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A comparative analysis: Leader behavior of military and industrial project managers as related to organizational authority

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Temple University, 1989

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A COMPARATIVE ANALYSIS: LEADER BEHAVIOR OF MILITARY AND INDUSTRIAL PROJECT MANAGERS AS RELATED TO ORGANIZATIONAL AUTHORITY

A Dissertation

Submitted to

the Temple University Graduate Board

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

by

Michael B. Ruggiero

February 1989

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Title of Dissertation

A COMPARATIVE ANALYSIS: LEADER BEHAVIOR OF MILITARY AND INDUSTRIAL PROJECT MANAGERS AS RELATED TO ORGANIZATIONAL AUTHORITY

Author Michael B. Ruggiero

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Date .....

.....
(Dean of Graduate School)

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All my love, respect and heartfelt thanks to my wonderful wife Ann, who was behind me all the way and helped me put together my manuscript and the many other things involved in the complex process of writing a dissertation. I could not have done it without her complete support and understanding.

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CHAPTER 1

Introduction

The increasing complexity of military and industrial organizations, particularly during the last twenty years, is directly related to the significant advances in technology and the resulting demands for state of the art military systems. Drucker states that the management boom which existed during the twenty-five years subsequent to World War II created new tasks and new problems; in particular, the importance of management's role in facing the challenges inevitably being generated in today's age of computers and high technology.[1] He observes that

> now we know that all our institutions need management . . . and public-service institutions equally face the challenge of innovation, and have to manage growth, diversity and complexity . . . and that a central management need is to make the non-business, the service institution, manageable and managed for performance.[2]

The classical methods of mass production of weapons systems by industry "well before and during World War II, was [were] made obsolete by the growing complexity of weapon technology."[3] The rapid advances in science and technology in recent years have created the urgent need for highly specialized project manager (PM) organizations in the United States military services and in industry. That complexity has also created a need for unique leadership techniques, and for leaders who

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[1] Peter Drucker, Management Tasks Responsibilities-Practices (New York: Harper and Row, Publishers, 1974), 11.

[2] Drucker, 32.

[3] J. Ronald Fox, Arming America (Cambridge: Harvard University Press, 1974), 12.

are effective despite dissimilar backgrounds and organizational settings. In the case of specialized project management organizations and their inherent pressure-laden environments, leadership skills and effectiveness are even more essential.

Military organizations, heretofore concerned with the mission of fighting battles and winning wars, must be actively involved in the management of large defense projects and having close, cooperative relationships with their industrial counterparts. Drucker states that

> few relationships are as critical to the business enterprise itself as the relationship to government . . . there are going to be more joint tasks in which government and business will have to be in a team, with leadership taken by one or the other as the situation demands.[4]

Statement of the Problem

The major purpose of this study was to determine the relationship between organizational authority (responsibility, authority and delegation (RAD)) and leadership style (transformational and transactional). Specifically, an attempt was made to determine if Military Project Managers (MPMs) and Industrial Project Managers (IPMs) differed in their self-ratings of perceived degrees of organizational authority and their leadership styles.

Research Questions

Five research questions were addressed during this study:

Question 1: Is organizational authority related to the leadership style of MPMs and IPMs?

Question 2: Do MPMs and IPMs differ significantly in their

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[4] Drucker, 352, 359.

THE ARMY'S PROGRAM EXECUTIVE OFFICERS/PROGRAMS

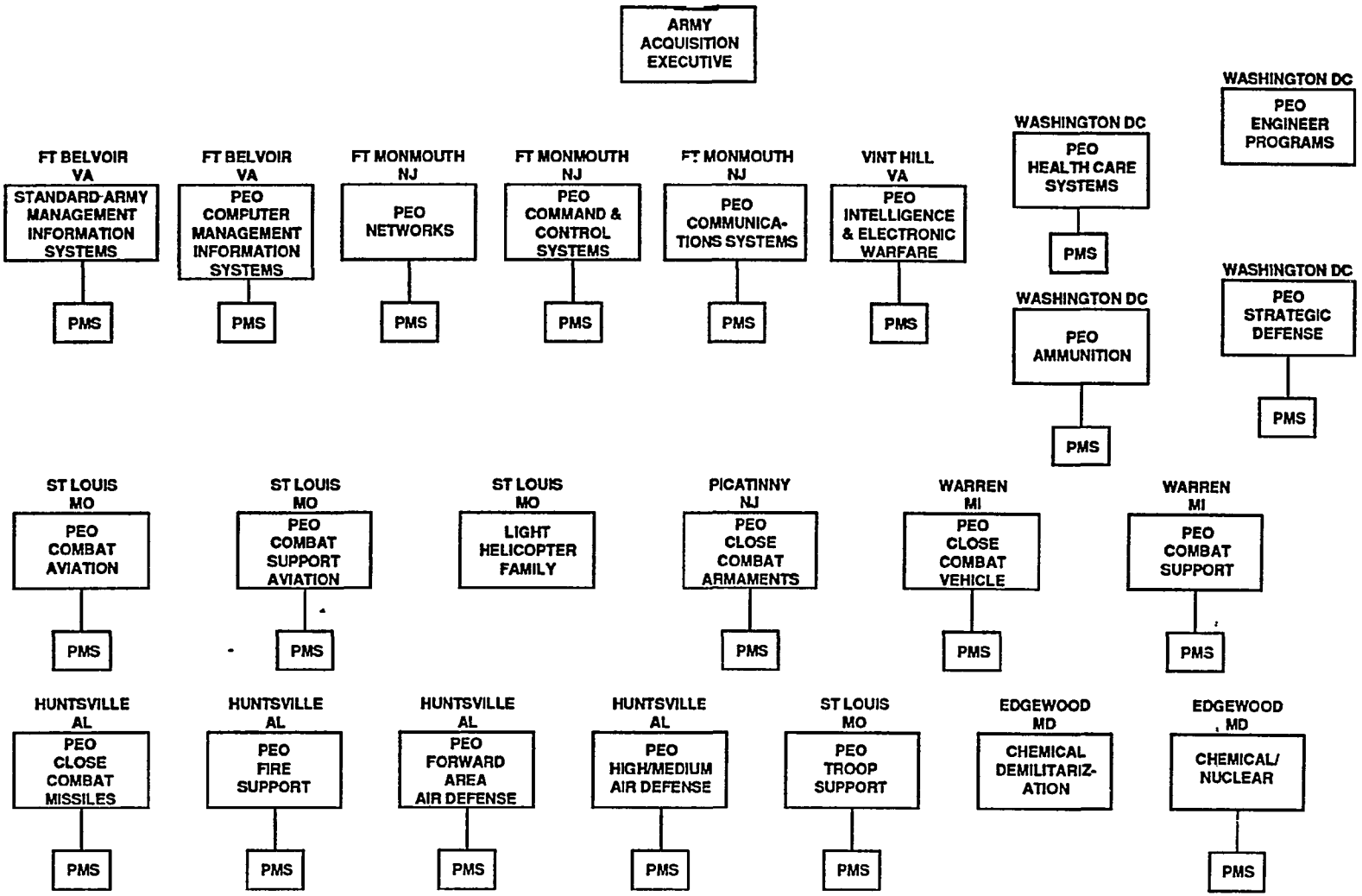

Figure 1

perception of organizational authority?

Question 3: Do MPMs and IPMs differ significantly in their perception of leadership style?

Question 4: What is the distribution of transformational and transactional scores for MPMs?

Question 5: What is the distribution of transformational and transactional scores for IPMs?

Delimitations

Each of the three military departments, the Army, Navy and the Air Force, have projects that are centrally managed by PMs and their supporting organizations. Except for pertinent references to the other military services, the PMs and projects in this study were delimited to those that are in the Army. The centrally managed projects involve the acquisition and fielding of weapons systems required to support the Army mission. They are under the direct supervision of the Department of the Army (DA) and Program Executive Officers (PEOs) located as shown in Figure 1.

In industry, PMs and their projects were delimited to companies located throughout the United States that field weapons systems through government contracts that support the nation's military mission. An overview of these systems produced by the companies in the military and industrial samples are listed in Appendix A. Selected companies with more than one PM, were further delimited to one PM.

What was studied were the respondents' self-perceptions of their organization authority and leadership styles. The time period covered by the data collection was between August 1 and October 15, 1988.

Definitions

The following are definitions of terms that will be referred to throughout this study:

Transformational Leadership: A leader who motivates subordinates to do more than they were originally expected to do.

Operational definition: Transformational Leadership includes three factors measured by the Bass Leadership Questionnaire: charisma, individualized consideration and intellectual stimulation.[5]

Transactional Leadership: Leaders that motivate followers by exchanging rewards and promises for subordinates' efforts.

Operational definition: Transactional Leadership includes two factors measured by the Bass Leadership Questionnaire: contingent reward and management by exception.[6]

Project Manager (PM): An individual who is assigned appropriate responsibility and authority for a specified project. For the purposes of this study, the acronym PM, will also include program and product managers, similarly involved with the management of centralized projects.

Operational definition: In the Army, an individual "who is assigned full-line authority for the centralized management of a specified [project]."[7] In industry, an individual who is assigned appropriate authority for the management of a specified project related to contractual work for the Department of Defense and the

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[5] Bernard M. Bass, Leadership and Performance Beyond Expectations, (New York: The Free Press, 1985), 20.

[6] Bass, 11.

[7] Army Regulation 70-17. System Program/Project Management, (Washington: GPO, 1985), A-2, A-3.

military services, the Army, Navy, Air Force and where appropriate, the U.S. Marines.[8]

Weapons System: Any system that supports the Army or Department of Defense in the accomplishment of the nation's military mission.

Operational definition: Individual systems include artillery, tanks, missiles, command and control information centers, helicopters and the like. Please refer to Appendix A for a more complete listing.

Organizational Authority:

> A member's perceived area of freedom and interaction [in an organization], the delegated right to initiate action. Members act in accordance with their perception of (1) the degree of freedom allowed them and (2) the initiative that they feel they can safely exercise. Their own perceptions may or may not coincide with the expectations of their supervisors, peers and subordinates.[9]

Operational definition: The interrelationship of responsibility, authority and delegation (RAD) in a project management organization as measured by the RAD scales.[10]

Need for the Study

The basic objective of this research was to compare and contrast military and industrial project managers as related to organizational authority (responsibility, authority and delegation (RAD)) and leader behavior. Other objectives were to examine RAD interrelationships and leader behavior (transformational and transactional) independently in military and industry settings.

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[8] "The Defense Industry Gold Pages, Product and Service Directory." National Defense, May-June 1987: 121-134.

[9] Ralph M. Stogdill, Stogdill's Handbook of Leadership, ed. Bernard M. Bass (New York: The Free Press, 1981), 231.

[10] "The RAD Scales," (Columbus, Ohio: Ohio State University, 1957).

There is a need to develop a greater understanding of the RAD interrelationships and their impact on leader-follower interactions in various organizational settings. Stogdill emphasized their importance when he said that "a key issue in management is the meshing of responsibility, authority, and delegation."[11] Since the review of the literature suggested that research in this specific area had not been extensive, there appeared to be a need for further examination of how responsibility, authority, and delegation interrelate. While this study is limited in its scope and content, it is hoped that it will contribute to the body of existing literature addressing RAD interrelationships.

The importance of project management was emphasized by Axelrod who said that

> during the last three decades, project management has been utilized in industry, government, and human service organizations . . . [and] gained the greatest inroads in two settings, i.e., industry and government. The creation of project teams, cutting across existing organizational lines, was adopted in these settings for solving problems encountered in achieving complex goals with time and resource constraints.[12]

The PM military and industry settings were selected because there were closer similarities in their organizational structures and goals. These similarities were enhanced further because the military and industry organizations addressed in this study focused their efforts on

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[11] Ralph M.Stogdill, 231.

[12] Valija Miske Axelrod, Relationship Between Characteristics of Educational Project Managers, Nature of Task, Coordination Modes and Perceived Project Performance, Ph.D. Diss., Ohio State University, 1980 (Ann Arbor: UMI 1981), pp. 2-3.

the fielding of government weapons systems managed by the PMs within them. "An examination of studies about project management reveals an ever-present concern for synthesizing and structuring the knowledge base."[13] A need also exists for further research in this specific area. Attainment of objectives in PM organizations requires that PMs possess leadership abilities that will enable them to be effective managers and, concurrently, to maintain optimum balance and objectivity in pressure-laden environments.

Another research objective was to generate data that may assist organizations in the nurturing, training and selection of PMs to fit their unique management needs. Bass, taking one step beyond existing thought in leadership and leader behavior, said that

> a shift in paradigm is in order. Another concept is required to go beyond these limits. To achieve follower performance beyond ordinary limits, leadership must be transformational. Followers' attitudes, beliefs, motives and confidence need to be transformed from a lower to a higher plane of maturity . . . [and] employees' confidence and how much value they place upon potential outcomes can be increased further through transformational leadership.[14]

The Bass Multifactor Leadership Questionnaire used as an instrument in this study, addressed the transformational and transactional leader behavior dimensions and their subfactors, charisma, individualized consideration, intellectual stimulation, contingent reward and management by exception.[15]There is a need for additional research that will address Bass's arguments reference transformational and transactional leader behavior.

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[13] Axelrod, 3-4.

[14] Bernard M. Bass, Leadership and Performance Beyond Expectations, (New York: The Free Press, 1985), 3.

[15] Bass, 201.

The interactions of organizational authority (RAD), an inherent part of modern organizational structures, suggested to the researcher that those interrelationships could be related to changes in leader behavior. No studies were found during the literature search that specifically addressed both organizational authority and transformational and transactional leader behavior. It is hoped that the results of the analyses of the organizational authority and leader behavior variables and their interactions, will add to the body of knowledge that exists for these subjects.

Summary

Organizations within the government and industry that involve the management, production, and fielding of military weapons systems supporting the nation's military mission, assign PMs who are responsible for the accomplishment of these objectives. The complexity of these tasks and the inherent, continuous pressures present because of the many common similarities that exist throughout project efforts, require especially effective leaders and managers. The miltary and industrial organizational settings were considered ideal to study the interrelationships of organizational authority and leader behavior in military and industrial PM structures. The study sought to analyze those interrelationships and to provide the basis for further study in this area.

Organization of Remainder of the Study

Chapter 2 provides a review of the related literature. Chapter 3 addresses procedures used in this study. Results are included in

Chapter 4, and Chapter 5 contains the findings, conclusions and recommendations.

CHAPTER 2

Review of the Literature

The review traces the history of leadership conceptual thought since the beginning of this century to the present. A brief, historical discussion of project management, its genesis, evolution and integration into current military and organizational structures, is also included in this chapter.

Leadership Studies in the Twentieth Century

Workmen Incentives

Frederick Taylor believed that if the worker could be self-motivated performing assigned tasks by "giving them something more than they usually receive from their employers," management would obtain the best "initiative of every workman . . . initiative in its broadest sense, to cover all the good qualities of the men."[1] The incentives included

> higher wages . . . or bonus of some kind for good and rapid work; better surroundings and working conditions than are ordinarily given, etc., and above all, this special incentive should be accompanied by that personal consideration for, and friendly contact with, his workmen which comes only from a genuine and kindly interest in the welfare of those under him.[2]

Taylor's primary concern was the generation of more profit for the factory owners of that time. He did not completely recognize the behavioral aspects of management-worker interrelationships.

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[1] Frederick Winslow Taylor, Scientific Management (New York: Harper and Brothers, 1911), 33.

[2] Taylor, 34.

Employee Motivation

Twenty-three years later, a landmark study was conducted at the Hawthorne, Illinois, plant of the Western Electric Company.[3] The objective of the study conducted by Elton Mayo and his associates was to determine what effect illumination would have upon workers and their productivity. It was observed that increased output of work occurred whether the illumination was increased or decreased. Mayo deduced from an analysis of these events that workers in a group environment tended to be more sensitive and responsive to group interrelationships, group values and attitudes than managerial or supervisory pressures. The study suggested that motivation was part of the complex system of human behavior. When the findings were disseminated and analyzed by the theorists of that period, managerial thought was significantly altered and the Scientific Management Movement for all practical purposes was ended.

