fig. 4. Classification of qualifications for the position of district manager. (Source: From Table 1 in Hollister Spencer, "Salesmen and Sales Managers Look at the District Managers," California Management Review, 15, Fall 1972, p. 99).

Table 1 [83] shows the rankings of the sales force's top five qualifications in relation to the rankings given these qualifications by the other three levels for this position. Leadership was ranked first by both field salespeople and district managers while division managers and home office sales management rated leadership seventh and sixth respectively. Further evidence of its importance is presented in Table 2 [83] which is the composite ranked score of all qualifications as perceived and ranked by all three field sales levels investigated. Both sales force personnel and district managers perceived leadership as the most important qualification for an individual occupying this position. By using personal interviews to supplement the data obtained from his mailed questionnaire, additional findings showed that:

. . . Salesmen perceive leadership as particularly critical in the solution of problems that confront them, and as highly important to motivation, success on the job, and personal development. The salesman is quick to recognize competent leadership--and equally quick to perceive a vacuum if one exists. [83:100].

This study pointed strongly to the importance of leadership as the most important qualification for success at the district manager level.

Research by Belasco [6], Pruden [74], Walker, Churchill and Ford [102], and Donnelly and Ivancevich [22] has shown that several characteristics of the field salesperson's job make him unusually vulnerable to both role conflict and role ambiguity. To assist in determining his degree of vulnerability, Ford, Walker and Churchill [15, 39] reported the development of two new instruments designed for

TABLE 1
 SUPERIOR MANAGERS' RANKING OF THE SALES FORCE'S TOP FIVE
 RANKED QUALIFICATIONS

Qualification	Sales Force	District Manager	Division Manager	Home Office Sales Mtg.
Leadership	1	1	7	6T
Knowledge	2	4	12T	-
Organization and managerial ability	3	2	8T	2
Sales performance	4	3	1T	1
Ability to get along with people	5	5	17T	-

Adapted from Table 2 in Hollister Spencer, "Salesmen and Sales Managers Look at the District Managers," California Management Review 15 (Fall 1972):100.

NOTE: T = tie

- = not ranked

TABLE 2

RANKINGS OF QUALIFICATIONS WHICH WERE PERCEIVED AT ALL THREE FIELD SALES LEVELS

(All Qualifications Which Were Ranked)

Sales Force (n = 133 - Questionnaire)		District Manager (n = 61 - Questionnaire)		Divisional Manager (n = 16 - Questionnaire)		
Rank	Qualification	Ranked Score	Qualification	Ranked Score	Qualification	Ranked Score
1.	Leadership	1.57	Leadership	1.20	Sales Performance	.94T
2.	Knowledge	.89	Organizational & managerial ability	.89	Integrity	.94T
3.	Organization & managerial ability	.86	Sales Promotion	.82	Effort	.94T
4.	Sales Performance	.83	Knowledge	.62	Intellectual ability	.88
5.	Ability to get along with people	.47	Ability to get along with people	.61	Initiative	.75T
6.	Experience	.37	Desire	.54T	Enthusiasm	.75T
7.	Favorable Personality	.36	Enthusiasm	.54T	Leadership	.50

Adapted from Table 5 in Hollister Spencer, "Salesmen and Sales Managers Look at the District Managers," California Management Review 15 (Fall 1972):101.

NOTE: T = tie. Ranked score is a raw score of the first four ranked qualifications on a 4, 3, 2, 1 point basis. For instance, the first figure above, 1.57 for Leadership, is calculated by dividing Leadership's raw score total of 208 by 133, the number of respondents in the group.

measuring perceived role conflict and role ambiguity experienced by field salespeople. These two "salesman--specific instruments" plus the INDSALES scale can be used to:

. . . discover the number and magnitude of conflicts perceived by a salesman among the expectations held by his role partners. It also measures the amount of ambiguity felt by the salesman concerning the expectations of each role partner. [103:36].

Having determined the inevitability of role conflict and role ambiguity because of inherent characteristics of a salesperson's job, research was done to determine if other factors exist which sales managers could control or influence to reduce their impact. Walker, Churchill and Ford found that sales managers can do relatively little to reduce subordinates' role conflict because of their boundary positions. However, their findings on role ambiguity suggest that sales managers can decrease:

. . . the amount of ambiguity or uncertainty experienced by salesmen in performing their jobs. Supervisory policies are particularly important in this regard. Salesmen experience less ambiguity when they are relatively closely supervised and when management listens to their opinions and desires in formulating the standards by which their performance will be evaluated and controlled. [103:38-39]

In their more recent research, they attempted to show that the level of role conflict and role ambiguity experienced by a salesperson has a major influence on his mental health and job satisfaction [40]. They suggested that:

. . . a salesman's level of job satisfaction has an impact on his subsequent behavior on the job . . . perceived conflict and ambiguity have a negative impact on satisfaction [40:407].

Having determined the existence of a positive relationship between job satisfaction and a salesperson's behavior on the job, they attempted to identify the sources of job satisfaction for salespeople. Table 3 [40] presents additional results from their study showing approximately one-third of the variation in satisfaction with supervision was explained by the components of two predictor variables--role conflict and role ambiguity. They concluded that:

. . . the supervisory style adopted by management and the nature of sales training programs can influence the amount of uncertainty experienced by the salesman, and ultimately on his feelings of anxiety and satisfaction. [40:408].

In other words, the leadership behavior of a district manager and his superiors has a major impact on a salesperson's level of job satisfaction.

More recent research by Churchill, Ford and Walker [16] examined three major components of "supervisory style": (1) the closeness of supervision, i.e., the amount of supervision given a salesperson in structuring, monitoring and directing his job activities, (2) the amount of influence or input a salesperson has in determining the standards used in controlling and evaluating his job performance, and (3) the frequency of communication between a district manager and his salespeople via face-to-face meetings, telephone communications, or written letters and memoranda. The results shows closeness of supervision to be correlated positively with a salesperson's satisfaction with the job itself and supervision. They also found that:

TABLE 3

MULTIPLE REGRESSION ANALYSES WITH THE COMPONENTS OF ROLE CONFLICT AND AMBIGUITY AS PREDICTORS AND THE COMPONENTS OF JOB SATISFACTION AS CRITERION VARIABLES

Criterion	Predictors		R ²	F Statistic	Significance Level
	Components of Role Conflict	Components of Role Ambiguity			
JS-1 (Job Itself)	No	Yes	.113	8.276 (4,260)	.01
JS-2 (Fellow Workers)	No	Yes	.089	6.378 (4,260)	.01
JS-3 (Supervision)	Yes	Yes	.313	12.881 (9,255)	.01
JS-4 (Company Policies and Support)	Yes	Yes	.347	15.098 (9,255)	.01
JS-5 (Pay)	No	Yes	.105	7.646 (4,260)	.01
JS-6 (Promotion and Advancement)	Yes	Yes	.234	8.679 (9,255)	.01
JS-7 (Customers)	Yes	Yes	.198	7.005 (9,255)	.01

SOURCE: Neil Ford, Orville Walker Jr., and Gilbert Churchill Jr., "The Psychological Consequences of Role Conflict and Ambiguity in the Industrial Sales Force," *Proceedings of the 1976 American Marketing Association* 39 (1976):407.

. . . the salesman's perception that he has influence in determining the standards by which his performance is supervised and evaluated has the most pervasive impact on the components of satisfaction of all [EIGHT] climate variables examined. [16:329].

The findings suggest several specific managerial implications:

1. Salesmen tend to be more satisfied with their jobs when they perceive that their immediate supervisor [district manager] closely directs and monitors their activities.
2. Job satisfaction, however, does not seem to require frequent contact between sales managers and salesmen. Perhaps it is the substance of the contact rather than its frequency that is important to the salesman's morale.
4. When the salesman perceives that he is an active participant in determining the company policies and standards that affect him, he tends to be happier with those policies and standards as well as with other members of his firm who administer and implement them. [16:331].

From these findings, they concluded that the overall satisfaction of salespeople increases when they are given greater support and direction by district managers using a more sympathetic and supportive leadership style.

The research findings put forth by Churchill, Walker and Ford over the last five years are summarized in Figure 5. Figure 5 attempts to show that both the nature of a salesperson's job and the leadership style used by his district manager affect the degree of role conflict and role ambiguity perceived by a salesperson which in turn influences his level of job satisfaction. The last part shows the relationship between a salesperson's job satisfaction and behavior.

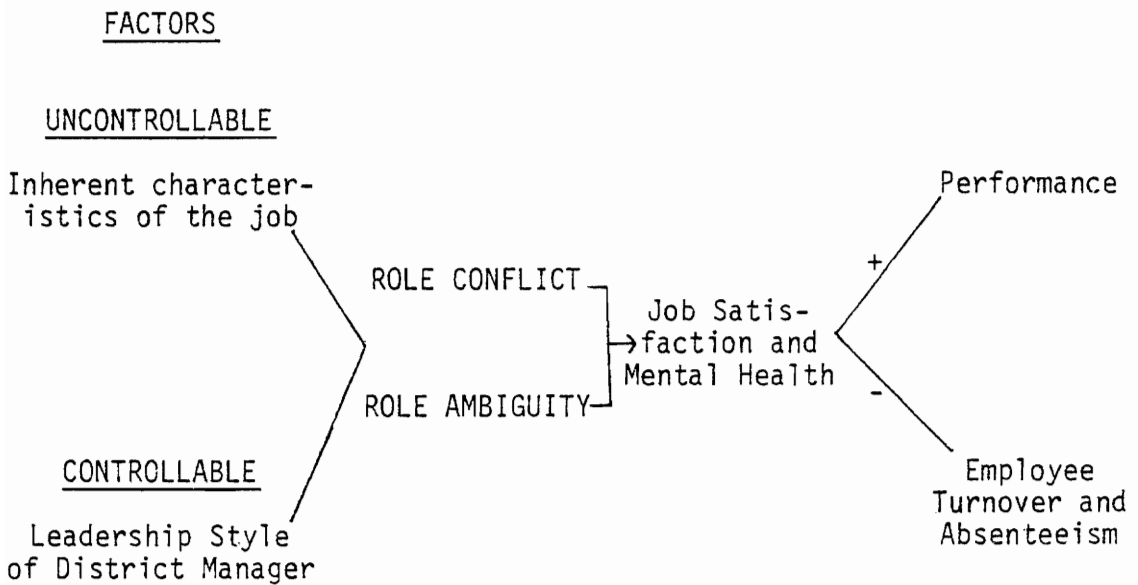


Fig. 5. Diagrammatic summary of research by Churchill, Walker and Ford.

Most empirical evidence from studies in various occupational settings, including field selling, has shown a positive relationship between employee satisfaction and job performance and a consistently negative relationship between job satisfaction and absenteeism and employee turnover [47, 71, 75, 78, 81].

Through their research efforts, Churchill, Walker and Ford have provided empirical evidence showing leadership behavior of district managers to be a major force in influencing the job satisfaction and performance of field salespeople. Other authors such as Meyer [67], Amato [3], Stilwell [85], Caswell [13], Kelly and Lazer [53] and articles authored by the editorial staff of Sales Management [106, 107, 109] have stressed that the caliber of leadership at the district manager level plays a major role in determining the effectiveness and success of a field sales force.

In summary, research has shown leadership to be an important qualification for this position and it has demonstrated that the leadership behavior of a district manager can influence a salesperson's job satisfaction and overall selling performance. With this kind of evidence, one would expect to find highly sophisticated leadership training programs being used almost universally to develop competent district managers. However, such is not the case. The next section of this chapter investigates the current state of the art of leadership training in field sales force management.

Leadership Training of District Managers

As discussed earlier in the chapter, a district manager is the most direct and continuous link between a firm and its sales force. It is his responsibility to assure that his subordinates understand and respond positively toward their defined roles in the company [21]. To be a successful district manager, or for that matter, any type of manager, effective leadership is an essential requirement. Yet, in a sample of 3,300 companies, only 75, or approximate 2 percent of those firms surveyed, said they used a formal management development program to train district managers [1]. Comparable findings were revealed in two other studies investigating this same problem area [61, 93]. In all three studies, none of the firms specifically cited the use of leadership training as part of their formal instruction.

Factors Which Make Leadership Training Critical at the District Manager Level

There are innumerable reasons for leadership training of district managers, but three which appear to be most important are:

1. His previous experience within the sales organization,
2. The detrimental effects of poor leadership by the district manager, and
3. Vulnerability of a district manager to role conflict and to role ambiguity.

Previous Experience of the District Manager

Practically every growth company employing a sales force experiences a constant drain on its sales management talent, thereby requiring the firm to promote untested and unproved salespeople from its ranks. Commonly, companies promote their best salesperson into a district manager position. However, the transition from salesperson to district manager is one of the most difficult in marketing. To compound this problem, most companies handle this promotion in a "casual manner" and they provide little or no formal training [59, 65, 77 108]. One author described this situation as ". . . First rate salesmen are plucked out of the field, given the title of district manager, and then are expected to learn their jobs through some kind of osmosis." [108:78].

A similar description is provided by Dodge who states:

The "star" salesman is thrust into a job which he is expected to learn on his own through some form of absorption. Without training of either a preparatory or a continuing type, a transition has to be made from self-oriented and self-motivated action to getting things done through others Miraculously most succeed or are not allowed to fail by top management. [21:33].

Although a district manager is typically a former supersalesperson with little or no formal training for this position, his personality is not always compatible with the demands of the job. According to Leonard, ". . . the personality of the successful salesman (and most managers are drawn from this group) is highly competitive and draws its greatest satisfaction from personal, as distinct from team, victories" [59:58].

Supersalespeople promoted into district manager positions need assistance in learning the field sales force management system (see Fig. 1), of which leadership is a major part. If they are not trained properly, they will drift into an inefficient and ineffective mode of operation. It is top management's responsibility to provide the proper learning environment, i.e., formal leadership training to insure against this happening.

The Detrimental Effects of Poor Leadership by District Managers

Earlier in this chapter, it was established that the most important competitive activity is sales force management and personal selling with the district manager holding a pivotal position. His effectiveness, as a leader, plays a critical part in a firm's overall success. Some of the more serious repercussions of poor leadership are:

1. Increased frustration by younger salespeople causing a high rate of turnover [2]

2. High turnover among a firm's own district managers causing excessive unfilled positions thereby forcing the firm to promote more supersalespeople, further perpetuating the cycle and

3. Damage to a company's long range plans for management replacement at higher sales management levels [108].

Vulnerability of District Managers to Role Conflict and Role Ambiguity

Although it has not been established by empirical research, it seems reasonable to assume that district managers experience high levels of both role conflict and role ambiguity, since their position is most comparable to that of production foremen.

In research by Churchill, Walker and Ford [16, 40, 103], appropriate training programs helped to reduce a salesperson's role uncertainty, his anxiety over conflict, and, ultimately, his job dissatisfaction. Since district managers are responsible for the activities of their salespeople and both occupy boundary roles, it appears they would experience even higher levels of role conflict and role ambiguity than their subordinates. Consequently, leadership training of district managers takes on critical proportions for reducing the level of role conflict and role ambiguity experienced by them and their subordinates.

Need for Leadership Training of District Managers

The best empirical evidence showing the need for leadership training at this level is found in Spencer's research cited earlier. To gain another perspective on the qualifications needed for this position, respondents to the mailed questionnaire were asked to identify which qualifications seemed to be lacking in those people who had been promoted to district manager and who proved to be unsuccessful in that position [83]. The findings in Table 4 revealed that:

TABLE 4

PERCENTAGE OF TOTAL RESPONDENTS MENTIONING INDIVIDUAL QUALIFICATIONS LACKING IN UNSUCCESSFUL DISTRICT MANAGERS (TOP FIVE QUALIFICATIONS)

Qualifications	Total Respondents ^a (n = 212)	Sales Force (n = 133)	District Manager (n = 61)	Division Manager (n = 16)
Leadership	29.7	21.8	42.6	43.7
Organization and managerial ability	20.7	14.3	24.6	49.9
Ability to get along with people	15.1	13.5	19.7	6.2
Dependability	12.3	7.5	21.3	18.7
Integrity	9.0	7.5	9.8	18.7

Adapted from Table 7 in Hollister Spencer, "Salesmen and Sales Managers Look at the District Managers," California Management Review 15 (Fall 1972):103.

^aTwo respondents did not specify sales level.

Approximately 30 percent of total respondents mentioned leadership as a qualification lacked by the district manager who had been promoted who proved unsuccessful. This percentage is substantially higher than that for organization and managerial ability (20.7 percent), and twice as high as that for ability to get along with people. Over 40 percent of both the district managers and the divisional managers mentioned leadership as a qualification lacking. [83:102-103]

Despite the limited but fairly conclusive empirical evidence and the large number of authors citing the need for leadership training, the majority of firms do not put their district managers through any type of formal training. A possible explanation for this situation can be found in Spencer's research where leadership was viewed as the top qualification by both sales force and district managers, but it was perceived as of substantially less importance by those in higher managerial positions [83]. The divisional managers and the home office sales management ranked sales performance as the top qualification for district managers. This could be attributed to sales performance being easily quantifiable, thereby making it more objectively measurable than something as intangible and abstract as leadership. Perhaps this same lack of understanding contributes to the absence of leadership training programs.

Definition of the Problem

The need for formal leadership training at the district manager level is obvious. Effective leadership appears to be one of the most important qualifications for the position of district manager, and it is top management's responsibility to provide strong leadership

training programs to individuals entering or occupying this position. Research has shown that failure by a district manager to identify the needs of his salespeople and to provide them with effective leadership causes higher turnover, lower productivity, and unnecessary selling expenses [13]. Dunn, Johnson and Kurtz highlighted the importance of leadership at this level by stating:

. . . district sales managers--or field sales managers may represent the most critical level of leadership and supervision in the entire sales force. [24:96].

In other words, the success or failure of the sales force is highly dependent on the quality of leadership provided by its district managers.

Despite their crucial leadership role, the literature is virtually devoid of empirical leadership studies of district managers. A major factor contributing to this problem is the lack of an occupation-specific measurement instrument for this area. To date, no district manager-specific instrument is available for measuring their leadership behavior.

The second major problem is the lack of leadership training programs geared specifically to district managers. The reason for such a void appears to be the haphazard approach used by most firms for promoting supersalespeople into this position. Research showed only a very small percentage of firms using some type of formal development program for training salespeople who are being promoted into management. Even fewer receive any formal leadership training, yet

they are asked to lead a "unique" group of subordinates in a very dynamic and demanding environment.

To define the problem tersely, the area of field sales force management needs: (1) a district manager-specific instrument for measuring their leadership behavior and (2) a formal development program for leadership training of district managers. The question becomes: what can be done to enhance leadership effectiveness at this level, and to increase overall knowledge in this area?

Objectives of the Study

The objectives of this study are basically threefold. They are to:

1. Develop a district manager-specific instrument (descriptive model) for measuring leadership behavior of district managers,
2. Present and to validate the Vroom-Yetton Normative Model of Leader Behavior in field sales force management, and
3. Test empirically in a controlled experimental setting, the training effect of Telos, which is structured around both models, for improving the leadership effectiveness of district managers.

The district manager-specific instrument developed specifically for this study is a descriptive model consisting of thirty cases designed to measure leadership behavior of district managers. Although the model was developed exclusively for this purpose, it appears the cases are written in such a manner as to offer potential for measuring

leadership behavior at different sales managerial levels. The real benefit of such an instrument is its expected heuristic power in generating leadership research in field sales force management. While leadership research continues to flourish in other areas, there is almost a total vacuum of leadership studies in field sales force management. Walker, Churchill and Ford commented that ". . . We have few theories and even less empirical knowledge about most aspects of sales management" [104:1]. Never is this more evident than in the area of leadership and leadership training especially at the district manager level.

Vroom and Yetton's Normative Model of Leader Behavior is relatively new and it has never been validated in field sales force management. Although validation studies have been done on a limited basis in other work settings, its validity in this area cannot be assumed. If the state of the art of leadership in this area is to advance, leadership models must be developed and tested. This study is expected to make a contribution in this direction.

Both models will be used in the Telos training program aimed at improving leadership effectiveness of district managers. The value of this program is tested empirically using a Nonequivalent Control Group Design with forty district managers comprising the sample. The need for strong leadership training of district managers has been shown, and hopefully this part of the study will determine the effectiveness of this program for training such managers.

Chapter II is an examination of the state of the art of leadership theory and leadership training. Three leadership theories are investigated in this chapter. Chapter III provides an evaluation of each theory including the Vroom-Yetton Normative Model of Leader Behavior on the basis of seventeen evaluative criteria. In Chapter IV, an attempt is made to provide a detailed explanation of the methodology used in the study. The fifth chapter is an analysis of the empirical data from the field work which involves testing both the Normative Model and the training effect of Telos. In addition, the results of each hypothesis test are presented. In the last chapter, implications of the study are discussed and its major conclusions are summarized.

Summary

The primary purpose of the first chapter was to provide a conceptual framework for the leadership role of district managers in field sales force management. An attempt was made to show clearly both the "uniqueness" of this position and the importance of effective leadership at this level. There is a considerable body of evidence showing the district manager occupying a unique managerial role in a company. He is asked to supervise a unique type of subordinate in a dynamic market environment which demands a wide variety of problem-solving activities. A number of empirical studies have found effective leadership to be critical at this level. Research showed that poor leadership contributes to a higher rate of sales force turnover and absenteeism, and to increased frustration and job dissatisfaction for salespeople.

Having determined the importance of effective leadership by the district manager, evidence was presented identifying serious shortcomings in the way most companies prepare an individual for this position. Typically, the supersalesperson selected for promotion to district manager is given little or no formal management training including any formal leadership training. Subsequently, three major problems in this area were defined as: (1) the unavailability of a district manager-specific instrument for measuring leadership behavior; (2) lack of an empirically tested leadership model for studying leadership behavior in field sales force management; and (3) the need for formal leadership training programs for district managers.

Overall, the objectives of this study are to develop a descriptive model for measuring leadership behavior of district managers and to validate a normative leadership model for use in field sales force management. The last objective involves the incorporation of both models into a leadership training program (Telos) which is tested empirically.

CHAPTER II

CURRENT STATE OF THE ART OF LEADERSHIP THEORY AND LEADERSHIP TRAINING

Throughout the last five decades, leadership has been a subject of research interest fascinating both business personnel and academicians. A possible explanation for this widespread interest is that leadership is:

. . . a form of human relations that takes into consideration many changeable and complex characteristics of man and his organizational environment. It is found whenever men join together in an attempt to accomplish their objectives through a collective and unified effort. Thus, in every phase of human activity there are leaders. [69:42].

The two objectives of this chapter are: (1) to define leadership in a field sales force management context, and (2) to review the leadership theories of Fred Fiedler, Robert House, and Victor Vroom and Philip Yetton and to discuss the leadership training programs built around these theories for training district managers. In Chapter III, an attempt is made to assess these theories on the basis of seventeen evaluative criteria.

Defining Leadership and the Leader's Role

In the literature, there is a plethora of explanations and definitions for leadership. Katz and Kahn [52] have pointed out that:

The concept of leadership has an ambiguous status in organizational practice as it does in organization theory . . . Among social scientists who emphasize the concept of leadership, there is no close agreement on conceptual definition or even on the theoretical significance of leadership processes. [pp. 300-301].

Part of the reason for this ambiguity is that leadership appears in the social science literature with three meanings: as the attribute of a position (a position of leadership), as a category or kind of behavior, and as certain characteristics or qualities a person possesses and uses [18, 52].

Leadership is a relational concept, i.e., it is a function of the quality of the relationship or interaction occurring between a leader and his subordinates. A leader cannot exist without followers, and therefore, leadership is dependent on both specific characteristics of the situation and the people to be "led" at a given point in time. Numerous authors [7, 27, 68, 110] equate leadership with the differential exercise of influence by one person over the activities of a group of people. In other words, they perceive it as a communication process of interpersonal influence when intended influences are consummated in an interaction event between the leader (influencer) and his follower(s) (influencee) [52].

Throughout the remainder of this study, leadership refers to an act of effective interpersonal influence whereby a district manager causes his salespeople to alter their preferences to coincide with

his on a matter of organizational importance.¹ In order to differentiate leadership from routine role performance, the essence of district managerial leadership is portrayed as the influential increment over and above mechanical compliance by his salespeople with the routine directives of both the district manager and other members in the organization [52].

In Chapter I, the dearth of leadership research in field sales force management was highlighted, despite strong evidence showing leadership to be critical at the district manager level. However, there is a wealth of leadership research in the social sciences which may be of value for leadership training of district managers. The three leadership theories under investigation are Fiedler's Contingency Model of Leadership Effectiveness, House's Path-Goal Theory of Leadership, and Vroom and Yetton's Normative Model of Leader Behavior. These theories were chosen because all three use a contingency approach to leadership which currently dominates the leadership

¹For some of the more popular definitions of leadership cited frequently in the literature, see, for example, Daniel Katz and Robert Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1958), pp. 318-320; Warren Bennis, "Leadership Theory and Administrative Behavior: The Problem of Authority," Administrative Science Quarterly 4 (December 1959):260-268; Ralph Stogdill, Handbook of Leadership: A Survey of Theory and Research (New York: The Free Press, 1974), pp. 12-14; Amitai Etzioni, "Dual Leadership in Complex Organizations," American Sociological Review 30 (October 1965):688-698.

literature [14, 51, 87, 88].¹ Contingency approaches are defined as theories or models which specify in operational terms specific conditions under which a given pattern of leader behavior will lead to effective or ineffective group performance. In other words, leadership effectiveness as measured by individual or group performance is contingent upon the interaction of certain leader attributes and specific situational variables.

The conceptual framework used for investigating these theories is: (1) each theoretician's view of the leadership process, (2) coverage of the theory, (3) assumptions built into the theory, (4) underlying mechanism(s) or theoretical foundation, (5) operationalizing the theory's major components, and (6) implications. Following this, the training program developed around each theory is discussed and its potential for training district managers is evaluated.

¹For an extensive review of other leadership theories, see, for example, Ralph Stogdill, "Historical Trends in Leadership Theory and Research," Journal of Contemporary Business 3 (Autumn 1974):1-18; J. G. Hunt and L. L. Larson (eds.), Leadership Frontiers (Carbondale, Ill.: Kent State University Press, 1975); and Ralph Stogdill, Handbook of Leadership: A Survey of Theory and Research (New York: The Free Press, 1974).

Fiedler's Contingency Model of Leadership Effectiveness

View of the Leadership Process

Fiedler's Contingency Model is the result of a comprehensive research program spanning more than twenty-five years. In its current form, the theory postulates task or organizational effectiveness as a function of the interaction of two main factors: the personality of the leader and the degree to which the situation gives the leader power, control and influence over the situation or conversely the degree to which the situation confronts him with uncertainty [34]. Fiedler's view of the leadership process is presented in Figure 6. The interacting independent variables are favorableness of the situation and characteristics of the leader, specifically the leader's personality or motivational system. A leader's contribution to his group's performance (effectiveness) is the dependent variable and it is defined as the correlation between the leadership style of a leader and his group's performance.

