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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

# TOTAL QUALITY MANAGEMENT IMPLEMENTATION AND LEADERSHIP PERSPECTIVES IN A STATE AGENCY

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

MOHSEN POURETEDAL
Norman, Oklahoma
1997

TOTAL QUALITY MANAGEMENT IMPLEMENTATION AND
LEADERSHIP PERSPECTIVES IN A STATE AGENCY

A Dissertation APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

BY

Charles Butler, Chair

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This dissertation is dedicated to

my father Abolghasem, my sisters Zahra and Zohreh,

and in memory of my mother Khadijeh.

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Countless employees of the Oklahoma Department of Corrections for their support and help in the completion of this project.

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Total Quality Management Implementation and Leadership Perspectives in a State Agency

BY: MOHSEN POURETEDAL

MAJOR PROFESSOR: CHARLES E. BUTLER Ph.D.

The purpose of this study was to examine the perceptions of upper and middle-managers in a state agency regarding behaviors necessary for successful implementation of total quality management in the Oklahoma Department of Corrections. Additionally, this study sought to ascertain self-reported leadership styles of the upper and middle-managers and the effects of the same on these managers' perceptions regarding total quality management implementation. The targeted population was also probed as to the level of education, race, gender, years of service, and understanding of the identity of the customers of the department. This additional information was necessary in later analysis of the data, and an examination of recognizable relationships between these factors and reported perceptions of total quality management behaviors.

The theoretical basis for this study stemmed from conceptualizations of contingency factors internal distributive, integrative/sociemotional, and boundary exchange. Leadership styles described as transformational,

transactional, and representational formed the basis of probing leadership characteristics of the participants. Both the contingency factors, and leadership styles were incorporated in developing the data gathering questionnaire. The questionnaire also solicited demographic and other data necessary for the final analysis and interpretation of the results and for answering the proposed research questions.

The population selected for this study was comprised of the entire groups of upper and middle-mangers of the Oklahoma Department of Corrections. This agency was selected based on information gathered on its activities as reported to the Quality Oklahoma Office, and elapsed an time since the inception of training in total quality management in the agency. Seventy-five (75) questionnaires were eventually distributed. Final results were based on fifty-four (54) completed and returned instruments.

The results of this study indicated a possibility that the contingency factors may appropriately describe necessary behaviors for implementing total quality management. This was also reflected in respondents' views on the success of total quality management in the agency, and their own areas, and their perceptions of contingency factors. The results also indicated a distinct difference between respondents with varying ethnic background and their perceptions of the

contingency factors. Perceptions of who constitutes customer(s) in the agency were also found to be an indicator of responses to the contingency factors. Age, educational background, and leadership styles of the respondents were not shown to effect their responses to the contingency factors.

# Total Quality Management Implementation and Leadership Perspectives in a State Agency

## CHAPTER I

## Introduction

The decade of the eighties, and most certainly the nineties, may be described as an era of heightened concern with the concept of quality in business, industry, and government circles throughout the United States (Carr & Littman, 1990; Stevenson, 1993). The zeal to embrace quality during these recent periods is evident in the efforts of the Federal government in promoting and implementing its concepts (Hamson, 1990; Hull, 1991; Koons, 1991; McCarthy, 1991; Milakovich, 1991; Penzer 1991; Postula, 1990; Randolph, 1989; Stratton, 1991; Tuttle, 1993; and Zentmyer, 1991). Hertz (1987) argued that the concern with quality within these entities stemmed primarily from a need for changes in management approaches in order to meet the ever increasing Japanese competition. Refined management practices, including problem solving, worker involvement, and emphasis on quality have been credited for increasing Japanese manufacturing productivity and overall competitiveness, causing a "quality revolution" (p. 29) to ensue in advanced economies (Stevenson, 1993).