Identification of Leader Behavior Dimensions

The studies initiated in 1945 at the Bureau of Business Research at Ohio State University signalled the beginning of a major shift in the study of leadership and leader behavior. The landmark studies that were conducted during the ensuing ten years had a profound effect upon the development of several leader behavior approaches now used by many researchers during the preparation of their dissertations. The staff identified two dimensions of leader behavior: Initiating Structure and Consideration and plotted them into a four quadrant model. Please

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[3] Elton Mayo, The Social Problems of an Industrial Civilization (Boston: Harvard Business School, 1945), 23.

refer to Figure 2.[4] They defined them as

> Initiating Structure: refers to the leader behavior in delineating the relationship between himself and members of the work group and in endeavoring to establish well-defined patterns of organization, channels of communication and methods of procedure.
> Consideration: refers to behavior indicative of friendship, mutual trust, respect and warmth in the relationship between the leader and members of his staff.[5]

During the same period, Ohio State staffers Hemphill and Coons developed an instrument they believed would identify perceived behavior of a group leader, as described by members within that group. Encompassing ten dimensions and containing 150 items, it was identified as the Leader Behavior Description Questionnaire (LBDQ).[6]

Initiating Structure and Consideration Studies

In an early study using an Air Force adaptation of the LBDQ, Halpin and Winer analyzed the responses of 300 B-29 crew members who had described the leader behavior of their 52 commanders.[7] Clearly identified were the Initiating Structure and Consideration leader behavior dimensions. Halpin and Winer concluded that high scores on both Initiating Structure and Consideration was related to effective leader behavior, and that correlation is minimal between the way staffs perceive their leaders as behaving and the way leaders believe they

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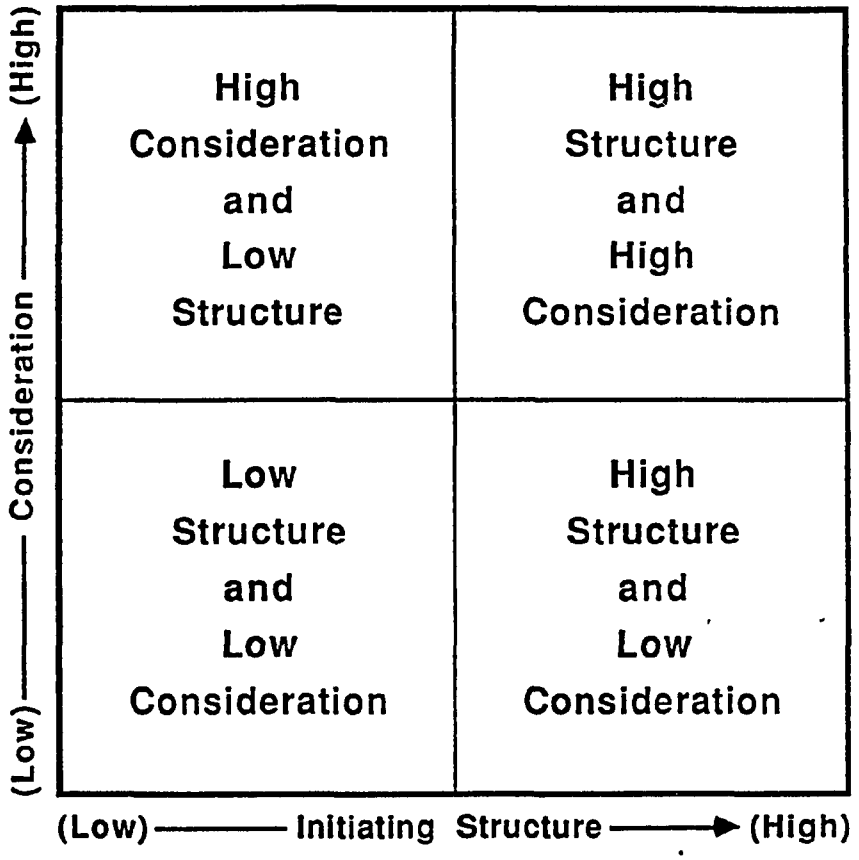
[4] Paul Hersey and Ken Blanchard, Management of Organizational Behavior: Utilizing Human Resources (Englewood Cliffs: Prentice-Hall, Inc., 1982), 88.

[5] Hersey and Blanchard, 88.

[6] John K. Hemphill and Alvin E. Coons, "Development of the Leader Behavior Description Questionnaire," Leader Behavior: Its Description and Measurement, eds. Ralph M. Stogdill and Alvin E. Coons, (Ohio State University: Bureau of Business Research, 1957), 13.

[7] Andrew W. Halpin and Benjamin J. Winer, The Leadership Behavior of the Airplane Commander (Columbus: The Ohio State University Research Foundation, 1952), 13.



The Ohio State Leadership Quadrant

Figure 2

themselves should behave.[8]

Halpin later examined military aircraft commanders and educational administrators in different institutional settings. He said that

> the findings support the basic hypothesis that educational administrators differ from aircraft commanders both in leadership ideology and leadership style. The administrators tend to show more Consideration and less Initiating Structure than the commanders. These differences are presumably associated with differences between institutional settings within which the two groups of leaders operate.[9]

Hemphill and Sechrist, in a related study of aircraft crews in combat over Korea, used three variables to determine their relationship to leader effectiveness: (1) sociometric nominations from crew members, (2) superior performance ratings, and (3) bombing accuracy. They concluded that combat leader effectiveness was positively related to the Consideration dimension. Initiating Structure was also a determining factor in the strengthening of confidence and friendlier interpersonal relationship.[10] Hanson declared that "in a few short years, the orientation pioneered at Ohio State . . . was acclaimed as a breakthrough in social sciences. The LBDQ became almost synonymous with the concept of leadership itself."[11]

The Leadership Contingency Model

Fiedler developed the Leadership Contingency Model which is based

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[8] Andrew W. Halpin, Theory and Research in Administration (New York: Macmillan, 1966), pp. 92-97.

[9] Andrew W. Halpin, "Leader Behavior and Leadership Ideology of Educational Administrators and Aircraft Commanders," Harvard Educational Review, (Winter, 1955), 28.

[10] John K. Hemphill and Lee B. Sechrist, "A Comparison of Three Criteria of Aircraft Effectiveness in Combat over Korea," Journal of Applied Psychology, XXVI (October, 1952), 323-327.

[11] E. M. Hanson, Educational Administration and Organizational Behavior (Boston: Allyn and Bacon, 1970), 243.

on the interplay of the leader's relationship with his subordinates, the power available to him in his leadership role and the type of task that has to be accomplished. The "favorableness" that results from this interplay determines what the mix of task and relationship orientation are on the part of the leader[12] (Figure 3). The favorableness of a situation is defined by Fiedler as "the degree to which the situation enables the leader to exert his influence over his group."[13]

Situational Leadership

Fiedler is criticized by Hersey and Blanchard who state that

> although Fiedler's model is useful to a leader, he seems to be reverting to a single continuum of leader behavior, suggesting the there are only two basic leader behavior styles, task-oriented and relationship-oriented. Most evidence indicates that leader behavior must be plotted on two separate axes rather than on a single continuum. Thus, a leader who is high on task behavior is not necessarily high or low on relationship behavior. Any combination of the two dimensions may occur.[14]

Discussing their different approach to leadership which they called Situational Leadership, Hersey and Blanchard concluded that

> leadership styles vary considerably from leader to leader. Some leaders emphasize the task and can be described as authoritarian leaders; others stress interpersonal relationships and may be viewed as democratic leaders. Still others seem to be both task-oriented and relationship-oriented. There are even some individuals in leadership positions who are not concerned about either. No dominant style appears. Instead, various combinations are evident. Thus, task and relationship are not either/or leadership styles . . . They are separate and distinct dimensions

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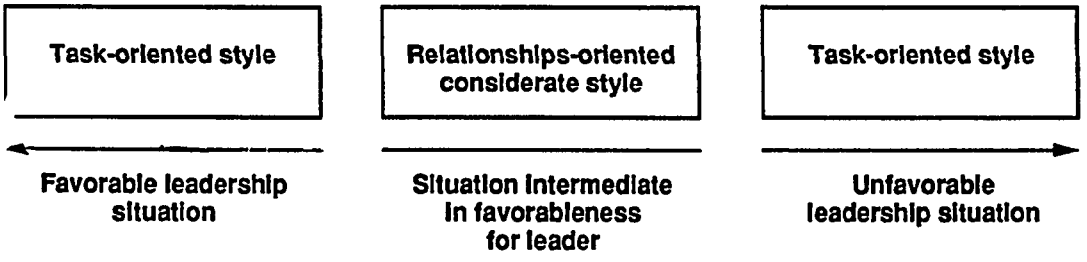
[12] Hersey and Blanchard, Management of Organizational Behavior Utilizing Human Resources (Englewood Cliffs: Prentice-Hall, Inc., 1982), 94.

[13] Fred E. Fiedler, A Theory of Organizational Effectiveness (New York: McGraw-Hill Book Company, 1967), 13.

[14] Hersey and Blanchard, 95.



Leadership styles appropriate for various group situations.

Figure 3

> that can be plotted on two separate axes rather than on a single continuum.[15] (Figure 4).

The Situational Leadership Theory model developed by Hersey and Blanchard plotted on a two-dimensional grid, shows four basic styles of leadership and two dimensions of leadership: relationship behavior and task behavior (Figure 5). Hersey and Blanchard argued that

> *effective leaders adapt their leader behavior to the needs of* their followers and the particular environment. If their followers are different, they must be treated differently. Therefore, effectiveness depends on the leader, the followers(s), and other situational variables . . . therefore . . . a leader must give serious thought to to these behavioral and environmental considerations.[16]

Careful interpretation of those needs by the leader is an essential element in the selection process that determines the best combination of the relationship and task dimensions for leader use in each specific situation. The Leader Effectiveness and Adaptability Description (LEAD) instrument developed by Hersey and Blanchard for use in conjunction with this model has been and is being used by some researchers addressing leadership styles in educational, military and industrial settings.

Leader Behavior Studies

Borman was concerned with the comparison of leadership behaviors of administrators in secondary schools and administrators in the United States Army. Using the Leader Effectiveness and Adaptability Description (LEAD) instrument developed by Hersey and Blanchard, he found that

> there is no evidence to support the statement that there is a

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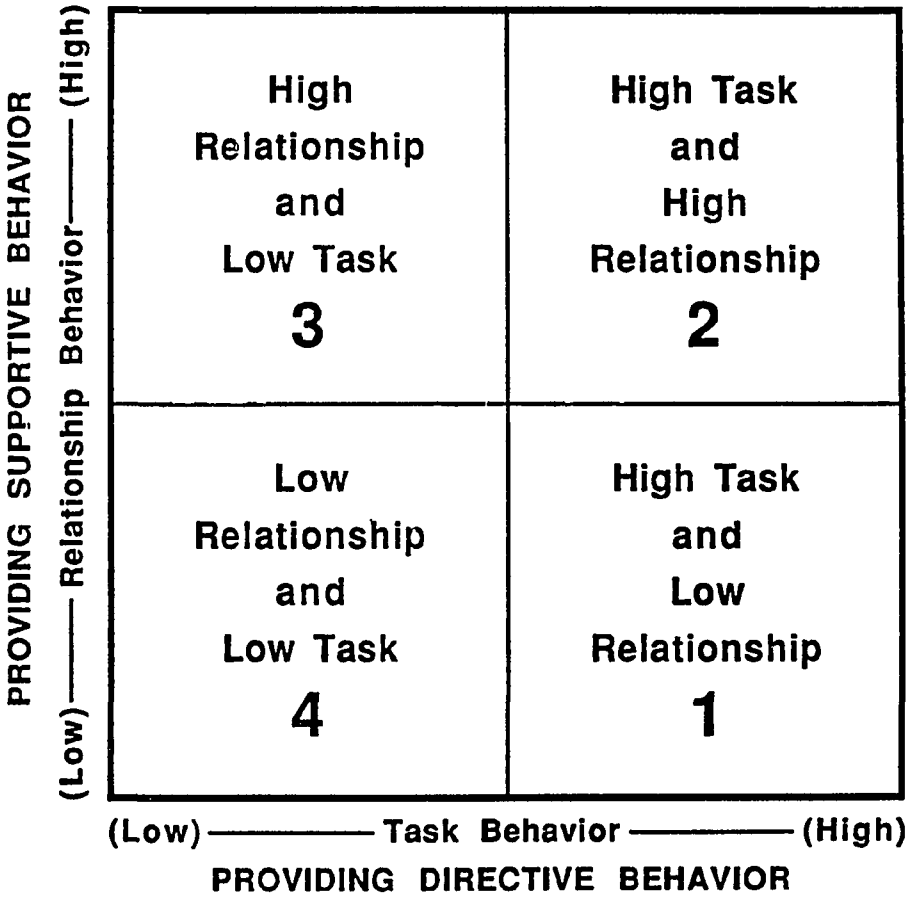
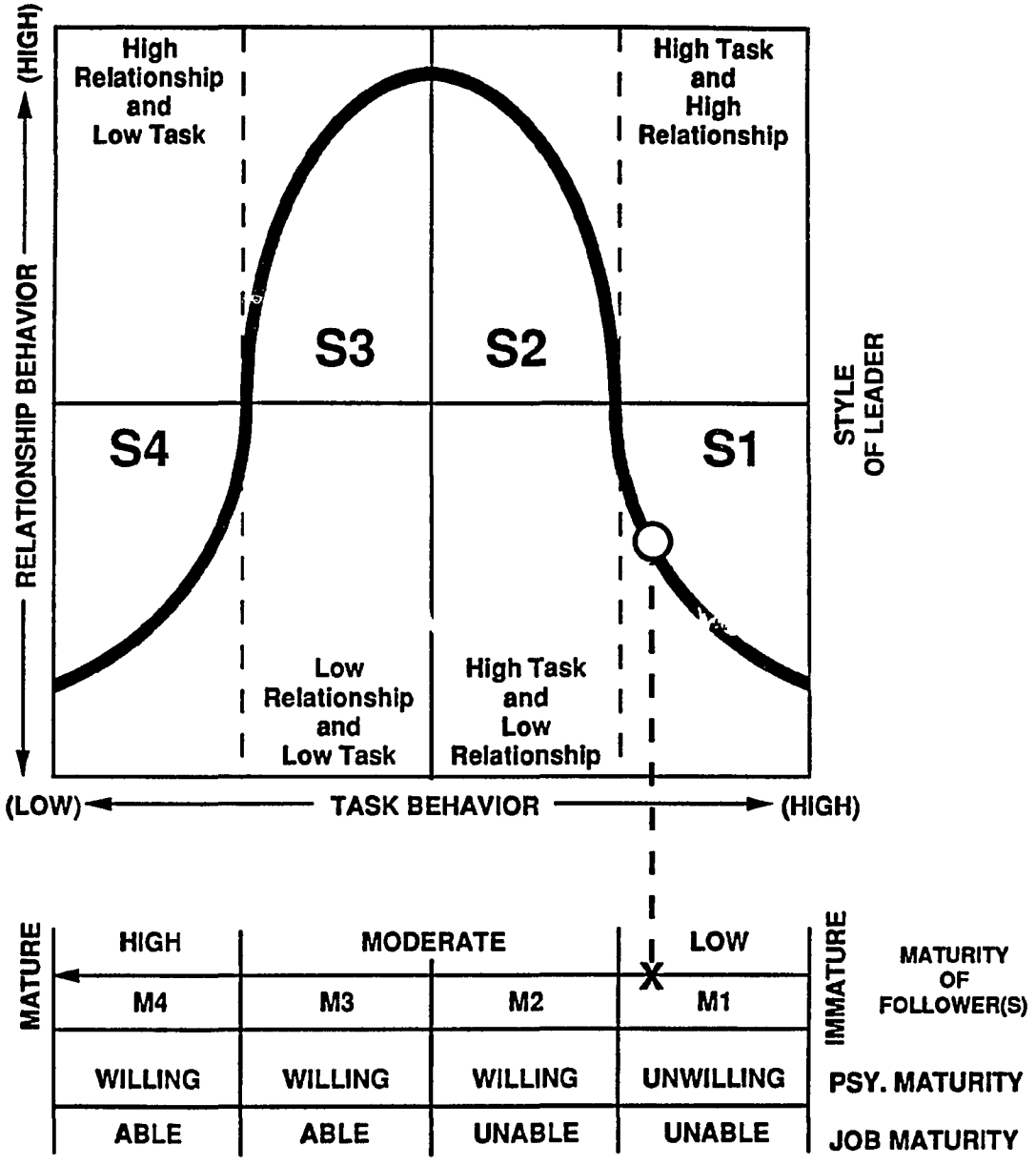
[15] Hersey and Blanchard, 87-88.
[16] Hersey and Blanchard, 103.