Coverage of the Theory

Fiedler's theory seems potentially applicable to most kinds of leadership situations, regardless of the organizational setting. However, it does not attempt to deal with all leadership phenomena and it excludes such areas as: (1) emergence of leadership in initially unstructured groups, (2) follower loyalty and satisfaction,

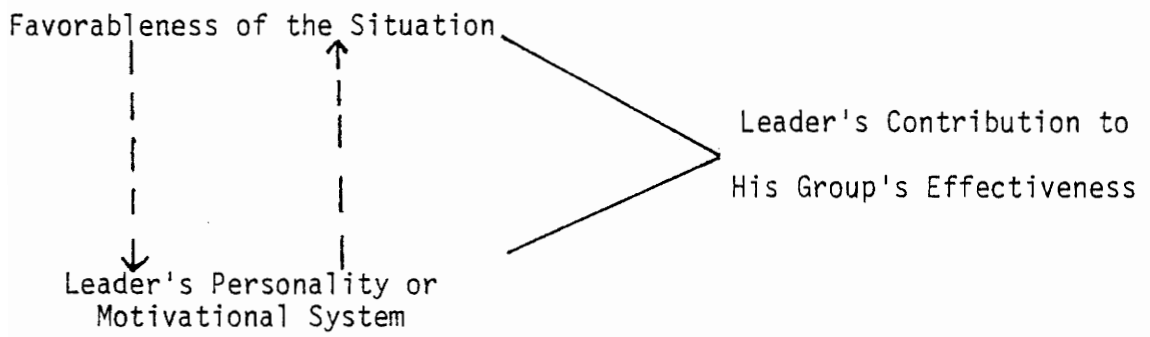


Fig. 6. Diagrammatic representation of the variables in a manager's leadership framework.

(3) global organizational effects, and (4) maintenance of one's leadership position once role structure has been developed and stabilized [14, 88]. Instead, it specifies in operational terms specific conditions or contingencies under which one kind of leader behavior is likely to be superior to another for task, group or organizational effectiveness. Consequently, leader effectiveness is measured by the performance of a leader's group using so-called "hard" criteria such as number of problems solved, number of games won, production records, etc. [72].

Assumptions

Inherent in all contingency approaches of leadership are some basic assumptions such as: (1) there is no universally good leader or one best way to lead in all situations, and (2) there exists a range of leadership styles or behaviors each of which are optimally effective in different situations [14]. Three additional assumptions critical to Fiedler's theory are: (1) certain leader attributes are stable and enduring, and these attributes must be integrated with specific situational variables in order to predict a leader's effectiveness, (2) the dimension of situational favorableness represents a combination of the three most general and crucial situational variables, and (3) situational favorableness is a widely encompassing dimension which can subsume almost all variables affecting a leadership position [14].

Underlying Mechanism(s)

The mechanism underlying the theory is the interaction of a leader's motivational structure with situational favorableness. When these are compatible, effectiveness can be achieved.¹ According to several researchers [56, 57], Fiedler's theory has suffered greatly from its failure to pay close attention to how some of the basic theoretical constructs work and the mechanisms by which they operate. However, strong empirical concern has been shown as evidenced by the wealth of studies testing the hypothesized relationship between the contingency variables and their effects.

Operationalizing the Theory's Major Components

Leader Behaviors

Fiedler defines leadership style as the underlying need structure or motivational system of an individual that motivates his behavior in various leadership situations [45]. A leader's motivational system is composed of a hierarchy of prioritized goals (primary and secondary). Fiedler dichotomizes motivational systems into relationship or people-motivated and task-motivated. Leadership behavior of the former is characterized by a leader seeking to maintain good

¹Korman emphasizes the importance of having a theory specify the mechanisms through which the contingency (independent) variables have their effects on dependent variables. There needs to be both theoretical and empirical concern with these mechanisms. See, Korman, pp. 189-195.

interpersonal relationships with subordinates which result in personal recognition and admiration from others. This is done to enhance a leader's sense of personal worth. A task-motivated leader seeks to complete a specific task because it gives him personal satisfaction. In addition, the accomplishment of task goals offers him opportunity to gain achievement and esteem which is tangible evidence of his personal worth.

The instrument developed to measure a leader's motivational system is called the Least Preferred Co-worker Scale (LPC). The LPC score is obtained by first asking an individual to think of everyone with whom he has ever worked, and then to describe the one person with whom he could work least well. Following this, the individual is asked to describe this least preferred co-worker on a series of bipolar, eight point descriptive adjective scales. The LPC scale usually contains 16 to 18 items of the semantic-differential format [33]. The scales are scored as a continuum ranging from 1 through 8 with the most positive pole usually given a score of 8 and the most negative pole a score of 1. Figure 7 [35] presents a sample of the scale of opposing attributes typically used to describe the least preferred co-worker. The LPC is computed by simply summing all individual item scores.

Interpretation of LPC Score

According to a recent description by Fiedler [35]:

Think of the person with whom you can work least well. He may be someone you work with now, or someone you knew in the past. He does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe the person as he appears to you.

Pleasant : : : : : : : : : Unpleasant
 8 7 6 5 4 3 2 1

Friendly : : : : : : : : : Unfriendly
 8 7 6 5 4 3 2 1

Supportive : : : : : : : : : Hostile
 8 7 6 5 4 3 2 1

Fig. 7. Least preferred co-worker scale. (Adapted from Figure 1 in Fred Fiedler, "The Leadership's Game: Matching the Man to the Situation," Organizational Dynamics, 4, Winter 1976, p. 10.

An individual who describes his or her least preferred co-worker in very negative and rejecting terms (a low LPC) in effect shows a strong emotional reaction to people with whom he or she cannot work--in effect, "If I can't work with you, you are no damn good!" This is the typical pattern of a person who when forced to make the choice opts first for getting on with the task and worries about his interpersonal relations later.

Someone who describes even his least preferred co-worker in relatively more positive terms in effect looks at the individual not only as a co-worker, but also as a person who might otherwise have some acceptable, if not admirable traits. The "high LPC" leader sees close interpersonal relations as a requirement for task accomplishment. [p. 9]

In brief, LPC can be interpreted to mean that the higher a leader's LPC score the greater his relationship orientation, and the lower his score the greater his task orientation. Consequently, a relationship-oriented person tends to give his least preferred co-worker a more positive evaluation than a task-oriented person [45]. Fiedler emphasizes strongly that the LPC score indicates different priorities of goals and in no uncertain terms should it be interpreted as a description of leader behavior since the behavior of high-and-low LPC leaders changes with different situations [34].

Situational Variables

In addition to LPC score, the second major component of the theory is "situational favorableness" which is composed of three situational variables. This dimension basically indicates the degree to which a situation provides a leader control and influence in determining outcomes of his group's interaction [31]. In order of importance, three subscales serve as the basis for measuring situational favorableness: (1) leader-member relations, (2) task structure, and

(3) position power. Leader-member relations refers to the interpersonal relations between a leader and his subordinates, especially the degree to which he feels supported and accepted by them. Task structure refers to the extent to which a group's task is clear-cut, unambiguous, structured, and programmed with verifiable goals and specified procedures for measuring progress and reaching these goals. Position power relates to power inherent in the position of a leader and it includes his power to reward and to punish subordinates [14, 34, 45]. These three dimensions define a leader's role. To operationalize situational favorableness, each variable is dichotomized to yield an eight-celled classification shown as the horizontal axis of Figure 8 [31].

Appropriate Leader Behavior Prescribed by the Theory

To achieve optimal performance results, certain leader types must be matched to specific situations. According to Fiedler [35]:

. . . The contingency model has consistently shown that the task-motivated (low LPC) leaders tend to perform most effectively in situations in which their control and influence are very high and in situations in which it is relatively low. By contrast, relationship-motivated (high LPC) leaders tend to perform best in situations in which their control and influence is moderate. [pp. 10-11]

Referring back to Figure 8, one can observe the model's suggestion of a curvilinear relationship between situational favorableness and the correlation between leadership style and group performance [46]. The horizontal axis shows the degree of situational favorableness while the vertical axis indicates group performance. The solid line on the

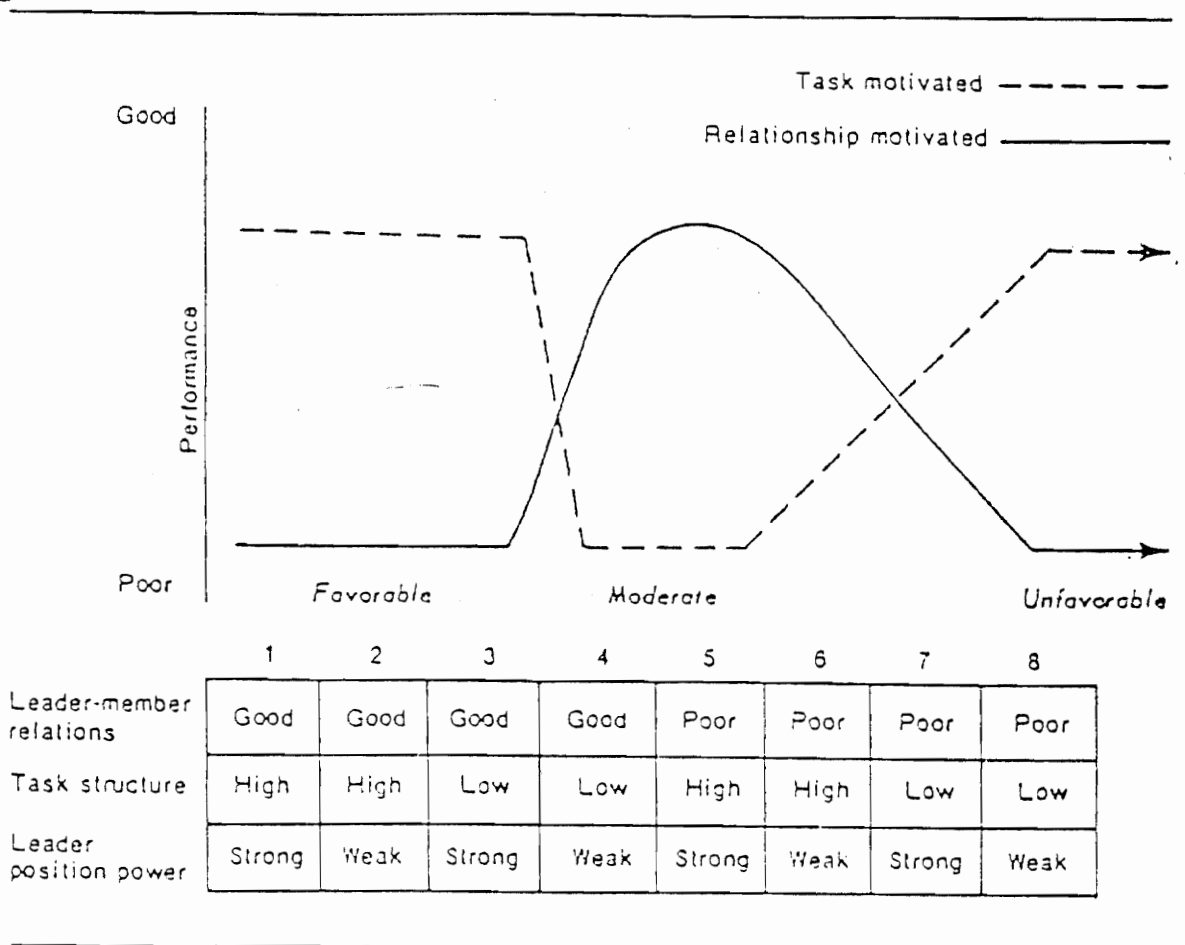


Fig. 8. Schematic representation of the performance of relationship--and task-motivated leaders in different situational favorableness conditions. (Adapted from Figure 2 in Fred Fiedler, "The Leadership Game: Matching the Man to the Situation," *Organizational Dynamics*, 4, Winter 1976, p. 11.)

graph is the schematic performance curve of relationship-motivated leaders (high LPC) who generally record high productivity in moderately favorable situations (i.e., octants IV, V, and VI). The broken line shows the performance of task-motivated leaders (low LPC) who generally record high productivity in both very favorable and very unfavorable situations as represented by octants I, II, III, and VIII.

Implications

The first major implication of the theory is that both task and relationship-motivated leaders get good performance from their subordinate only under certain types of situations and not under others (as measured by situational favorableness). Consequently, there is no such thing as a universally "good" or "poor" leader or one best way to lead. The second major implication is that situational variables determine leader performance as much as the leaders' personality. From this, Fiedler [35] concluded that:

. . . we can improve group performance either by changing the leaders' motivational structure--that is, the basic goals he pursues in life--or else by modifying his leadership situation. While it is possible, of course, to change personality and the motivational structure that is a part of personality, this is clearly a difficult and uncertain process. It is, however, relatively easy to modify the leadership situation. [p. 12]

Fiedler has proposed his theory for explaining and improving the quality of leadership in organizational settings. The two most important variables of the theory are the Least Preferred Co-worker Scale (LPC) and "situational favorableness" as measured on three

dimensions of the situation. According to the theory, effective leadership will occur if: (1) the situation can be diagnosed accurately, and (2) the leader with the appropriate motivational structure (personality) is assigned to that type of situation, or by changing the situation to get a compatible fit with the leader [73].

House's Path-Goal Theory of Leadership

View of the Leadership Process

The second theory of leadership is House's Path-Goal theory which was presented in 1971 to reconcile and to integrate conflicting results of previous leadership research [48]. With it, House attempts to explain the relationships between leader behavior and motivation of subordinates [49].¹

Figure 9 is presented to show House's view of the leadership process. Leader behavior is the independent variable and relationships between subordinate psychological states and motivation, performance, and satisfaction are the dependent variables.² The moderator or

¹This section of the study deals largely with the revised and updated version of the theory which incorporates both environmental and individual difference variables.

²Evans suggests the path-goal theory implies that the independent variable of the leader behaviors only relate to the dependent variables performance, motivation and satisfaction, if (1) the independent variable (leader behaviors) relates to a set of intervening variables (path-goal links) and (2) the intervening variables (path-goal links) relate to the dependent variables (performance, motivation and satisfaction). See, Evans, pp. 172-178.

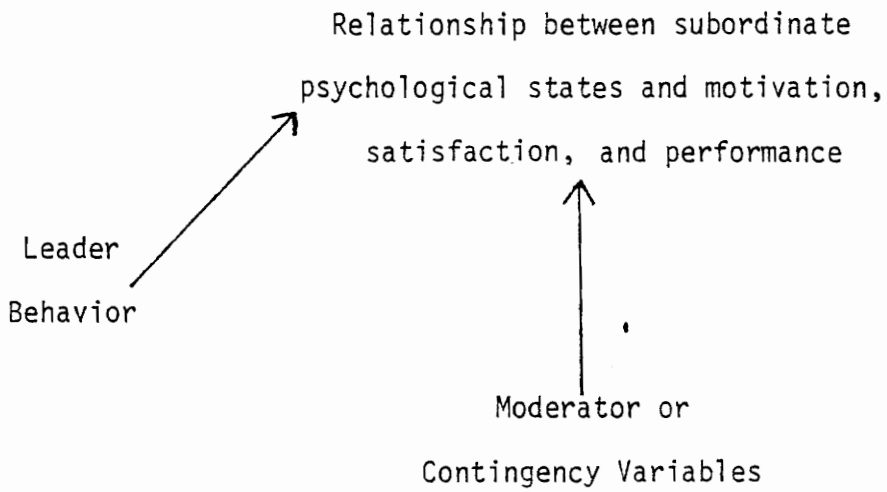


Fig. 9. Diagrammatic representation of the variables in a manager's leadership framework.

contingency variables mediate the relationship(s) between two other variables such as leader behavior and subordinate satisfaction.

According to House, leadership is a process of influence whereby leader behavior may affect subordinates' specific psychological states such as a subordinate's intrinsic job satisfaction, his satisfaction with extrinsic rewards, his expectancy that effort leads to effective performance, and his expectancy that performance leads to rewards [49]. An effective leader enhances the psychological state of a subordinate by influencing his expectancies, e.g., the subordinate's perceptions of his work goals, personal goals, and the paths to attaining both types of goals. This results in motivation to perform or in satisfaction with his job. Consequently, the theory is labeled Path-Goal.

Coverage of the Theory

While Fiedler attempts to explain the effects of leader behavior on measures of overall group satisfaction and performance, House examines the effects of leader behavior on individual psychological states, i.e., a subordinate's satisfaction, motivation and performance. However, it is similar to the other two theories in that it makes no attempt to deal with global organizational effects or the variables and properties of emergent leader situations. House contends the path-goal approach goes one step further than other theories because it not only suggests which type of leadership style may be most

effective in a particular situation, it also attempts to explain "why" it is most effective [50].

Assumptions

Path-goal theory makes the same two basic assumptions inherent in all contingency approaches of leadership as highlighted in the discussion of Fiedler's theory. Additional assumptions built into this theory are: (1) most work environments do not provide subordinates the necessary level of coaching, motivation, support, instruction and rewards for effective and satisfying performance [49], (2) instrumentalities, expectancies, and path-goal relationships inherently are unclear in highly unstructured tasks and inherently clear in highly structured tasks [86], (3) structured tasks are inherently less satisfying and they are a source of frustration and stress for subordinates while unstructured tasks are more intrinsically satisfying and less frustrating and stressful [86], and (4) the rationality assumptions underlying this "goal-directed man" model such as transitivity, independence of irrelevant alternatives, and dominance of alternative strategies [28, 94].

Underlying Mechanism(s)

The underlying mechanism of House's path-goal theory of leadership is a structural model of causal relationships linking leader behavior with subordinates perceived expectancy and performance rewards,

which, in turn affects their motivation, performance and job satisfaction. This mechanism has its roots in expectancy theory as formalized and extended by Vroom who made an extensive analysis of the path-goal issue [82]. Path-goal theory represents the most advanced formulation of Vroom's original expectancy theory.¹

Operationalizing the Theory's Major Components

Leader Behaviors

The theory proposes that one of the basic strategic functions of a leader is to improve his subordinates' psychological states, i.e., motivation to perform assigned tasks, and satisfaction with their jobs. To accomplish this, six strategic functions (behaviors) are available to a leader:

(1) recognizing and/or arousing subordinates' needs for outcomes over which the leader has some control, (2) increasing personal payoffs to subordinates for work-goal attainment, (3) making the path to those payoffs easier to travel by coaching and direction, (4) helping subordinates clarify expectancies, (5) reducing frustrating barriers, and (6) increasing the opportunities for personal satisfaction contingent on effective performance. [50:84].

In less formal terms, the theory states that motivational functions of leaders involve first, to increase the number and types of subordinates' personal rewards for attaining work goals by clarifying

¹For a formal statement of path-goal theory, see Robert House, "A Path-Goal Theory of Leader Effectiveness," Administrative Science Quarterly 16 (September 1971):321-338.

the paths to these rewards and by eliminating roadblocks and reducing pitfalls to successful work performance; and second, to improve the opportunities for personal satisfaction in route by displaying consideration for subordinates. House [49] asserts that:

. . . to the extent that the leader accomplishes these functions his behavior will increase the motivation of subordinates to perform. It should be noted that while the leader crucially effects the satisfaction of subordinates, satisfaction is assumed to be motivational for performance only when it is intrinsic to effective performance (i.e., when performance is rewarding in itself) or when satisfaction is made contingent on effective performance. [p. 33]

A leader's behaviors as identified by House are attempts to influence subordinates' psychological states through both leader initiating structure and consideration.¹ Schriesheim, House, and Kerr [80] identified various instruments used to operationalize initiating structure such as: (1) the early Leader Behavior Description Questionnaire (LBDQ), (2) the Supervisory Behavior Description Questionnaire (SBDQ), (3) the revised LBDQ, and (4) the Leadership Opinion Questionnaire (LOQ). To operationalize the consideration variable, various researchers have used: (1) items taken from Form XII of the Ohio State Leader Behavior Description Questionnaire [49], and (2) twenty-eight items taking from the SBDQ [89].

¹Sheridan, Downey and Slocum identify path-goal theory as an attempt to define situationally the relationships between the leader's initiating structure and consideration and the subordinates' performance and work attitudes. See, Sheridan, Downey and Slocum, pp. 61-80.

Situational Variables

House has dichotomized situational variables into personal characteristics of subordinates, and environmental pressures and demands subordinates must contend with to achieve work goals and to satisfy their personal goals [49]. As shown in Figure 10 [50], personal characteristics of subordinates are subdivided into their perception of leader behavior as an immediate source of satisfaction or instrumental to future satisfaction, and subordinates' perception of their own ability relative to task demands. The subordinates' environment is comprised of exogeneous variables which are beyond a subordinate's control, yet profoundly impact his need satisfaction or his ability to work effectively.¹ House [49] hypothesizes that:

. . . one such aspect of the environment is the subordinates' superior(s) who exercises the right to administer rewards and punishments. The theory asserts that effects of the leader's attempts to influence the psychological states of subordinates will be moderated by other parts of the subordinates environment that are relevant to subordinate motivation. Three broad classifications of relevant environmental moderators are: 1) the subordinates' task, 2) the formal authority system of the organization, 3) the primary work group. [p. 32].

Appropriate Leader Behavior Prescribed by the Theory

According to the theory, instrumental leadership (as operationalized by the variable leader initiating structure) is needed in

¹It should be noted that both House and Fiedler view task structure as one of three critical dimensions of the total situation shaping a leader's role.

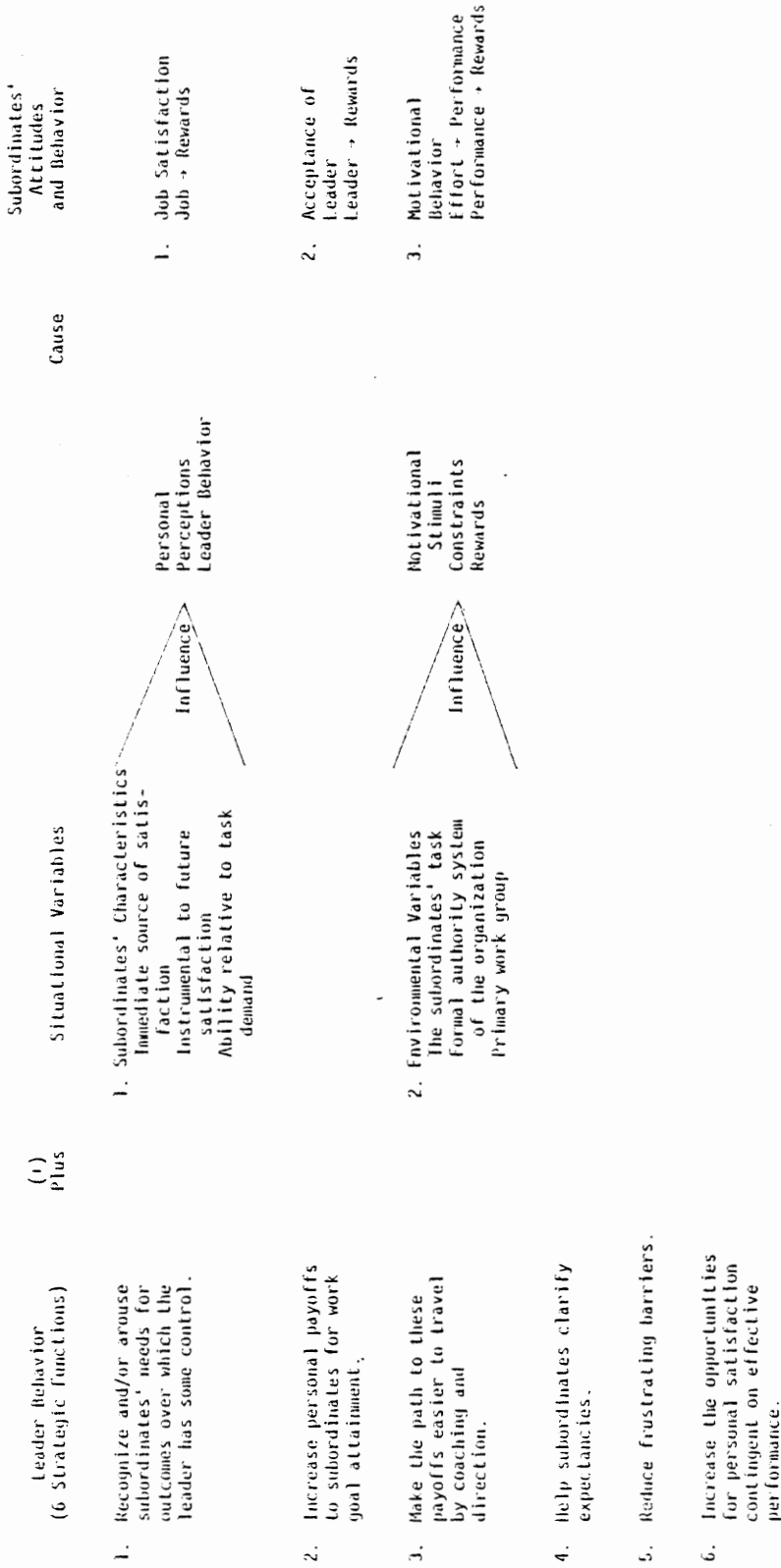


Fig. 10. Summary of path-goal relationships. (Adapted from Figure 11 in Robert J. House and Terence R. Mitchell, "Path-Goal Theory of Leadership," *Journal of Contemporary Business*, 3, Autumn 1974, pp. 81-98.)

unstructured tasks because subordinates need assistance in clarifying: (1) task-related contingencies, (2) expectations by their set of role partners, and (3) the degree to which their performance will be rewarded. When their tasks are highly structured, instrumental leadership contributes to subordinate dissatisfaction because they perceive such behavior as redundant, excessively directive and restrictive [86]. Consequently, supportive leader behavior (as operationalized by the variable leader consideration) is needed to help reduce subordinate dissatisfaction and frustration with performing routine tasks. For the remaining two environmental variables, the theory prescribes supportive behavior when path-goal relationships are apparent because of either clear group norms or fixed controls of the formal authority system [49].

With respect to characteristics of subordinates, considerate leader behavior is viewed as an immediate source of satisfaction for subordinates with high needs for affiliation and social approval while those with high needs for achievement view task clarifying behavior as satisfying. Additionally, the higher the subordinates' perception of their own ability relative to task demands, the less acceptable will subordinates view clarifying or directive behavior [49]. Figure 10 highlights the major points of the theory.

Implications

The strongest implication of path-goal theory is that the situation in which a leader acts determines the appropriate behavior

for accomplishing the motivational functions of leadership. To be effective, a leader must vary his behavior to the situation. In general subordinates find a leader satisfying and motivating when his behavior increases their goal attainment and clarifies the paths to these goals.

Vroom-Yetton's Normative Model of Leader Behavior

View of the Leadership Process

The third theory is a normative or prescriptive decision-making model developed by Vroom and Yetton in 1973. Before discussing it, Vroom's perception of leadership and leadership research as presented in Figure 11 [97] should be discussed. In this figure the central variable is the leader's behavior which is determined by two types of variables-attributes of the manager himself and attributes of the situation confronting him. Furthermore, Vroom, like Tannenbaum and Schmidt [90], believes interactive effects between these two sets of variables explain many differences in the behavior of leaders. In other words, leaders respond to different situations in different ways because their behavior is affected by both their own personal characteristics and situational factors.

The right hand side of Figure 11 shows organizational effectiveness as the dependent variable being influenced by both situational variables and leader behavior which are independent variables. Vroom

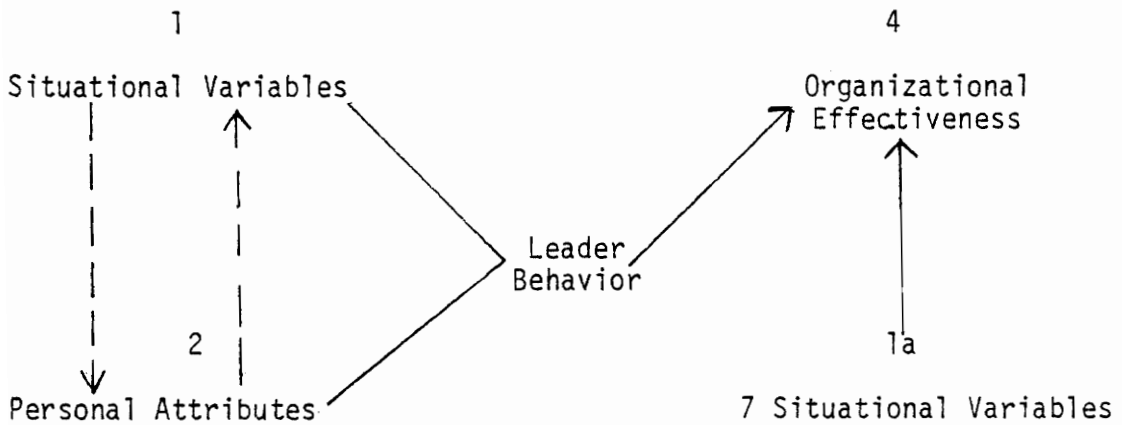


Fig. 11. Diagrammatic representation of the variables in a manager's leadership framework. (Adapted from Victor Vroom, "Can Leaders Learn to Lead?" Organizational Dynamics, 4, Winter 1976, p. 18.