Basic Leader Behavior Style

Figure 4



DETERMINING AN APPROPRIATE LEADERSHIP STYLE

Figure 5

> difference . . . in the leadership style profiles of military and educational administrators . . . [and] in the leadership style effectivenesss of educational administrators and military administrators . . . [and that] there is no evidence to support a statement that military experience influences or changes the leadership behavior of educational administrators.[17]

A random sample of 100 military administrators in the officer corps of the United States Army and 130 secondary school principals was used.

Thamhain and Wilemon conducted an exploratory field study to investigate the relationship of leadership styles to the effectiveness of project managers in industry. They concluded that the combination of work environment and leadership styles was a major contributing factor to the effectiveness of project managers. The study implies that organizational structures may hinder rather than enhance their effectiveness.[18]

Transformational and Transactional Leader Behavior

Bass, reflecting on leadership concepts, states that

> for a half-century, the study of leadership has centered on autocratic versus democratic approaches; on questions about the locus of decision making--direct versus participative; on questions about the focus--tasks versus relationships; or on questions about the behavior--initiation versus consideration At the same time, springing from the same source has been the attention to the promotion of change in individuals, groups, and organizations. Promoting change and dealing with resistance to it seems to call for democratic, participative, relations-oriented considerate leadership. Nevertheless, in many contingencies such as in emergencies, or when leading inexperienced followers, more direction, task-orientation,

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[17] Terry Reed Borman, An Evaluation and Comparison of the Leadership Styles of Administrators in Secondary Schools and the United States Army. Ph.D. Diss., Univ. of Alabama, 1984 (Ann Arbor: UMI, 1984 1984), p. 114.

[18] H.J. Thamhain and D.L.Wilemon, "Leadership Effectiveness in Program Management," IEEE Transactions on Engineering Management, Vol: V24N3, (1977): 102-108.

> and initiation were seen to be the more effective way to lead.[19]

As a result of what was found in a pilot study, a survey questionnaire was constructed and administered to 176 senior U.S. Army officers. Bass said that

> emerging from our analysis were three transformational factors--charismatic leadership (including inspirational leadership) individual consideration, and intellectual stimulation; and two transactional factors--contingent reward and management by exception. As expected, and as we were able to replicate in subsequent exploratory studies with educational administrators, world class leaders, and business, government and industrial employees, extra effort by subordinates, perceived unit effectiveness, and subordinate satisfaction were more highly correlated with the transformational factors than with the transactional factors.[20]

Based on these findings, it appears that measurement of the five factors described above can be accomplished with high reliability.

Organizational Authority

For the purpose of this research, organizational authority is the interrelationship of responsibility, authority and delegation (RAD). Organizations and the leaders and followers in them vary in their interpretation and meshing of these concepts. Stogdill refers to the importance of "three concepts central to the legitimacy of formal leadership: authority, responsibility and delegation."[21] Organizations and the leaders and followers within them vary in their approach, interpretation and meshing of these concepts, "a key issue in

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[19] Bernard M. Bass, Leadership and Performance Beyond Expectations, (New York: The Free Press, 1985), 3.

[20] Bass, 22.

[21] Ralph M. Stogdill, "Stogdill's Handbook of Leadership," ed. Bernard M. Bass (New York: The Free Press, 1981), 230.

management."[22] Stogdill said that responsibility is

> a member's perception of the expectations placed upon him or her to perform on behalf of the group . . . leaders perceive their responsibilities to be broader and more far-reaching than other group members perceive their own responsibilities . . . like authority, responsibility also depends on leader-follower relations . . . the actions of superiors tend to condition the responsibilities of subordinates and the performance of subordinate tends to condition the duties of the leader.[23]

Hollander emphasizes the follower's relationship to leaders' legitimate authority when he argues that

> legitimacy may be awarded to higher officials, but it still depends on the acceptance of subordinates. Followers give a form of consent to legitimacy. They can grant or withhold it, sometimes at a considerable cost.[24]

The amount of delegation that is granted to a subordinate by a superior is directly related to the confidence and trust that the superior has in the subordinate conerned. Subsequent to the development of the RAD Scales by Stogdill which measures organizational responsibility (R), authority (A), and delegation (D), various studies were conducted in the public and private sectors which examined and measured the interrelationships of these concepts. The RAD Scales was one of the two instruments used in this research to measure, compare and contrast the perceptions of military and industrial project managers that are addressed in this study.[25]

Bowman used two instruments: the Leader Behavior Description Questionnaire (LBDQ), and the RAD Scales to examine responsibility, authority, and delegation interrelationships, and leader behavior of

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[22] Stogdill, 231.
[23] Stogdill, 234, 235.
[24] Stogdill, 232
[25] "The RAD Scales," (Columbus: Ohio State University, 1957).

school principals. He found that

> scores for consideration correlated positively with scores for initiating structure, responsiblity, authority and delegation while correlation with differences favoring initiating structure was negative.[26]

Harper, using the RAD Scales, Leadership Opinion Questionnaire (LOQ) and the Work Analysis Form as research instruments, found that

> athletic directors who scored high in structure and high in consideration perceived their responsibility higher than those who scored high in consideration and low in structure. . . . athletic directors who scored high in consideration and low in structure perceived their delegation role higher than those who scored high in consideration and low in structure.[27]

Project Management

In his dissertation which addressed role perceptions of MPMS and IPMS in the aerospace industry, Lucas concluded that

> the forces of change are perhaps more pronounced now than at any other time in our history. Economic, social, and technological influences present a complex array of organizational and managerial problems in virtually every type of business enterprise. Government managers exist in a comparable dynamic setting. The challenge of management is further complicated by the increasing size of organizations and the complexity of the products of services offered. Management, then, must not only provide for an internal operating framework which will assure efficient use of available resources, but also one which is adaptive and flexible.[28]

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[26] Herman James Bowman, Perceived Leader Behavior Patterns and their Relationships to Self-Perceived Variables - Responsibility, Authority, and Delegation, Ed.D. diss., State University of New York at Buffalo, 1964 (Ann Arbor: UMI, 1964), p. 48.

[27] W.K. Harper, A Study of State Winners of Secondary School Athletic Directors of the Year Award and the Perceptions of their Own Administrative Behavior, Ed.D. diss., Univ. of North Carolina, 1986 (Ann Arbor: UMI, 1986) pp. 172-173.

[28] Robert J. Lucas, Role Perceptions of Military and Industrial Project Managers in the Aerospace Industry, D.B.A. diss., Univ. of Chicago, (Ann Arbor: UMI, 1971), p. 1.

The "forces of change" today are even "more pronounced than at any other time in history." They have become more forceful because of the incredibly explosive technological developments, the increasing involvement of this country in geopolitical and military strategies abroad, and the greater elevation of our business into the international arena.

Wilemon concluded that the "size and scope of many projects require the development of various project systems for planning and controlling project performances, schedules and budgets." [29]

Archibald's definition of a project is that it is

> a complex and unique effort made up of interrelated tasks performed by various organizations with a definite life cycle having identifiable time associated start and end points, and with a well defined objective, schedule and budget.[30]

The use of MPMs and IPMs during recent years is becoming more commonplace because of the societal, technological, industrial and geopolitical needs and the resulting demands for products and systems. Because of these needs, Giordano, a government PEO, comments that there is "intensive competition for the available resources. Consequently, resources to be committed to a project must be employed with greater efficiencies, requiring, again, new management approaches."[31]

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[29] David L. Wilemon, "Foreword" to Managing High Technology Projects, by Russell D. Archibald, (New York: John Wiley and Sons, 1976).

[30] Russel D. Archibald, Managing High Technology Programs and Projects, (New York: John Wiley and Sons, 1976).

[31] Feliciano Giordano, "A Comparative Analysis of Project Management in the Public and Private Sectors," Master's Thesis, Sloan's School of Management, Massachussetts Institute of Technology, June, 1978.

The managers that are thrust into PM positions that ultimately result in the production and fielding of urgently needed products and systems, must also be exceptional leaders. That leadership is also accompanied by a combination of organizational, career and personal factors. Following are discussions relating to these three factors.

Organizational Aspects-General

Prior to World War II, government arsenals, with the exception of the aircraft and ship-building industries, provided most of the armaments to the military services. The remarkable ability of American industry to transition from peacetime to wartime footing and thus respond to the needs of the armed forces during that period, contributed significantly to the success of the allies.

Cleland states that

> The utility of project organizations to diverse organizations became apparent after they performed successfully in weapons systems development activities. The military services, NASA and major aerospace contractors have developed project organizations to the degree that they represent major management philosophies.[32]

In recent years, the needs of educational institutions, industry, the government in general and the Department of Defense in particular have, in many cases, exceeded the capabilities of the organizations within them to cope with changing management needs. The classic organizational structures that have existed without major changes for the past century have difficulty supporting identified projects

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[32] David I. Cleland, William R. King, Systems Analysis and Project Management (New York: McGraw-Hill, 1968), 165.

requiring intensive, centralized management. These institutions, despite the sometimes severe disadvantages inherent in the creation of PM teams are using project management techniques with some success. Kerzner stated that

> Within the past 20 years there has been a rather well-hidden "organizational revolution" not only domestically, but even on the international scene. This revolution stemmed from the fact that commonly used organizational structures proved inadequate in responding to an ever changing environment. Simply stated, the complexities of modern business had increased to such a degree that companies were forced to search for and implement an organizational structure that could rapidly respond to any changes in the environment or marketplace.[33]

The American corporations responded to the particular need or needs on an independent basis. They structured their project management organizational changes according to the size and complexity of the project involved, the availability of technical expertise employed, and to the extent that management could support such an organization (considering resources, environmental and other factors). The classic line-staff organizations that existed in industry for the past century were not originally structured to support an added type of management that would satisfy, even on a temporary basis, project management needs. The growing awareness of the urgent need for organizational changes to accommodate centrally managed projects and programs gained considerable momentum during that time period.

In an early analysis of project management, Cleland said that traditional business organizations function mostly on

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[33] Harold Kerzner, "Matrix Implementation: Obstacles, Problems, Questions, and Answers," Matrix Management Systems Handbook. ed. David I. Cleland (New York: Van Nostrand Reinhold, 1984), 307.

> a vertical basis and depend almost exclusively on a strong, inviolate superior-subordinate relationship to ensure a unified effort. Individual managers tend to identify boundaries of responsibilities and specialization . . . The pure functional approach cannot be applied when the task involves the coordinated effort of hundreds of organizations and people. Unique management relationships evolve in the development of a large single-purpose project that cuts across interior organizational flows of authority and responsibility, and radiates outside to independent organizations . . . These new purposes require a management philosophy that has no organizational or functional constraints.[34]

Early attempts to cope with the problem by industry were many and varied; but basically, there were several management techniques which used the existing line-staff hierarchy as the foundation for these concepts. They involved the use of a project manager in a staff or line capacity or as a separate management entity. All required the use of matrix techniques to accomplish the specified task or tasks. They exist in varied forms today. One problem with the utilization of a project manager in a staff capacity is that it "degrades his ability to function as a true integrator and as a decision maker regarding major factors in the project"[35] (Figure 6).

The utilization of a project manager in a line capacity has greater advantages in that is gives him authority over functional managers, with project responsibility and authority flowing across horizontal lines. (Figure 7). "It is, however, tempered by direction from the functional managers who are concerned with how the project will be accomplished.[36] The use of a project manager as a separate

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[34] David I. Cleland, "Why Project Management," Business Horizons, Winter, 1964: 81.

[35] Cleland, 87.

[36] Cleland, 88.

FUNCTIONAL ORGANIZATION WITH PROJECT MANAGER IN STAFF CAPACITY

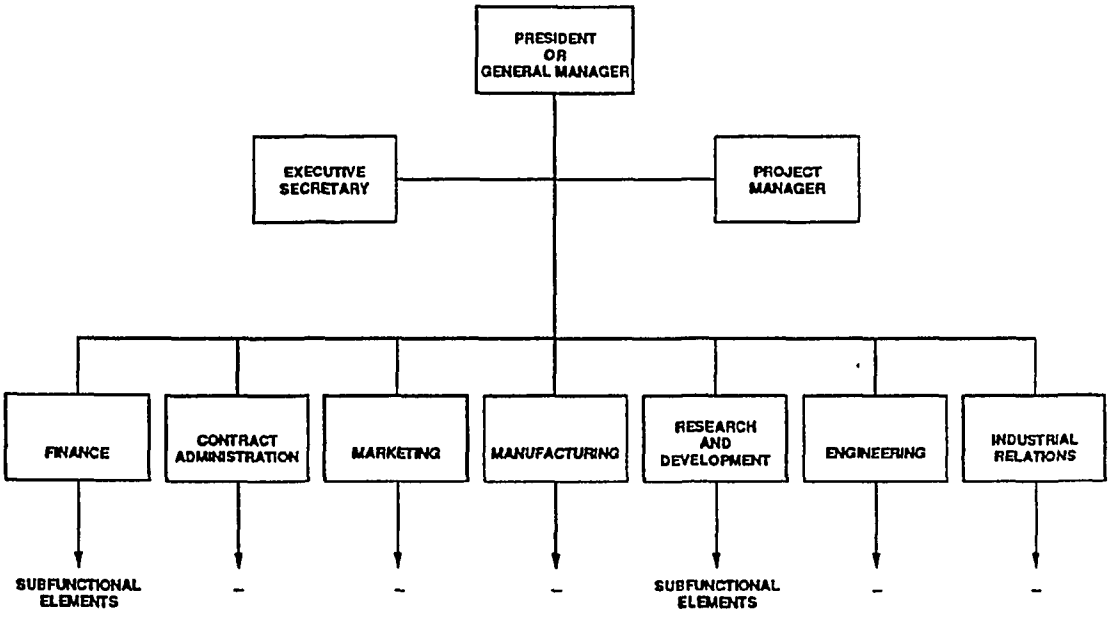

Figure 6

FUNCTIONAL ORGANIZATION WITH PROJECT MANAGER IN LINE CAPACITY

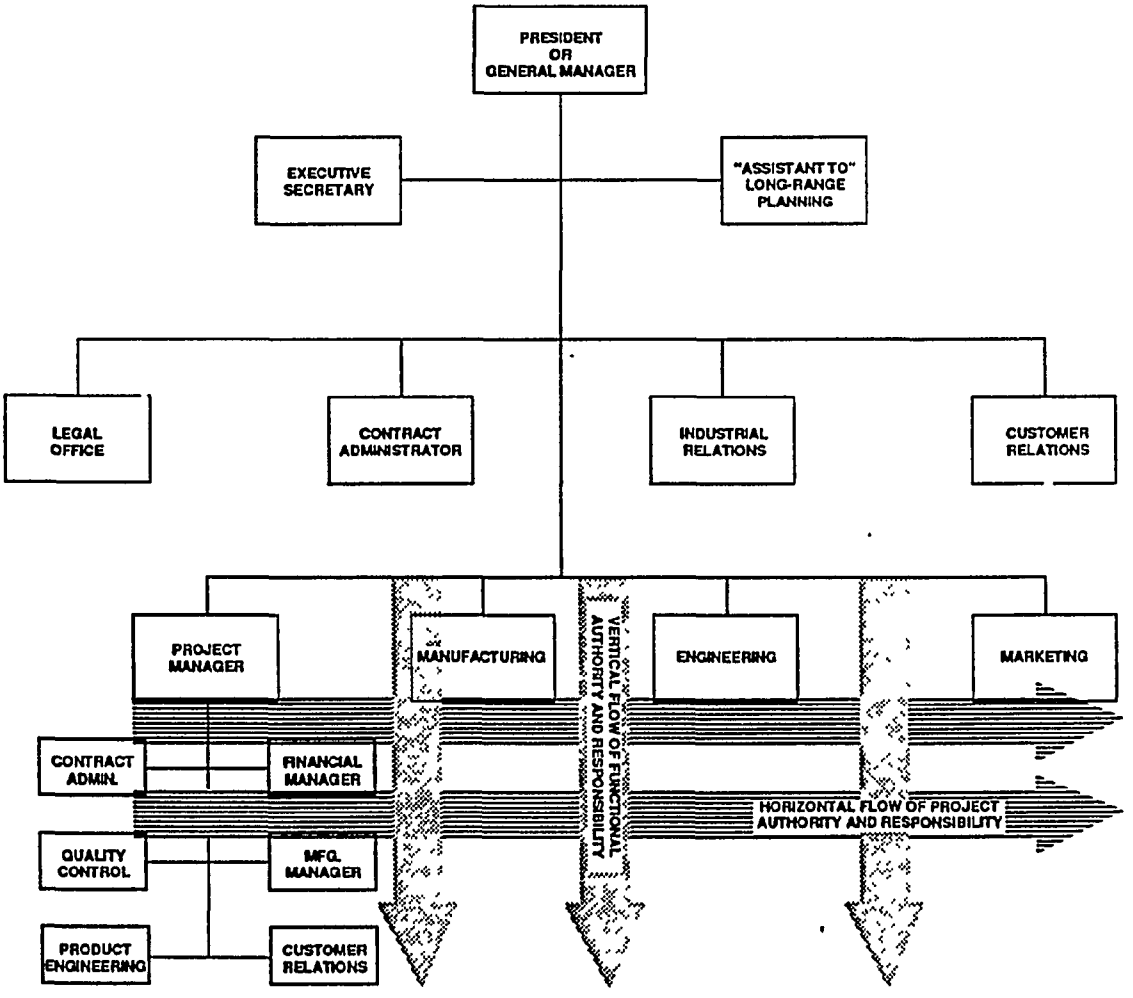

Figure 7

entity, reporting only to the chief executive officer, president, general manager or other titular head, does provide him with greater authority and flexibility and more independence in his decision making. When he uses the matrix concept to support him, and which is an integral part of the overall project management organizational arrangement, its advantages could be countered in various degrees by power struggles, split loyalties and other disadvantages.

Davis and Lawrence state that

> the identifying feature of a matrix organization is that some managers report to two bosses rather than to the traditional single boss; there is a dual rather than single chain of command.[37]

In their discussion of power they also say that

> managers jockey for power in many organizations, but a matrix design almost encourages them to do so . . . [and] the essence of a matrix is dual command. For such a form to survive there needs to be a balance of power, where its locus seems to shift constantly, each party always jockeying to gain an advantage. It is not enough simply to create the balance, but there must also be continual mechanisms for checking the imbalances that creep in.[38]

Successful completion of an assigned project appears to be directly related to the sheer leadership ability of the manager concerned; how he interrelates with and influences those upon whose assistance he depends. In a large and/or complex project, these potential constraints could be overpowering, and result in the generation of delays, confusion, rising costs and a host of other unwanted problems.

Despite the potential pitfalls that exist, however, the use of the matrix concept is gaining more and more supporters as a viable

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[37] Stanley M. Davis and Paul R. Lawrence, "Problems of Matrix Management," Harvard Business Review (May-June 1978): 134.

[38] Stanley M. Davis and Paul R. Lawrence, 134.

alternative, not only in industry but in the military as well. Savings of resources and access to a wider range of expertise and support are some advantages.

Organizational Aspects) - Military

In the 1960's, the Department of Defense recognizing the need for centralized management, authorized the decentralization of the management responsibility for system acquisition programs to the military departments. "In particular, the Military Service Program Manager shall be given authority and resources commensurate with the responsibility to execute the program efficiently."[39] The Army, in accordance with the Department of Defense Directive, promulgated Army Regulation 70-17, which outlined the policy and procedures for centralized management. The Army Materiel Command, a major command of the Army, was charged with the responsibility for the acquisition and fielding of major weapons systems. Over 100 chartered project managers and their management organizations were created and tasked with the responsibility for the centralized management of those systems. The predominant organizational form was as shown in Figure 8. Growing bureaucracy and conflict in the regulations governing acquisition and related management matters, however, resulted in the creation of the Packard Commission by former President Reagan.

The Packard Commission

[39] The findings of the Presidentially-appointed Packard Commission, however, resulted in significant and major organizational, acquisition

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Department of Defense, Major Systems Acquisition, DOD Directive 5000.1 (Washington: GPO, 1982), p. 2.

ARMY

PROJECT MANAGER "DUAL HAT" REPORTING STRUCTURE PRIOR TO MAY 1, 1987

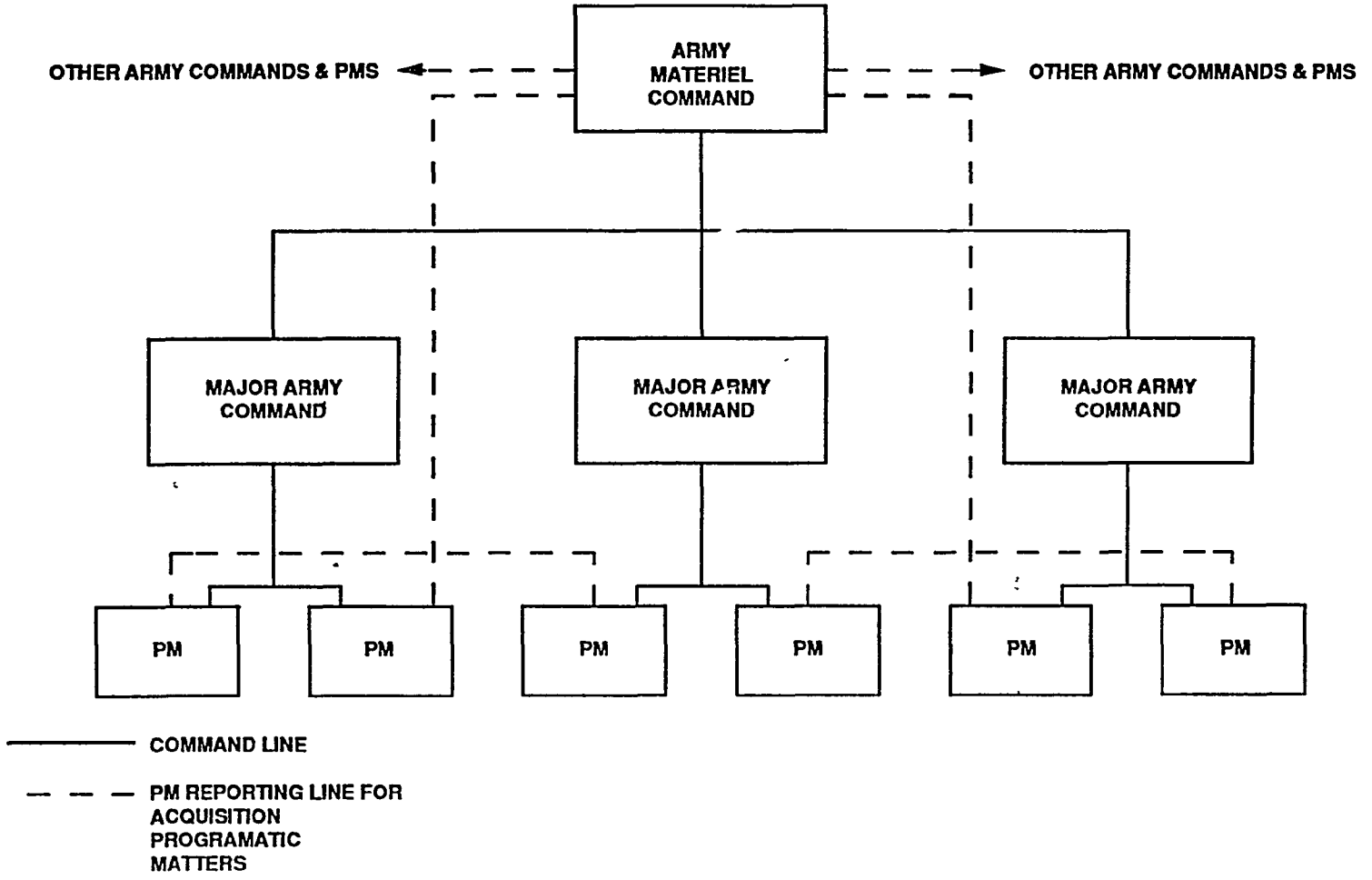

Figure 8

and management policy changes throughout the Department of Defense and the Departments of the Army, Navy and the Air Force.

In accordance with Executive Order 12526, President Reagan established a Blue Ribbon Commission on Defense Management. Among its functions

> the Commission shall study the issues surrounding defense management and organization, and report its findings and recommendations to the President and simultaneously submit a copy of its report to the Secretary of Defense.[40]

The Blue Ribbon Commission, comprised of fifteen prominent Americans and headed by David Packard, submitted a final report to President Reagan in June, 1986.[41] (Although the final report addressed many other matters of national interest, only those areas that are within the scope of this research will be addressed.)

The Commission, commenting on current acquisition and management procedures in effect throughout the Department of Defense and the Military Departments indicated that

> responsibility for acquisition policy has become fragmented . . . the commission concludes that the demands of the acquisition system have become so weighty as to require organizational change within that office.[42]

Key recommendations that evolved from the Commission findings are:

> 1. We strongly recommend creation by statute of the new position of Under Secretary of Defense (Acquisition) and authorization of an additional Level II appointment in the Office of the Secretary of Defense (OSD).
> 2. The Army, Navy and Air Force should each establish a comparable position filled by a top-level civilian Presidential appointee.

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[40] Executive Order 12526, Washington, D.C., July 15, 1985.

[41] David Packard (The President's Blue Ribbon Commission on Defense Management), A Quest For Excellence; Final Report to the President, Washington: GPO, June 1986,

[42] Packard, xxii.

> 3. Each Service Acquisition Executive should appoint a number of Program Executive Officers. [43]

(Graphically illustrated in Figure 9)

In a sharp criticism of the system, the Commission stated

> . . . what was merely improbable soon becomes impossible. The program manager finds that, far from being the manager of the program, he is merely one of the participants who can influence it. An army of advocates for special interests descends on the program to ensure that it complies with various standards for military specifications, reliability, maintainability, operability, small and minority business utilization, and competition, to name a few. Each of these advocates can demand that the Program Manager take or refrain from taking some action, but none of them has any responsibility for the ultimate cost, schedule, or performance of the program . . . All of these pressures, both internal and external to DoD, cause the Program Manager to spend most of his time briefing the program. In effect he is reduced to being a supplicant for, rather than a manager of his program. [44]

And so, project managers, because of the organizational management structures and often conflicting rules and regulations throughout the Department of Defense, "lost control over programs." [45] Successful management of projects depends to a significant extent on the leadership ability of the project manager concerned. An Army project manager prior to May 1, 1987, had been subjected to enormous stresses because of the negative interactions of these factors. It appears to be within the realm of possibility that the leadership behavior of a project manager could have been affected by these unique management and organizational settings in which he was obliged to function.

Then Under Secretary of the Army for Acquisition, James R. Ambrose, also designated as the Army Acquisition Executive (AAE)),

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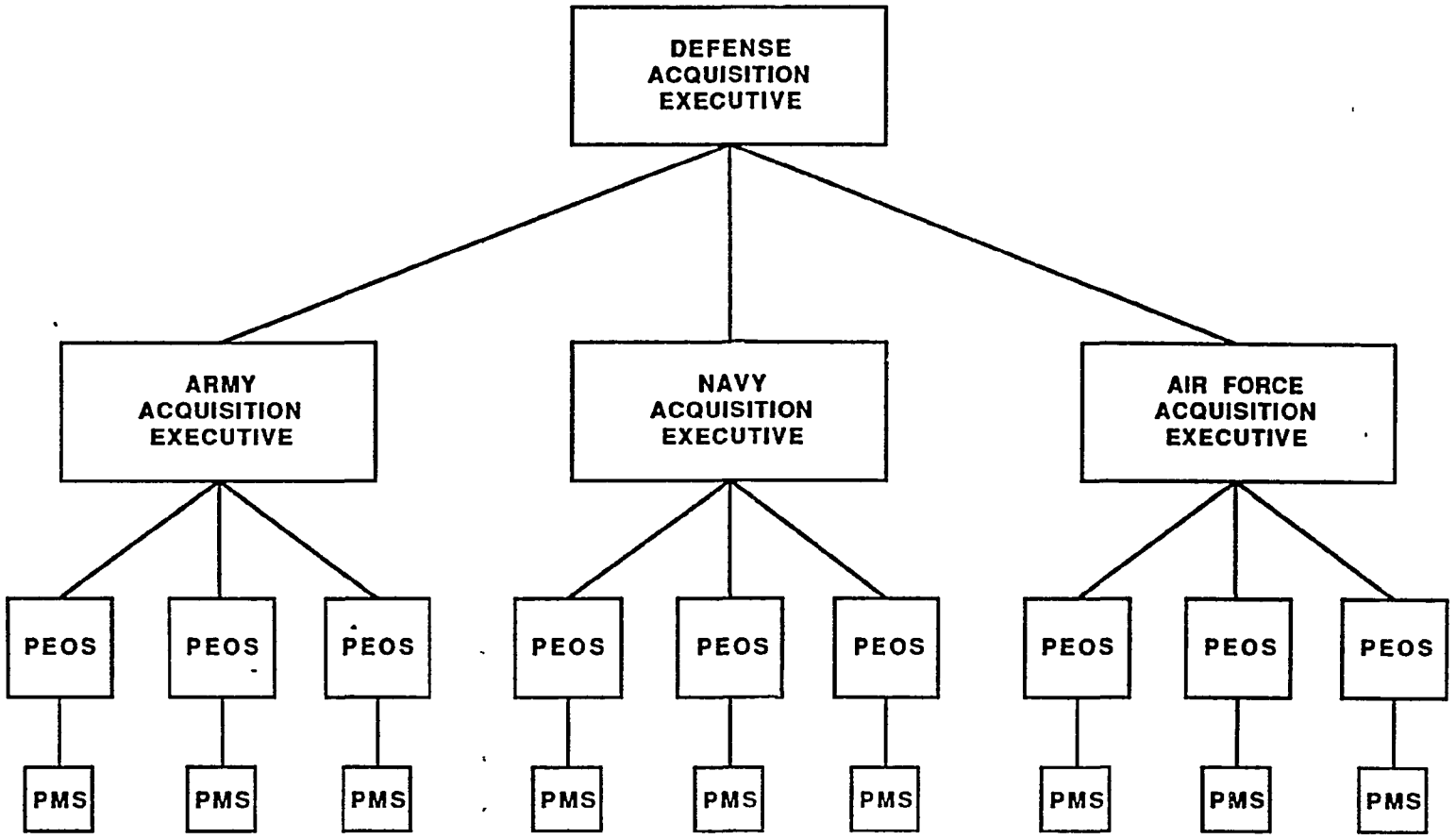
[43] Packard, 54.
[44] Packard, 46-47.
[45] Packard, xxii.

RECOMMENDATION BY THE PRESIDENTIAL BLUE RIBBON COMMISSION FOR ACQUISITION/MANAGEMENT REORGANIZATION



PEOS: PROGRAM EXECUTIVE OFFICERS
PMS: PROJECT MANAGERS

Figure 9

directed that a three-tier reporting chain be established for designated acquisition programs effective May 1, 1987, thus abolishing the split reporting system illustrated in Figure 8. The AAE (as illustrated in Figure 1) and his subordinate Program Executive Officers (PEOs) have the overall management responsibility for the fielding of major weapons systems. The major organizational advantages are that they establish "short, unambiguous lines of authority . . . streamline the acquisition process and cut through bureaucratic red tape."[46]

Career Aspects

Military and industrial PMs are dedicated, highly motivated and usually possess a high degree of job satisfaction, problems notwithstanding. They both share basic motivation drives to get the job done well, at an acceptable cost and at a high quality level. Lucas says that "commitment to the project itself is considered as the primary motivating force that drives both himself [the PM] and his people."[47] In industry, if a PM fails, he or she may be placed in promotional limbo ar get fired. Since IPMs are usually a product of years of careful growth and solid experience gained through this process, they may be an asset to another company; therefore, their careers would not be completely shattered, but temporarily interrupted.

MPMs, however, because of their military training and background, are confronted with problems not found in industry. Denny, in a preliminary analysis of a General Accounting Office (GAO) report based

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[46] Packard, xxv.

[47] Robert J. Lucas, Role Perception of Military and Industrial Project Managers in the Aerospace Industry, D.B.A. Diss., Univ. of Chicago, 1971 (Ann Arbor: UMI, 1971) p. 51.

on a review of 16 different weapons systems programs and interviews with MPMs and officials in industry, stated that "despite a PM's responsibilities and authority, he or she faces numerous institutional barriers that make it difficult to do the job well."[48] Highly disciplined and ingrained with a sense of duty and respect for authority, they may eventually be appointed as PMs, some of the duties which may appear to conflict with their years of indoctrination as military officers. And yet, the record has shown that many PMs have been outstandingly effective.