[97] proffered that "the contribution of a leader's actions to the effectiveness of his organization cannot be determined without considering the nature of the situation in which that behavior is displayed" [p. 17]. Consequently, Vroom and Fiedler agree that a contingency approach is required for the right hand side.

Coverage of the Theory

The theory deals with only a single type of leadership decision--the degree to which a leader involves his subordinates in decision making. The authors posit that the extent to which a leader encourages subordinates to participate in decision making and consequently shares his decision-making power with them serves as the key indicator of his leadership behavior. The theory makes no attempt to investigate intrapersonal or cognitive processes of decision making. Instead it examines only the social processes involved in resolving group problems, i.e., decisions or problems affecting all or a large portion of a manager's subordinates [98]. The authors contend that:

. . . It is the interpersonal or social aspects of decision making that are of most direct relevance to processes of leadership. The leader not only makes decisions, but also designs, regulates, and selects social systems that make decisions. [100:5]

Vroom and Yetton disregard other aspects of leadership such as type and degree of authority held by a leader, amount of power inherently built into a position or held by a leader, and other

leadership phenomena mentioned as not being covered in Fiedler's model.¹ They view a leader as a decision-maker constantly confronting the question of how much subordinate participation is needed to achieve effective decision outcomes.

In stating their theory, they specified that no attempt was made to explain the full complexity and richness of leadership. Instead, it examines only the participative facet of leadership which they feel is most relevant to the leadership process. Following Maier [62, 63] they posit the effectiveness of a decision to be dependent on three types of outcomes, and the decision process used should affect each. These are:

1. The quality or rationality of the decision,
2. The acceptance or commitment on the part of subordinates to execute the decision effectively, and
3. The amount of time required to make the decision.
[95:67-68]

¹Fiedler proposes that leadership deals essentially with the problem of exercising influence and power. This is reflected in his theory in which position power is one of three critical situational variables which structures a leader's role. The current thought on leadership is that leaders occupy positions of authority and power. See, for example, Amitai Etzioni, "Dual Leadership in Complex Organizations," American Sociological Review 30 (October 1965):688-690; Daniel Katz and Robert Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1958), pp. 318-320; J. R. P. French Jr. and B. H. Raven, "The Bases of Social Power," in Group Dynamics: Research and Theory, pp. 607-623, 2nd ed., 1960.

Assumptions

The theory has the same two basic assumptions as those inherently built into all contingency approaches. Additional assumptions are: (1) leader behavior is determined by two types of variables--attributes of the leader himself and attributes of the situation he encounters, (2) variances in the behavior of leaders can be explained only by examining their joint effects, including interactions between these two classes of variables [97], (3) appropriate leader behaviors are chosen by determining the presence or absence of seven situational variables, (4) the social processes of decision making are most relevant to leadership, and (5) the time required to make a decision increases with the intensity of involvement or participation of subordinates.

Underlying Mechanism(s)

The two mechanisms underlying the theory are a set of seven Guidelines and Model A. Vroom describes these mechanisms as [96]:

. . . a set of seven rules that protects the quality and acceptance of the decision by eliminating alternatives that risk one or the other of these decision outcomes. The second mechanism is a principle of choosing among alternatives in the feasible set where more than one exists. [pp. 52-53]

Appendix A [55] presents the seven rules as verbal statements and in the more formal terminology of set theory.

The second mechanism underlying the theory is called Model A--the Time Efficient Model. When the feasible set of leader behavior

prescribed by the model consists of more than one behavior (each with equal probability of meeting both quality and acceptance criteria), Model A chooses the one requiring the least time to make the decision. Decision time refers to either total elapsed time or number of man-hours needed to make a decision using that specific leader behavior.

Operationalizing the Theory's Major Components

Leader Behaviors

Vroom and Yetton developed a taxonomy of leader behaviors which attempts to differentiate five decision-making methods. Each leader behavior is represented by a coded symbol (AI, AII, CI, CII, GII) and they are arranged in order of increasing opportunity for subordinates to influence the solution to a problem.¹ The first letter in the code specifies basic properties of the behavior (A stands for autocratic, C for consultation, and G for group) while the Roman numerals following these letters constitute variants on that behavior [98]. Vroom [97] briefly explains each leader behavior as:

In AI the manager solves the problem by himself using whatever information is available to him at that time; in AII he obtains any necessary information of a specific nature from his subordinates before making the decision himself . . . In

¹Vroom and Yetton hypothesize that based on existing empirical evidence, the time required to make a decision increases with the intensity of involvement or participation of subordinates. Therefore, Model A would always choose the most autocratic leader behavior (furthest to the left) in the feasible set prescribed for each problem type (AI < AII < CI < CII < GII). See, for example, Vroom and Yetton, pp. 743-769.

CI he shares the problem with relevant subordinates individually, getting their ideas and suggestions before making the decision; CII is similar, but the consultation takes place within the context of a group meeting . . . GII . . . in which the manager's role is that of chairperson of a group meeting aimed at reaching consensus on the action to be taken. [pp. 18-19]

Figure 12 [55] is a capstone of the taxonomy of leader behaviors available to a manager when confronting a problem to be solved or a decision to be made.

Situational Variables

The theory suggests that there are seven problem attributes which are most likely to influence the effectiveness of a manager's leaderbehavior. Consequently, these variables should be assessed by a manager for any problem-solving or decision-making situation confronting him. Figure 13 [96, 55] displays these variables, each with an accompanying question pertaining to it which can be used by a manager to analyze or to diagnose specific problems.

Appropriate Leader Behavior Prescribed by the Theory

Figure 14 [101] shows the latest version of the Vroom-Yetton model in the form of a decision tree. To determine the degree to which a manager should involve his subordinates in decision making on a particular organizational problem or decision, the manager begins by explicitly identifying the problem. Having done this, he starts at the left hand side of the tree, and he works toward the right asking himself the questions arranged along the top. The situational variables

	AI	AII	CI	CII	GII
Who is involved	Manager alone	Manager + one	Manager + one	Manager + group	Manager and group
Amount of involvement of others	None	Answer specific questions	Participate in analysis	Participate in analysis	Participate in analysis and conclusions
Who makes final conclusion	Manager	Manager	Manager	Manager	Group

Fig. 12. Leader behaviors. (Source: Adapted from Charles Kepner and Benjamin Tregoe, Telos Instructor Guide, Princeton, N.J.: Princeton Research Press, 1976, p. 9.

Situational Variables .	Diagnostic Questions
A. Rational Quality Requirement: The importance of the quality of the decision.	Does it make a difference which course of action is adopted?
B. Adequacy of Information: The extent to which the leader possesses sufficient information to make a high quality decision by himself.	Do you now have adequate information to make a quality analysis?
C. Structure of Situation: The extent to which the problem is structured.	Do you know exactly what information is missing and how to get it?
D. Commitment Requirement: The extent to which acceptance or commitment on the part of subordinates is critical to the effective implementation of the decision.	Is commitment of others critical to effective implementation?
E. Commitment Without Participation: The prior probability that the leaders' autocratic decision will receive acceptance by subordinates.	Will they commit to a decision made by you without their active participation?
F. Goal Congruence: The extent to which subordinates are motivated to attain the organizational goals as represented in the objectives explicit in the statement of the problem.	Is there goal congruence between the subordinates and the organization?
G. Conflict About Alternatives: The extent to which subordinates are likely to be in conflict over preferred solutions.	Is there likely to be conflict about alternatives among the subordinates?

Fig. 13. Situational variables and accompanying diagnostic questions used in the model. (Adapted from Table 2 in Victor H. Vroom, "Decision Making and the Leadership Process," Journal of Contemporary Business, 3, Autumn 1974, p. 51 and from Charles Kepner and Benjamin Tregoe, Telos Instructor Guide, Princeton, N.J.: Princeton Research Press, 1976). (Note: The term subordinates refers to those people whose information is needed or whose commitment is required for effective implementation of the decision).

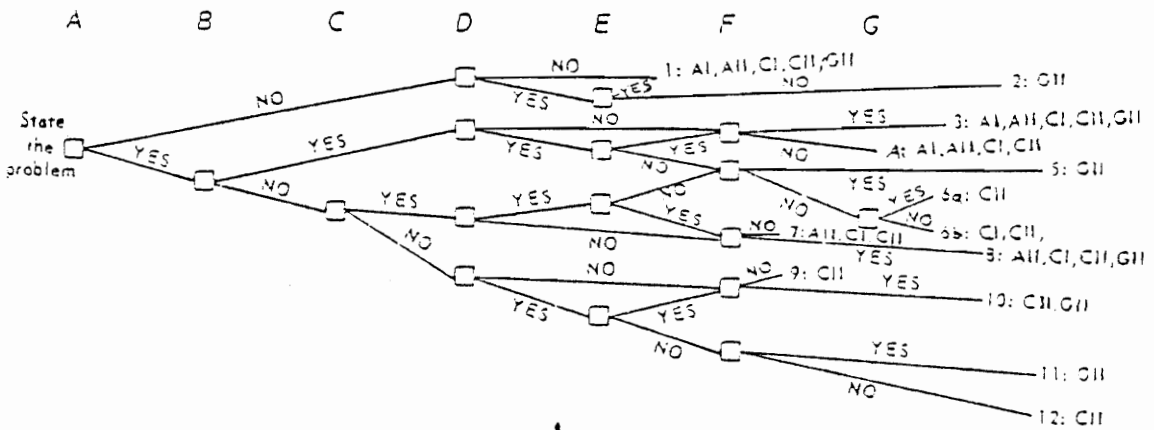


Fig. 14. Normative model of leader behavior. (Source: Victor Vroom, "Can Leaders Learn to Lead?" Organizational Dynamics, 4, Winter 1976, p. 19).

- A. Does it make a difference which course of action is adopted?
- B. Do you now have adequate information to make a quality analysis?
- C. Do you know exactly what information is missing and how to get it?
- D. Is commitment of others critical to effective implementation?
- E. Is there goal congruence between the subordinates and the organization?
- F. Is there goal congruence between the subordinates and the organization?
- G. Is there likely to be conflict about alternatives among the subordinates?

have been phrased in the form of simple Yes-No questions, thereby translating the continuous variables into dichotomous ones.¹

By coding all seven variables, a manager follows one of the developed paths and he reaches a terminal node at the extreme right hand side of the decision tree. At these points, the problem types (numbered 1 through 12) generated by the tree are identified. Vroom and Yetton [101] use problem types as "a nominal variable designating classes of problems generated by the paths that lead to the terminal nodes" [p. 35]. For example, all problems having no quality requirement and in which acceptance of the decision by subordinates is not important for effective implementation are defined as type 1 by the model. Accompanying the problem type at the end of each branch is a feasible set of prescribed leader behavior(s) deemed appropriate for each problem type.

¹Vroom and Yetton justify this because they feel that expressing what are obviously continuous variables in dichotomous form greatly simplifies the problem of incorporating these variables into a model that can be used by leaders. Consequently, it eliminates the problem of scaling each problem attribute and it reduces the complexity of the judgments required by leaders. For example, instead of having a manager attempt to determine how much information he possesses concerning a problem and then rate this information on a five, seven, or nine point scale, the manager evaluates his information, answers the question with a yes or no and moves on to the next variable. The difficult task of evaluating this variable is reduced to a simple judgment by the manager concerning whether or not he feels that he has sufficient information to make a high quality decision. See, for example, Vroom and Yetton, pp. 31-33.

Implications

The theory's major implication is that it provides a leader with a rational approach for choosing both the type and degree of subordinate participation in decision making. By using it, a manager can maximize organizational effectiveness for that particular situation. The theory makes no attempt to develop the "ideal" style of leadership. To the extent that having subordinates participate in decision making is a critical aspect of managerial leadership behavior, it does attempt to provide a leader with a repertoire of behaviors to deal effectively and efficiently with such situations [72].

Potential Leadership Programs for Training District Managers

In Chapter One the need for leadership training of district managers was clearly established. However, the literature shows most district managers being given little if any formal managerial training. In addition, leadership programs geared exclusively for training them are not available. This section attempts to evaluate the leadership programs developed by Fiedler and Vroom-Yetton for training district managers. Although House's path-goal theory is a major contribution to the area of leadership, presently no leadership training program is offered.

Fiedler's Leadership Training Program--Leader Match

Leader Match is a self-administered programmed manual for leadership training based on Fiedler's theory. The training program attempts:

. . . to teach managers how to diagnose their leadership situation, how to determine the kind of situation that best matches their personality or motivational pattern and how to modify the situation so that it does match their leadership style. [35:15]

Fiedler contends that through training, people can be taught to recognize specific situations offering them a high probability to succeed, and to identify situations in which they will probably be less successful and ineffective as leaders. Extending this notion, he believes people can be taught with reasonable accuracy to assess the degree to which their superiors and subordinates are supportive (leader-member relations), their level of position power, and the degree of task structure (i.e., "situational favorableness") [35].

Leader Match can be summarized by Fiedler's comment that:

. . . my own position is that we must train people differentially--not everyone should be trained to behave in the same way or to adopt the same attitudes. In fact, we will be better served by training our leaders in how to change their leadership situations than on how to change their personalities. Leadership effectiveness requires a proper match of person and situation, and trying to change personality is the hard way of achieving this balance . . . Our recent studies of contingency model training show that leaders can recognize the situations in which they tend to be most successful, and they can modify their situations so that they perform more effectively. We have reason to believe that this approach holds considerable promise for the future of leadership training. [35:15-16]

The program has been validated in three studies conducted in civilian and military organizations. Using randomly selected samples of leaders in both treatment and control groups, all three studies found trained leaders (treatment group) performed more effectively than did comparable non-trained leaders (control group) [8].

Vroom and Yetton's Leadership Training Program--Telos

The second leadership program under consideration is Telos which is based on the Vroom-Yetton theory.¹ While they agree with Fiedler that leaders can learn to recognize situational variables, Vroom and Yetton diverge from him by professing that leaders can learn to tailor their behavior to meet these demands. They assume that behavioral changes necessitate a process of self-discovery and insight by each manager [97]. One approach for activating and expediting this process is to provide a leader computer-generated feedback which gives him a mirror image or picture of his decision-making practices. According to Vroom [97]:

This picture includes a comparison of his style with that of others, the situational factors that influence his willingness to share his power with others, and similarities and differences between his own "model" and the normative model. [p. 21]

By using experienced trainers and computer-generated feedback, leaders can be trained to understand the theory, and the full

¹Telos will be explained thoroughly in Chapter IV of this study.

implications of their encouraging subordinates to participate in decision making in different situations. If the process of self-discovery and insight is effective and learning does occur, behavioral change is possible. The behavioral change being sought is not to teach managers an ideal style of leadership, but to assist them in choosing appropriate leader behaviors which match the requirements of situations confronting them.

With respect to validation, Telos has never been validated. A major objective of this study is to test empirically the training effect of Telos on the leadership behavior of district managers.

Summary

The primary purpose of the second chapter was to investigate three major contingency theories of leadership and their training programs for improving leader effectiveness. An attempt was made to discuss these theories using a conceptual framework which provided insights into how each theorist views the leadership process, the assumptions, domain, implications and underlying mechanism(s) of each theory, and the operationalization of their major components. After highlighting the key characteristics of these theories, the training program developed around each theory was discussed.

In the following chapter, these three leadership theories are evaluated using a model composed of seventeen evaluative criteria. The evaluation model permits concise comparisons of each theory on these

criteria, thereby providing insights for selecting the best theory with its accompanying training program for application in field sales force management.

CHAPTER III

AN EVALUATION MODEL FOR THREE LEADERSHIP THEORIES

Having discussed three theories and their training programs prominent in the leadership literature today, an attempt is made to evaluate the theories of Fiedler, House, and Vroom-Yetton in order to determine the one most applicable to field sales force management. Specific properties of each theory are examined and compared on the basis of seventeen evaluative criteria which are considered to be relevant and significant for appraising a theory's potential in this area.

The evaluation model employed is composed of five types of criteria--formal, semantical, methodological, epistemological, and pragmatic. Figure 15 [12, 19] summarizes and highlights each criterion. A detailed explanation of the seventeen criteria has been included as Appendix B.

The literature concerning the evaluation of theories offers a multitude of evaluative criteria, thereby confronting the researcher with the problem of selection. Having reduced the number of criteria to those that the researcher perceives as most relevant and significant for the theories under investigation, the second major problem is their ordering. Therefore, this section of the chapter will suggest a

FORMAL CRITERIA:

- | | |
|-------------------------|--|
| 1. Internal Consistency | The theory contains no logical contradictions. |
| 2. Strength | The theory entails other theories. |

SEMANTICAL CRITERIA:

- | | |
|---|---|
| 3. Linguistic Exactness | The theory exhibits minimum intensional vagueness. |
| 4. Conceptual Unity | The components of the theory refer to the same set of behavioral phenomena. |
| 5. Empirical Interpretability (or testability in principle) | The theory is operationalizable, i.e., interpretable in empirical terms. |
| 6. Representativeness | The theory deals with deep mechanisms. |

METHODOLOGICAL CRITERION:

- | | |
|-------------------|---|
| 7. Falsifiability | The theory is falsifiable, i.e., confrontable with reality (facts). |
|-------------------|---|

EPISTEMOLOGICAL CRITERIA:

- | | |
|-------------------------------|--|
| 8. Confirmation | The theory coheres with facts. |
| 9. Originality | The theory increases knowledge by deriving new propositions. |
| 10. External Consistency | The theory is consistent with existing knowledge. |
| 11. Unifying Power | The theory connects previously unconnected items. |
| 12. Stability | The theory is able to accommodate new evidence. |
| 13. Heuristic Power | The theory suggests new directions for research. |
| 14. Methodological Simplicity | The theory is easy to build and to test. |
| 15. Durativity | The use of the theory has endured over time. |
| 16. Utility | The theory serves as a means to some end. |

17. Potential for Training District Managers Formal training with the theory improves the leadership effectiveness of district managers.

Fig. 15. Summarization of seventeen criteria for theory evaluation. (Adapted from Table 5.3 in Gerald Zaltman, Christian R. A. Pinson, and Richard Angelmar, Metatheory and Consumer Research, New York: Holt, Rinehart and Winston, Inc., 1973, p. 104; and from Table 2 in Stuart C. Dodd, "Introducing Systematics for Evaluating Symbolic Systems," Systematics, 6, 1968, pp. 33-34).

set of evaluative criteria which is applied to the three theories. It is not contended that this is the quintessential or "perfect" hierarchy of evaluative criteria, but only a set of criteria which appears relevant and manageable in the context of this study.

Evaluation of Fiedler's Theory

Formal Criteria

Internal Consistency

The theory is presented quite logically with no apparent contradictions in its propositional statements, all of which are stated precisely. Fiedler feels that it is not doing "too badly" on this criterion [36].

Strength

The coverage of the theory is relatively broad and appears to be applicable for analyzing most types of leadership situations in an organizational setting [72]. According to Fiedler [36], while research has shown the theory:

. . . as having relevance to job satisfaction and identification with an organization, personal adjustment, etc., it is basically a theory of leadership effectiveness rather than a theory of how leaders get to be in positions of leadership or a theory of job satisfaction etc.

Its formulation and development have been based almost exclusively on the research of Fiedler and his colleagues, with little incorporation of other theories into its theoretical framework.

Semantical Criteria

Linguistic Exactness

Certain concepts such as leadership style, group performance and the three situational variables comprising the "situational favorableness" dimension are defined unambiguously. However, LPC, which plays a critical role in the theory, is extremely vague and unclear. While extensional vagueness is not a problem, this concept is intensionally vague because the properties subsumed and synthesized by LPC are indefinite.

Fiedler [36] feels that:

Linguistic exactness has been a problem. . . The LPC score does have a clear denotative meaning, but the concept it measures (task - or relationship - motivation) is less precise than would be desirable. There can be little serious question that we are in the right ballpark, but it is difficult to put your finger right on the specific behaviors the score measures.

Conceptual Utiy

The components of the theory are oriented toward the same set of behavioral phenomena. Additionally, its assumptions have been stated explicitly with the propositions implied by it emanating from the same set of assumptions. Fiedler [36] believes:

. . . that the components of the theory refer to the same set of behavioral phenomena, since the components (e.g., LPC, situational control, etc.), are operationally defined, as are such concepts as "leader" or group member.

Empirical Interpretability

One of the major weaknesses of the theory is that linguistic exactness is not well established for all concepts, thereby causing difficulties in empirical interpretability.

Critics, such as Graen et al. [45, 46], Ashour [4], Chemers and Rice [14], and Kerr [56] have commented upon the difficulty of interpreting the LPC scale. Chemers and Rice [14] mention that currently three possible interpretations of LPC are most prominent--an index of task versus interpersonal orientation, motivational priorities, or cognitive complexity.

Fiedler attempted to develop carefully and precisely the variables of LPC and situational favorableness in order to assure empirical interpretability. Despite his intention, success in operationalizing them is highly questionable and empirical interpretability is equivocal. According to Fiedler [36], on this criterion:

. . . the theory leaves something to be desired. This is primarily true of the leadership style score (LPC) and its interpretation as task - and relationship - motivation or as a motivational hierarchy index . . . Critics of the theory have made much of that problem, and it is still an unresolved issue, although we know a great deal more about the LPC score and the situational control of favorableness dimension than some of the critics are willing to admit. (Rice, for example, did a complete literature survey based on some 200 studies and finds no question that low LPC people are more strongly oriented toward the task than the relationship, while high LPC people are more strongly oriented toward the relationship than the task.)

The LPC score is a critical variable in the theory, yet there is no definite interpretation of what it actually measures.

Representativeness

The theory deals with mechanisms that appear to be lacking in depth compared to both Vroom's and House's theories. The basic mechanism of "situational favorableness" which indicates the degree to which a situation provides the leader control and influence over group outcomes deals with only three situational variables. However, several different variables have at times been used to specify favorableness, but they are not part of the formal specification [14]. Numerous other variables prominent in leadership research, such as those used by Vroom or House, could be incorporated into the theory.

Kerr [56], Graen et al. [45], and Korman [57] have criticized the theory because of the lack of knowledge as to how some of its basic theoretical constructs work and the underlying mechanisms by which they operate. Specifically, Korman suggests that it has suffered greatly from the failure both to have the personality constructs offered as contingency variables more situationally defined, and the measures developed construct validated early in the research [57].

Fiedler [36] pinpoints the LPC score as presenting "the black box problem" on this criterion.

Methodological Criterion

Falsifiability

Falsifiability of a theory is highly dependent upon such attributes as empirical interpretability, linguistic exactness, and

representativeness. Thus, Fiedler's theory is weak on this attribute since it scored relatively poorly on them.

Graen et al. [45] attacked it on this criterion by concluding that:

A second and equally important difficulty is that this procedure insulates the model from the possible correcting influences of disconfirming empirical results by trapping the theorist within the data-proof confines of his model: Results of empirical studies are forced by the procedure into a form that cannot present negative feedback to the theorist. Thus, the model is rendered insensitive to the correctional influences of negative results. [pp. 294-295]

Another critic [54] claims Fiedler "adapts and reclassified other researchers' findings so that they have enhanced probability of fitting his original model" [p. 388]. Fiedler [36] contends that the "Graen et al. study, which is widely quoted by critics as evidence that the theory does not predict, is patently unsound from a methodological point of view."

Epistemological Criteria

Confirmation

The majority of studies testing the theory support its predictive ability [14, 32]. In reply to critics such as Graen et al. [45, 46] and Ashour [4], Fiedler [36] comments that:

. . . A substantial number of studies have tested various octants of the Contingency Model, and if most of these studies had come out in the opposite direction from that which was predicted, the theory would not stand up. While various critics claim that almost none of these findings are, by themselves, statistically significant, this is a problem in the leadership area; namely,

that it is very difficult to get a large sample of groups which perform identical or comparable tasks. The fact of the matter is, however, that 39 of 45 correlations were in the predicted direction which far exceeds chance, and that a joint probability, computed by R. A. Fisher's method, shows most of the octants to be significant in the predicted direction.

In his opinion [36]

. . . the strongest confirmation of the theory comes from the Chemers and Skrzysek study at West Point (1972) which tested the theory as a whole and accounted for no less than 28% of the predictable variance in performance (Shiflett, 1973). Similar studies, but only of four of the eight octants, have been conducted by Hardy (1971, 1976), and Hardy, Sack, and Harpine (1973). I cannot conceive of any way in which these could have been chance findings.

Originality

The contingency approach used first by Fiedler has come into generic use for a wide range of situational approaches which are presently at the forefront of leadership research. Fiedler [36] points out:

. . . It was the first theory which, in 1964, proposed the contingency notion, and the term contingency has become something of a buzz word in the leadership literature at this time.

External Consistency

The theory is very consistent with the consensus of studies showing the need for an interaction approach which recognizes the significance of both situational and personal determinants of leadership phenomena (i.e., his contingency approach). However, it is not very consistent with personality theory and it has had minimal impact on this and other fields of psychology.

Fiedler [36] concludes that:

External consistency is not a strong point with the Contingency Model, although it does tie in with such theories as the Burns and Stalker model of organizational climate, the Lawrence and Lorsh work on integration, and work on relating situational control to decision theory.

Unifying Power

The introduction of this theory had a major influence in both explaining and dispelling other theories of leadership not using a contingency approach. Since then, its thrust has been toward connecting and confirming propositions within its own domain.

Stability

The theory has been dynamic because Fiedler has been able to incorporate multifarious psychological and organizational variables into it [14]. For example, in 1972, he offered a new interpretation of LPC as an index of a hierarchy of goals to replace its original interpretation as an index of "the goal" that motivates leader behavior. Chemers and Rice [14] point out that this motivational hierarchy hypothesis was prompted by the need to integrate several new findings and evidence from earlier studies.

Pragmatic Criteria

Heuristic Power

Probably the theory's strongest point is its heuristic value. According to Fiedler [36]:

. . . It has given rise to well over 300 different papers, studies, and articles, and it has suggested new ways of approaching such problems as the effect of leadership experience and leadership training . . . These papers also speak to the flexibility of the theory.

Methodological Simplicity

Both the LPC scale and favorableness dimension appear to be relatively easy to operationalize using the instruments developed by Fiedler. Graen et al. [45] pointed out that the procedure of ordering the group-task situations in terms of favorableness for the leader forces a researcher to make several critical decisions based upon inadequate information.

Durativity

The comments of Chemers and Rice [14] related to this criterion summarize it best when they stated:

. . . that after twenty years of research, the contingency model is alive and well. It is, in fact, still growing and promises to remain a viable source of research ideas and theoretical advances. [p. 123]

The stability of the theory has strengthened its durativity.

Utility

The theory has been relatively successful with respect to predictive validity; i.e., its ability to specify certain contingencies under which one type of leader behavior is predicted to be more effective than another. However, the mechanism(s) by which the contingency variables affect the dependent variables have not been

established clearly, thereby creating serious theoretical shortcomings in the theory.