In industry, many capable PMs stay within organizational guidelines and yet have considerable authority, flexibility and relative freedom of movement in their decision making processes. "The evidence suggests that the industrial project manager perceives that his authority to deal with the customer is largely unrestricted by top management."[49] MPMs operate much in the same fashion; however, they may temper their decision making carefully, considering the peripheral influences around them. The MPM's

> awareness that decisions are subject to detailed review may make the MPM more cautious and deliberate in the exercise of his project authority. Whether decisions made in this environment are likely to be better remains an interesting but unresolved question.[50]

In industry, if a PM fails and is fired, he or she can still survive by going somewhere else without too much environmental adjustment. Getting into trouble as a military project manager may earn that person

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[48] Jeffrey Denny, "Better Buyers, Better Weapons," Military Logistics Forum, May, 1985: 16.

[49] Lucas, 140.

[50] Lucas, 140.

a bad efficiency report; a harbinger of military oblivion and a halt to personal career objectives. Capable military officers do well after retirement; but for many, even if that is the case, a military career halted too soon is a traumatic experience, indeed.

Although an MPM has extensive responsibility and authority to accomplish the assigned mission, developing problems resulted in the establishment of the Packard Commission.[51] The Commission's recommendations to the President have resulted in sweeping changes, paving the way for that freedom of action urgently required in order for MPMs to accomplish their assigned tasks. Nevertheless, uppermost in career officers' minds are thoughts about their promotional opportunities; therefore, they tend to be careful about their use of that authority.

> The evidence suggests that he [the MPM] exists in a military environment and his perception regarding the exercise of authority and superior-subordinate relationships is more in keeping with his organizational norms.[52]

Personal Aspects

The formal education of professionals in industry normally involve the attainment of undergraduate and graduate degrees in the engineering field, business, or in other disciplines. Seminars, workshops and other types of professional education continues throughout the career of such individuals. In the case of those in the military, a civilian university, military academy or a combination of both equip them with similar type degrees. Programmed courses of instruction at the various

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[51] David Packard (The President's Blue Ribbon Commission on Defense Management), A Quest For Excellence: Final Report to the President, GPO, June, 1986.

[52] Lucas, 135.

service schools, the advanced service colleges and civilian universities round out their training during the course of their military careers. They too attend seminars, workshops and seminars within and outside of their military organizations.

Management skills are generally enhanced in each setting; however, additional skills that are required to manage the acquisition and fielding of a complex military system have to be instilled by careful training.

Industrial project managers have an edge over the military, because of their years of relative stability on the job and in their repective fields. There are disagreements to some beliefs that "any officer" can transfer into a project management position with relative ease. Denny, quotes Bernie Toon (Indiana Senator Daniel Quayle's defense aide) and Harvard Professor Fox who say that

> the armed forces' policy of rotating officers, from post to post every other year gives the officers versatility. But the rotation policy also undercuts their experience in any one field. The policy is good for an officer's career and, ultimately, his or her paycheck. Promotion to a large extent, is a function of how diversified an officer's background is. The well-rounded officer, not the career specialist, is most likely to move up, all other things being equal. An officer who spends more than two years at a time or more than half his career in acquisition might as well be frozen in time . . . In contrast, project chiefs in the defense industry are trained and retrained through progressively greater responsibility. Only after years of relevant experience are industry managers given the responsibility of directing large defense programs.[53]

The need to develop officers in defense acquisition management was recognized at the Congressional level by Senator Quayle, when he said

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[53]Jeffrey Denny, "Better Buyers, Better Weapons," Military Logistics Forum, May 1985: 23.

> we find people with little significant acquisition background serving as program managers . . . Because of the importance of weapons acquisition, we need to have a clear career path for program managers early in their careers with potential for attaining flag or general officer rank as well . . . you cannot take an officer who has spent his entire 20 year career procuring weapons systems and put him in command of a carrier battle group. We now have to recognize that we should not take an officer with 20 years of operational experience and put him charge of a multi-million dollar acquisition program.[54]

Bramlette states that

> in recognition of the Army's need for top-level materiel acquisition and logistics managers, the Army initiated a new program in October 1983 to develop officers in defense materiel acquisition management . . . [which] pulls together for the first time all of the functions and specialities involved in materiel acquisition into one career program.[55]

Congressional and Army recognition of the importance of this area may allay the fears of some career officers who still fear that project manager jobs lead to a promotional dead end.

There are few institutions of learning where budding Project Managers in industry and in the military can receive in-depth training in acquisition and management. One of the best and most prestigious is the Defense Management College, located at Fort Belvoir, Virginia. An impressive array of comprehensive short and long courses are offered in the arena of acquisition and management.[56] Attending students are officers and civilians from the military services and professionals

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[54] U.S., Cong., Senate, Subcomittee on Defense Acquisition Policy of the Committe on Armed Services, Improving the Professionalism of the Defense Acquisition Work Force, Hearing, 11 March 1985 (Washington: GPO, 1985).

[55] Colonel Larry J. Bramlette, "Preparing and Directing Program Managers," Program Manager, March-April 1987: 2.

[56] Defense Systems Management College, 1987 Catalog, Fort Belvoir, VA, 1987.

from industry. One great peripheral advantage is that the integrated classes provide an opportunity for the students from industry and the military to work and study together in an atmosphere of harmony and understanding. An undesirable undercurrent of wariness that could develop between military project managers and their opposite numbers in industry working on active government contracts, would tend to strain what should be good working interrelationships.

Summary

A great deal of research was reviewed that dealt with the subject of leadership and leader behavior. The landmark studies and research discussed in this chapter were among those that provided the foundation for a significant amount or related research that was conducted, particularly during the last thirty years. The growing interrelationship and interdependency between the public and private sectors, especially between the military and industry, has mandated the need for effective leaders and managers. The review of the military and industrial settings focus on and address certain environmental differences, which may or may not affect how those leaders and managers behave. A comparison of that behavior within and between the two groups will be discussed in Chapter 4.

CHAPTER 3

Procedures

The information contained in this chapter is a description of the procedures used by the researcher throughout the study effort. Specifically, it addresses the administrative process used to select the military and industrial samples; discusses the instruments used for the survey and refers to other research that made use of the instruments selected for this study.

The research relating to military PMs was supported by Army authorities. Written permission was provided by the Army Materiel Command, a major command of the United States Army, to proceed. Please refer to Appendix B. Permission to conduct the study as far as industrial organizations were concerned, was through the use of individual requests to each of the selected companies.

Research Design

The design of the study was ex post facto.[1] The researcher will "locate [located] the people [PMs] who have already experienced the independent variable[s] then study [studied] its possible effects in terms of the dependent variable[s]."[2] The two military and industrial samples were each measured to determine responsibility, authority and delegation levels, and to determine levels of transformational and transactional leader behavior. Answers to the research questions were determined by the analyses of response data.

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[1] Evelyn J. Sowell and Rita J. Casey, Analyzing Educational Reasearch (Belmont, CA: Wadsworth Publishing Company, 1986) 92,93.

[2] Sowell and Casey, 92.

Previous dissertations have been conducted using research models similar to the design proposed by the researcher. Bowman used two instruments: the RAD Scales and the Leader Behavior Description Questionnaire.[3] Harper used the RAD Scales, the Leader Opinion Questionnaire and the Work Analysis Form.[4]

Population

The centrally and non-centrally managed PMs (approximately three hundred (300) were delimited to the PMs shown in Figure 1 (as of May, 1987. With the exception of two MPMs located in Korea and Germany respectively, the population was located at that time throughout the continental United States.

The population of industrial project managers was limited to five hundred (500) American industrial organizations in the United States, registered as corporate members of the American Preparedness Association (ADPA) and who met the American "defense needs for armament and industrial readiness."[5]

Sample

A total of two hundred and fifty persons (250) were randomly selected using random numbers generated by a statistical program used on an IBM Personal Computer.[6] Two sets of random numbers were generated: one hundred (100) for the military group, and one hundred and fifty (150) for the industrial group.

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3 Henry James Bowman, p. 16.

4 Wyatt Kelley Harper, .

5 The Defense Industry Gold Pages, Product and Service Directory." National Defense, May-June 1987: 121-134.

6 Epistat: Statistical Package for the IBM-Computer, version 2.1, Tracy L. Gustafson, M.D. (Round Rock, Texas, 1983). Disk.

Two instruments were used for this study: The Bass-developed Multifactor Leadership Questionnaire 5S revised), and the RAD Scales developed by Stogdill.[8] A researcher-prepared background questionnaire was also used to examine the differences between the groups in their different settings.

The MLQ-5S measures transformational and transactional dimensions in greater scope and depth than existing questionnaires, such as the LBDQ and LEAD instruments.

In a study of world class leaders, Bass found that reliability of the instrument scales

> as assessed by coefficient alphas, were as follows: charisma, .82; individualized consideration, .84; intellectual stimulation, .78: and management by exception, .60 . . . conversion of resultant F factors for the three transformational and two transactional scales to eta coefficients was accomplished to determine the construct validity of individualized consideration, .77; intellectual stimulation, .77; contingent reward, .66, and management by exception, .74.[9]

Bass, summing up the results of his extensive research and studies relating to his new approach to leadership, argues that his extensive analysis and the clinical support of Zaleznik [10]

> provides us with some confidence about the validity of the five factors, the transformational factors of charismatic leadership, individualized consideration, and intellectual stimulation, and the transactional factors of contingent reward and management by exception.[11]

The RAD Scales provide an effective measurement of responsibility, authority and delegation. There have been a number of

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[7] Bernard M. Bass, p. 201.
[8] "The RAD Scales," (Columbus: Ohio State University,1957.)
[9] Bernard M. Bass, p. 221.
[10] Abraham Zaleznik, "Managers and Leaders: Are They Different?" Harvard Business Review, 1977 55(5), 67-80.
[11] Bass, 230.

dissertations referenced earlier in this study that have examined the relationships between responsibility, authority, and delegation, and leader behavior using the RAD Scales and second instruments such as the LOQ and LBDQ.

The RAD Scales instrument originally designed for experimental purposes, is currently being used by researchers because it provides data that aids in the understanding of the responsibility and authority interactions. Stogdill states that

> the patterns of relationships that operate in authority-responsibility interactions are of such a complex and obscure nature that they are not readily apparent to direct observation. Therefore, instruments such as the RAD Scales can be of considerable value in building a body of information which will aid in a better understanding of the operations of organized groups. [12]

Data Collection

The packages mailed to all PMs, contained a letter of introduction, the instruments, a background questionnaire and specific administrative instructions. Two hundred and fifty (250) packages were mailed simultaneously to the respective PMs; one hundred (100) to the military sample and one hundred fifty to the industrial sample. Each PM was requested to complete the questionnaires and asked to return the documentation in the provided self-addressed stamped envelopes within two weeks after receipt. Follow-up requests were mailed to those who had not responded to the first request one week after the two week period had ended.

It took the respondents approximately thirty minutes to respond to

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[12] "The RAD Scales Manual," (Columbus: Ohio State University, (1957), 6.

the two instruments and the background questionnaire. There were no negative comments reference the time it took to complete the requested packages sent to the military and industry groups.

Eighty (80) out of the one hundred MPMs queried responded; however out of that number, four were unusable because of incorrectly answered questionnaires and six respondents stated that they would not participate. The remaining seventy (70) (seventy (70) percent of the total MPM sample) were used to gather statistical data for the military group.

One hundred thirty-four (134) out of the one hundred and fifty IPMs queried responded; however out of that number, six were unusable because of incorrectly answered questionnaires, and fourteen respondents stated that they would not participate. The remaining one hundred and fourteen responses (114) (seventy-six (76) percent of the total IPM sample) were used to gather statistical data for the industrial group.

All personal data gathered during the course of this research was and will be kept in the strictest confidence to protect the rights and privacy of all the individuals and organizations who participated in this research project.

Treatment of Data

Descriptive statistics were used to obtain scores for each instrument. Results from "t" tests and computed correlation coefficients were used to produce data to answer the research questions. The researcher accessed the Cyber System at the Temple University Computer Facility, using the Statistical Program for Social

Sciences (SPSS) to produce all statistical data.

Instruments

The Bass Questionnaire (MLQ-5S) consists of 80 questions. Questions 71 to 80 inclusive which were concerned with background information not usable by the researcher, were deleted from the questionnaire before mailing to the surveyed groups. The questionnaire actually measures two more factors: factor VI, inspirational, and factor VII, laissez faire leader behaviors; however only the three transformational factors, charisma, individualized consideration and intellectual stimulation, and the two transformational factors, contingent reward and management by exception, were addressed during this research.

For scoring purposes, the Bass Questionnaire is divided into ten sections; five questions to each section. For each of the five questions in each section, the respondents were asked to check either A, B, C, D, or E on their answer sheets. An inspection of the Scoring Key (Appendix C) shows that A = 4, B = 3, C = 2, D = 1, and E = 0.0 points, respectively. A further inspection shows that there were ten questions assigned to each of the three transformational dimension factors: charisma (I), individual consideration (III), intellectual stimulation (V), and to each of the transactional dimension factors: contingent reward (II), and management by exception (IV). The scores for each of of the five ten question groups were added and divided by ten. Mean scores were then computed for each dimension.

The RAD Scales, Appendix C, consists of

> six separate scales. Two of these scales describe different degrees of responsibility. Two of these describe different degrees of authority, and two describe different degrees of

authority delegated to assistants. [13]

On each of the six scales in the questionnaire, the RAD Scales' instructions asked each repondent to place a double check for the most descriptive statement, and a single check for the next most descriptive statement. Comparisons of double versus single-checked items were not included in the findings of this study.

The score for R was derived by adding Scales 1 and 4 and dividing the sum by four. The score for A was derived by adding Scales 2 and 5 and dividing the sum by four. The score for D was derived by adding Scales 3 and 6 and dividing the sum by four. The overall RAD (organizational authority) was derived by computing the mean of of R, A, and D. The eight items in each scale were assigned values as follows:

Scoring Key

Item Number	Scale Value
1	8
2	7
3	6
4	5
5	4
6	3
7	2
8	1

[13] "The RAD Scales," (Columbus: Ohio State University), 1957.

Summary

The military and industrial samples were each selected randomly and identical packages were mailed to each participant. They contained two instruments, the RAD Questionnaire, the Bass Questionnaire and a background questionnaire. Three weeks after the first mailing, a second request was sent to those participants in the samples who had not responded. In the industrial sample, one hundred and fourteen (114) out of the one hundred and fifty IPMs queried were usable for statistical purposes. In the military sample, seventy (70) out of the one hundred (100) MPMs queried were usable for statistical purposes. The use of "t" tests and computed correlation coefficients were used to produce the necessary statistical data to answer the research questions. The military and industrial organizations and PMs sampled are scattered throughout the continental United States.

Chapter 4 will present the findings of statistical analyses performed by the researcher in graphic and descriptive form.

CHAPTER 4

Results

The results presented in this chapter were derived from statistical analyses of data provided by the military and industrial samples. The results were used to provide answers to the research questions contained in Chapter 1, and reiterated below:

Question 1: Is organizational authority related to the leadership style of MPMs and IPMs?

Question 2: Do MPMs and IPMs differ significantly in their perception of organizational authority?

Question 3: Do MPMs and IPMs differ significantly in their perception of leadership style?

Question 4: What is the distribution of transformational and transactional scores for MPMs?

Question 5: What is the distribution of transformational and transactional scores for IPMs?

Background Questionnaire

The background questionnaire was answered by both the military and industry groups. A comparison of selected items is presented in Table 1.

Inspection of the table reveals interesting differences between the two groups. For doctor's degrees, industry had three percent while the military had none. However, the military group had a much higher percentage of master's degrees (91%) than industry (38%). Industry had a higher percentage of bachelor's degrees (51%) than the military (6%). The military and industry groups were close to being equal in the associate degree category. Three percent of industry had associate degrees with the military following with four percent. Three percent of the industry group had technical school training, and one percent with high school diplomas. The military sample had none in these categories.

Table 1 revealed that the IPMs had a higher level of PM experience (6 to 10 years 35% and for over ten years 45%) than MPMs in the same categories (6 to 10 years 17% and for over ten years 16%). Most of the MPM experience was found to be grouped in the less than one year category (26%) and in the one to five year category (41%).

There were interesting differences found in the age levels between the two groups. IPMs had three percent of their group in the 21 to 30 level, 21% in the 31 to 40 level, 36% in the 41 to 50 level and 40% in the over 50 year level. MPMs had none in the 21 to 30 level, four percent in the 31 to 40 level, 82% in the 41 to 50 level, and 14% in the over 50 year level.

The overall means and standard deviations scores can be found in Table 2. Shown are the overall transformational

TABLE 1

COMPARISON OF SELECTED PERSONAL CHARACTERISTICS
OF MILITARY AND INDUSTRIAL PROJECT MANAGERS

ITEM	MILITARY (%) (N = 70)	INDUSTRY (%) (N = 114)
EDUCATION (Highest Level)		
Doctor's Degree	-	3%
Master's Degree	91%	38
Bachelor's Degree	6	51
Associate Degree	3	4
Technical School	-	3
High School	-	1
	100%	100%
PM EXPERIENCE		
Less than 1 year	26%	2%
1 to 5 years	41	18
6 to 10 years	17	35
Over 10 years	16	45
	100%	100%
AGE GROUP		
21 to 30	-	3%
31 to 40	4%	21
41 to 50	82	36
Over 50	14	40
	100%	100%

leadership scores and its factors, charisma, individualized consideration and intellectual stimulation, followed by the transactional leadership scores and its factors, contingent reward and management by exception. Also shown in Table 2 is the overall RAD score (organizational authority), followed by the scores of the RAD factors, responsibility (R), authority (A) and delegation (D).

TABLE 2

OVERALL MEANS AND STANDARD DEVIATION SCORES FOR ALL VARIABLES IN THE MILITARY AND INDUSTRY GROUPS

VARIABLE	N	Mean	S.D.
Transformational Leadership	184	3.00	.40
Charisma	184	2.94	.49
Individualized Consideration	184	3.11	.45
Intellectual Stimulation	184	2.95	.48
Transactional Leaderhip	184	2.18	.43
Contingent Reward	184	2.20	.59
Management by Exception	184	2.15	.47
RAD (Organizational Authority)	184	6.24	.67
Responsibility (R)	184	6.57	.85
Authority (A)	184	6.29	.75
Delegation (D)	184	5.86	.79

The maximum score for transformational leadership and its subfactors is 4. The maximum score for transactional leadership and its subfactors is 4. The maximum score for RAD and for R, A, and D is 8.

Inspection of Table 2 reveals that the transformational leadership dimension has a higher overall score for the combined military and industry groups (3.00) than the transactional leadership dimension (2.18). The mean overall RAD organizational authority dimension for the combined groups is 6.24.

The transformational factor scores for charisma (2.94), individualized consideration (3.11), and intellectual stimulation (2.95), are higher than the transactional factor scores, contingent reward (2.20) and management by exception (2.15).

Answers to Research Questions

Question 1: Is organizational authority related to the leadership style of MPMs and IPMs?

A number of correlation coefficients were computed. RAD and R, A, and D scores were correlated with the transformational and transactional scores. Please see Table 3.

An inspection of Table 3, specifically the correlations between RAD, R, A, and D, and the box containing the correlations relating to the transformational and transformational factors, charisma, individualized consideration, intellectual stimulation, management by exception and contingent reward, revealed interesting relationships. With respect to the interactions between the elements of RAD, R, A, and D, and the twenty-eight (28) correlations contained within the outlined box, thirteen (13)

TABLE 3

OVERALL CORRELATION OF RAD SCORES
AND LEADER BEHAVIOR

VARIABLE		N	R	A	D	RAD	CHAR	INCO	INST	TXFORM	CORW	MBEX	TXACT
Responsibility	R	184	1 00 P= 001	74 P= 001	50 P= 001	89 P= 001	* 21 P= 003	03 P= 369	* 14 P= 035	* 16 P= 015	04 P= 293	* - 13 P= 041	- 04 P= 285
Authority	A	184	-	1 00 P= 001	49 P= 001	87 P= 001	11 P= 065	03 P= 363	11 P= 077	11 P= 075	- 10 P= 087	* - 14 P= 027	* - 15 P= 022
Delegation	D	184	-	-	1 00 P= 001	78 P= 001	* 18 P= 009	* 15 P= 019	09 P= 110	* 18 P= 008	05 P= 254	- 11 P= 075	- 02 P= 371
Organizational Authority	RAD	184	-	-	-	1 00 P= 001	* 20 P= 004	08 P= 142	* 13 P= 038	* 18 P= 008	00 P= 493	* - 15 P= 022	- 08 P= 134
Charisma	CHAR	184	-	-	-	-	1 00 P= 001	34 P= 001	34 P= 001	73 P= 001	27 P= 001	13 P= 038	26 P= 001
Individualized Consideration	INCO	184	-	-	-	-	-	1 00 P= 001	60 P= 001	80 P= 001	39 P= 001	16 P= 013	36 P= 001
Intellectual Stimulation	INST	184	-	-	-	-	-	-	1 00 P= 001	82 P= 001	31 P= 001	14 P= 031	29 P= 001
Transformational	TXFORM	184	-	-	-	-	-	-	-	1 00 P= 001	41 P= 001	18 P= 006	39 P= 001
Contingent Reward	CORW	184	-	-	-	-	-	-	-	-	1 00 P= 001	28 P= 001	85 P= 001
Management By Exception	MBEX	184	-	-	-	-	-	-	-	-	-	1 00 P= 001	74 P= 001
Transactional	TXACT	184	-	-	-	-	-	-	-	-	-	-	1 00 P= 001

* SIGNIFICANT CORRELATION

of the twenty-eight (28) possible interactions were found to be significant. There were significant correlations between:

R and Charisma (.21, P=.003); R and Intellectual Stimulation (.14, P=.035); R and overall Transformational Leadership (.16, P=.015), and R and Management by Exception (-.13, P=.041).

A and Management by Exception (-.14, P=.027), and A and overall Transactional Leadership (-.15, P=.022). There were no significant correlations between A and any of the transformational factors of Charisma, Individualized Consideration and Intellectual Stimulation.

D and Charisma (.18, P=.009); D and Individualized Consideration (.15, P=.019), and D and overall Transformational Leadership (.18, P=.008).

RAD and Charisma (.20, P=.004); RAD and Intellectual Stimulation (.13, P=.038); RAD and overall Transformational Leadership (.18, P=.008), and RAD and Management by Exception (-.15, P=.022)

Question 2: Do MPMs and IPMs differ significantly in their perception of organizational authority?

In answer to question two, a series of t tests were computed in which group membership was the independent variable (military versus industry). and the dependent variable consisted of the overall RAD (organizational authority) score and the separate R, A, and D scores. Results of the t tests can be found in Table 4.

TABLE 4

t-TESTS - MEANS DIFFERENCES FOR MILITARY AND INDUSTRY FOR ORGANIZATIONAL AUTHORITY

Variable	Group	n	Mean	S.D.	t	df	p
RAD	Military	70	6.38	.59	2.48	182	.01*
	Industry	114	6.14	.71			
R	Military	70	6.71	.72	1.95	182	.05*
	Industry	114	6.47	.92			
A	Military	70	6.40	.67	1.75	182	.08
	Industry	114	6.20	.80			
D	Military	70	6.02	.73	2.54	182	.01*
	Industry	114	5.73	.80			

* Significant at the .05 level

These t tests indicate that there are significant differences between the groups; RAD ($t182 = 2.48$, $p > .05$); for R ($t182 = 1.95$, $p > .05$); for D ($t182 = 2.54$. $p > .05$). In the case of A, the military had a higher mean score (6.40) than industry (6.20).

Question 3: Do MPMs and IPMS differ significantly in their perception of leadership style?

In order to answer question 3, a number of t tests in which group membership (military versus industry) was the independent variable, and leadership style scores were the

dependent variables were computed. Please see Table 5 for results.

TABLE 5

t - TESTS - MEANS DIFFERENCES FOR MILITARY AND INDUSTRY FOR LEADERSHIP STYLE

Variable	Group	n	Mean	S.D.	t	df	p
Transformational Leadership	Military	70	3.02	.36	.03	182	.98
	Industry	114	3.02	.30			
Transactional Leadership	Military	70	2.23	.41	1.23	182	.22
	Industry	114	2.16	.40			
Charisma	Military	70	3.05	.44	2.32	182	.02*
	Industry	114	2.90	.42			
Individualized Consideration	Military	70	3.09	.40	-1.09	182	.28
	Industry	114	3.15	.37			
Intellectual Stimulation	Military	70	2.91	.47	-1.25	182	.21
	Industry	114	3.00	.40			
Contingent Reward	Military	70	2.25	.64	.70	182	.49
	Industry	114	2.19	.50			
Management by Exception	Military	70	2.18	.40	1.37	182	.173
	Industry	114	2.13	.46			

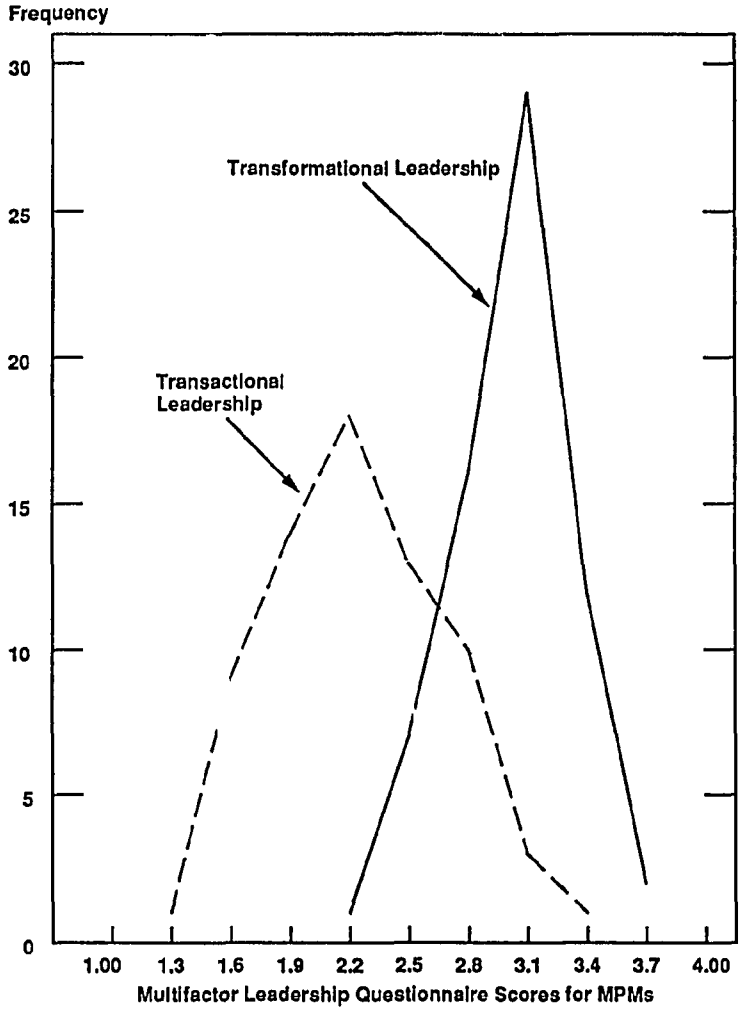
* Significant at the .05 level

The results indicate that there were no significant differences between the groups for the transformational and transactional leadership scores. There were no significant differences for the transformational factors individualized consideration and intellectual stimulation, nor for the transactional factors contingent reward and management by exception. There was a significant difference between the groups, however, for the transformational factor, charisma. ($t182 = 2.32$, $p > .05$). An inspection of the means indicates that the military group had a significantly higher charisma score. The highest mean scores for both the military and industry was for Individualized Consideration. The lowest mean scores for both the military and industry was for Management by Exception.

Question 4: What is the distribution of transformational and transactional scores for MPMs?

In answer to question 4, a frequency polygon (Chart 1) was constructed that compared the distribution of transformational and transactional leadership scores. Inspection of Chart 1 reveals that the grouping of transformational leadership scores are relatively higher than the transactional leadership scores. This indicates that there is a tendency for MPMs to to have a higher level of preference for transformational leadership than for transactional leadership.

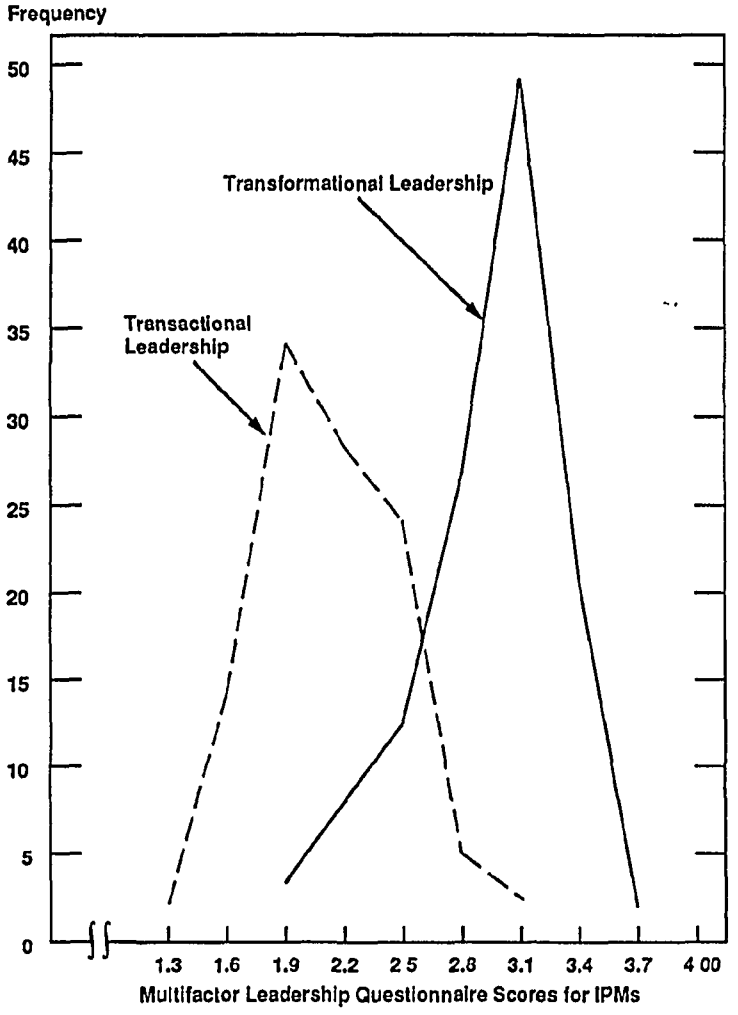
Question 5: What is the distribution of transformational and transactional scores for IPMs?



Frequency Distribution for Military Project Managers

Chart 1

In answer to question 5, a frequency polygon (Chart 2) was constructed that compared distribution of transformational and transactional leadership scores. Inspection of Chart 2 reveals that the grouping of transformational leadership scores are relatively higher than the transactional leadership scores. This indicates that there is a tendency for MPMs to have a higher level of preference for transformational leadership than for transactional leadership.



Frequency Distribution for Industry Project Managers

Chart 2

Summary

The answers to the five research questions were presented in this chapter. Responses from the military and industry groups from the two survey instruments, the RAD Scales and the Bass Multifactor Questionnaire were used to produce the statistical data shown in the tables. A background questionnaire also produced pertinent information about the military and industry samples in their respective settings. The RAD Scales measured organizational authority (the interrelationship of Responsibility (R), authority (A), and delegation (D)) and the separate R, A and D scores for each group. The Bass Multifactor Questionnaire measured the transformational and transactional leader behavior for each group. It also measured separately, the transformational factors of charisma, individualized consideration and intellectual stimulation, and the transactional factors of contingent reward and management by exception.

It was found that there was a significant correlation between RAD and Transformational Leadership. Although there were significant correlations found between the individual RAD factors R, A and D, and the individual Transformational Factors of Contingent Reward and Management by Exception, there was no significant correlation between the overall RAD and the overall Transactional Leadership dimension within the military and industry groups.

The two groups differed on organizational authority, but

they did not differ on leadership style. Both the military and industry tended to reflect a greater preference for transformational leadership as opposed to transactional leadership.

There are strong interrelationships among the organizational authority subfactors (responsibity (R), authority (A), and delegation (D)).