Potential of Fiedler's Leader Match for
Leadership Training of District Managers

Fiedler contends that group performance can be improved either by altering a leader's motivational structure (as reflected by his LPC score) or by modifying his leadership situation. With respect to these two alternative approaches, he postulates [35]:

. . . While it is possible, of course, to change personality and the motivational structure that is a part of personality, this is clearly a difficult and uncertain process. It is, however, relatively easy to modify the leadership situation. We can select a person for certain kinds of jobs and not others, we can assign him certain tasks, give him more or less responsibility, or we can give him leadership training in order to increase his power and influence. [p. 12]

He is making two very large assumptions which are extremely critical to field sales force management: (1) he assumes the leadership situation confronting the district manager to be easily changeable, and (2) he assumes that organizations can select types of salespeople for certain types of sales managerial jobs, and not others.

In regard to the first assumption, the leadership situation is usually highly malleable on both leader-member relations and leader position-power variables. The third variable task structure is not easily changeable in field sales force management. It is very difficult to increase task structure for a district manager because of the amount of role conflict and role ambiguity inherently built into the

job. As a result, the easier and probably more successful approach for leadership training of district managers is to attempt to change their motivational structure.

The second assumption is that the organization determines entirely who is placed in specific positions and assigned certain tasks. This is not necessarily a truly accurate picture in most sales organizations. Typically, the best salesperson is first given the opportunity for advancing into a district manager position. If a firm ignores such an individual and promotes someone else into this slot (either another employee or someone outside the organization), serious repercussions could be generated such as a drastic drop in morale, increased selling expenses, and higher turnover of sales force personnel. Most firms promote the supersalesperson into management because he has earned the opportunity to try to advance himself. The firm is basically locked into this decision and anything other than this usually produces deleterious consequences.

Evaluation of House's Path-Goal Theory

Formal Criteria

Internal Consistency

Despite its relative complexity, path-goal theory scores well on the criterion of internal consistency. The theory appears quite logical, but its major propositions are sometimes deficient in preciseness. For example, one proposition [49] of the theory is that:

. . . leader behavior will be motivational to the extent that it helps subordinates cope with environmental uncertainties, threat from others or sources of frustration. [p. 33]

Such a propositional statement can hardly be subject to contradiction or refutation.

Strength

House built path-goal theory on the well-established and empirically proven general motivational theory of expectancy theory, developed by Vroom [94], Galbraith and Cummings [43], Lawler [58], and Georgopoulos [44]. Since the introduction of expectancy theory in 1964, a large number of studies have been done providing strong empirical evidence to support it.

According to Kelly [54]:

. . . Thus in building on expectancy theory, House built on a solid theoretical foundation which allowed him to think out the consequences of leader initiating structure and consideration as they affect the individual's motivation. [p. 400]

Semantical Criteria

Linguistic Exactness

Some of the concepts such as the leader's strategic functions and subordinates' psychological states are defined clearly. Ambiguity arises in defining the exact dimensions of the subordinates' environment and their impact on the relationship between leadership and subordinates' psychological states. Does each variable in the subordinates' environment impact this relationship equally or is there a

differential effect? What is the relationship between these environmental variables and individual (as opposed to group) psychological states? [70].

Conceptual Unity

The various components of the theory, mainly the leader's strategic functions, situational variables, and psychological states, have been developed using an interdisciplinary approach. Yet, they all refer to the same set of behavioral phenomena. In addition, the propositions borrowed from various theories to develop path-goal theory appear to be based on highly compatible assumptions which have been stated explicitly.

Empirical Interpretability

Due to its high level of abstraction, House's theory raises more problems of empirical interpretability than the other two. In addition, linguistic exactness is not well established for all concepts and relationships, thereby further creating problems in interpretation.

Representativeness

The main mechanism underlying it is a set of causal relationships developed from expectancy theory which are highly abstract in their theoretical formulation. Consequently, some of its basic components such as instrumentality, valence, and expectancy are mechanistically related. These are assumed to link leader behavior with a subordinate's motivation to perform or his satisfaction with the job.

Methodological Criterion

Falsifiability

The theory is open to empirical testing and despite its relative newness it has been tested by numerous researchers. Testability of the hypotheses proposed by House in his formulation of the theory was apparently a major concern.

Epistemological Criteria

Confirmation

According to House and Dressler [49], five of the six studies considered as post hoc tests (compare the findings from leadership research in terms of situational differences) of path-goal theory are consistent with it. The same authors contend that more recent a priori tests provide general support for it [49]. Osborne [70] proffers that on purely statistical grounds, the empirical evidence may not be as supportive as House and Dressler suggested.

Recent studies by Sheridan, Downey and Slocum [25, 82], and Sziligy and Sims [89] found leader behavior to be related to subordinates' motivation and job satisfaction but it was not related to their job performance. The research findings of Stinson and Johnson [86] also contradicted the theory's predictions regarding leader initiating structure behavior and job satisfaction.

Originality

House, like Fiedler and Vroom, uses a situational approach to investigate the leadership area. Because his original intention for developing the theory was to reconcile the apparently contradicting and confusing findings in leadership research, originality is lacking [48].

External Consistency

Overall, House's theory meshes well with current empirically tested knowledge in leadership. It is highly compatible and well integrated with other theories and, as stated earlier, it is built on the solid theoretical foundation of expectancy theory.

Unifying Power

Path-goal theory has done a good job of both confirming some older suspicions and clarifying previously conflicting findings in leadership research.

Stability

The original theory has been revised and expanded to include both environmental and individual difference variables since they can moderate the relationship between leader behavior and subordinates' work attitudes and job performance. House [49] contends that his theory:

. . . is promising and potentially capable of reconciling inconsistent findings concerning leader initiating structure and leader consideration. Further, the theory is asserted to be sufficiently general to permit identification of other critical dimensions of leader behavior and to reconcile conflicting evidence
[p. 41]

Overall, it displays sufficient conceptual flexibility to permit extensions and refinements of it.

Pragmatic Criteria

Heuristic Power

Since its introduction in 1971, path-goal theory has generated over thirty articles, papers, and studies. It has been moderately successful in identifying intermediating variables and their impact on the relationships between leader behavior and overall job satisfaction and performance.

Methodological Simplicity

Because of its broad nature, there are problems in operationalizing certain variables, especially task structure and leader initiating structure. For example, a researcher must choose between investigating a leader's behavior toward his work group in general or his behavior toward a particular respondent [80].

Durativity

The theory has been used to investigate the leadership area for six years with no apparent decrease in the enthusiasm of researchers using it.

Utility

The theory is very useful as a theoretical framework for explaining the effects of leader behavior on both subordinate satisfaction and motivation. Overall, House's integrating objective has been achieved only partially since the relationships between leader behavior and subordinate performance are still unclear.

Potential for Leadership Training of District Managers

Presently, there is no training program available.

Evaluation of Vroom-Yetton's Theory

Formal Criteria

Internal Consistency

The presentation of the theory is quite logical with no apparent contradictions in the seven rules or guidelines underlying it. Some rules are nested within other rules, whereby violating one guideline is a special case of violating another [100]. The nesting appears logical in all cases.

Strength

The coverage of the theory is extremely narrow, dealing with only a single aspect of leadership--the degree to which a leader involves his subordinates in decision making. However, the theory is general in that it purports applicability to all types of decision-

making and problem-solving situations. It does not incorporate other formal theories per se, but an effort was made to use all existing research, especially in the areas of decision making, participative management, and leadership in developing it.

Semantical Criteria

Linguistic Exactness

With respect to this criterion, Vroom and Yetton's theory exhibits minimal ambiguity and vagueness. The situational variables, leader behaviors, and guidelines are all defined precisely.

Conceptual Unity

The concept of managerial decision-making process or leader behavior plays a central role in the model. Throughout their research, the authors made constant reference to the "same universe of discourse" [112]. It appears the components of the theory refer to the same set of behavioral phenomena in field sales force management. Determining the theory's applicability to this area is a major objective of this research.

Empirical Interpretability

Because of its relatively low level of abstraction, the theory raises far fewer problems of interpretability than its competitors do. An additional reason for its strength on this property is that linguistic exactness is established for all concepts.

Representativeness

The two mechanisms underlying the theory are the seven guidelines and Model A--a time-efficient model. They were developed from existing research plus intuitive judgments by the researchers. One advantage of this theory over the others is that it includes more situational variables. However, it fails to emphasize the importance of leader and positional power in choosing leader behaviors.

Methodological Criterion

Falsifiability

Because the theory is relatively new, little empirical testing has been done to validate it. However, Vroom and Yetton advocate the use of "hard" data for validation, and they have developed an empirically testable theory that appears to have the potential of being confirmed and refuted by the results. To date, they have relied on the use of recalled decision situations by managers (one that proved to be successful and one that proved to be unsuccessful as perceived by the manager) and compared these situations against the theory [97]. Some of the shortcomings of this approach are: (1) some managers can't seem to recall unsuccessful situations; (2) because a manager often doesn't know the degree of success or failure of his decision to a later period in time, his recollective accuracy could leave something to be desired; and (3) different managers do not universally use the same criteria as the theory for measuring effectiveness of decision outcomes.

Epistemological Criteria

Confirmation

Although the theory has been subject to limited empirical testing, the results have been quite favorable to date. In two separate attempts at validating it, 46 and 96 managers were used to generate sample sizes of 88 and 181 written accounts of decision situations which proved to be successful and to be unsuccessful as perceived by the managers themselves [99]. When these accounts were coded by the managers and run through the theory, the results from both studies clearly supported it.¹

Originality

Since their purpose for developing the theory was to provide a managerial tool for matching leader behaviors to situational demands, a situational approach similar to those of both Fiedler and House was used. Therefore, originality is not a strength of the theory.

External Consistency

The theory is definitely consistent with the prevailing view of using a situational approach to study leadership. In addition, it is compatible with existing knowledge in the area of subordinate participation in decision making.

¹The methodology used in validating the theory is discussed in detail in the next chapter.

Unifying Power

The results of numerous studies on participative management are both inconclusive and contradictory. However, the theory has shown a unique ability to identify and to explain the situational variables which affect the efficacy of different leader behaviors.

At present, the theory has not been extended to other areas. In this study, an attempt will be made to extend it to field sales force management.

Stability

Because of its newness and limited empirical testing, the theory cannot be evaluated fairly on this criterion.

Pragmatic Criteria

Heuristic Power

To date, the theory has generated very little research interest, other than studies conducted by Vroom and his colleagues.

Methodological Simplicity

Presently, the methodology used for validating the theory appears to be very simple to understand and to apply.

Durativity

It appears to have the potential to guide worthwhile research, thereby assuring itself of a long life. To date, the theory has been used for investigating the leadership area for approximately five years.

Utility

According to Vroom and Yetton [100], the theory was developed primarily for leadership development by providing practicing managers with a pragmatic tool for identifying situational conditions which determine appropriate leader behaviors. On this criterion, the verdict is still out.

Potential of Vroom-Yetton's Telos for Leadership Training of District Managers

Telos deals with training managers on a single type of leadership decision--the degree to which leaders should share their decision-making power with subordinates when confronting different situations. District managers make this decision often because they are confronted continually with problem-solving and decision-making situations which involve and affect their sales force. Telos should be able to train district managers to use their salespeople more effectively in decision making, thereby improving the overall quality of the decision and getting the necessary level of commitment from them using the least amount of time.

Leadership training of district managers must concentrate on changing leadership attributes as opposed to situational variables because research has shown situational variables (specifically task structure) to be virtually unchangeable due to the nature of their jobs. Therefore, Telos appears to offer more potential for training district managers than Leader Match.

Concluding Comments on the Evaluation Process

In the previous section, an attempt was made to evaluate three theories of leadership which have come to dominate the leadership literature in the past two decades. Each theory was evaluated on seventeen criteria previously suggested in an evaluation model. Figure 16 [19, 112] summarizes the results.

The evaluation process was somewhat subjective, and different individuals may evaluate differently the degree of success with which a given theory satisfies a particular evaluative criterion. It was a difficult task to compare these theories with one another, despite the fact that all three use a contingency approach.

A second major obstacle in comparing them was the wide divergence of research and empirical testing of each theory. Fiedler's theory has been tested empirically, evaluated, and reevaluated by numerous researchers since its inception. At the other extreme, the Vroom-Yetton theory because of its newness is virtually untested to date other than two validation studies by the same researchers. House's path-goal theory has been tested empirically on a very limited basis, again because of its brief existence.

Because systematic empirical testing of both the House and Vroom-Yetton theories is lacking, it was much easier to be critical of Fiedler's theory. The literature is replete with empirical studies, critical evaluations, etc. which both confirm and refute its value.

	Fiedler	House	Vroom-Yetton
FORMAL CRITERIA			
1. Internal Consistency	Good	Good	Very Good
2. Strength	Very Good	Excellent	Fair
SEMANTICAL CRITERIA			
3. Linguistic Exactness	Poor-Fair	Fair-Good	Excellent
4. Conceptual Unity	Very Good	Very Good	Very Good
5. Empirical Interpretability	Fair	Fair	Very Good
6. Representativeness	Poor-Fair	Very Good	Very Good
METHODOLOGICAL CRITERION			
7. Falsifiability	Fair	Fair-Good	Fair-Good
EPISTEMOLOGICAL CRITERIA			
8. Confirmation	Good-Very Good	Fair-Good	Very Limited
9. Originality	Excellent	Fair	Fair
10. External Consistency	Fair	Very Good	Very Good
11. Unifying Power	Fair	Very Good	Good
12. Stability	Excellent	Good	Fair ^a
PRAGMATIC CRITERIA			
13. Heuristic Power	Excellent	Fair-Good	Poor-Fair
14. Methodological Simplicity	Fair	Fair	Excellent
15. Durativity	Excellent	Fair-Good ^a	Fair
16. Utility	Fair-Good	Good	Fair-Good ^a
17. Potential for Training District Managers	Poor-Fair ^a	N.A.	Excellent ^a

Fig. 16. An evaluation of three major theories of leadership. (Adapted from Table 5-3 in Gerald Zalman, Christian R. A. Pinson, and Richard Angelmar, *Methodology and Consumer Research*, New York: Holt, Rinehart and Winston, Inc., 1973, p. 104; and from Table 2 in Stuart C. Dodd, "Introducing Systematics for Evaluating Symbolic Systems," *Systematics*, 6, 1968, pp. 33-34).

^aDue to a lack of evidence, a tentative evaluation is given a theory on this criterion.

However, this is also an indication of Fiedler's contribution to the study of leadership. If the other two theories can generate as much research interest as Fiedler's theory, then they have served a very important function. Time will be the true test.

Possibly a third obstacle is the actual criteria used for evaluation. They may be insufficient in that they do not take account of the distinctive and unique qualities of each theory.

Summary

The primary purpose of the third chapter was to evaluate three leadership theories in order to ascertain the potential of these theories in field sales force management. After applying an evaluation model composed of seventeen evaluative criteria, the Vroom-Yetton theory was chosen as offering the greatest potential to this area. This theory received high ratings on all four semantical criteria (linguistic exactness, conceptual unity, empirical interpretability, and representativeness) and also on internal and external consistency and on methodological simplicity. As a result of the evidence generated by the evaluation model, Vroom and Yetton's theory and leadership training program (Telos) were selected and tested empirically. Fiedler's Leader Match training program was eliminated from consideration because of his two assumptions regarding training which appear to lack validity for district managers.

The next chapter discusses the proposed research methodology used to test both the Vroom-Yetton theory in a field sales force

management setting and the value of Telos for improving the leadership effectiveness of district managers.

CHAPTER IV

METHODOLOGY

Introduction

This chapter discusses the methodology used in the study. The conceptual framework used for presenting the methodology is organized into seven sections: (1) general research objectives, (2) hypotheses, (3) research setting and sample, (4) research procedure, (5) hypothesis testing, (6) analytical techniques, and (7) summary.

General Research Objectives

In its broadest sense, this study explored the potential of applying organizational leadership models to field sales force management. Specifically, the three major research objectives of this study were: (1) to develop a district manager-specific model (DMSM) for measuring leadership behavior of district managers; (2) to validate Vroom-Yetton's Normative Model of Leader Behavior in field sales force management; and (3) to test empirically the value of Kepner-Tregoe's leadership program (Telos) for training district managers.

This research is exploratory since it is concerned with both the generation and clarification of hypotheses.¹

¹Using a different typology Rigby dichotomized research into basic and applied. Basic research is concerned with providing an explanation that will increase understanding of phenomena while applied

Zaltman and Burger [111] point out

. . . the nature of the exploratory mission is to clarify existing ideas about relations among concepts and perhaps discover new hypotheses. This is useful when the state of available evidence is internally contradictory or insufficient to permit the statement of formal hypotheses or the detection of new concepts. [p. 17]

Since field sales force management is devoid of leadership models and theories, an attempt was made in this study to discover empirically testable hypotheses which might help improve this situation.

Hypotheses

Three major research hypotheses were constructed and tested.

They were:

H₁: If the leader behavior used by a district manager in his recalled situation is in agreement with the leader behavior prescribed by the Normative Model, the probability of the decision outcome resulting from that behavior being deemed successful is higher than it being deemed unsuccessful by that same manager.²

research concerns itself with solving operational problems or improving solutions to problems. Because of the nature of its objectives, this investigation falls within the realms of applied research. See, Rigby, pp. 18-37.

²As perceived by a district manager, situation success is a function of both the quality or rationality of the decision and the acceptance or commitment on the part of salespeople to execute the decision effectively.

- H₂: The mean participation level (MPL) scores of district managers leadership trained in Telos undergo more change than the MPL scores of non-trained district managers when both groups are confronting identical situations.¹
- H₃: Telos trained district managers are more successful in choosing leader behaviors in agreement with the feasible set of leader behaviors prescribed by the Normative Model than non-trained district managers when both groups are confronting identical situations.

In essence the third hypothesis implies that there are fewer violations of the seven guidelines underlying the Normative Model by Telos trained managers than non-trained managers when both groups are confronting identical situations. From this perspective, Hypothesis No. 3 has seven sub-hypotheses; i.e., one sub-hypothesis for each of the seven guidelines.

The first hypothesis attempted to determine the validity of the Vroom-Yetton Normative Model of Leader Behavior for prescribing appropriate leadership behavior for district managers. Although the model has been validated in different organizational settings [98, 99, 100], its validity in field sales force management cannot be

¹MPL is an average participation level score computed for each participant. Its importance is discussed thoroughly in a later section of this chapter.

assumed since these studies were done outside the sales managerial domain. Empirical evidence was needed to show that leader behaviors of district managers in accordance with the Normative Model resulted in successful decision outcomes more frequently than unsuccessful decision outcomes, and that leader behaviors inconsistent with the model resulted in unsuccessful decision outcomes more often than successful ones. It was anticipated that the Normative Model had the potential to serve this area well.

The second hypothesis attempted to test the effectiveness of Telos in affecting change in the leadership behavior of district managers. To determine the overall effectiveness of the Telos leadership training program in improving the leadership behavior of district managers, the third research hypothesis was developed. From this basic hypothesis, seven sub-hypotheses were generated which attempted to measure the level of learning that occurred on each of the seven guidelines underlying the Normative Model.

Overall, this study attempted to test three hypotheses aimed at determining both the validity of the Vroom-Yetton Normative Model in field sales force management and the potential of a three-day leadership training program (Telos) for improving leadership behavior of district managers.

Research Setting and Sample

To test these three hypotheses, a sample of forty district managers was taken from two companies to participate in a leadership

training program conducted by Kepner-Tregoe at Valley Forge, Pennsylvania. Prior to the actual selection process, each company had to meet certain criteria established by this researcher in conjunction with Kepner-Tregoe. These were to: (1) provide a minimum of twenty district managers from its sales organization, each of whom was accountable for the activities of at least two salespeople; (2) be willing to cooperate within specified time constraints; and (3) agree to incur certain expenses of the study. The cooperation of two large packaged foods manufacturers was obtained.

The two participating companies were similar in many ways including: (1) multinational with domestic headquarters in the Eastern and Midwestern United States respectively; (2) producers of both consumer and institutional packaged food products with the bulk of their sales volume generated by the former; (3) selling multiple product lines carrying brands with strong images and large market shares; and (4) large sales organizations.

Despite strong similarities, major differences existed between them with respect to their field sales force operations. The first company had approximately 80 district managers each of whom supervised salespeople assigned to specific territories. The second company had approximately 22 district managers whose subordinates were broker retail sales personnel employed by a food broker. These district managers supervised the field sales force of a food broker which had been hired to service the second company's product lines at the retail

level. Consequently, the authority and power of a district manager over his "subordinates" (broker retail salespeople) were more limited in the second company. The limitations were most apparent in the areas of compensation and staffing. According to the Director of U.S.A. Field Sales, their district managers had no say in the salaries paid broker retail salespeople reporting to them. Salaries were determined solely by food broker executives. In the area of staffing, district managers could recommend hiring and firing of broker retail salespeople but they had no authority to make the final decision concerning these matters.

Research Procedure

Before discussing the actual procedural steps in detail, Figure 17 is presented to provide an overview of the research procedure used in the study.

Procedural Step 1--Preliminary Training on Five Leader Behaviors

During the first evening of Telos, the twenty trainees were assembled for orientation. At this time, the trainer introduced the taxonomy of leader behaviors (AI-GII) by giving a brief explanation of both who is involved and the amount of surordinate involvement for each leader behavior.¹ The purpose of introudcing these behaviors

¹See Chapter II for a detailed explanation of the five leader behaviors.

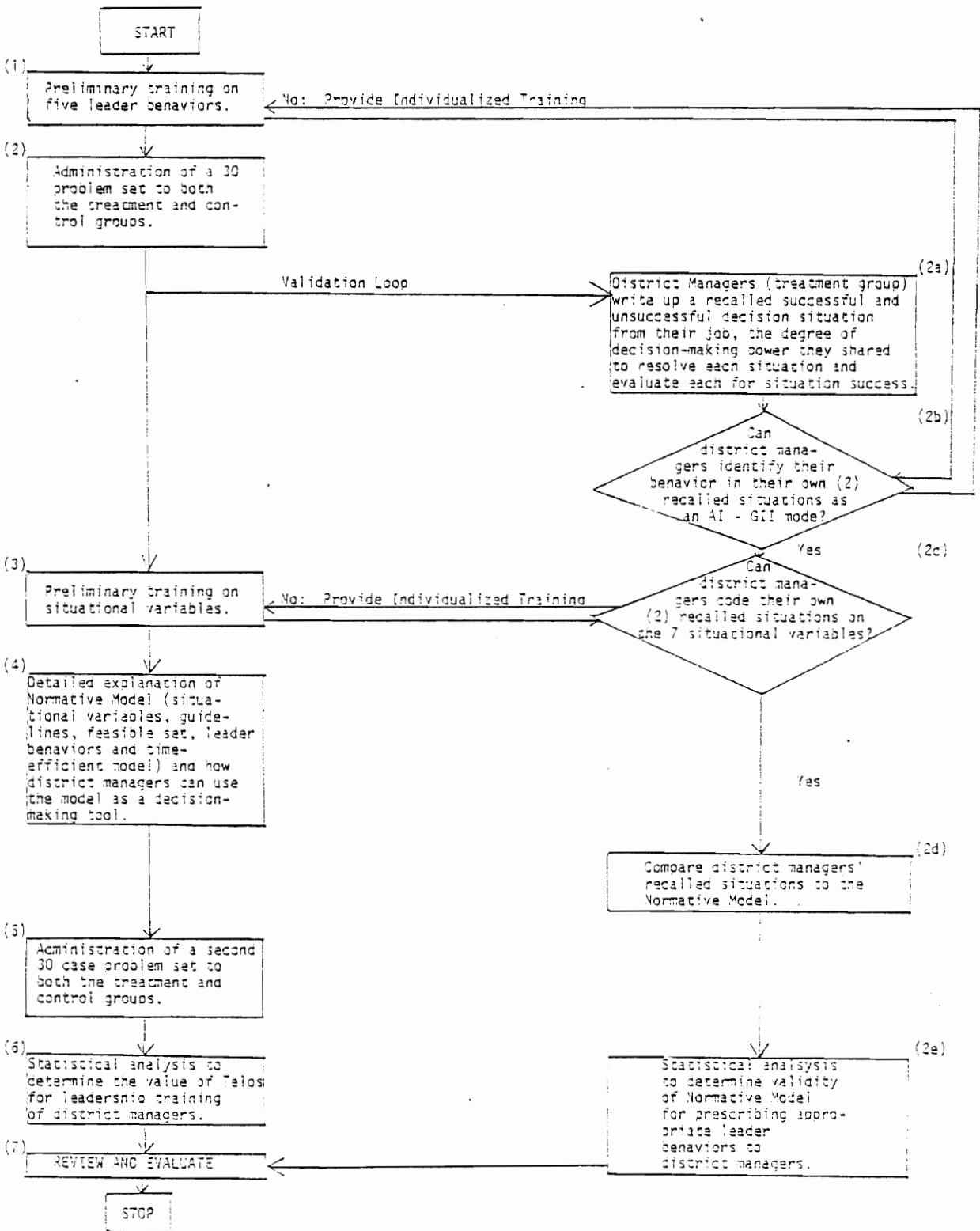


Fig. 17. Research procedure for the validation and training effect processes.

was to: (1) assist each trainee in choosing the leader behavior which best describes the one he would use if he was confronting each of the thirty situations, and (2) help each trainee identify the leader behaviors used by him in his recalled situations.

Procedural Step 2--Pretesting the Training and Control Groups

The second step in the flow chart involved administering a thirty case problem set to both the treatment and control groups. After preliminary training on the five leader behaviors, each participant was given a problem set by the trainer. During that same evening, each member of the control group had been asked to answer an identical set of thirty cases which he had received in the mail earlier in the week.¹ The thirty case problem set used in the pretesting of both groups contained 15 district manager-specific cases and 15 occupational-general cases. The odd numbered cases (1, 3, 5 . . . 29) were of the former type while the even numbered cases (2, 4, 6 . . . 30) were of the latter.

The occupation-general cases were borrowed from the occupation-general model developed initially by Vroom and Yetton and refined by

¹To control for the effect of history, Campbell and Stanley recommend simultaneity of experimental and control sessions. With assurance from the executives of both firms, the twenty district managers in the control group were pretested during the same evening as the treatment group. See, Campbell and Stanley, pp. 13-22.

Kepner-Tregoe. This model is a standardized homogeneous problem set composed of 30 cases in a multifactorial experimental design in which the cases vary systematically in their possession or absence of the seven situational variables used in the Normative Model.

Using this descriptive model, these cases were rewritten into a set of 30 sales managerial problem-solving and decision-making situations designed to present a district manager with a range of opportunities for selecting specific leader behaviors. These cases are tailored specifically to district managers with the field sales force management setting held constant. Both the problem requiring a decision and the activities of the leader and his subordinates are stated in a way that should be familiar to all district managers. Throughout the remainder of this study, the 30 case sales managerial problem set is referred to as the District Manager Specific Model (DMSM).

To insure the validity of the DMSM, a panel of Kepner-Tregoe experts reviewed the 30 cases.¹ The reviewing process was necessary to assure that the multifactorial experimental design of the original occupation-general model was retained in the DMSM.² Each field sales

¹For information see, Victor H. Vroom and Philip W. Yetton, Leadership and Decision Making (Pittsburgh: University of Pittsburgh Press, 1973), pp. 116-119 concerning the validity of the general descriptive model.

²The multifactorial experimental design used in the occupation-general model is such that the cases vary along each of the seven situational variables used in the development of the Normative model. Both the occupation-general model and DMSM are designed so that the variation is systematic and the effects of each situational variable on a given district manager's choice of leader behavior can be

force management case was coded on the seven situational variables. Following the coding, each case was run through the Normative Model to determine if its problem type corresponded with the problem type of the occupation-general case from which it was adapted. A unanimous decision on each case was required by the panel before it was incorporated into the DMSM. A total of six sample cases from both the DMSM and occupation-general model are included as Appendix C.

Using both types of cases, the treatment and control groups were given written instructions for the thirty case problem set. The instructions stipulated that each participant should put himself:

. . . in the position of the manager in each of the 30 situations, and record . . . which behavior you would use were you in that situation. Please note that we are interested in how you would act in each situation, and not how you think someone should act. [55:1].

The completed set of answers was recorded on a standardized form. The training group returned their forms to the Kepner-Tregoe trainer conducting the Telos program while the control group mailed their responses directly to this researcher.

Using 15 odd numbered district manager-specific cases in combination with 15 even numbered occupation-general cases resulted in the development of a standardized 30 case problem set. The

ascertained and measured easily. For a more detailed explanation, see; Victor H. Vroom and Philip W. Yetton. Leadership and Decision Making (Pittsburgh: University of Pittsburgh Press, 1973), Chapter 6.

simultaneous administration of this problem set to both the treatment and control groups was the second procedural step.

Procedural Step 2a--Generating Recalled Situations
to Validate the Normative Model

To determine the validity of the Normative Model in field sales force management, recalled situations were used in the validation process. Trainees were asked to recall two problem-solving decisions they had made recently on the job involving or affecting their subordinates--one that proved to be very successful and one that proved to be very unsuccessful. In addition, they were asked to identify the leader behavior best describing their leadership approach for resolving each situation. Examples of the instructions and forms distributed to each participant for describing the details of his two recalled situations are included as Appendix D.

After recording their two recalled situations, each trainee was asked to evaluate the degree of success of each situation on a nine point semantic differential scale. On the form it was indicated that situation success must be evaluated from an organizational standpoint.

Procedural Step 2b--Provide Individualized
Training on the Taxonomy of
Leader Behaviors

If a trainee was unable to identify the leader behaviors used in his recalled situations, he returned to the trainer for additional

training. This helped insure that each trainee understood the taxonomy of leader behaviors and each could chose the leader behavior which best described the one he actually used in his recalled situation.

Procedural Step 3--Preliminary Training on Situational Variables For Coding Their Recalled Situations

In the morning of the first full day of training, the participants were introduced to the seven situational variables which are problem attributes most likely to influence the effectiveness of their leadership behavior. These variables were explained in order to prepare the trainees for coding their own recalled situations. Coding involved having each participant ask himself the diagnostic questions corresponding to the seven situational variables and to score them with a "yes" or a "no."¹ The forms used by the trainees for coding their recalled situations are included as Appendix E.

Procedural Step 2c--Provide Individualized Training on Seven Situational Variables

If a trainee was unable to code his recalled situations on the seven situational variables, the trainer provided additional explanation. With the insights gained from this personalized attention, trainees were better prepared to return and to code their own recalled situations.

¹It should be emphasized that at this point in time the participants have not been introduced to the Normative Model. Therefore, they do not know the feasible set of leader behavior for each problem type as prescribed by the model.

Procedural Step 2d--Comparing Recalled
Situations to the Normative Model

Step 2d in the validation process involved applying the Normative Model to each coded recalled situation to determine its problem type. Figure 18 shows the latest version of the Normative Model in the form of a decision tree. A key for identifying and explaining its major components is provided at the bottom of the model.

The seven situational variables at the top of the decision tree are critical factors a manager should examine when confronting a decision-making or problem-solving situation. Having assessed each of these variables by answering its corresponding question (A-G), a manager discovers a number and a set of leader behaviors at the end of each branch. These numbers are used simply to represent twelve different problem types based on the presence or absence of one or more of the seven situational variables. More importantly, accompanying each number is a feasible set of leader behaviors prescribed by the Normative Model. By analyzing any situation on these seven diagnostic questions, the model provides a manager with a set of leader behaviors to use which should increase his probability of achieving a successful decision outcome.

By taking each manager's coded recalled situations and running them through the Normative Model, a problem type and feasible set of leader behaviors for that problem type could be determined for each situation. With this information, the actual leader behavior used

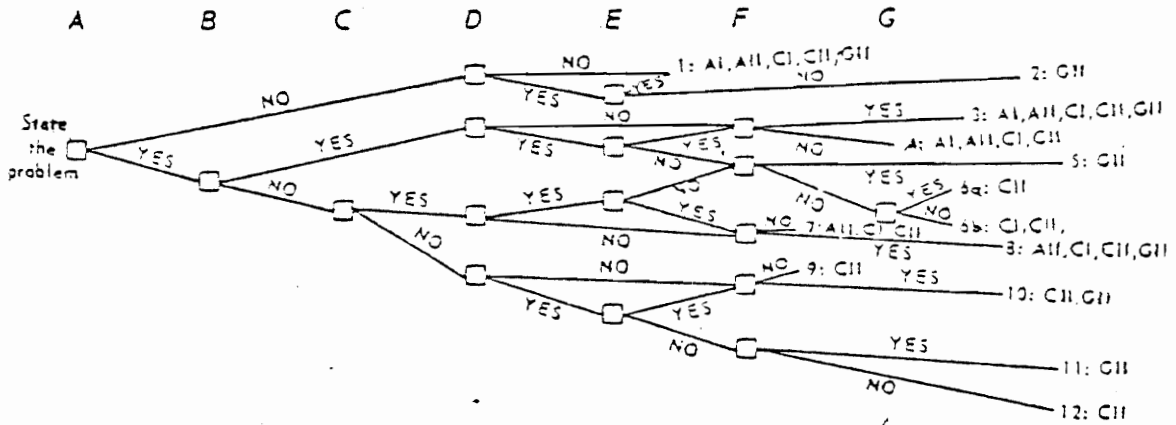


Fig. 18. Components of the Normative Model of leader behavior. (Adapted from Figure 2 in Victor Vroom, "Can Leaders Learn to Lead?" Organizational Dynamics 4 (Winter 1976):19.

- A. Does it make a difference which course of action is adopted?
- B. Do you now have adequate information to make a quality analysis?
- C. Do you know exactly what information is missing and how to get it?
- D. Is commitment of others critical to effective implementation?
- E. Will they commit to a decision made by you without their active participation?
- F. Is there goal congruence between the subordinates and the organization?
- G. Is there likely to be conflict about alternatives among the subordinates?

Key to Components of Normative Model

A, E, C, D, E, F, G--represent seven diagnostic questions used by a district manager to determine the presence or absence of each situational variable. (Refer to Table 9, Chapter II).

AI, AII, CI, CII, GII--taxonomy of leader behaviors available to a district manager. (Refer to Table 8, Chapter II).

1-12--a descriptive tool for identifying various types of problems when on or more of the seven situational variables are present or absent.

Feasible Set--one or more leader behaviors prescribed by the model for a specific problem type (ex. problem type #5--GII is its feasible set).

by a district manager in his recalled situation and the degree of situation success resulting from its use was compared to the feasible set of leader behaviors prescribed by the model for that problem type. Situation success is defined as a function of rational quality and commitment, i.e., a district manager finds a technically correct solution and he sees it implemented successfully.

The actual testing of the general research hypothesis dealing with the validation of the Normative Model is described in a later section of this chapter under that heading.

Procedural Step 4--Telos Leadership Training of Twenty District Managers

During the first day of training, the participants were assigned to teams to discuss the first five cases. After the group discussion, the basics of the Normative Model were introduced followed by a detailed explanation of the seven situational variables. In the beginning of the second day, each participant was given computer-generated feedback in the form of three pages of printout which analyzed his leadership behavior as reflected in his answering of the 30 case problem set in the pretest. Most of the second and third days were spent explaining the meaning of these printouts. The printouts were used to provide a district manager with a picture or mirror image of his problem-solving and decision-making practices with respect to subordinates' participation. With this feedback serving to activate and to expedite each trainee's self-discovery process, changes in his

leadership behavior were a realistic goal. Tables 5, 6, and 7 are three "typical" pages of printout each trainee received in the training program.

Feedback Table 5--Proportional Usage
of Leadership Behaviors

Table 5 gave each trainee the percentage of times he chose a particular leader behavior for resolving the 30 cases compared to the other nineteen trainees in attendance. For example, Wilson (fictitious name) chose leader behavior AI 27 percent which was the identical proportion of times his peers chose it. In other words, Wilson chose AI as the leader behavior he would use for resolving eight of the thirty cases. For the CII mode, his peers preferred to use it four times more frequently than he did.

Below this appears a frequency distribution of participation scores providing Wilson with a picture of how participative his leadership behavior was compared to his peers. The distribution represents the Mean Participation Level (MPL) score for each participant.¹ The bottom line of the picture is a scale ranging from less participation (extreme left) to more participation (extreme right) with initials showing Wilson's MPL score (Y) and his group's MPL score (G). Each mark represents the MPL score of each trainee in Wilson's group.

¹The computation and meaning of the MPL score is explained thoroughly in a later section of the chapter.

TABLE 5
 PROPORTIONAL USAGE OF LEADERSHIP BEHAVIORS

NAME - WILSON

PROPORTION OF USE OF EACH LEADERSHIP BEHAVIOR

	AI	ALL	CI	CIH	GIH
YOUR FREQUENCY	27%	17%	27%	7%	23%
GROUP FREQUENCY	27%	15%	13%	28%	16%

FREQUENCY DISTRIBUTION OF PARTICIPATION SCORES

YOUR MEAN=Y	GROUP MEAN=G	ORGANIZATION MEAN=O
*	*	
*	*	
*	*	*
***	***	*

< LESS PARTICIPATION Y-G MORE PARTICIPATION >

YOUR MEAN= 4.31
 GROUP MEAN= 4.66

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TABLE 6

GUIDELINE VIOLATION FREQUENCY

NAME - WILSON

YOUR & GROUP FREQUENCY OF VIOLATIONS OF GUIDELINES

GUIDELINE	YOUR VIOLATIONS	AVERAGE GROUP VIOLATIONS	AVERAGE ORG. VIOLATIONS	SITUATION NUMBERS
1. INFORMATION	1 8%	8%	0%	14
2. GOAL CONGRUENCE	1 8%	9%	0%	5
3. UNSTRUCTURED SITUATION	5 83%	35%	0%	1 9 18 20 24
4. COMMITMENT	2 20%	21%	0%	2 20
5. CONFLICT	3 60%	31%	0%	1 6 15
6. FAIRNESS	1 50%	65%	0%	8
7. COMMITMENT PRIORITY	3 75%	60%	0%	1 12 21

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TABLE 7
 INFLUENCE OF SITUATIONAL VARIABLES
 ON LEADERSHIP BEHAVIOR

NAME - WILSON

YOUR & TIME-EFFICIENT MODEL'S REACTION TO EACH SITUATION VARIABLE

YOUR MEAN=Y	TIME-EFFICIENT MODEL MEAN=A
IMPORTANCE OF THE QUALITY OF THE FINAL SOLUTION	HIGH-----YA----- Y=4.19 LOW-----A-----Y----- Y=4.79
ADEQUACY OF MANAGERS INFORMATION AND EXPERTISE	HIGH-----A--Y----- Y=3.44 LOW-----Y-----A----- Y=4.95
DEGREE OF STRUCTURE IN SITUATION	HIGH-----A-----Y----- Y=4.79 LOW-----Y-----A----- Y=5.10
IMPORTANCE OF COMMITMENT	HIGH-----Y-A----- Y=5.03 LOW-----A-----Y----- Y=2.88
PROBABILITY OF COMMITMENT TO DECISION WITH- OUT PARTICIPA- TION	HIGH-----A-----Y----- Y=4.69 LOW-----Y-----A----- Y=5.38
GOAL CONGRUENCE	HIGH-----A--Y----- Y=5.73 LOW-----Y-----A----- Y=2.66
CONFLICT ABOUT ALTERNATIVES	HIGH-----A--Y----- Y=5.13 LOW-----Y-----A----- Y=3.50
	<LESS PARTICIPATION MORE PARTICIPATION>

In addition to the diagrammatic presentation of each participant's MPL, his numerical MPL is given at the bottom of the table with the group mean's MPL directly beneath it. Again, this provided each participant with a way of gauging how participative his leadership behavior was in comparison to his peers.

Feedback Table 6--Guideline Violation Frequency

The second computerized feedback analysis gave each participant the number of times both he and his group violated each of the seven guidelines underlying the Normative Model. Each guideline eliminates leader behaviors from the feasible set under certain specificable conditions. The set of guidelines are designed for using the assessments of the situational variables to protect both the quality and acceptance of a decision and to avoid jeopardizing situation success.¹

Reviewing Table 6, it shows Wilson violated the first guideline in Case 14 where he chose AI when the information guideline eliminated AI as an effective leader behavior. AI is the most autocratic leader behavior whereby a manager solves the problem by himself using whatever information is available to him at that time. In this case the quality of the chosen course of action is important and the manager has insufficient information to resolve the situation

¹The set of seven guidelines was presented as Appendix A.

alone. AI is an inappropriate leader behavior because with relevant information missing from his analysis, there is excessive risk of the manager implementing a low quality solution.

Accompanying the number of violations is the percentage of times each guideline was violated by the participant. For example, Wilson chose AI behavior 8 percent (once) of the twelve times this guidelines could have been violated.¹

In addition to each participant's frequency of guideline violations, there is a column showing his group's average percentage of violations for each guideline. This permitted further comparison of individual and average group leadership behavior.

Feedback Table 7--Influence of Situational Variables on Leadership Behavior

The 30 cases contained in the problem set were arranged in a multifactorial design with each situational variable systematically varied to permit each trainee to examine its influence on his leadership behavior. Table 7 provides such insights. In addition, it shows Model A--The Time-Efficient Model's reaction to each situational variable.² This model selects the most time-saving (autocratic)

¹The thirty cases are arranged to make each guideline operational these numbers of times: Information 12; Goal Congruence 12, Unstructured Situation 6; Commitment 10; Conflict 5; Fairness 2; Commitment Priority 4.

²For details, refer to Chapter II.

leader behavior in the feasible set after situation success is assured. For all cases, it maximizes the short run value of time.

Referring to Table 7, the terms "high" and "low" pertain to cases in which the situational variable is present to either a "high" or a "low" degree as designed in the 30 case problem set. Printed below each "high" and "low" is the participant's Average Participation Score (APS) on this variable.¹ For example, Wilson had an Average Participation Score of 4.19 on all cases with high rational quality and a score of 4.79 on all cases with low rational quality. At the bottom of the table is a participation line with the far left end side of the line representing low participation (approximately 0) while the extreme right side indicates high participation (approximately 10). On the two participation lines for each situational variable, there appears a Y and an A showing the APS for the individual and the Time-Efficient Model respectively.

From this printout, Wilson found that he agreed closely with the Time-Efficient Model for situations where the quality of the final solution was important and he was more participative than the model for less critical situations. In addition, Wilson appeared to be reluctant to offer much opportunity for subordinate participation in critical situations but he was more willing to offer it on decisions where the

¹This score is computed in the same way as the MPL score in Table 5.

outcome was insignificant. The larger the difference between the two points on the "high" and "low" degree lines the more influence this variable has on a participant's choice of leader behaviors. For example, importance of commitment and goal congruence influenced Wilson's leadership behavior more strongly in cases where they were present than other variables. Another approach for explaining Wilson's response to changes of a situational variable is to draw a line connecting the high Y and the low Y for each variable. The slope of the line shows the variable's impact on him. A positive correlation exists between slope and the degree of influence of a variable on a participant's behavior.

The leadership training program Telos was completed by all twenty district managers in three days. In this period, the trainer allocated the majority of his time to explaining the Normative Model, the five leader behaviors and the three pages of computer-generated feedback.

Procedural Step 5--Posttesting Both Groups

For the posttest a second set of thirty cases was mailed to participants in both the training and control groups approximately one month after the conclusion of the Telos training program. As in the pretest, the sets were identical in design. However, this time the odd numbered cases were occupation-general while the even

numbered cases were district manager-specific. In the pretest and posttest, the cases were arranged numerically. Upon completion, each participant was asked to return by mail his set of answers directly to this researcher.

Testing the Hypotheses

Validating the Normative Model-- Testing Hypothesis No. 1

The first general research hypothesis was developed to determine the validity of the Normative Model in field sales force management. Because extensive research has shown the "uniqueness" of this area, the model's validity cannot be assumed despite previously successful validation studies in other occupational areas. The validation process used is a replication of the methodology utilized by Vroom et al. in previous validation studies cited earlier in the chapter. In this research, the validity of the model was determined by measuring its ability to prescribe a feasible set of leader behaviors resulting in a successful decision outcome and to show that an unsuccessful decision outcome results from district managers using leader behaviors in disagreement with the feasible set. If a manager described his situation outcome as being very successful in his recalled situation, and the leader behavior he used to resolve it corresponded with the feasible set, this was deemed a success for the model. Similarly, if his situation outcome was very unsuccessful and his behavior

disagreed with the feasible set this also supported the validity of the model. By computing the number of successful versus unsuccessful leader behavior prescriptions by the model for the twenty participants' recalled situations, the validity of the Normative Model in field sales force management could be tested. In Figure 17, the first hypothesis was tested statistically in procedural step 2e.

Determining the Training Effect of Telos--
Testing Hypotheses Nos. 2, 3 and 3a-3g

Figure 19 shows the experimental design used for testing Hypotheses Nos. 2 and 3. With the Nonequivalent Control Group Design, both an experimental and control group are given a pretest and a posttest, but neither group has pre-experimental sampling equivalence since they have not been assigned randomly from a common population.¹ In addition, the assignment of the treatment (X = Telos) to one group or the other is assumed to be random and under the experimenter's control.

¹An attempt was made to get both companies to agree to random assignment of their district managers to an experimental and a control group permitting the use of a Pretest-Posttest Control Group Design. Sales executives from both companies would not agree to such an arrangement because it would have involved: (1) additional disruption of their field sales force operations especially for the second company with approximately 50 percent of its district managers attending the training program; (2) increased airfare costs to bring district managers from distant districts to the training site; and (3) increased travel time for their district managers meant sales districts would have been left unsupervised for longer periods of time. Campbell and Stanley recommend the use of this design in studies where the Pretest-Posttest Control Group, Solomon Four Group, and Posttest-Only Control Group are impossible. See, Campbell and Stanley, pp. 47-50.

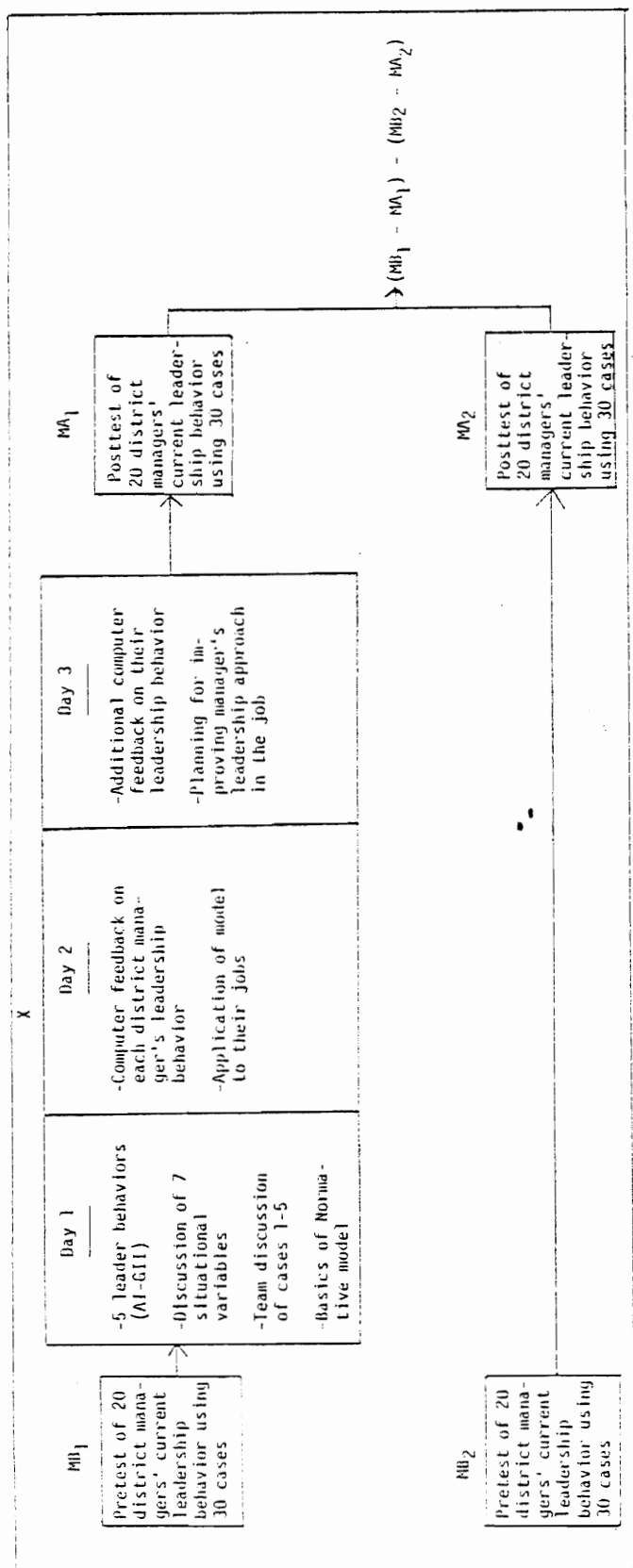


Fig. 19. Diagrammatic representation of the nonequivalent control group design for testing hypotheses Nos. 2, 3 and 3a-3g.

MB = before measurement; a measurement made on the dependent variable prior to the introduction or manipulation of the independent variable.

MA = after measurement; a measurement made on the dependent variable after the introduction or manipulation of the independent variable.

X = treatment; the actual introduction or manipulation of the independent variable.

Treatment group = a group in which the independent variable is manipulated.

Control group = a group in which the independent variable is unaltered.

Measure of Interest = change between the two groups. $(MB_1 - MA_1) - (MB_2 - MA_2)$

Figure 20 [10] shows the Nonequivalent Control Group Design controlling all sources of invalidity except for the interaction of selection and maturation, etc., and the interaction of testing and X. In addition, reactive arrangements, regression, and the interaction of selection and X are possible sources of concern for both internal and external validity.¹ Internal validity means that the effect of the experimental stimulus (Telos) did, in fact, make a difference in this specific experiment and this measurable effect was not confounded with effects from extraneous variables. External validity or representativeness concerns itself with the generalizability of the effect of the experimental treatment to other populations, settings, treatment variables, and measurement variables [10].

In attempting to minimize the potential sources of internal invalidity, executives of both companies were instructed to assign district managers to both groups who were most similar on four characteristics--age, education level, selling and sales management experience, and leadership style.² Before pretesting, both companies provided a "resume" of each district manager which permitted testing for homogeneity of the two groups on the first three characteristics.

¹For a complete explanation of the factors jeopardizing the validity of various experimental designs, see Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago, Ill.: Rand McNally College Publishing Co., 1963), pp. 5-6.

²Intelligence was a fifth characteristic under consideration but there was no appropriate measure of it common to both groups.

Sources of Invalidity											
Internal								External			
History	Maturation	Testing	Instrumentation	Regression	Selection	Mortality	Interaction of Selection and Maturation, etc.	Interaction of Testing and X	Interaction of Selection and X	Reactive Arrangements	Multiple-X Interference
Design 10:	+	+	+	+	?	+	+	-	-	?	?
Nonequivalent Control Group Design											
	$\frac{0}{0}$	--	X	--							$\frac{0}{0}$

Fig. 20. Sources of invalidity for the nonequivalent control group design. (Adapted from Table 2 in Donald T. Campbell and Julian C. Stanley, Experimental Designs for Research, Chicago, Ill., Rand McNally College Publishing Co., 1963, pp. 40).

(Note: In the figure, a minus indicates a definite weakness, a plus indicates the factor is controlled, a question mark indicates a possible source of concern, and a blank indicates the factor is not relevant. An X represents the exposure of a group to an experimental variable or event, the effects of which are to be measured. 0 refers to some process of observation or measurement).

Leadership style was measured in the pretest stage of the design using a 30 case problem set to determine the level of similarity between the groups on this variable. Using the Mann-Whitney test, there was no evidence that the differences on any of these four characteristics between the groups was due to anything other than chance. The complete results of these tests are included as Appendix F.

In an effort to minimize the impact of extraneous variables on external validity, certain precautions were taken. To reduce the reactive arrangements effect, executives of both companies were asked not to inform their district managers that they were participants in an experiment. It was expected that this would make the connection between the Telos program and the posttest less obvious, thereby decreasing the likelihood of this effect.

For this study, the interaction of testing and X (Telos) was expected to be minimal since the pretest involved having managers answer a 30 case problem set. To date, all managers put through this program have been pretested with a similar problem set to determine their current leadership behavior.¹ Therefore, pretesting did not appear to affect the generalizability of the treatment effect since it is incorporated into the training program.

The third source of external invalidity, interaction of selection and X, means that the effect of X may well be specific to

¹It is standard procedure for Kepner-Tregoe to administer a 30 case problem set on the first day of training to all participants.

district managers selected for this study. The probability of this occurring is positively correlated with the degree of difficulty one has in getting subjects for the experiment [10].¹

Under the constraints imposed by both Kepner-Tregoe and the two participating companies, the Nonequivalent Control Group Design was felt to be the best design for controlling sources of invalidity and for providing the most potentially fruitful results from testing these three hypotheses.

In testing the second hypothesis, the score under scrutiny for measuring behavioral change was Mean Participation Level (MPL) which provides an overall picture of a district manager's average level of participation. To compute MPL, the steps are: (1) each leader behavior is assigned a scaled numerical value;

AI	AII	CI	CII	GII
0	.625	5.0	8.125	10.0

(2) the leader behavior chosen for each case by an individual is multiplied by its appropriate scale value; and (3) sum these computations and divide by 30 to give an average participation score.²

¹Because of the nature of the study, there was little difficulty in finding two companies willing to participate. The district managers in this study were expected to be representative of district managers in general.

²The scaling of the leader behaviors indicates that the difference in participation between each of the five styles is unequal. For example, when a district manager moves from AII to CI, participation by his sales personnel in the decision-making process is much more than when he moves from AI to AII.

The research which led to the assignment of these scaled numerical values is included as Appendix G.

To determine the training effect of Telos on mean participation level (MPL) scores, $(MB_1 - MA_1) - (MB_2 - MA_2)$ was the measure of interest. This is simply the differences between the training and control groups' pretest-posttest MPL scores. Empirical testing was done to determine whether the MPL scores of the twenty Telos trained district managers changed significantly more than the MPL scores of the non-trained managers.

Hypothesis No. 3 attempted to determine the effects of Telos on the trained district managers' selection of leader behaviors for various problem-solving and decision-making situations. The score under investigation was the differences in both groups' pretest-posttest scores for choosing leader behaviors in agreement with the feasible set prescribed by the Normative Model. Symbolically, the measure of interest was represented by $(MB_1 - MA_1) - (MB_2 - MA_2)$.

Sub-hypotheses Nos. 3a through 3g were generated by general research Hypotheses No. 3 because the behavioral changes occurring in the leadership behavior of the Telos trained managers should have been caused at least partially by their learning of the seven guidelines underlying the Normative Model. The seven sub-hypotheses corresponding to the seven guidelines attempted to ascertain the level of learning on each guideline. If a district manager's chosen behavior was inconsistent with the feasible set, the manager violated at least one of the seven guidelines.

$(MB_1 - MA_1) - (MB_2 - MA_2)$ measures the learning effected on each guideline by the Telos training program. The statistical testing of Hypotheses No. 3 and 3a through 3g are shown in Figure 17 as comprising part of Procedural Step 6.