There were strong interrelationships among the transformational leadership subfactors, charisma, individualized consideration and intellectual stimulation.

There were moderately strong interrelationships among the transactional subfactors, contingent reward and management by exception.

The findings, conclusions, implications and recommendations will be presented in Chapter 5.

CHAPTER 5

Findings, Conclusions, Implications and Recommendations

This chapter will interpret and discuss the findings in Chapter 4, present the researcher's conclusions, discuss the implications and make specific recommendations for further study.

Purpose of the Study

This study compared and contrasted the relationship between organizational authority and leader behavior of PMs in two separate organizational environments; the military, specifically the United States Army and industry. Although the settings were uniquely different, both were subject to the daily pressures and stresses associated with fielding weapons systems and their peripheral services and products for the nations's defense. Another purpose of the study was an attempt to determine if such widely divergent organizations with different goals and objectives had different effects on the style managers used to lead and direct their subordinates.

A great deal of study and research has been conducted on the subject of leadership and leader behavior, particularly since the end of World War II. Because of the great and rapid advances in technology and changing world events both economically and politically, there is an increasing demand for uniquely qualified leaders in public and private sectors alike. The search continues for answers as to what makes an exceptional leader, and what affects his behavior, particularly in pressure-laden environments that appear to be inherent in modern organizational structures. Researchers are also examining

whether or not organizational factors within those organizations have an effect on the way a leader supervises his subordinates and manages the accomplishment of organizational goals and objectives.

Organizational Authority

For the purpose of this study, organizational authority was the interrelationship of responsibility, authority and delegation. "Responsibility is a member's perception of the expectations placed upon him or her to perform on behalf of the group." Authority in organizations "is meant to fulfill assigned responsibilities." "Delegation implies that one has been empowered . . . to take responsibility for certain activities." A leader's perception of the meshing of these three concepts may be related to his behavior and the satisfaction and productivity of his subordinates. Bass said that "satisfaction and productivity . . . are likely to be greater where R [responsibility], A [authority], and D [delegation] are highly interrelated." According to Bowman, school principals who rated themselves high in responsibility, authority and delegation, tended to rate their superiors high in consideration.

Leader Behavior

The landmark studies conducted at Ohio State which resulted in the identification of two leadership dimensions, initiating structure and

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Stogdill, 234.
Stogdill, 234.
Stogdill, 235
Bernard M. Bass, "A Systems Survey Research Feedback for Management and Organizational Development," Journal of Applied Behavioral Science, 1976, 215.
Bowman, DAI 48/02A (1986):332.

consideration (figure 2), were followed by a number of variations of that concept and their significance as far as leader behavior was concerned. All contributed to the body of knowledge, and several were supported in many research studies by instruments such as the Leader Effectiveness and Adaptability Description (LEAD) questionnaire, the Leader Behavior Development Questionnaire (LBDQ), and the Leader Opinion Questionnaire (LOQ).

Bass, going one step further, identified two dimensions of leader behavior he identifies as transformational and transactional leadership. Three factors make up transformational leadership; charisma, individual consideration and intellectual stimulation, and two factors make up transactional leadership, contingency reward and management by exception. Bass argues that "to achieve follower performance beyond ordinary limits, leadership must be transformational."

Findings

Discussion of the findings will be related to each of the five research questions. The research questions are:

Question 1: Is organizational authority related to the leadership style of MPMs and IPMs?

Question 2: Do MPMs and IPMs differ significantly in their perception of organizational authority?

Question 3: Do MPMs differ significantly in their perception of leadership style?

Question 4: What is the distribution of transformational and

Bass, xiii-xiv.

transactional scores for MPMs?

Question 5: What is the distribution of transformational and transactional scores for IPMs?

Background Differences

The military and industry groups had some interesting differences in their respective backgrounds. From the educational perspective, the industry sample had a higher percentage (51%) of bachelor's degrees as opposed to six percent in the military sample. Conversely, the military group had a much higher percentage (91%) with master's degrees to the industry sample's 38%. The Army's planned educational program throughout officers' careers and promotion motivation results in the attainment of a larger number of advanced degrees. While industry encourages employees to further their education, attendance at specific schools and colleges is not programmed as it is in the military. Industry showed a higher level of specific PM experience (45% with over ten years in PM work), while only 16% percent of the military had that level of experience. Appointment to a PM position to a senior officer or civilian usually occurs after years of unrelated assignments.

Overall Results

For the combined military and industry groups, the transformational leader dimension had higher overall means scores than did the transactional leader dimension. This implies that for both groups, there tends to be an awareness of the importance of personal interrelationships between the leader and his subordinates. Whether or not this tendency is enhanced by greater subordinate responsiveness and effectiveness could be the focus of another study. It is interesting

to note that there is an overall obvious tendency of both groups to rely less on contingent rewards and management by exception to inspire subordinates to go beyond their perceived every day work objectives.

For the combined military and industry group, there is a relatively high interrelationship of the RAD factors, responsibility, authority and delegation. (Please refer to Table 3, Chapter 4)

Research-Questions

Question 1: Is organizational authority related to the leadership style of MPMs and IPMs?

In modern organizations, there are a number of factors which could affect the leader behavior and style of a manager. Among them are stress, essentiality of organizational goals, sensitivity of interrelationships with the outside environment and organizational authority. In answer to question 1, it was found that there were thirteen (13) out of twenty-eight (28) significant correlations between overall organizational authority, RAD (the interrelationships of R, A, and D), and the overall transformational and transactional dimensions and their factors of charisma, individualized consideration, intellectual stimulation, contingent reward and management by exception. This would suggest that further research is necessary to confirm and determine the extent and level of these interrelationships. It is also interesting to note that while the RAD factor of A, (authority), was not significantly correlated with the transformational leadership dimension, there was a significant negative correlation with the transactional leadership dimension.

The thirteen (13) significant correlations could also imply and suggest that increased emphasis and awarenesss of RAD

interrelationsips be included in leadership and management training. If further research confirms that cause and effect elements are indeed present between organizational authority and leadership behavior, such training could aid in the enhancement of transformational leadership in the leaders and managers concerned.

Question 2: Do MPMs and IPMs differ significantly in their perception of organizational authority?

In answer to question two, it was found that there was a significant difference in the levels of organizational authority (RAD), the interrelationship of responsibility, authority and delegation. The military group differed in their perception of RAD, having significantly higher scores than the industry sample. This tends to indicate that the higher RAD interrelationships may have a more positive result in the military group as far as satisfaction and productivity are concerned.

Question 3: Do MPMs and IPMs differ significantly in their perception of leadership style?

There is no overall significant difference in the perception of leadership style by the military and industry groups. However, of the three transformational factors, charisma, individualized consideration and intellectual stimulation, there was a significant difference between the two groups for charisma. This may imply that the charismatic part of the leadership style of the military group could be the result of the military training and environment of the leaders and managers concerned. For the remaining transformational factors, individualized consideration and intellectual stimulation, there were

no significant differences between the two groups. This is an interesting finding, considering the unique differences in environment, background and training inherent in military and industry organizations. There were no significant differences between the groups for the transactional factors of contingent reward and management by exception.

Question 4: What is the distribution of the transformational and transactional scores for MPMs?

Within the military group, the transformational score was significantly higher than the transactional score. This tends to indicate that military leaders and managers place a higher value on closer personal interrelationships with their subordinates, and find it less necessary to rely on transactional factors of contingent behavior and management by exception to exhort their followers to attain higher job effectiveness.

Question 5: What is the distribution of transformational and transactional scores for IPMs?

It was interesting to note that the grouping of the transformational scores were also relative higher than the transactional scores for the industry group. This too, implies that industry leaders and managers place a higher value on closer, personal interrelationships with their subordinates, and find it less necessary to rely on transactional factors to inspire their subordinates to higher job effectiveness.

Considering the background differences between the two groups, the question arises as to whether or not their tendency to prefer

transformational leadership over transactional leadership may have been influenced by different, basic organizational objectives, and the internal and peripheral influences associated with them.

Conclusions

Based on an analyses of the findings, the following conclusions have been reached which may apply generally to all MPMs and IPMs and their organizations.

1. There appears to be an inherently higher level of organizational authority (responsibility, authority and delegation) interactions in MPM organizations thant in IPM organizations. The unique military environment, structured career development patterns and personal commitment of MPMs to national and Army needs may be major contributing factors influencing the intensity of those interactions.

2. The organizational interactions in IPM organizations, also active but at a lower level than in MPM organizations, may be influenced by an intermix of additional reasons. Goals usually related to industry such as business motivation, competition and profit and the different mental set of IPMs, may be contributing factors to those interactions.

3. There appears to be a tendency for MPMs and IPMs to prefer transformational leadership behavior over transactional leadership behavior. This seems to reflect the continuing development of an overall awareness of the importance of leader-follower interrelationships. It is suggested that this trend is not a direct reflection of the unitque organizational settings addressed in this

study, but an indication of further support to the emphasis that has been placed upon the behavioral aspects of leardership behavior in recent years.

4. Bass's arguments reference the developing importance of transformational leadership and its subfactors of charisma, individual consideration and intellectual stimulation appear to be supported by the analyses of the data for MPMs and IPMs.

Implications

The leadership style of the military and industry groups is basically the same, despite the differences in their respective settings and the organizational environments in which they function. Both groups tended to reflect a greater involvement in the transformational leadership dimension, as opposed to the transactional leadership dimension. Is the tendency for the preference of closer interrelationships of both groups with their subordinates related to developing leader behavior throughout the public and private sectors in the world as seen by our leaders today? Conversely, do the respective environmental settings have their own independent influences on how leaders behave? Paralleling that thought, can leader behavior be influenced significantly by formal training? Finally, do patriotic and duty factors in the military and profit factors in industry influence that behavior?

The importance of daily interrelationships of the two study groups, considering their common mission of fielding needed military systems for the nations's defense is obvious. But considering the shrinking world from economical and geo-political points of view, effective interrelationships of leaders in all sectors of the public

and private sectors are equally as important. Leadership and management of people and other resources require further investigations and examinations by other researchers within and outside of academia.

Recommendations for Further Study

As a result of the analysis of the findings, conclusions and implications that evolved from that process, the following recommendations are made:

1. Recommend that further study be conducted on the possible effects of other selected organizational factors on leader behavior.
2. Recommend that further research be conducted to investigate transformational and transactional leader behavior and the relationship of these dimensions to successful and unsuccessful projects.
3. Recommend that similar type studies be conducted pairing Air Force and Navy groups, respectively, with industry groups.
4. Recommend that further study of organizational authority and its relationship to leader behavior be conducted.
5. Recommend that similar type studies be conducted elsewhere in the public and private sectors.

Summary

The study of leadership and leader behavior has been extensive, particularly since the end of World War II. The landmark studies and concepts that have evolved from them, have made great contributions to our understanding of leadership and its peripheral concepts. An examination of the literature that exists clearly implies that new and more revolutionary concepts should evolve over a period of time. The

need for unique, effective and intelligent leaders and managers grows more important because of their importance in the present scheme of things. Continuing research that may result in the development of better leaders is essential and should continue. While the study focused on a comparison of two groups in the military and industry settings, implied from the results may be a possible tendency for our leaders to have a preference for closer, interpersonal relationships with their subordinates. Future research will determine if this is or is not the case.

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APPENDIX A

List of Products, Services and Weapons Systems Produced by Companies in Population

The study sample was randomly selected from companies that produce these products.

Aerospace	Hoses	RPV's
Aircraft, Fixed Wing	Infrared	Satellites
Armor	Logistics Support	Consulting
Avionics	Machine Builders	Engineering
Bearings	Manufacturing	Financial
Brakes, Clutches	Marketing	Information
Camouflage	Metalwork	Personnel
Castings	Mining	Security
Chemicals	Missiles/Rockets	Shipbuilding
Communications	Oils/Lubricants	Shipping
Composites	Optics	Ship Repair
Computers	Ammunition	Training
Containers	Explosives	Testing
Electrical	Fire Control	Vehicles
Electronics	Production Equip.	Artillery
Electo-optics	Propellants	Small Arms
Engines	Pyrotechnics	Weapons Sys.
Environmental	Warheads	
Fiber Optics	Packaging	
Forgings	Radar	
Fuzes	Radio	
Guages	Rescue & Recovery	
Health, Medical	R & D	

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APPENDIX B

DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. ARMY MATERIEL COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001

May 1, 1987

Mr. Michael B. Ruggiero
570 Monmouth Place
West End, New Jersey 07704

Dear Mr. Ruggiero:

In response to your request for support of your questionnaire, it has been determined that is would be lawful for this command to support you if the following conditions are met:

- You and Temple University must agree, in writing, that the U. S. Army will be furnished a copy of your research and dissertation, free of any copyright or other property right claims.

- You must obtain the proper clearance under the provisions of chapter 4 of Army Regulation 360-5, if required.

I hope this information is of assistance to you. I have attached a copy of Army Regulation 360-5, and the U.S. Army Materiel Command Project Management List, for your use and guidance.

Sincerely,

Robert L. Michellon
Assistant Chief
Office of Project Management

Attachments

These include the requirements of the National Environmental Policy Act (NEPA) (see AR 200–2) and Executive Order 11752. This order charges the Army to comply with Federal, State, and local environmental standards and demonstrate leadership in environmental enhancement. Public affairs officers should work closely with local environmental coordinators. This should be done on a continuing basis and especially when Environmental Impact Statement (EIS) actions are conducted. See AR 200-2 for actions that may require EISs. These actions include installation activations, base closures, realignments, and reductions, real estate acquisition, major construction projects, training exercises when significant environmental damage may occur, opening or closing of areas; dredging waterways, and movement or other actions on chemical agents or munitions. The EIS process, given in AR 200–2, may include public hearings of crucial interest and concern to the news media and the public.

3–50. Land acquisition
It is essential that the public be informed as soon as possible, with as much information as possible, on land acquisition studies. Congressional notification must precede or coincide with public release. Close coordination is imperative among local and MACOM public affairs officers and OCPA on all land acquisition actions. (See AR 405-10.)

3–51. Noninvestigative public affairs files on organizations and individuals not affiliated with the Department of Defense
See AR 380-13, paragraphs 3*b* and 8*b*(10), for guidance.

3–52. Procedures for handling requests for political asylum and temporary refuge
See AR 550-1, paragraph 8, for guidance.

3–53. Questionnaires, surveys, polls, and opinion research projects
See AR 600–46 for information.

3–54. Distribution of literature on Army installations
See AR 210-10, paragraph 6–4, for guidance.

3–55. Personal privacy
The Privacy Act of 1974 (5 USC 552*a*), implemented by AR 340–21, prohibits DA from publicly releasing certain items of information on an individual. Guidance on application of the Privacy Act to public affairs activities is in appendix B.

3–56. Release of information on disciplinary actions
See AR 340–17 for guidance.

3–57. Criminal investigation, DA polygraph activities
See AR 195–6, paragraph 2-7, for guidance.

3–58. Release of information from criminal investigation and military police records, reports, and forms
See AR 190-45, chapter 3, AR 195–2, paragraph 4-3, AR 340–17, and AR 340–21 for guidance.

3–59. Military intelligence and counterintelligence and technical surveillance countermeasures
See AR 381–14 and AR 381–20, paragraph 6-4*a*, for information.

3–60. Groundbreaking, dedication, and memorialization ceremonies for U.S. Army Reserve centers
See AR 1-33, section III, for guidance.

3–61. Use of animals in research, development, test, and evaluation (RDTE) and biomedical training programs
See AR 70-18, paragraph 13, for guidance.

3–62. Commercial solicitation on Army installations
See AR 210–7 for guidance.

3–63. Disclosure of military information to foreign governments
Requests from foreign governments for information or visual information materials should be referred to the nearest security manager in accord with AR 380–10, paragraphs 3-7 and 3-12.

3–64. Visits to Army installations by Members of Congress
See paragraph 3-45 of this regulation and AR 1-20, chapter 2, for guidance.

3–65. Countering terrorism and other major disruptions on military installations
See AR 190-52 for guidance.

3–66. Civil disturbances off military installations
See paragraph 3-7*b* of this regulation, AR 500-50, and AR 500-51 for guidance.