Analytical Techniques

Testing Hypothesis No. 1

In previous validation studies conducted by Vroom et al., the χ^2 test was used to determine the validity of the Normative Model. The chi square test is appropriate when measurement involves nothing more than assigning observations to different categories in a set of well-defined, mutually exclusive categories [105]. Since this part of the study attempted to replicate Vroom's previous validation efforts, the χ^2 was used.

Testing Hypothesis No. 2

To determine the effects of Telos on the leadership behavior of district managers, the statistical model of pooled t test was used. This test was chosen because it provides the necessary power for determining the statistical significance of the difference between the mean MPL scores for the treatment and control samples.

Testing Hypotheses Nos. 3 and 3a-3g

The most commonly used nonparametric rank test for comparing two independent samples is the Wilcoxon rank sum test which tests whether two samples come from populations with the same distributions. According to Ferguson [30]:

. . . all the available evidence indicates that the Wilcoxon rank sum test is an excellent alternative to the t test. [p. 328]

To measure the effects of training on district managers' learning, the Wilcoxon rank sum test was used to test this hypothesis.

Summary

The primary purpose of this chapter was to present the methodology used in the study. Three major research objectives were highlighted followed by a presentation and a discussion of three hypotheses tested empirically in this study. The nature of the sample and some of the more important characteristics of the forty district managers taken from two participating companies were discussed.

In the procedural section, an attempt was made to explain thoroughly and clearly the steps involved in generating the necessary data for testing three hypotheses. To achieve this, two figures were presented and discussed in detail. The next two sections explained what each hypothesis was attempting to measure and the appropriate statistical techniques for empirical testing. Figure 21 highlights the major concepts used throughout this chapter.

Trials

A three day leadership training program conducted by Keenan-Preppa for improving the leadership effectiveness of people in managerial positions. Its three major components are the Normative Model, the Occupation-General Model and the DMSM.

Occupation-General Model

A standardized homogeneous problem set composed of 10 cases in a multifactorial experimental design in which the cases vary systematically in their possession or absence of seven situational variables. The cases are managerial problem-solving and decision-making situations designed to present a range of opportunities for selecting specific leader behaviors. This general descriptive model is used to measure current leadership behavior.

District Manager-Specific Model (DMSM)

A problem set composed of 10 cases employing the same experimental design used in the occupation-general model. However, it is an occupational-specific instrument specifically tailored to district managers with the field sales force management setting held constant.

Normative Model

A prescriptive model for group problems, i.e., problems or decisions affecting all or a substantial part of a district manager's salespeople. It is a limited model since it deals with only one aspect of leadership behavior, the degree to which a manager shares his decision-making power with his subordinates.

Five Leader Behaviors

A taxonomy of leader behaviors with five available decision methods expressed in terms of the degree to which subordinates have the opportunity to participate in decision-making activities. (AI, AII, CI, CII, CIII)

Seven Rules

A set of guidelines underlying the Normative Model with each guideline affirming leader behaviors from the feasible set under certain specific conditions. The rules are designed for using the assessments of the situational variables to protect both the quality and acceptance of a decision, and to avoid jeopardizing situation success.

Feasible Set

One or more leader behaviors deemed appropriate by the Normative Model for a particular problem type. These represent the leader behaviors remaining after the set of seven rules have been applied.

Seven Situational Variables

Problem attributes to be assessed by a district manager about each situation. These critical factors are most likely to influence the effectiveness of his leadership behavior.

Twelve Problem Types

A descriptive tool for identifying the various types of problems which may confront a district manager when one or more of the seven variables is present or absent.

Situation Success

Defined as a function of rational quality and commitment, i.e., choosing a technically correct solution and securing the necessary level of subordinate commitment to implement it successfully from an organizational standpoint.

Model 1

A time-efficient model which selects the most time-saving, automatic, leader behavior within the feasible set after situation success is assured; maximizes a short-run value-time.

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Mean participation level is a mean score computed for each district manager by multiplying the leader behavior chosen by him for each case by its scaled value and dividing the total by 10.

Fig. 21. Components of the study and an explanation of terminology.

In the following chapter, data generated from testing the three hypotheses are presented accompanied by a statistical analysis of each hypothesis. The results of the research are highlighted and the major implications of these results are discussed and summarized.

CHAPTER V

DATA ANALYSIS AND RESULTS

Introduction

Having discussed the methodology used for gathering the data in the previous section, this chapter presents the data generated for testing the three research hypotheses and an analysis of the results from that testing. The first hypothesis dealt with determining the validity of the Normative Model in field sales force management, while Hypotheses No. 2 and No. 3 focused on measuring the effects of a leadership training program (Telos) on a sample of district managers.

This chapter is organized into four sections: (1) description of the data used for testing each hypothesis, (2) analysis of the results from the hypotheses testing, (3) discussion of the implications of these results, and (4) discussion of the implications of the data analysis and results. The chapter concludes with a summary highlighting the major findings and implications of the research.

Empirical Evidence of the Normative Model's Prescriptive Value in Field Sales Force Management

Because the Normative Model had never been applied in field sales force management, evidence was needed to show that district

managers using leader behaviors prescribed by the model increase their effectiveness as problem-solvers and decision-makers. Specifically, it needed to be shown that leader behaviors in accordance with the prescriptions of the model result in a higher proportion of successful decision outcomes for district managers. Similarly, evidence was needed to show that district managers' leader behaviors in disagreement with the model's prescriptions result in a lower proportion of successful decision outcomes. The purpose of testing the first hypothesis was to provide such evidence.

Description of the Data for Validating the Normative Model

Using the validation process described in Chapter IV, a total of 38 written recalled situations was collected from the twenty district managers trained at the Telos training site.¹ Although each manager was asked to provide two written recalled situations, one that proved to be very successful and one that proved to be very unsuccessful, two managers were unable to recall a very unsuccessful decision they had made on the job.

Of the 38 recalled situations, three were deleted because of improper scaling by the district managers on the nine point semantic differential scale for situation success. As managers selected a very successful and a very unsuccessful situation, any situation not scaled on either end points or the next inner pair was excluded from the data

¹ Refer to Chapter IV for a detailed explanation of the data collection process.

used for empirical testing. Consequently, 35 usable recalled situations were generated, 19 of which dealt with decisions deemed successful by the managers and 16 were identified as resulting in unsuccessful outcomes.

Figure 22 offers a sample of district managerial recalled situations classified along six criteria taken from Appendix H which presents all 35 recalled situations used in the validation process. The situations covered a range of district managerial decisions made relatively recently by the managers in their present capacity. Such decisions included taking action on handling a low performing salesperson, raising sales quotas, subordinate promotions, restructuring sales territories and other "typical" decision situations found in the daily milieu of a district manager.¹

In Figure 22, the first column shows the recalled situation number while columns 2 and 3 present the problem type and the feasible set of leader behaviors prescribed by the Normative Model for that problem type. By taking each manager's recalled situation which he had personally coded on the seven situational variables² and by applying the model to it, the problem type and feasible set of each situation was ascertained. The fourth column identifies the actual

¹Refer to Chapter I for a detailed discussion of the dynamic decision-making and problem-solving environment of district managers.

²Chapter IV presents a complete description of the steps in the validation process.

Recalled Situation	Problem Type	Prescribed Feasible Set	Actual Leader Behavior Used	Agreement With Normative Model	S/U Decision Outcome	V (+)/I (-) Model
1	3	AI-GII	CI	Yes	S	+
2	5	GII	CII	No	S	-
3	6a	CII	GII	No	U	+
4	3	AI-GII	CI	Yes	S	+
5	12	CII	GII	No	U	+

Fig. 22. Sample of district managerial recalled situations.

leader behavior used by a district manager in his situation while the fifth column shows a district manager's leader behavior agreeing or disagreeing with the feasible set prescribed by the model. The sixth column indicates whether or not the decision outcome resulting from his chosen behavior was deemed successful or unsuccessful by a district manager. In the last column, "+" indicates that a leader behavior used by a district manager consistent with the feasible set resulted in a successful decision outcome or a chosen behavior inconsistent with the feasible set resulted in an unsuccessful decision outcome. Both events strengthen the validity of the model while a "-" designates a situation which weakens its validity.

Analysis of the Results From Validating the Normative Model

Results obtained from the tests are presented in Table 8 in the form of a contingency table. The table indicates that when a district manager used leader behaviors in agreement with the feasible set the probability of a successful decision outcome was 67 percent while the probability of an unsuccessful decision outcome was 33 percent. Despite the tendency in the findings in favor of the hypothesis, the results were not significant at the .10 level. By using leader behaviors in agreement with the prescriptions of the Normative Model, district managers did not significantly increase their chances of having successful decision outcomes. Consequently, Hypothesis No. 1 was rejected.

TABLE 8
 SUMMARY RESULTS FROM USING RECALLED SITUATIONS
 TO VALIDATE THE NORMATIVE MODEL

Agreement with Feasible Set ^a	Decision Outcome		
	Successful	Unsuccessful	
Yes	12 (67%)	6 (33%)	18 (100%)
No	7 (41%)	10 (59%)	17 (100%)
	—	—	—
	19	16	35

^aFeasible set is defined as one or more leader behaviors deemed appropriate by the Normative Model for a specific problem type. These represent the leader behaviors remaining after the set of seven rules has been applied.

$\chi^2 = 2.29$ with 1 degree of freedom.

If a district manager's behavior was inconsistent with the feasible set, the probability of a successful decision outcome was 41 percent while the probability of an unsuccessful decision outcome was 59 percent. When district managers used leader behaviors in disagreement with the model, the proportion of unsuccessful decision outcomes was not significantly higher, evidencing further support for the above mentioned finding.

Implications of the Validation Results

The first test attempted to provide empirical evidence relevant to the validity of the Vroom-Yetton Normative Model of Leader Behavior in field sales force management. The test results were such that the relationships between district managers' leadership behavior and the degree of success of their decision outcomes were in the predicted directions. However, the test results were not found to reach an acceptable level of statistical significance.

The validation process used in this study was a replication of the process operationalized by Vroom and Jago in three previous validation attempts [98, 99, 100]. All three studies provided strong evidence for the validity of the Normative Model.

In previous validation attempts, large heterogeneous samples of managers were taken from numerous occupations and various organizational levels. This produced a very wide range of decision-making and problem-solving situations. In this study, a sample of twenty district managers was taken from two companies in the same industry.

A total of 35 recalled situations with very little variability in the actors and decisions was used for validating the model. By using the chi square test with such small samples, the probability of showing statistically significant results was reduced. With the chi square test, the significance level attained depends on the sizes of the samples. If the samples are very large, it is generally easy to establish a statistical significance for even a very slight relationship [91]. The sample of 35 recalled situations used in this study is substantially fewer than the samples used in previously successful validation studies of the Normative Model.

A second possible explanation for this study's failure to provide empirical evidence toward the validity of the model was the use of a very small non-random sample of district managers to generate the recalled situations. By using a non-random sampling method, the external validity of the experimental design was jeopardized.

A third possible explanation for the weak empirical evidence of the model's validity is the unique nature of the district manager's role in the organization. In Chapter I, a considerable body of research was presented supporting this position. Churchill, Walker and Ford and others suggested that field sales force management is different from all others, thereby requiring the development and testing of occupation-specific models exclusive to this area. Vroom and Yetton's Normative Model was not developed for field sales force management, but it was introduced as a general contingency model of leader behavior.

Although the statistical results from testing Hypothesis No. 1 were not significant, χ^2 of 2.29 with 1 degree of freedom is associated with $p < .15$. In addition the test results were in the predicted directions. Because of the exploratory nature of this study and the use of a small non-random sample of district managers, a probability of .15 indicates that the Normative Model did quite well in prescribing appropriate leader behaviors for district managers.

Previous validation studies indicate that the Normative Model in its present form offers potential for improving managerial effectiveness. However, additional research is needed to determine the model's validity for prescribing leader behaviors to district managers. Quite possibly the seven rules underlying the Normative Model need altering or adopting to account for the unique decision-making and problem-solving situations confronting district managers. Perhaps the Normative Model is not applicable in this particular industry or for that matter in field sales force management.

The major implication drawn from the validation process was that the Normative Model appeared to increase the probability of successful decision outcomes occurring as a result of district managers using its prescribed leader behaviors. The probability of unsuccessful decision outcomes also occurring appeared to be higher when district managers used leader behaviors disagreeing with the model. Overall, this research could not provide empirical evidence for the validity of the Normative Model in field sales force

management. To date, it appears that the model's applicability in this area is tenuous at best.

Measuring the Training Effect of Telos on the Leadership Behavior of District Managers

To determine the training effects of Telos on district managerial leadership behavior, the Nonequivalent Control Group Design was used.¹ By giving a pretest and a posttest to both the training and control groups, differential measures of leadership behavior could be computed and analyzed. Two measures investigated in this study were a differential MPL score and a differential agreement with the feasible set improvement score.

Description of the Differential MPL Score

To measure changes in the leadership behavior of district managers trained in Telos versus non-trained managers, a differential MPL score was computed for each manager.² Table 9 offers a sample of these scores taken from Appendix I which presents the differential MPL scores for all forty managers participating in the experiment. The first column simply represents a participant in the training

¹For details, refer to Chapter IV.

²All differential scores computed in this study are simply pretest-posttest gain scores. See, Campbell and Stanley, p. 23.

TABLE 9

SAMPLE OF DIFFERENTIAL MPL SCORES FOR BOTH GROUPS

Participant	Training Group				Control Group			
	(MB ₁) Pretest	(MA ₁) Posttest	(MB ₁ -MA ₁) Differential MPL Score	Participant	(MB ₂) Pretest	(MA ₂) Posttest	(MB ₂ -MA ₂) Differential MPL Score	
1	2.98	4.56	1.58	1	3.98	3.52	-.46	
2	2.81	4.98	2.17	2	4.65	4.65	0	
3	5.58	4.15	-1.43	3	4.08	4.58	.50	
4	5.73	4.94	-.79	4	4.92	5.15	.23	
5	4.06	7.19	3.13	5	4.29	3.38	-.91	

group while the second and third columns show the training group's pretest (MB_1) and posttest (MA_1) MPL scores.¹ The differential MPL score for a participant in the training group was the difference between his pretest and posttest MPL scores as shown in column four. The last three columns in Table 9 show the pretest, posttest and differential MPL scores for members of the control group.

The plus or minus sign preceding each differential MPL score shows the direction of change in a district manager's MPL score. For example, the first participant in the training group raised his mean participation level from the pretest to the posttest by 1.58. This score indicates that he would have increased his subordinate's average level of participation by this amount in attempting to resolve the problems confronting him in the posttest. Since it was predicted that the MPL scores of the Telos trained managers would undergo more change than the MPL scores of the control group, the direction of change was immaterial for testing the third hypothesis. The measure of interest was the mean differential MPL scores for the two groups.

¹MPL is a mean participation score showing the average level of participation used by a district manager in answering a 30 case problem set. The computation of MPL is discussed fully in Chapter IV.

Analysis of the Results From
Testing Differential MPL Scores

Because the assumption of homogeneity of variance could not be made, the pooled t test was used to determine the significance of the difference between means where population variances are unequal.¹ The unbiased estimate of population variance for the treatment and control groups were 1.04 and .24 respectively. The statistical results from using the pooled t test for determining the difference between the mean differential MPL scores for the treatment and control groups are presented in Table 10.

As shown in Table 10, the difference between the mean differential MPL scores was significant at the .05 level for a two-tailed test. The results indicate that the average differential MPL scores of trained district managers underwent significantly more change than the average differential MPL scores of non-trained managers when both groups were confronting an identical set of decision-making and problem-solving situations. In other words, the average level of participation offered by Telos trained managers to their subordinates changed substantially more from the pretest to the posttest than it did for the control group. Consequently, the evidence is consistent with research Hypothesis No. 2.

¹Justification for using the pooled t test was presented in Chapter IV.

TABLE 10
 POOLED t TEST FOR DIFFERENCE BETWEEN
 MEAN DIFFERENTIAL MPL SCORES

Training	Control
n = 20	n = 20
$\bar{X}_T = 1.31$	$\bar{X}_C = .73$
$S_{\bar{X}_T}^2 = .05$	$S_{\bar{X}_T}^2 = .01$
$S_{\bar{X}_T} - \bar{X}_C = .25$	
$t = 2.32^*$	

*With d.f. = 38, $p < .05$.

Implications of the Results of the Differential MPL Score Test

As discussed in Chapter IV, MPL provides an overall picture of a district manager's average level of participation. If Telos can affect behavioral change in the leadership behavior of district managers, the differential MPL score is an excellent barometer of such change. One of Telos' primary objectives is training managers in identifying critical situational variables which are most likely to influence the effectiveness of their leadership behavior. As a result, managers learn to become more or less participative as a function of their perception of the presence or absence of these situational factors. Telos does not attempt to train a manager to increase the degree of subordinate participation in his decision-making processes per se.

The major implication drawn from the analysis of the results from testing the second hypothesis was that Telos effected significant behavioral changes in the training group as reflected in their differential MPL scores. The average level of participation offered subordinates by trained district managers showed significant change. District managers who were highly participative in their leadership behavior learned to use less participative leader behaviors for certain types of situations. Conversely, highly autocratic managers learned to use more participative leader behaviors for other types of situations.

Determining the Training Effect of Telos on District
Managers' Choice of Leader Behaviors

The last part of the study attempted to determine Telos' potential for training district managers in applying the Normative Model for problem-solving and decision-making situations confronting them. If managers could be taught to apply the model correctly, they will have learned a methodology for analyzing situations and for selecting appropriate leader behaviors which have a higher probability of resulting in successful decision outcomes.

Description of the Differential Agreement
With the Feasible Set Improvement Score

To measure the effects of Telos in improving district managers' ability to select leader behaviors in agreement with prescriptions of the Normative Model, a differential agreement with the feasible set improvement score (DAWFSI) was computed for each manager. Table 11 offers a sample of these scores taken from Appendix J which shows the DAWFSI scores for all forty participants.

In Table 11, the first column represents participants in the training group while the second column shows each trainee's aggregate number of correct responses in answering the 30 case problem set. A district manager's response to each case was considered "correct" when the leader behavior chosen by him to resolve the situation was consistent with the feasible set of leader behaviors prescribed by the Normative Model. The total number of cases answered correctly was

TABLE 11

SAMPLE OF DIFFERENTIAL AGREEMENT WITH THE FEASIBLE SET IMPROVEMENT SCORES FOR BOTH GROUPS

Participant	Training Group				Control Group			
	(MB ₁) Pretest # Correct	(MA ₁) Posttest # Correct	(MB ₁ -MA ₁) DAWFSI Score	Participant	(MB ₂) Pretest # Correct	(MA ₂) Posttest # Correct	(MB ₂ -MA ₂) DAWFSI Score	
1	18	27	9	1	20	18	-2	
2	15	30	15	2	22	20	-2	
3	19	30	11	3	19	20	1	
4	19	30	11	4	20	22	2	
5	19	23	4	5	18	18	0	

recorded for each manager in the pretest and posttest as shown in columns two, three, five and six. The fourth and seventh columns show the differential agreement with the feasible set improvement scores. For example, the first trainee answered 18 cases correctly in the pretest and 27 cases correctly in the posttest for a differential improvement of 9.0. Since research Hypothesis No. 3 predicted that Telos trained district managers would be more successful in choosing leader behaviors consistent with the feasible set, the direction of this score was critical. Of the twenty trainees, only two answered fewer cases correctly in the posttest than in the pretest as shown by "-" sign before their differential improvement scores in Appendix J.

Analysis of the Results From Testing Differential Agreement with the Feasible Set Improvement Scores

Before discussing the results of the statistical analysis, the means, ranges, unbiased estimates of the population variances, and estimates of the sampling variances of both groups for the pretest and posttest are presented in Table 12.

An analysis of Table 12 shows that in the pretest, the treatment and control groups appeared to have been fairly homogeneous in their leadership behavior. This agreed with the results of the Mann-Whitney test discussed in the previous chapter. In the posttest, the mean number of correct responses to the thirty case problem set for the treatment group was 26.7 versus 20.2 for the control group. Simply

TABLE 12

DESCRIPTIVE STATISTICS: ANALYSIS OF DATA FROM TESTING
 AGREEMENT WITH THE FEASIBLE SET SCORES

	Training Group	Control Group
Pretest:		
\bar{X}	19.8	19.1
Range	25-15	24-13
s^2	8.79	5.76
$s_{\bar{X}}^2$.44	.29
Posttest:		
\bar{X}	26.7	20.2
Range	30-16	27-15
s^2	15.27	7.13
$s_{\bar{X}}^2$.76	.36
Differential Improvement Scores:		
\bar{X}	6.9	1.1
Range	13- -4	7- -2
s^2	25.74	7.20
$s_{\bar{X}}^2$	1.29	.36

stated, each Telos trained district manager answered six more cases correctly on the average than each non-trained manager.

Further analysis of Table 12 reveals the pretest estimates of the variances (s^2 and $s_{\bar{X}}^2$) to be relatively close for both groups. As was expected, the posttest estimates of variances for the treatment group were more than double the variances of the control group. Without the training effect, it was anticipated that there would be little variance in the control group's posttest scores since the control group was basically a homogeneous sample of district managers. Despite the homogeneous nature of the training group and the equivalent amount of training given each manager, it would have been unreasonable to expect all trainees to experience the same level of learning and to assimilate this new information into their current managerial practices equally. Investigation of the differential improvement range and variances confirmed these expectations.

Table 12 shows that the treatment group's differential improvement range was 13 to -4 and its differential variances were 25.74 and 1.29. The range was much narrower for the control group with considerably smaller variances. These values indicate the variability of the treatment effect on the training group, i.e., some district managers learned substantially more than others. This is most obvious in the training group's differential improvement range score where one trainee registered an improvement score of 13 while another manager actually answered 4 fewer cases correctly in the posttest as shown by a -4 as the low point in the range.

Further evidence of the training effect is highlighted by the mean differential agreement with the feasible set improvement scores in Table 12. The mean DAWFSI scores for the training and control groups were 6.9 and 1.1 cases respectively. On the average, each trainee's score improved by almost seven cases while participants in the control group answered on the average one additional case correctly without any training. In percentages the training group averaged 35 percent improvement while the control group shows an average 6 percent improvement. The marginal improvement score for the control group was probably due to a normal learning effect. Since both sets of thirty cases used in the pretest and posttest were similar, one would expect to find some learning occurring without any training. Overall, simple inspection of Table 12 shows that Telos had a significant effect on the leadership behavior of the training group.

To compare the DAWFSI scores for the treatment and control groups, the Wilcoxon rank sum test was used.¹ The statistical results are presented in Table 13.

As shown in Table 13, the DAWFSI scores of the training group were significant at the .001 level. The results indicate that the differential agreement with the feasible set improvement scores of the trained district managers increased significantly more than the

¹Justification for using the Wilcoxon rank sum test was presented in Chapter IV.

TABLE 13
RESULTS OF THE WILCOXON RANK SUM TEST FOR COMPARING THE DAWFSI
SCORES FOR BOTH GROUPS

Group	R_1	\bar{R}_1	$2\bar{R}_1 - R_1$
Treatment	542	410	278*

*With d.f. = 20, 20, $p < .001$.

scores of non-trained managers. In other words, the Telos trained managers showed significantly more improvement than the control group in selecting leader behaviors consistent with the feasible set of leader behavior prescribed by the Normative Model. The Wilcoxon rank sum test confirmed what was apparent by inspection of Tables 12 and 13. Consequently, the evidence is consistent with research Hypothesis No. 3.

Implications of the Results of the DAWFSI Score Test

The results from testing the DAWFSI scores show significant learning occurred in the sample of Telos trained district managers. For example, Table 12 reveals that the highest pretest score for any participant was 25 correct responses. In the posttest, seven trainees answered all 30 cases correctly while the highest score by any member in the control group was 27. Twenty-three percent of the trainees were able to achieve perfect scores as a result of training. Additionally, only two of the twenty trainees had a drop in performance while scores of seven participants in the control group declined. It is difficult to explain the negative scores of two trainees when 90 percent of the trainees improved their performance with the overall group showing highly significant results. There are probably a plethora of potential causes for this phenomenon such as personal problems, job related problems, resistance to being selected to attend the training session, etc. A possible explanation might be uncovered in the

resumes' of these two managers provided by the participating companies. Upon review, no apparent evidence was found on any of the four characteristics investigated.¹

Overall, the major implication of the results from testing the DAWFSI scores was that Telos effected significant learning in the training group. These district managers showed substantial improvement in diagnosing critical situational variables likely to influence the effectiveness of their leadership behavior. When confronting problem-solving and decision-making situations, the training group significantly outperformed the control group in choosing leader behaviors consistent with the feasible set of leader behaviors prescribed by the Normative Model.

Having determined that the training group improved their performance significantly in choosing appropriate leader behaviors, further research was needed to pinpoint the precise areas of learning. Investigation of the set of seven guidelines underlying the Normative Model offered such opportunity. The purpose of each guideline is to eliminate leader behaviors from the feasible set in order to protect the quality and the acceptance of a decision and to avoid jeopardizing situation success under certain specifiable conditions. When a participant chose a leader behavior inconsistent with the feasible set, it was deemed an incorrect answer because his choice of leader behavior decreased the probability of a successful decision outcome.

¹ Refer to Chapter IV for a discussion of these characteristics.

Description of the Differential Guideline Improvement Scores

Using the computer feedback printout for each trainee which gives his guideline violation frequencies, a differential improvement score was computed on each guideline for all forty participants in the experiment.¹ Table 14 offers a sample of these scores taken from Appendix K which shows the differential guidelines improvement scores (DGI) for all forty participants.

In Table 14 the first column represents each trainee while the second and third columns show his number of violations of the leader information rule in the pretest and posttest respectively. The fourth column gives his differential guidelines improvement score for guideline No. 1. It is computed simply by taking the difference between each participant's pretest and posttest scores. A negative DGI score indicates that there were more violations of a guideline in the posttest than there were in the pretest. For example, the fifth participant violated the goal congruence rule three more times in the posttest despite training. On five of the remaining six rules, he improved while on the first guideline his score was unchanged.

¹Refer to Table 6 in Chapter IV for an example of this print-out which was computed for each participant. However, it was only distributed and discussed with the trainees.

TABLE 14

SAMPLE OF DIFFERENTIAL GUIDELINE IMPROVEMENT SCORES FOR THE TRAINING GROUP

Partici- pant	Leader Information		Goal Congruence		Unstructured Problem		Acceptance		Conflict		Fairness		Acceptance Priority										
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post									
1	2	0	2	0	0	0	3	0	3	5	0	5	0	2	0	2	1	1	4	2	2		
2	1	0	1	1	0	1	4	0	4	4	0	4	0	4	0	3	2	0	2	4	0	4	
3	1	0	1	2	0	2	3	0	3	3	0	3	1	0	1	2	0	2	2	3	0	3	
4	3	0	3	3	0	3	2	0	2	1	0	1	1	0	1	2	0	1	2	3	0	3	
5	0	0	0	1	4	-3	4	1	3	2	0	2	4	1	3	2	0	2	3	2	3	1	2

Analysis of the Results From
Testing Differential Guideline
Improvement Scores for Both Groups

To compare the DGI scores on the seven guidelines for both groups, the Wilcoxon rank sum test was used. The statistical results are presented in Table 15.

The differential guideline improvement score for Guideline One was significant at the .01 level. The results indicate that the training group significantly decreased its frequency of violations of the leader information rule. Trained district managers learned to avoid using a highly autocratic leader behavior (AI) when they are confronting a situation requiring a quality solution and they have insufficient information to resolve the situation alone. Consequently, the evidence is consistent with reserach Sub-hypothesis No. 3a.

For the second guideline, the differential guideline improvement score was not significant. There was no evidence showing that the training group violated the goal congruence rule significantly less often than the control group. Apparently, trained district managers did not learn to avoid using a highly participative leader behavior (GII) when they are confronting a situation requiring a quality solution and a lack of goal congruence between subordinates and the organization is present. Consequently, research Sub-hypothesis No. 3b was rejected.

The differential guideline improvement score was significant at the .001 level for the third guideline. The results indicate a

TABLE 15

WILCOXON RANK SUM TEST FOR COMPARING THE PERFORMANCES OF
THE TREATMENT AND CONTROL GROUP ON
THE SEVEN GUIDELINES

Guidelines	R_1	\bar{R}_1	$2\bar{R}_1 - R_1$
1 Leader Information Rule	475.5	410	344.5*
2 Goal Congruence Rule	423.5	410	396.5N.S.
3 Unstructured Problem Rule	557.5	410	262.5***
4 Acceptance Rule	555.0	410	265.0***
5 Conflict Rule	537.5	410	282.5***
6 Fairness Rule	546.0	410	274.0***
7 Acceptance Priority Rule	520.5	410	299.5***

* $p < .01$

** $p < .005$

*** $p < .001$

significant reduction in the training group's frequency of violations of the unstructured situation rule. Trained managers learned to use more participative leader behaviors (CII, GII) when they are confronting an unstructured situation requiring a quality solution, and they have inadequate information to resolve the situation. The evidence supported research Sub-hypothesis No. 3c.

Inspection of the differential guideline improvement score for the fourth guideline indicates it was significant at the .001 level. The training group showed strong learning of the commitment rule as reflected by the significant decrease in their frequency of violations. Telos trained managers learned to avoid using highly autocratic leader behaviors when they are confronting a situation where commitment by others is critical to effective implementation, and the manager's analysis and conclusion made alone are unlikely to gain commitment by those implementing the decision. Consequently, the evidence is consistent with research Sub-hypothesis No. 3d.

For the conflict guideline, the differential guideline improvement score was significant at the .001 level. The results indicate that the training group significantly decreased the total number of times it violated the fifth guideline. Through training, managers learned to use more participative leader behaviors (CII, GII) when confronting a situation where: commitment is critical; the manager's analysis and conclusion, made alone, is unlikely to gain commitment; and conflict among subordinates about alternatives is likely. The evidence supported research Sub-hypothesis No. 3e.

The differential guideline improvement score for the fairness rule was significant at the .001 level. The sixth guideline was violated significantly less frequently by the training group. All evidence shows that the Telos trained district managers learned that GII was the only appropriate leader behavior to use when confronting a situation in which quality is irrelevant but commitment is critical, and the manager's decision made alone is not likely to gain commitment. Consequently, the evidence was consistent with research Sub-hypothesis No. 3f.

For the last guideline, the differential guideline improvement score was significant at the .005 level. Trained managers learned the commitment priority rule and they showed significant improvement in decreasing their violations of it. Telos trained them to avoid using all leader behaviors except GII when confronting a situation characterized by: quality is important, goal congruence exists, commitment is critical and the manager's conclusion made alone is not likely to gain commitment. The evidence was consistent with research Sub-hypothesis No. 3g.

Overall, the results in Table 15 reveal that the frequency of guideline violations by the training group was significantly less on six of the seven guidelines underlying the Normative Model. For the goal congruence rule, the differential guideline improvement scores were not significant.

Implications of the Results of
the Differential Guidelines Im-
provement Score Tests

Results of the data analysis suggest that the training group displayed extensive learning on six of the seven guidelines, as evidenced by the statistically significant results. The decrease in frequency of guideline violations appears to be the result of the learning effected by Telos. In the leadership training session, the contribution of each guideline to the Normative Model was explained thoroughly. Considerable time was spent by the trainer making certain everyone understood the full implications of each rule. To appreciate the richness of the model, understanding of the seven guidelines is critical.

As for the non-significant results from testing the goal congruence rule, there are two possible explanations. Either the trainees did not understand this guideline and therefore little learning occurred or they understood it but they questioned its validity and consequently they rejected it.

The purpose of the goal congruence guideline is to protect decision quality. In situations where both the subordinates' goals are inconsistent with those of the organization and the problem has a quality requirement, the use of GII leader behavior is eliminated from the feasible set. Vroom [98] points out the uniqueness of this guideline to the model because:

. . . it is the only rule in which violations may reasonably be expected to optimize one criterion (subordinate acceptance) but minimize another (quality). [p. 16]

In a recent validation study, Vroom [98] analyzed the contribution of each rule individually to the validity of the Normative Model. Significant results were obtained for five rules (1, 3, 4, 6, and 7) supporting their validity. For the fifth rule, a very small sample size prevented testing for statistical significance. Analysis of the results from testing the goal congruence guideline was statistically non-significant. Additional analyses were done in this same study to examine further the effects of the second guideline. The results offered evidence that the rule appears to be performing its intended function but again the results were not significant. Vroom [98] discussed the absence of conclusive evidence that the goal congruence guideline actually contributes to the validity of the Normative Model.

The major implication of the results from testing the differential guideline improvement scores was that Telos resulted in significant learning in the training group on six of the seven guidelines underlying the Normative Model. With regard to the goal congruence rule, it is quite possible that the Telos trained district managers were uncertain about the utility of this guideline for their work environment. Consequently, they paid little attention to it in selecting leader behaviors for resolving problem-solving and decision-making situations confronting them.

General Discussion and Implications of the
Data Analysis and Results

Throughout this chapter several implications have been drawn from the analysis of the data used in testing the three hypotheses. In this section, the total implications of the study are highlighted.

In attempting to validate the Normative Model in field sales force management, the results were in the predicted directions but they failed to reach statistical significance. The major implication drawn from these results was that the Normative Model appeared to offer potential to district managers as a tool for increasing their chances of achieving successful decision outcomes in their roles as problem-solvers and decision-makers. However, additional research is needed to provide evidence that leader behaviors used in agreement with the model result in a higher probability of a successful decision outcome and leader behaviors inconsistent with the feasible set have a greater likelihood of an unsuccessful decision outcome.

Future research on the Normative Model should proceed along the following lines. Additional validation studies replicating the validation process used in this investigation are needed to provide further evidence of the model's prescriptive value for district managerial problem-solving and decision-making. An alternative route is to reconstruct the Normative Model and to adapt it to field sales force management. In the next chapter, the need for future research is discussed in detail.

This study was unable to provide evidence to support the Normative Model's validity for prescribing appropriate leader behaviors to district managers. Consequently, there is no assurance that district managers who behave in agreement with the prescriptions of the model will increase their managerial effectiveness in their work environment.

The second implication of the study dealt with the training effect of Telos on district managerial leadership behavior. District managers were taught an approach for identifying and for assessing critical situational variables which are most likely to influence the effectiveness of their leadership behavior. They were introduced to five leader behaviors (AI-GII) dealing with the social processes of leadership and to a set of seven guidelines for eliminating inappropriate leader behaviors. It was hypothesized that Telos would have a strong training effect as reflected by significant changes in both the differential MPL scores and the differential agreement with the feasible set improvement scores of the trained district managers. Results from analyses of the data confirmed these predictions. The implication drawn from these results was that Telos affected significant behavioral changes in the training group. Consequently, district managers learned a model which appears to have the potential for serving as a pragmatic tool for assisting them in choosing leader behaviors which have a higher probability of producing successful decision outcomes.

A third major implication of this study, though not drawn from a statistical analysis of empirical data, was that Telos introduced some trainees to leader behaviors not used previously or used sparingly by them in their managerial positions. District managers were acquainted with the range of five clearly delineated leader behaviors by the Telos trainer who explained the mechanism and implications of each behavior. The overall effect was that some managers expanded their repertoires of leader behaviors.

Summary

Analyses of empirical results suggest that the Normative Model does offer potential for prescribing leader behaviors to district managers that result in successful decision outcomes. Additional research is needed which produces consistently statistically significant results before the validity of the Normative Model in field sales force management can be accepted.

The results from investigating the training part of this research showed that the training effect of Telos caused significant behavioral changes in the average level of participation district managers would use for resolving decision-making and problem-solving situations. Secondly, there was strong statistical evidence showing significant learning by the trainees in choosing appropriate leader behaviors. Analyses of the seven guidelines showed substantial improvement by the trainees on six of the seven guidelines with the one guideline in question possessing dubious validity.

Telos appears, therefore, to be an effective program for leadership training of district managers. However, because the Normative Model is the critical component of the training program, the efficacy of Telos is immaterial until the validity of the Normative Model is firmly established in field sales force management.

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The final chapter offers a general discussion of leadership models and leadership training in field sales force management. A discussion of the limitations of this research plus implications for future sales force management research are also presented.

Need for Leadership Models and Training

In Chapter I, the need for developing and applying leadership models and leadership training programs in field sales force management was shown. Because of the nature of the district managerial position and the manner in which the supersalesperson is promoted typically into it, the importance of filling this need is magnified. To improve their overall managerial effectiveness, district managers should be provided with formal leadership training. From these training programs, district managers can acquire systematically the tools to develop the necessary leadership skills demanded of people occupying this position.

Potential Applicability of Leadership Models

As discussed in the second chapter, the literature is replete with leadership models and leadership research, none of which have been applied formally in field sales force management. One of the

primary objectives of this study was to investigate leadership models in organizational behavior and social psychology in order to determine their potentiality in field sales force management. After evaluating three major leadership theories on seventeen evaluative criteria,¹ the Vroom-Yetton Normative Model of Leader Behavior was selected.

The statistical results of testing the Normative Model provided no support for its validity for prescribing leader behaviors that result in successful decision outcomes for district managers. Despite the lack of significance, the results were in the predicted directions. Additional research is needed to determine the validity of the Normative Model for improving district-managerial decision-making and problem-solving effectiveness.

Although not tested in this study, previous research by Vroom² showed the lack of individual validity for the goal congruence guideline (Rule 2) in other organizational settings. It is quite possible that this guideline and/or other guidelines are not contributing to the overall validity of the Normative Model in field sales force management. Future research is needed to determine the contribution of each guideline individually to the model's validity. It seems plausible that one or more of these guidelines needs to be altered in order to improve the prescriptive capability of the model in this area.

¹For details, refer to Chapter III.

²For details, refer to Chapter V.

Despite the lack of statistical evidence for the validity of the Normative Model, there was indication that leadership models can be used at the district managerial level. This study has served a major function if it generates leadership research in field sales force management. Fiedler's Contingency Model and House's Path-Goal Model are two other leadership models whose potential warrants future investigation in this area. This study is expected to serve as a catalyst for that research.

Sales managers at all levels in the sales organization need pragmatic managerial tools for improving their decision-making and problem-solving effectiveness. Leadership models seem to be a feasible alternative for providing them with some of these tools.

Direction of Future Research

Because of the results and implications of this study, the direction of future research seems to lie in two areas. Additional studies are needed to determine the validity of the current Normative Model in field sales force management, before considering making any changes in the theoretically underlying set of seven guidelines. Secondly, there is a need to investigate the training effects of Telos on leadership behavior of district managers in their actual managerial practices.

Validating the Normative Model

As discussed in Chapter V, the validation process used in this study was a replication of the process employed by Vroom et al. in earlier attempts. However, several shortcomings of the validation process may have affected the findings of this study. In an attempt to assist other researchers, the limitations of the validation process are delineated and suggested changes are offered for possibly improving it for future research.

Limitations of Current Validation Process

Limitations of the validation process currently employed are addressed from three reference points: use of recalled situations, coding the seven situational variables, and the use of a nonprobability sampling method.

Use of Recalled Situations

Because of the critical role recalled situations played in validating the Normative Model, numerous steps were taken to provide the sample of district managers substantial training in selecting and recording their recalled situations as accurately as possible.¹ Specifically, they were trained to: (1) identify their own leadership behavior using the taxonomy of leader behaviors (AI-GII),

¹Refer to Chapter IV for details on how these recalled situations were generated.

(2) code the seven situational variables, and (3) rate their recalled situations on a nine-point situational success measurement scale.¹

By requiring district managers to make such complex judgments, measurement error was particularly difficult to control. Measurement error reflects incongruence between the achieved information and the desired information. It is caused either by searching for the wrong type of information or by gathering information which is different from the information one is seeking [91]. Despite the fairly extensive training given the district managers to make them more sophisticated observers of their recalled phenomena, Vroom and Jago [99] pointed out that it would be "naive" to assume that managers' ratings on the nine-point situational success measurement scale, their codings of situational variables, and their reports of their own leadership behaviors were free from the effects of either variable or systematic errors.

Related to the effects of systematic error is the question of validity. By using recalled situations in the validation process, empirical evidence supporting the Normative Model would have demonstrated concurrent validity rather than the more convincing predictive validity.² In this study, concurrent validity concerned the

¹Chapter II presents a thorough description of the five leader behaviors and the seven situational variables.

²While estimates of concurrent validity are probably the most common types in the behavioral sciences, predictive validity is usually considered the most important form for decisional purposes because decisions, by their very nature require predictions of uncertain events. See, Tull and Hawkins, pp. 225-231.

assessment of how closely situation success and agreement with the feasible set of a district manager's recalled situation correlated with the Normative Model's measurement of this relationship. To show predictive validity, coding of the seven situational variables plus the manager's choice of leader behavior would have to be obtained at the time the decision is made and prior to the assessment of situation success. Predictive validity attempts to demonstrate the models' ability to prescribe leader behaviors resulting in successful decision outcomes by showing the relationship between leader behavior used and future successfulness of decision outcomes.¹

Coding the Seven Situational Variables

The most difficult part of the validation process for the district managers was their coding of the seven situational variables for both recalled situations. To facilitate this task, each situational variable was evaluated on a Yes/No basis indicating either a high or low amount of it was present in the situation as perceived by the manager.² Vroom and Jago [99] pointed out that:

. . . the structure of the seven rules--relies on the assumption that there is a clear dividing line between managerial problems and decisions with high and low amounts of each problem attribute. [p. 19]

¹For further explanation of validity, see Donald S. Tull and Del I. Hawkins, Marketing Research: Meaning, Measurement and Method (New York: Macmillan Publishing Co., Inc., 1976), pp. 228-232.

Vroom and Yetton justified treating these situational attributes as dichotomous rather than continuous variables. They contended that this treatment was defensible because of:

. . . (1) the difficulties of scaling problem attributes and, (2) the inadequacy of existing research for answering questions pertaining to tradeoffs between quality and acceptance and for the amounts of each expected to result from use of different processes (leader behaviors). [99:19]

Use of Nonprobability Sampling Methods

In this study and in all previous validation studies of the model, a purposive sample was taken. The major problem with purposive samples is that they contain unknown amounts of both variable and systematic selection errors [91]. Because of numerous cost constraints in a validation study of this type, probability sampling methods are not realistically feasible.

Future Attempts at Validating the Normative Model

Although all of these limitations can not be eliminated, suggestions are offered for improving the validation process where seemingly applicable. In addition, the gravity of each limitation is discussed.

Complete freedom from measurement error in research where the participants are expected to recall, to evaluate and to record complex behavioral phenomena is a virtual impossibility. In future validation studies, the subjects should continue to receive extensive training in

order to assure maximum accuracy. Without jeopardizing the validity of these studies, this training ensures that the subjects' highly judgmental evaluations are at least relatively free from measurement error.

To demonstrate predictive validity rather than concurrent validity for the Normative Model, major changes in the sequencing of the steps in the validation process need to be made. Instead of using recalled situations, a sample of district managers could be asked to provide decision-making or problem-solving situations presently confronting them and about which they are ready to act upon. At this point in time, these participants would be trained in both the taxonomy of leader behaviors and coding the seven situational variables. When conclusive evidence of the effects from using their leader behaviors are available, each participant would evaluate the decision outcome resulting from his choice of leader behavior on the nine-point situational success measurement scale.¹

Vroom and Jago [99] offered two main reasons for not following this procedure in previous validation studies. They were:

. . . for most of the decisions that were written, particularly those from the higher level managers, the time lag between decision making and conclusive knowledge of the effects is quite long . . . Clearly the problems of maintaining the cooperation of subjects over the time period necessary to do a predictive validation study would have been severe and would have decreased sample size considerably. [p. 23]

¹Refer to Chapter IV for a detailed explanation of these steps.

Because the problem of decreased sample size is partially a function of time lag, predictive validation studies using district managers seem to overcome both problems. Intuitively, there appears to be a positive correlation between the organizational level of the manager making a decision and the time lag between decision making and conclusive evidence of its effects. Since district managers are the lowest-level line managers in a sales organization, the time lag should be considerably shorter.¹ Additionally, once a sample of participants is selected, they can be asked specifically to select decision-making and problem-solving situations where they feel decisive results of their leadership behavior will be available in a relatively short period of time.

Because of the complexity of the scaling problems associated with the Normative Model, elimination of the second limitation of the validation process seems infeasible. Vroom and Jago [99] suggest that:

. . . the methods used in this research, if employed on a substantially larger scale, could provide the empirical foundation for the construction of a more complex model that considers tradeoffs among effectiveness criteria.
[p. 19]

If such a Normative Model can be developed, the problem of treating continuous variables as dichotomous will be corrected.

¹Refer to Chapter I for a more complete description of district managers.

The third limitation cited was the use of nonprobability sampling methods. To reduce variable sampling error in future validation studies, ideally district managers would be selected randomly to the sample. An alternative strategy would be to increase the sample size of district managers participating and/or increase the number of recalled situations requested from each manager.

Measuring the Training Effects of Telos on the Leadership Behavior of District Managers

In Chapter V, results of the data analysis showed that the significant behavioral change effected by Telos was due to the learning that occurred in the sample of district managers. Specifically, the mean participation level scores (MPL) of the trained managers changed significantly more than the MPL scores of the non-trained managers. The second major conclusion drawn from the testing results was that trainees showed significantly more improvement than members of the control group in choosing leader behaviors consistent with the feasible set prescribed by the Normative Model. In addition, the frequency of guideline violations was significantly less on six of the seven guidelines underlying the Normative Model for participants in the training group. Concerning the Telos program, the general overall conclusion drawn from these results was that extensive learning of the Normative Model by the district managers resulted in substantial changes in their leadership behavior. These changes were attributed directly to the training effect of Telos.

To examine the importance of significant training effects, Campbell et al. [12] discussed two considerations implicit in any such attempt--theoretical or scientific significance and practical significance. From a researcher's perspective, the concept of theoretical significance is concerned with incorporating and extending the effects of a specific training program into a fundamental body of knowledge concerning management training. The ultimate goal is the development of a general theory of management training. From an organizational perspective, practical significance is concerned with showing that the behavioral changes caused by the training have important implications for attaining organizational objectives. Campbell et al. [12] suggested:

Demonstrating a difference between the before and after measures in statistically significant is only a minimal step. The crucial consideration is whether or not the training changes managerial behavior enough to make a difference to the organization. [p. 283]

Assessment of the Theoretical and Practical Significance of Telos

To explore the theoretical significance of Telos' training effect on district managerial leadership behavior, internal criteria¹ were used exclusively. Internal criteria measure what the training program intended to teach. Telos attempted to provide district managers with both an understanding and appreciation of the Normative

¹For a detailed explanation of internal and external criteria, see H. O. Martin, "The Assessment of Training," Personnel Management 39 (January 1957):88-93.

Model and the ability to apply it to decision-making and problem-solving situations they encounter in their jobs. The behavioral changes effected by Telos as reflected in the Differential MPL scores and DAWFSI scores were due to the learning that occurred on the seven guidelines as reflected in the DGI scores of the trained managers.¹

External criteria are specific measures for evaluating actual on-the-job behavioral changes effected by training such as measures of productivity, performance ratings, grievance frequency, employee turnover, etc. To draw meaningful conclusions from training evaluations, internal and external criteria should be used plus the interrelationships between both types of criteria should be investigated.² By not using external criteria to measure the degree to which trainees transferred this learning to their work environment, it was impossible to assess actual changes in the leadership behavior of district managers working with their salespeople. Consequently, the theoretical significance of the conclusions drawn from an analysis of the results was limited to what was learned. Since this was the first study attempting

¹ Refer to Chapter V for an explanation of the meaning of each of these scores.

² Campbell, Dunnette, Lawler, and Weick suggest strongly that the relationship between the internal and external criteria should be studied. They contend that if the development program affects only the internal criteria it apparently is irrelevant for the organization's goals. If the training affects external criteria but not internal criteria, the program apparently influenced job performance, but not for the reasons intended by the trainer. See, Campbell, Dunnette, Lawler and Weick, pp. 387-399.

to apply and to measure the effects of a formal leadership training program in field sales force management, these conclusions are the initial step in developing a general body of knowledge in sales managerial leadership training. The purpose of this study was to show the need for leadership research in this area and to generate research interest in future testing of this and other leadership training programs. The study's ultimate objective was to stimulate research culminating in the development of a general theory of leadership training in field sales force management. To achieve this, future researchers must attempt to evaluate leadership training programs on both internal and external criteria and to determine the relationship between both sets of criteria.

Due to the fact that the use of external criteria for evaluating the training effect was beyond the scope of this study, the practical significance of the training effect was not explored. Practical significance is concerned with the utility of the training effect, i.e., its degree of relevance for organizational effectiveness. From an organizational perspective, it must be determined if the changes effected in the leadership behavior of district managers trained in Telos are enough to make a difference to an organization. Because of the variability of organizational goals, the practical significance of the training effect must be determined by measuring its contribution to the attainment of each organizations' goals.

Future Research to Measure the Training Effect of Telos

For the future, research is needed to show that the observed behavioral changes effected by Telos increase the effectiveness of trained district managers as decision-makers and problem-solvers. To achieve this, future studies must evaluate the training effect on both internal and external criteria. The internal criteria used in this study seem to be entirely appropriate for other studies. To measure actual changes in leadership behavior used by district managers in their jobs, external criteria such as district sales quota attainment, sales force turnover, budgetary performance and other "hard" measures need to be evaluated. An alternative approach for determining the transfer of learning to their work environment is to obtain the judgments of superiors and subordinates and to measure their perceptions of real changes in the leadership behavior of trained district managers.

To determine the practical significance of the training effect of Telos, Campbell and Dunnette [11] recommended that leadership research be directed toward "forging the link between training-induced changes in behavior and changes in job-performance effectiveness" [p. 101]. Extensive investigation of leadership training programs using internal and external criteria to explore both the theoretical and practical significance of a training effect are needed. It is only through this type of research that the goal of developing a general theory of leadership training in field sales force management can ever be realized.

Summary

This research has attempted to investigate the potential of borrowing a leadership model and a training program from organizational behavior for use in field sales force management. Specifically, the objectives of this research were to develop a descriptive model (DMSM) for measuring leadership behavior of district managers and to provide empirical evidence for the validity of the Vroom-Yetton Normative Model of Leader Behavior in field sales force management. The third research objective was to determine the value of Telos for leadership training of district managers. The findings have suggested that the Normative Model in its present form does not have the power to prescribe leadership behaviors for district managers that result in a significantly higher probability of successful decision outcomes. Further, the results have suggested that Telos is a highly effective program for leadership training of district managers.

Because Telos is built around the Normative Model, future research is needed to determine its validity. Otherwise, the significant behavioral changes effected by Telos in the leadership behavior of trained district managers have little value from either a theoretical or practical perspective.

This study attempted to provide empirical evidence offering insights into the potential applicability of the Vroom-Yetton Normative Model of Leader Behavior and Telos in field sales force management. Additionally, it provided a research instrument for measuring leadership

behavior of sales managers. From a broader perspective, its ultimate goal was to generate research interest among marketing scholars to the point of extending this research to include the testing of other leadership research instruments and the application of other leadership models and their concomitant training programs to this area. It is hoped that this study serves the generative function well.

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APPENDIX A

7 GUIDELINES (RULES) FOR CHOOSING APPROPRIATE LEADER BEHAVIORS

Key to Set Theoretic Formulation of the Guidelines

A signifies that the answer to question A for a specific problem is YES

\bar{A} signifies that the answer to that question is NO

\cap signifies intersection

\Rightarrow signifies "implies"

\bar{AI} signifies not AI

Example

$A \cap \bar{B} \Rightarrow \bar{AI}$ means that when both the answer to question A is yes and the answer to question B is no, decision process AI is eliminated from the feasible set.

1. Information Guideline

- IF: Quality is important, and the manager does not have enough information to resolve the situation alone,
- THEN: avoid AI as an effective behavior. $A \cap \bar{B} \Rightarrow \bar{AI}$
- Rationale: There is too much risk of a low quality solution if relevant information is missing from the analysis.

2. Goal Congruence Guideline

- IF: Quality is important, and there is a lack of goal congruence in this situation between subordinates and the organization,
- THEN: avoid GII as an effective behavior $A \cap F \Rightarrow \bar{GII}$
- Rationale: Quality may suffer since a conflict of interest exists between decision participants and the organization. The leader must retain control over the final conclusion since the group is likely to reach a solution based on self-interests that are not compatible with organizational goals.

3. Unstructured Situation Guideline

- IF: Quality is important, and the manager does not have enough information to resolve the situation, and the situation is unstructured,
- THEN: avoid AI, AII, and CI as effective behaviors.
 $A \cap \bar{B} \cap \bar{C} \Rightarrow \bar{AI}, \bar{AII}, \bar{CI}$
- Rationale: Group interaction is necessary to share information and discover the best way of approaching the situation since there is no formula for resolving it.

4. Commitment Guideline

IF: Commitment by others is critical to effective implementation, and the leader's analysis and conclusion made alone is not likely to gain commitment by those implementing the decision,

THEN: avoid AI and AII as effective behaviors.

$$D \cap E \Rightarrow \overline{AI}, \overline{AII}$$

Rationale: If the authority or expertise of the leader is not accepted in this situation, commitment will not be sufficient unless there is some participation in resolving the situation.

5. Conflict Guideline

IF: Commitment is critical, and the leader's analysis and conclusion, made alone, is not likely to gain commitment, and conflict among subordinates about alternatives is likely,

THEN: avoid AI, AII, and CI as effective behaviors.

$$D \cap E \cap G \Rightarrow \overline{AI}, \overline{AII}, \overline{CI}$$

Rationale: Conflict about alternatives among subordinates will threaten necessary commitment unless it is resolved within a group meeting. Each person, then, has an opportunity to share information and give input to the final conclusion. By airing differences within the total group, commitment to the conclusion is increased because each member of the group has more information about the situation and has had a "day in court." Note that this guideline does not eliminate the possibility of the leader retaining the right to make the final decision.

6. Fairness Guideline

IF: Quality is not an issue, but commitment is critical, and the leader's decision made alone is not likely to gain commitment,

THEN: avoid AI, AII, CI, and CII as effective behaviors.
 $\overline{A} \wedge \overline{D} \wedge \overline{E} \Rightarrow \overline{AI}, \overline{AII}, \overline{CI}, \overline{CII}$

Rationale: In this situation, commitment is the only relevant consideration since there is no quality requirement. Since the participants won't commit to a conclusion made by the manager alone, maximum participation is necessary to insure necessary commitment. Since the choice does not have a significant quality impact on organizational goals, the major issue is often seen as what is "fair" by the participants. A group decision can best insure commitment to a "fairness" issue.

7. Commitment Priority Guideline

IF: Quality is important, and goal congruence exists, and commitment is critical, and the leader's conclusion made alone is not likely to gain commitment,

THEN: avoid AI, AII, CI, and CII as effective behaviors.
 $\overline{A} \wedge \overline{F} \wedge \overline{D} \wedge \overline{E} \Rightarrow \overline{AI}, \overline{AII}, \overline{CI}, \overline{CII}$

Rationale: In these situations, both quality and commitment are important. But commitment is more essential to solution success. Since quality is important, goal congruence is necessary to insure that the subordinates will reach a conclusion compatible with organizational goals. Once a quality conclusion is assured, maximizing commitment becomes a primary concern. Since the leader's conclusion made alone is not likely to gain commitment, necessary commitment is gained by maximum participation in resolving the situation.