Chapter 4
Clearance of Speeches and Manuscripts

4–1. Policies

a. Clearance is required for certain official and unofficial speeches and writings that are to be presented or published in the civilian domain.

b. Writings and speeches requiring review will be cleared at the lowest level by PAOs who know the subject matter and audience, unless otherwise indicated in this chapter. Although subordinate elements properly may clear materials, they may not deny clearance. When review by a subordinate element shows any doubt, or that clearance by higher headquarters is required, the material along with field-level findings and recommendations will be sent through channels to HQDA (SAPA–OSR), WASH DC 20310–1506.

c. Public speeches or publication of writings by individuals will not—

(1) Delay dissemination of information released through usual PA channels.

(2) Be contrary to law (for example, the Uniform Code of Military Justice (10 USC 801–940), the Hatch Act (5 USC 7324–7327), or other statutes).

(3) Violate the standards of conduct in AR 600–50.

d. General officers and their civilian counterparts will speak in public from a cleared, prepared text.

e. Officers in the rank of Lieutenant General and above and civilian equivalents must clear their speeches with OASD (PA).

f. Prior clearance of a manuscript or speech for a specific occasion does not necessarily give blanket approval to use the same manuscript or speech on other occasions. Prior to repetitive use of a speech or manuscript on subjects in paragraphs 4–2*a*(1) and 4–2*a*(2), HQDA (SAPA–OSR) should be contacted to ensure that the clearance originally granted is still valid.

4–2. Requirements

a. OSD or HQDA must clear the materials listed below.

(1) Official writings or speeches by HQDA representatives or material that has an official connotation which is to be published or delivered outside DOD.

(2) Speeches and writings by any active duty Army member or civilian employee on matters of national interest, as defined in OSD and DA policy directives or as referenced in paragraph 3–1*a*.

b. Writings or speeches that may be cleared below HQDA level are those which meet all the conditions listed below.

(1) Prepared by Active Army members or civilian employees of a subordinate element of HQDA.

(2) Intended for a local or regional audience.

(3) Written on subjects within the control of the clearing command.

c. Materials that normally do not require clearance are as follows.

(1) Writings and speeches on topics not involving operations of the national Government, foreign policy, or military matters described in paragraphs 4–2*a* and *b*, letters to the editor when expressing a personal opinion; book or theatrical reviews expressing personal opinion or knowledge; and works of fiction. These writings and speeches will not imply official Government sanction. Such materials need not be submitted for review; however, individuals must safeguard classified information. (See para 3–37*a*(3) for participation in talk shows.)

(2) Works of fiction (such as short stories, novels, movies, or plays) that are based on actual military situations or operations. Such materials may be submitted for advisory security review when there is doubt as to the security classification of the information.

being used in a work of fiction. Individuals requesting review of such writings by HQDA (SAPA-OSR) will submit only those portions of the manuscript in question

(3) Manuscripts or speeches by retired Army personnel and members of the ARNG and the USAR not on active duty. Such materials are not required to be submitted for clearance However, these persons may voluntarily forward materials for an advisory security review to HQDA (SAPA-OSR), WASH DC 20310-1506 Materials prepared for publication which draw upon classified information gathered while individuals were on active duty will be submitted for review.

d Public affairs officers at any level will not become involved in the clearance of technical or scientific manuscripts or speeches, as defined in the glossary. (See AR 70-11, and para 3-1*a* and chap 9 of this regulation.) However, PAOs should review such materials to help the proponent determine whether clearance can be granted at the local level or if the material must be reviewed by higher headquarters Such determination will be based on the subject matter of the material, not on the technical accuracy of the content.

4-3. Guidelines

a Individuals may write articles for publication in official DOD publications if the manuscripts are cleared prior to publication Individuals may use military facilities and clerical assistance Official DOD publications include authorized newspapers and magazines which represent a particular element, branch, or group of branches of a military service They do not include commercial service oriented publications

b Persons subject to this regulation will neither furnish nor make commitments to furnish information material to non-DOD publications or other public forums on subjects that require OSD or HQDA review until after approval or clearance is obtained Personal literary and public speaking efforts will not be conducted during normal working hours or accomplished with the use of Army facilities, personnel, or property In addition, such persons will not use information from official sources that is not available to outside writers.

c. Key civilians (such as Assistant Secretaries of the Army and Senior Executive Service (SES) personnel), general officers, and other DA personnel in positions of unusual prominence or authority may publish writings on national defense plans, policies, programs, or operations under their names only when such material is prepared solely for official publications of DOD or other Government agencies, service journals, house organs, encyclopedias, or recognized scientific and professional journals Material may be published in unofficial general circulation media under the byline of a key official if publication will significantly benefit the national interest A request and justification for such bylined publication will be sent to HQDA (SAPA-PP), WASH DC 20310-1509, for evaluation and determination

d. In the interest of academic freedom and the advancement of national defense-related concepts in the military service school environment, Army students and members of staff and faculty of those schools may prepare manuscripts for publication in a private and unofficial capacity. They may express their views in such materials, as long as those views do not disclose classified or operations security information. Manuscripts prepared by service school personnel, including faculty and students, will be submitted through appropriate channels for security clearance prior to release to any publisher unless they are exempted under provisions of paragraph 4-2*c*(1) An appropriate disclaimer will accompany manuscripts submitted for publications in a private capacity The following is considered an appropriate disclaimer. "The views expressed in this article (book) are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U S Government."

e Material submitted to HQDA and OSD in accordance with paragraphs 4-1 and 4-2 will be cleared for public release only after it has been reviewed and necessary amendments made This will be done to ensure that it does not compromise classified national security information and that it is consistent with established DOD and other U S Government policies and programs Material submitted for review will not contain information known by the office of origin to be classified Security clearance of material indicates only that it does not contain classified information or information exempt from release by law.

f Clearance of material will not be refused to hide administrative error or inefficiency

g Any individual who, in an unofficial writing or speech, uses a title or other identification connected with DOD will include with such material the disclaimer at *d* above The writer will not use a title or other DOD identification in connection with the material if requested to refrain from doing so by the reviewing authority.

h Individuals may accept payment for private literary efforts, including both writings and speeches However, they will not—

(1) Receive pay (including honoraria) for speeches or literary efforts provided as part of their official and formal duties.

(2) Speak or write on a regularly scheduled basis for commercial publications or interests without prior written approval of the OCPA Requests for such authorization, together with supporting justification should be addressed to HQDA (SAPA-PP), WASH DC 20310-1509.

i. Notes, abstracts, or outlines of manuscripts or speeches will not be cleared as a substitute for a complete text. However, abstracts to be published in advance require clearance. If an abstract is cleared in advance, that fact will be noted on the transmittal document accompanying the full text of the article or speech when submitted for clearance by HQDA and OSD

4-4. Procedures

a. Writings and speeches subject to review that do not require OSD or HQDA clearance will be submitted to PAOs at proper command levels under local directives. Field reviews will conform to the policies in this chapter and other guidance in this regulation.

b. Materials that require OSD or HQDA clearance will be submitted to HQDA (SAPA-OSR), WASH DC 20310-1506, using the procedures listed below.

(1) A speech, article, or paper being submitted for review will be initialed by the author at the place of origin to indicate approval of the text The initialed copy will be retained by the clearance office.

(2) The full and final text of material requiring review, including any supplemental audiovisual material, will be submitted

(3) Articles and manuscripts will be submitted in three copies at least 30 days in advance of the desired clearance date

(4) Speeches will be submitted in five copies at least 10 working days in advance of the proposed delivery In the case of official speeches prepared for delivery by key officials, the individual to deliver the speech will initial the first page of one copy to indicate the speaker's approval of the text.

(5) All submissions will be reviewed promptly for conformance with policy, security (to include OPSEC considerations), accuracy, and propriety. Material reviewed will be returned promptly with comments, as appropriate. Constructive suggestions made to authors as the result of the review process, which are advisory in nature, will be identified as "recommended changes." Comments identified with "as amended" annotations are mandatory and binding on the author or speaker The final responsibility for accuracy, style, and good taste rests with the author

(6) Denial of clearance or directed mandatory changes of any material submitted for review may be appealed through channels of original submission to HQDA (SAPA-OSR), WASH DC 20310-1506.

(7) When materials for clearance are forwarded from a field command to HQDA for review, the writer will be so informed by that command. When the review is completed, the writer will be informed of the final clearance decision through the same channel

c. Manuscripts lacking proper clearance which are submitted by authors to official Army publications will be sent by the editor to the proper clearance authority indicated in this chapter. Cleared manuscripts will be returned to the editor of the forwarding

publication or directly to the author if requested Clearance authorities will not provide placement service to authors to publish material in either official or unofficial media

d. Material originating in Army components of the unified commands will be submitted for clearance through the PA channels designated by that command. If the material is of national interest, the writer will send an information copy to HQDA (SAPA-OSR), WASH DC 20310-1506.

4-5. Copyrights

A writing prepared by an Army member or civilian employee as part of that person's official duties is not entitled to copyright protection. This official work is in the public domain It may be copied or distributed by anyone, subject to clearance requirements, safeguarded information requirements, or other prohibitions on the release of information in this regulation. If the potential publisher asks the author for an assignment of the copyright in an official writing, the author should inform the publisher that no copyright is available for the writing but that the publisher may publish the material as uncopyrightable It may be appropriate to call the publisher's attention to 17 USC 403 This law provides that any copyright notice, which the publisher affixes to a publication containing one or more official Government works, must show what is copyrighted and what are official works

Chapter 5
Use of Military Transportation

5-1. General guidance

Military transportation assets will not be used to compete with commercial carriers of United States registry (to include sea, air, or land transportation) when the public affairs objectives of the proposed travel can be accomplished through the use of commercial carriers

a. News media representatives may be authorized travel or transportation in connection with an assignment to cover Army programs or operations when the travel is an integral part of a story and is provided on a space-available basis.

b. Local travel for local news media representatives (see glossary) may be approved by the commander in whose area the travel occurs under paragraph 5-1.

c Nonlocal travel by all news media representatives must be approved by the ASD(PA)

d. All local travel or transportation provided for national media representatives (see glossary) will be brought to the attention of HQDA (SAPA-MR)

e. Travel or transportation for public affairs purposes must be primarily in the interest of the DA or the DOD.

f. No commitment of military transportation for public affairs purposes will be made until the request has been coordinated and approved

g Orders covering transportation will be issued by the command with primary interest.

h News media representatives who are U.S citizens will be provided military transportation outside the United States only with the approval of the ASD (PA).

i A news media representative of foreign citizenship will not be provided military transportation without approval of the Department of State.

j Travel or transportation in connection with a public affairs program arranged with or at the request of another Federal department or agency or a foreign government, on a reimbursable or nonreimbursable basis, will be authorized only by the ASD (PA) Requests for such travel or transportation will be submitted through channels

k. Travel of news media representatives by military transportation to cover annual or weekend field training conducted by U S. Army Reserve units at other than home stations is nonlocal travel As such, prior approval of OASD(PA) is required in accord with paragraph 5-5

l. State adjutants general may grant approval for public affairs travel within their respective States However, local travel to facilities outside their States must be approved by the National Guard Bureau (NGB PA). Media travel involving ARNG units, other than discussed in this paragraph, is nonlocal travel and requires prior approval of OASD (PA) in accord with paragraph 5-5

m For travel by non-DOD personnel for community relations purposes, see AR 360-61, chapter 13.

n. Normally, news media travel by military transportation will be on a space-available, nonreimbursable basis. If circumstances dictate that it should be reimbursable, the requesting command will be advised by OCPA and given procedures for collecting reimbursement.

5-2. Injury and death liability releases

The OASD(PA) has determined that it is in the best interest of the military services to obtain liability releases from news media representatives and civic leaders prior to their travel on military transportation. Figure 5-1 contains a sample liability release which should be adapted for local use.

5-3. Local travel approval policies

Within the scope of his or her mission and responsibilities, each commander may grant approval for local travel or transportation for public affairs purposes if—

a. The public affairs subject matter is not properly the responsibility of a higher command. A local commander cannot approve travel or transportation in connection with a public affairs activity if the subject matter of the news story is a higher command responsibility

b The public affairs impact of the media coverage will be confined primarily to the vicinity of that command

c. Transportation is provided for local news media representatives who are a part of an approved local public affairs program.

5-4. Nonlocal travel approval policies

Nonlocal travel will be approved when—

a. Travel by military transportation is an integral part of the story or stories being covered by the news media representatives (for example, evacuations, maneuvers, or the movement of troops). In such cases, the transportation will be limited to the extent and duration of the assignment requiring travel. The transportation will not be used solely for point-to-point movement

b. The proposed news coverage is of a major emergency nature and the coverage will be impaired or delayed to the serious detriment of the Army if military transportation is not provided A request based on this paragraph will be submitted by the fastest means, including telephone, directly to OCPA Intervening headquarters will be notified subsequently.

c The travel is a matter of special interest to the Army or the command involved and is a part of an approved public affairs project

5-5. Approval procedures for nonlocal travel requests

a The OCPA coordinates with the OASD (PA) to obtain approval of Army requests for nonlocal public affairs travel (See para 5-1) Requests for nonlocal travel will be forwarded with justification through channels to HQDA (SAPA-MR), WASH DC 20310-1507.

b Requests for nonlocal travel by news media representatives must be submitted to OCPA as far in advance as possible. Such requests must contain—

(1) Specific dates of travel and destinations

(2) The name of the officer directly responsible for the project.

(3) Justification of the travel itself as necessary to the story.

(4) Justification of the individual or individuals for whom the travel is requested.

(5) Confirmation that the travel will not interfere with the transporting unit's basic mission.

c The responsible officer will—

(1) Be familiar with all regulations and directives on such travel.

(2) Ensure that the military and civilian news media representatives are properly briefed on the purpose of the travel and on appropriate security matters.

(3) Ensure that news media representatives are briefed on passport, visa, immunization, and other requirements

(4) Ensure that news media representatives have proper equipment, if required.

(5) Be responsible for any other matters related to the mission.

(6) Submit through channels to HQDA (SAPA-MR), for forwarding to OASD (PA), copies of newspaper clippings and/or summaries of radio and television coverage resulting from the travel. Such information

APPENDIX C

August 1, 1988

Dear_______:

I am a Temple University doctoral student conducting a nationwide study among military and industrial program, project, and product managers (PMs) to determine the interactions of responsibility, authority and delegation and their effect upon leader behavior. The analyzed data, provided by the PMs in their unique military and industrial settings, will provide a better understanding of PM leader behavior under complex and stressful conditions.

This project was initially coordinated with the US Army Materiel Command and the Defense Systems Management College. The results of this study will be provided without cost to these organizations, interested PMs, the American Defense Preparedness Association, and to anyone else wishing to possess th s information. All personal data will be kept in the strictest confidence

You have been randomly chosen to participate in this project which will take approximately thirty minutes of your time. There are three questionnaires enclosed; the first will gather background information; the second will relate to responsibility, authority and delegation; and the third to leader behavior. Please read and answer the questions carefully. A stamped envelope is provided so that you may return the questionnaires and answer sheets to me. It would be most helpful if you would return the package within two weeks.

This project is the culmination of over three years of study and research, and your data is essential to its integrity. I am deeply grateful for the time you are taking to assist me in writing what I hope will be an interesting research report and of some value for the Army and industry.

Sincerely,

Michael B. Ruggiero

APPENDIX C

APPENDIX D

August 23, 1988

Dear _____:

Several weeks ago, you were sent a package containing questionnaires relating to a research project being conducted among military and industrial program, project and product managers. The responses from the military PM's have been more than sufficient to make up a representative sample; however, responses from industry, while still continuing, are not sufficient to process the information into meaningful statiscal data. These data are essential in order to determine the interactions of responsibility, authority and delegation and their effect on leader behavior. The information derived from your answers to these questionnaires is essential to the success of this study; therefore, I encourage you to fill out the survey forms and return them as soon as possible.

The PM setting is considered an ideal arena to gather these data because of its dynamic, high level of activity, complexity, and the unusual demands placed upon PMS on a daily basis. Their perceptions will provide a valuable contribution toward an understanding of the management/leadership proc ss and provide data that may be useful to the military and indus ri l organizations s v l.

Your contribution is extremely important to the project. All information received will be used on a collective basis, and must and will be held in the strictest confidence. No individual responses will be addressed or discussed in the final document.

Should you not, for whatever reason, have received the original packet, please notify me at the address shown above, please call me or, if I am not available, leave a message at (201) 290-0010, and I will gladly provide you with the documentation. Thank you for your support.

Sincerely,

Michael B. Ruggiero