SOURCE: Charles Kepner and Benjamin Tregoe, Talos Instructor Guide (Princeton, N.J.: Princeton Research Press, 1976).

APPENDIX B

SEVENTEEN CRITERIA FOR THEORY EVALUATION

Formal CriteriaInternal Consistency

A theory is internally consistent if and only if no logical contradictions are contained within it.

Strength

This property is also referred to in the literature by the terms of "formal comprehensiveness" or "generality." If two rival hypotheses are equally consistent with the same set of data, the stronger one will be the more general of the two. In other words, the theory entails other theories.

Semantical CriteriaLinguistic Exactness

A theory is linguistically exact when its concepts and the relationships among the concepts are expressed in precise terms and both intensional and extensional vagueness are minimal. The exactness or precision of a theory is extremely important for describing, explaining, and predicting.

Conceptual Unity

Conceptual unity is critical when taking an interdisciplinary approach or evaluating interdisciplinary hypotheses and theories. The marketing researcher should ask whether the components of the theory refer to the same set of behavioral phenomena. Attention must be given to assuring compatibility between the nonmarketing context in which the concept or theory has been empirically tested and the marketing context in which it is to be applied. The larger the inequity or disparity between the two contexts, the greater the probability that different theories are involved.

Empirical Interpretability (Testability in Principle)

This property concerns the closeness of correspondence between the symbol and its referent. In marketing, it is critical to make the distinction between the theoretical concept and its referent and the operational definition used in empirical testing. The fewer the number of different referents a given symbol within a theory brings within its scope, the better that component of the theory is.

Representativeness

This theoretical property is comparable to the criterion of depth. Depth relates to the basicness of the mechanisms underlying a theory. For this study, the mechanism by which the contingency variable is hypothesized to be having its effects is under scrutiny. In general, the higher the level of abstraction, the more the basic units are mechanistically related; and the more the theory subsumes other theories, the better it is.

Methodological Criterion

Falsifiability

Falsifiability is a means of assessing the truth of a theory and/or theoretical statements. Empirical testing does not obtain or create veracity, but merely increases or weakens the credence we give to an existing theory or statement. For a hypothesis there exists a positive relationship between empirical testability (i.e., open or sensitive to experience) and falsifiability. Falsifiability is optimized when a theory has the possibility of being both confirmed and disproved by the results.

Epistemological Criteria

Confirmation

A theory is considered to be true when it has been corroborated or supported with evidence. The degree of corroboration concerns "measuring the closeness of the correspondence of a theory to the facts which it is meant to describe, explain, and predict . . ." (p. 99).

Originality

One of the major goals of theory construction is to increase knowledge in the area by deriving new propositions or predictions. Theories demanding creativity of a researcher in formulating problems and constructing experimental designs for empirical testing may produce a wealth of both new propositions and syntheses not possible with "mundane" theories.

External Consistency

A theory should be harmonious with a major segment of existing tested knowledge in other fields as well as its own . . . External consistency is not a well-grounded and immediate reason for rejecting

a theory. It is possible that the other previously established theories are invalid and need correction or modification. External consistency has been referred to as the norm of coherence, which involves "how well a theory fits in with other theories and with known facts--that is, how well integrated it is with other knowledge" (p. 102).

Unifying Power

This criterion refers to a theory's ability to extend to areas previously unrelated. A theory that draws together a wide range of previously unconnected and confirmed propositions relating to a variety of phenomena can be considered a "good" theory. A major aim of scientific theorizing should be "to systematize knowledge by establishing logical relations among previously disconnected items" (p. 102).

Stability

A theory should have a flexibility permitting the incorporation of new evidence which is not contradictory to its main body. Good theories must be dynamic, not static, elastic, not rigid.

Pragmatic Criteria

Heuristic Power

A good theory performs a generative function; i.e., it generates research interest in the area by raising new important questions which suggest and direct new research.

Methodological Simplicity

The application or testing of a theory must be relatively simple, uncomplicated, and inexpensive in order to make refutation possible. This is related to the concept of pragmatical simplicity which involves both simplicity of understanding and application.

Durativity

This pragmatic property concerns the lifetime of a theory; i.e., how long has the theory been used to conduct research.

Utility

This criterion refers to the usefulness of a theory as means to some specified ends.

Potential for Training District Managers

This criterion refers to the potential of a formal training program built around the theory for improving the leadership effectiveness of trained district managers.

Adapted from Gerald Zaltman, Christian R. A. Pinson, and Richard Angelmar, Metatheory and Consumer Research (New York: Holt, Rinehart and Winston, Inc., 1973), pp. 91-103; and from Stuart C. Dodd, "Introducing Systemmetrics for Evaluating Symbolic Systems," Systematics 6 (1968):32-49.

APPENDIX C

DMSM SAMPLE CASE 1

In the company in which you serve as regional sales manager, all salesmen are supplied with company cars. To date, there have been an unusual number of salesmen involved in automobile accidents while working their territories, some of which have resulted in injury to personnel and damage to the car. None of the accidents that have occurred to date have been particularly serious ones, but you are concerned that unless the basic cause or causes are corrected, the situation could get totally out of hand, impairing the overall effectiveness of the sales force.

Informal conversations with your field sales managers about this matter have served only to convince you that the problem is complicated and without a simple solution. They share your concern about driver safety, but they all have their own ideas about what the problem is and what should be done to correct it. Several different suggestions have been made concerning actions to be taken. It is clear to you that all of those who made suggestions strongly believed they had a workable solution to the problem, but you have not implemented any of these suggestions because there were such marked differences between them. Each of the proponents appears to you to be looking at only one corner of the problem.

You are willing to spend a certain amount of money in capital expenditure to solve this problem, but you believe that no driver safety system is effective unless there is a commitment by all concerned to make it work.

Yesterday afternoon there was another salesman involved in a car accident--this one more serious than the last. You are determined that action to correct this situation must begin immediately. Your division manager has authorized the expenditure of up to \$25,000 to solve the problem.

OCCUPATION--GENERAL--SAMPLE CASE 2

You are head of a research and development department in a large corporation. Often, it is not clear whether a particular research effort is potentially of practical value or is only of "academic" interest to the researchers. In your judgment, one major area of research has advanced well beyond the level at which operating groups could make use of the data being generated.

Recently, two new areas with potentially high returns for immediate practical use have been proposed by one of the operating departments. You know the research team referred to above is ideally qualified to research these new areas. Unfortunately, both studies are relatively devoid of scientific interest, while the project in which the team is currently engaged is of great professional interest to all members.

At the moment, this is possibly your best research team. It is very cohesive, has a high level of morale, and has been very productive. You are concerned that not only might the team members dislike turning to these new areas, but that forcing them to concentrate on these two new projects could adversely affect their morale, their good intra-group working relations, and their future productivity both as individuals and as a team.

You have to respond to the operating department within the next two weeks indicating which resources, if any, can be devoted to working on these projects. While it is impossible for the team to work on more than one project, each project needs the combined skills of all members of the team, so no fragmentation of the team is technically feasible. This fact, coupled with the team's cohesiveness, means that a solution which satisfies any one team member would very probably go a long way toward satisfying all.

DMSM SAMPLE CASE 3

When reviewing the weekly expense accounts reported by your salesmen, you have found that they are using a wide variety of formats. The outside computer facility used to check expense account accuracy makes an additional charge for multiple formats. There are no technical reasons to prefer any one format over any other, or to prevent standardizing formats to a single alternative. Furthermore, there are substantial cost reductions to be made if use is restricted to any one particular format.

The setup of the computer facility makes it impossible to either monitor who is using which format, or to restrict access to only one format for a particular salesman calling on different client firms. Monitoring the process by close supervision of your own salesmen is totally unacceptable. Most of your better salesmen would just quit and work for one of your competitors.

In your discussions with the salesmen about printout formats you have learned that they are not at all concerned about the question. According to them, the format used is largely a matter of personal habit, and no one has yet produced any argument in favor of a particular format. Certainly, no question of professional judgment or skill on their part is being raised, and no retraining will be necessary whichever format is selected as a standard. The cost savings will be sufficient to convince them to adopt a standardized format.

OCCUPATION--GENERAL--SAMPLE CASE 4

You will leave on Sunday night to attend a four-week course at a leading business school. One of your subordinates must be selected to act for you in your absence. You can arrange to phone the office two or three times a week, but whoever acts for you may need to make a number of important decisions.

The principal responsibility of this person will be to coordinate the work of your other subordinates. In this area, persuasion rather than formal authority will be needed. If the group resents or lacks confidence in the person chosen, productivity will definitely suffer.

You have two people in mind who could handle the assignment. The one thing about which you are uncertain is the nature of their work loads for the next month. The nature of the work does not easily permit a redistribution of work among members of the group and the person chosen cannot be one who already has a heavy volume of work to be carried out during this period.

The person who assumes your position during your absence would acquire some status within the group and, for this reason, each person would want the job. On the other hand, each of your subordinates realizes that it is critical for the job to be done well, and they all want to prove to you that the operation can continue to be effective during your absence.

On the two previous occasions when you have had to be absent for significant periods, the people you selected were accepted by everybody and performed the job conscientiously and well. It appears that once you have decided who should do the job, your judgment is accepted without question.

DMSM SAMPLE CASE 5

Your company contracted with a glass bottle manufacturer for the supply of special glass bottles for perfume at a price \$25,000. In December, 1969, the supplier was five months late in delivery, had encountered several problems, and had notified you that it would be months before he could deliver the completed order of glass bottles.

Your company agreed to take the unfinished glass bottles in their present state and to withhold \$10,000 from the payment. It was agreed that the difference between the cost of finishing and the \$10,000 would be returned to the glass bottle manufacturer.

The cost of finishing the glass bottles for packaging the perfume has turned out to be \$40,000. You have been asked to proceed with a legal investigation to determine the advisability of going ahead with legal action to recover the \$30,000 excess costs. If legal action is undertaken, it will be turned over to a private law firm for prosecution.

Because the firm has no legal department, three of your brightest young marketing researchers, who have law degrees and specialize in legal marketing matters, have been working on this. Two of them are keen to go ahead while the other is steadfastly opposed. The enthusiasm may stem from the fact that the two are actively involved in local peace groups and in the past have expressed antagonism to the supplier, whose president is an officer in, and a strong spokesman for, a prominent right-wing group.

You know that there are only two factors which determine the wisdom of proceeding with legal action. One of these is the cost of going to court which you have estimated from past experience at \$10,000. The second is the probability of winning the case, which you cannot estimate since you have not been involved personally in researching it. The research, carried out by your three subordinates, has involved studying a large number of legal briefs. Apparently, the question is covered by existing decisions. No complex legal questions are involved and the case will not set any legal precedents.

OCCUPATION--GENERAL--SAMPLE CASE 6

A defect in the seating surface of a steam generator hand hole has been discovered during removal of the cover. The defect is serious and will require repair when you can gain access to it in about five days. Repair will be made difficult by high radiation levels in the area and the inaccessibility of the fault. It will be necessary to send in two people to effect the repair. Time is critical since any delay will prevent restoration of the nuclear plant and significantly increase start-up costs.

As maintenance supervisor, your problem is to select the team members for the assignment. You have six maintenance workers reporting to you. They vary both in experience and in qualifications for this particular job. You know all your people well, and selecting the two who have the capacity to do this job is possible.

In the past, when a problem involving significant risks due to high radiation levels has come up, you have brought your people together as a group, shared the problem with them, and let them make the decision as to who should carry out the assignment. This procedure has not been entirely satisfactory since the group has tended to choose the more junior members on the grounds that they needed experience. You believe that such poor decisions have increased the amount of time to effect repairs similar to this one.

However, it is apparent to you that the group members have been accustomed to having a part in decisions and might resent it if you were to choose the two people yourself. Since the location and nature of the job and high radiation levels make any close supervision impossible, the time taken to effect the repairs could be seriously affected by the willingness of those selected to carry out the assignment.

APPENDIX D

RECALLED SITUATION INSTRUCTIONS

Name,

Having completed the 30 case problem set, your last assignment for the evening is to describe in written form two problem-solving or decision-making situations you have experienced in your district manager role. When selecting the two situations, please use the following guidelines:

1. Choose situations in which you had primary responsibility for resolving the situation or where you helped make the decisions.
2. Both situations should represent decisions which had potential effects on at least two of your subordinates.
3. One situation should be a success experience, i.e., one in which the action chosen by you worked out well and was very successful from an organizational standpoint. The other should be the opposite, i.e., one in which your decision was very unsuccessful from an organizational standpoint.

It will help us if while writing both situations, you briefly describe each one by answering these questions:

1. What was the actual problem or decision confronting you?
2. Who was involved in making that decisions?
3. How much time did the decision making take?
4. How was the decision made?
5. What were the results of that decision?
6. How successful or unsuccessful was the decision outcome?

Please describe both situations on the next two pages and be sure to answer the questions at the bottom of each page.

All information is confidential and will not be seen by anyone outside of Kepner-Tregoe.

SITUATION 1--SUCCESSFUL

The leader behavior I used to resolve this situation is best described by (please circle only one)

AI

AII

CI

CII

GII

Rate this situation on the 9 point success measurement scale below. (Remember success from an organizational standpoint; please check only one.)

Very
Successful

Very
Unsuccessful

— — — — — — — — — —

SITUATION 2--UNSUCCESSFUL

The leader behavior I used to resolve this situation is best described by (please circle only one)

AI

AII

CI

CII

GII

Rate this situation on the 9 point success measurement scale below. (Remember success from an organizational standpoint; please check only one.)

Very
Successful

Very
Unsuccessful

— — — — — — — —

APPENDIX E

7 SITUATIONAL VARIABLES FOR CODING

	<u>Past Successful Situation</u>	
	<u>Yes</u>	<u>No</u>
A. Does it make a difference which course of action is adopted?	___	___
B. Do you have adequate information to make a quality analysis?	___	___
C. Do you know exactly what information is missing and how to get it?	___	___
D. Is commitment of others critical to effective implementation?	___	___
E. Will they commit to a decision made by you without their active participation?	___	___
F. Is there goal congruence between the subordinates and the organization?	___	___
G. Is there likely to be conflict about alternatives among the subordinates?	___	___

NOTE: Make certain you have only one check next to each question!

7 SITUATIONAL VARIABLES FOR CODING

	<u>Past Unsuccessful Situation</u>	
	<u>Yes</u>	<u>No</u>
A. Does it make a difference which course of action is adopted?	___	___
B. Do you have adequate information to make a quality analysis?	___	___
C. Do you know exactly what information is missing and how to get it?	___	___
D. Is commitment of others critical to effective implementation?	___	___
E. Will they commit to a decision made by you without their active participation?	___	___
F. Is there goal congruence between the superordinates and the organization?	___	___
G. Is there likely to be conflict about alternatives among the subordinates?	___	___

NOTE: Make certain you have only one check next to each question!

APPENDIX F

RESULT OF MANN-WHITNEY TEST TO DETERMINE HOMOGENEITY OF
TREATMENT AND CONTROL GROUPS*

Criteria	U Value	Significance Level*
Experience	139.5	NS
Age	143.0	NS
Education	264.5	NS
Leadership Style (Pretest)		
MPL	230.0	NS
Agreement with Feasible Set	222.5	NS

*For all four criterion variables, a U of 88 or smaller is needed to reject the null hypothesis at the .002 level if direction has not been predicted. Therefore, there is no evidence to base a conclusion that the difference in experience, age, education and leadership style between the groups is due to anything other than chance.

APPENDIX G

SCALING LEADER BEHAVIORS

In the development of their descriptive model, Vroom and Yetton realized the value of showing that the five leader behaviors could be arranged on a unidimensional scale and nonarbitrary scale values could be assigned to them [100]. Following the suggestion of Coombs [17], rank order data was used as the basis for establishing the unidimensionality of a leader behavior scale and for assigning scale values. The two extreme behaviors, AI and GII, were assigned arbitrarily scale values of 0 and 10 respectively while numerical assignments for the three intervening behaviors was obtained through the use of the Goode Algorithm.^a

Vroom and Yetton [100] point out:

Two other procedures were used to provide a crude check on the degree to which the values shown above correspond to estimates of the relative opportunities that the five decision processes (leadership behaviors) provide to subordinates to influence the decisions made. [p. 68]

They conceded that support for the particular scale values was not perfect. Consequently, all major findings of their original research were replicated against an equal interval scale.

^aA detailed description of the procedures used by them to assign scale values to the five leader behaviors can be found in Victor H. Vroom and Philip W. Yetton, Leadership and Decision Making (Pittsburgh: University of Pittsburg Press, 1973), pp. 65-71.

APPENDIX H

RECALLED SITUATIONS USED IN THE VALIDATION PROCESS

Recalled Situation	Problem Type	Prescribed Feasible Set	Actual Leader Behavior Used	Agreement With Normative Model	S/U Decision Outcome	V (+)/I (-) Model
1	3	AI-GII	CI	Yes	S	+
2	5	GII	CII	No	S	-
3	6a	CII	GII	No	U	+
4	3	AI-GII	CI	Yes	S	+
5	12	CII	GII	No	U	+
6	5	GII	CII	No	S	-
7	5	GII	AI	No	U	+
8	5	GII	AI	No	S	-
9	5	GII	CI	No	U	+
10	8	AII, CI, CII, GII	CII	Yes	S	+
11	4	AI, AII, CI, CII	AI	Yes	U	-
12	3	AI-GII	AI	Yes	S	+
13	6a	CII	CII	Yes	U	-
14	11	GII	CI	No	S	-
15	5	GII	AI	No	U	+
16	4	AI, AII, CI, CII	CI	Yes	S	+
17	4	AI, AII, CI, CII	AI	Yes	U	-
18	5	GII	CI	No	S	-
19	5	GII	AI	No	U	+
20	3	AI-GII	AII	Yes	S	+

RECALLED SITUATIONS USED IN THE VALIDATION PROCESS--Continued

Recalled Situation	Problem Type	Prescribed Feasible Set	Actual Leader Behavior Used	Agreement With Normative Model	S/U Decision Outcome	V (+)/I (-) Model
21	8	AII, CI, CII, GII	CI	Yes	S	+
22	10	CII, GII	CI	No	U	+
23	8	AII, CI, CII, GII	CI	Yes	S	+
24	5	GII	GII	Yes	S	+
25	5	GII	CI	No	S	-
26	7	AII, CI, CII	AI	No	U	+
27	4	AI, AII, CI, CII	CI	Yes	S	+
28	6a	CII	CII	Yes	U	-
29	1	AI-GII	AII	Yes	S	+
30	1	AI-GII	CI	Yes	U	-
31	5	GII	CI	No	S	-
32	5	GII	CI	No	U	+
33	7	AII, CI, CII	AII	Yes	S	+
34	3	AI-GII	CI	Yes	U	-
35	5	GII	CI	No	U	+

APPENDIX I

DIFFERENTIAL MPL SCORES FOR BOTH TREATMENT AND CONTROL GROUPS

Participant	Training Group			Control Group		
	(MB ₁) Pretest MPL	(MA ₁) Posttest MPL	(MB ₁ -MA ₁) Differential MPL Score	(MB ₂) Pretest MPL	(MA ₂) Posttest MPL	(MB ₂ -MA ₂) Differential MPL Score
1	2.98	4.56	1.58	3.98	3.25	-.46
2	2.81	4.98	2.17	4.65	4.65	0
3	5.58	4.15	-1.43	4.08	4.58	.50
4	5.73	4.94	-.79	4.92	5.15	.23
5	4.06	7.19	3.13	4.29	3.38	-.91
6	3.31	3.90	.59	4.31	3.85	-.46
7	3.40	4.65	1.25	4.79	4.44	-.35
8	4.10	4.33	.23	5.25	4.60	-.65
9	4.98	5.85	.87	5.02	4.88	-.14
10	5.08	4.29	-.79	4.67	5.19	.52
11	4.81	5.25	.44	5.08	5.73	.65
12	5.15	5.15	0	3.50	4.33	.83
13	5.21	7.02	1.81	3.40	4.60	1.20
14	7.19	4.65	-2.54	3.50	5.21	1.71
15	4.73	4.52	-.21	2.98	3.92	.94
16	6.02	4.71	-1.31	4.67	4.90	.23
17	4.25	4.67	.42	4.63	6.17	1.54
18	4.31	6.69	2.38	3.75	4.90	1.15
19	3.69	7.31	3.62	0.10	0.60	.50
20	2.85	2.27	-.58	4.50	2.94	-1.56

APPENDIX J

DIFFERENTIAL AGREEMENT WITH THE FEASIBLE SET IMPROVEMENT SCORES FOR BOTH
TREATMENT AND CONTROL GROUPS

Participant	Training Group			Control Group		
	(MB1) Pretest # Correct	(MA1) Posttest # Correct	Differential Improvement Score	(MB2) Pretest # Correct	(MA2) Posttest # Correct	Differential Improvement Score
1	18	27	9	20	18	- 2
2	15	30	15	22	20	- 2
3	19	30	11	19	20	1
4	19	30	11	20	22	2
5	19	23	4	18	18	0
6	17	29	12	19	20	1
7	17	30	13	19	19	0
8	19	28	9	23	21	- 2
9	15	27	12	24	22	- 2
10	19	29	10	19	18	- 1
11	24	22	- 2	20	19	- 1
12	19	23	4	19	21	2
13	22	25	3	16	20	4
14	25	30	5	19	23	4
15	23	29	6	17	23	6
16	25	30	5	20	27	7
17	22	30	8	17	22	5
18	18	24	6	20	22	2
19	21	22	1	13	15	2
20	20	16	- 4	18	16	- 2

APPENDIX K

DIFFERENTIAL GUIDELINE IMPROVEMENT SCORES (DGI) FOR BOTH TREATMENT AND CONTROL GROUPS

Participant	Training Group													
	Leader Information		Goal Congruence		Unstructured Problem		Acceptance		Conflict		Fairness		Acceptance Priority	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	2	0	0	0	0	3	5	0	5	2	2	1	4	2
2	1	0	1	0	2	4	4	0	4	3	2	2	4	0
3	1	0	2	0	3	3	3	0	3	1	2	2	3	0
4	3	0	3	0	2	2	1	0	1	1	2	2	3	0
5	0	0	1	4	-3	4	2	0	4	2	2	2	3	1
6	5	0	1	0	1	4	4	1	3	3	2	2	3	0
7	3	0	3	1	0	4	5	0	4	4	2	2	3	0
8	2	0	2	0	1	4	4	0	4	4	2	2	4	0
9	1	0	1	2	1	3	2	0	2	3	2	2	4	1
10	0	1	-1	3	0	2	2	0	3	3	1	1	4	0
11	0	2	-2	0	0	3	4	2	2	3	1	2	2	3
12	0	1	-1	1	0	2	1	0	1	1	1	0	4	2
13	2	0	2	1	2	2	3	0	3	2	1	0	3	1
14	0	0	0	2	0	1	0	0	0	0	0	0	2	0
15	0	0	0	1	1	2	1	0	1	2	0	2	2	0
16	0	0	0	2	0	1	1	0	1	1	1	1	1	0
17	0	0	0	0	0	4	1	0	1	1	1	1	4	0
18	1	0	1	2	3	-1	3	0	3	4	2	1	4	2
19	2	0	2	0	3	-3	2	0	2	1	1	1	3	4
20	2	2	0	0	0	4	4	4	0	3	2	1	3	4

DIFFERENTIAL GUIDELINE IMPROVEMENT SCORES (DGI) FOR BOTH TREATMENT AND CONTROL GROUPS--Continued

Partici- pant	Control Group															
	Leader Information		Goal Congruence		Unstructured Problem		Acceptance		Conflict		Fairness		Acceptance Priority			
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post		
1	2	-1	0	0	0	3	4	-1	3	4	1	2	0	2	3	0
2	0	0	1	0	1	2	3	-1	2	0	-1	0	1	1	4	0
3	1	1	1	0	2	2	2	0	1	2	1	2	0	2	3	0
4	0	0	2	1	1	2	3	-1	3	2	1	2	1	3	2	1
5	2	0	0	0	3	3	3	0	4	5	-1	2	0	2	3	-1
6	1	1	0	1	3	3	3	0	3	1	2	2	0	4	4	0
7	2	-1	1	1	4	3	4	-1	4	4	0	2	0	2	1	1
8	2	-2	3	3	0	1	1	0	1	1	0	1	2	1	1	1
9	1	1	0	2	2	2	1	1	1	1	0	1	1	1	1	0
10	1	1	0	1	4	3	3	1	2	0	0	3	4	-1	2	0
11	1	1	1	1	2	2	2	0	3	0	0	3	2	1	3	0
12	1	0	1	1	2	2	2	0	2	2	1	2	2	1	4	0
13	2	1	1	0	1	4	4	0	3	2	1	2	0	4	2	2
14	1	4	-3	0	0	2	2	0	2	3	-1	3	0	4	3	1
15	4	2	2	1	0	3	1	2	7	4	3	4	3	1	4	2
16	0	0	0	3	1	1	0	1	1	1	0	2	1	1	4	3
17	3	1	2	1	2	2	2	0	2	0	2	2	1	2	1	1
18	2	1	1	0	4	3	3	1	2	0	2	3	2	2	4	3
19	7	7	0	0	6	4	4	2	10	9	1	5	0	2	4	0
20	3	4	-1	4	0	2	3	-1	1	7	-6	1	5	4	2	-1

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VALIDATING THE VROOM-YETTON NORMATIVE MODEL OF LEADER BEHAVIOR IN
FIELD SALES FORCE MANAGEMENT AND MEASURING THE TRAINING
EFFECT OF TELOS ON THE LEADER BEHAVIOR OF
DISTRICT MANAGERS

by

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(ABSTRACT)

Statement of the Problem

Despite strong evidence that effective leadership by district managers is important for organizational success, there is a void of research dealing with the application of leadership theories and leadership training programs in field sales force management. The dissertation focuses upon validating the Vroom-Yetton Normative Model of Leader Behavior in this area and upon measuring the training effect of Telos which is a leadership training program built around this model.

Methodology

A purposive sample of forty district managers was taken from two companies. The validation process used to validate the Normative Model was a replication of the process used by Vroom et al. in earlier studies. Recalled situations provided by the twenty trainees were used.

To measure the training effect, the Nonequivalent Control Group design was employed. Two differential measures (gain scores) of leadership behavior were analyzed for both the training and control groups.

Results and Conclusions

Thirty-five recalled situations were generated in the validation process. From the analysis of these situations, the major finding was that district managers did not significantly increase their chances of having successful decision outcomes result from their use of leader behaviors consistent with the prescriptions of the Normative Model. However, the test results were in the predicted directions. Despite the lack of significance, a probability of .15 indicates the model did quite well in prescribing appropriate leader behaviors to district managers. The major conclusion drawn from the validation process was that the Normative Model appeared to have potential for prescribing leader behaviors to district managers which increase the probability of producing successful decision outcomes.

Statistical tests of the two measures used to measure the training effect showed significant changes occurring in the leader behavior of the trained district managers. The average level of participation that trainees would offer to their subordinates changed significantly more than that offered by the control group. On the second measure, trained district managers showed significant improvement in choosing leader behaviors consistent with the feasible set of leader behaviors prescribed by the Normative Model. The major implication was that Telos affected significant learning in the training group.

To determine the precise areas of learning, statistical testing of the training group's scores on the set of seven guidelines

underlying the model was done. The results indicated that district managers significantly decreased their number of violations on six of the seven guidelines.

The research suggests that the Vroom-Yetton Normative Model of Leader Behavior appears to offer potential to district managers as a tool for improving their leadership effectiveness. Future validation studies are needed to provide empirical evidence to support the model's validity in field sales force management. The results from testing the training effect of Telos indicated that Telos affected significant changes in the leadership behavior of trained district managers.