New trends influencing business and industry, including global competition, operations strategy, flexibility, time reduction, technology, worker involvement, environmental

reduction, technology, worker involvement, environmental issues, and Total quality management were identified by many as responses to outside competition and productivity problems in the United States (Stevenson, 1993). According to Stevenson (1993) Total quality management (TQM) encompasses a management strategy where "...the entire organization, from the president down, becomes committed to, and involved in, a never ending quest to improve the quality of goods and services" (p. 30).

As a management philosophy, Total quality management encompasses all aspects of an organization (Reeg, 1992) and differs in some fundamental aspects from traditional management methods in areas, such as total attention to customer input and requirements and decentralized organizational structure (Carr & Littman, 1990), achievement and control through shared values within the organization (Baker, 1989), and total people empowerment (Cali 1993).

Although implementing Total quality management practices in an organization depends to a great extent on introducing new processes, such as continuous improvement techniques (Carr & Littman, 1990), systems appreciation (Deming, 1991), and statistical process control (Rosander, 1985), it is important to understand the role of leaders and managers. That is, their complete attention and involvement in the success of Total quality management implementation efforts is viewed as one of the fundamental

keys to its success (Reeg, 1992).

Houghton (1992) attributed failure of Total quality management efforts in many companies to basic disregard for elements of quality process, chief among them: leadership. Nowlin and Hickock (1992) described concerns in many companies involved with TQM regarding the cost associated with poor quality, including what they believed to be the sum cost of lack of abilities in leadership roles. While acknowledging management commitment as a fundamental requirement for initiating any effort or program, Swords (1992) emphasized that genuine leadership is needed to make quality efforts successful. Ebel (1992) also asserted the necessity for change in leadership process-management in organizations going through TQM transformation by proclaiming that:

> Leadership is the key to excellence. The aim of management must be to help people to perform and improve their job. Leaders focus on improving the process, inform the management of potential problems and act to correct problems. Leadership eliminates the need for production quotas which, by their very nature, focus attention away from quality. Leadership also means that fundamental changes in culture and actions occur first at the top of the organization. (p. 13)

The necessity of change due to external, primarily market forces, in conjunction with human and process dynamics within organizations created new opportunities and challenges to established beliefs regarding their interactions and organizational consequences (Ebel, 1992).

The introduction of Total quality management techniques and principles in government agencies has introduced new concerns, in addition to the traditional organizational differences associated with public-private entities (Knott, 1993). The proliferation of attempts at introducing Total quality management techniques and principles in government agencies, both at the federal and state level has also produced its share of critics and advocates (Carr & Littman, 1990; Master, 1991). The critics generally have down-played TQM principles as old management techniques in new wrapping while the advocates have touted universal applicability and success (Durant & Wilson, 1993).

While the jury may still be out on many issues regarding Total quality management, some reviewers have suggested organizational cultural transformation difficulties as major obstacles to success (Clemmer, 1991; Durant & Wilson, 1993). Mathews & Katel (1992), on the other hand, have cited a lack of delivery on promises of improved competitiveness and rising implementation costs as disappointments leading to abandoning TQM concepts. The existence of such diverse viewpoints on this subject has prompted advocating development of "guideposts for anticipating and understanding the sources of bureaucratic resistance, for diagnosing how amenable agency processes are to TQM intervention, and for crafting coping strategies" (Durant & Wilson, 1993, p. 216). These authors also

advocated the abandoning of traditional views of the problems from the standpoint of private-public distinctions in favor of observing "...inter- and intraorganizatonal differences in market discipline, political scrutiny, and governance structures" as more functional "...predictors of behavioral differences among and within bureaucracies confronted by reforms like TQM..." (Durant & Wilson, 1993, p. 217). Citing anecdotal and empirical evidence in Total quality management implementation difficulties in government agencies, Durant & Wilson (1993) proposed a set of contingency factors and propositions for "...application, testing, and refinement in future TQM research" (p. 218), within a structure of "...four basic processes at work in government agencies: distributive (internal and external), integrative, socioemotional, and boundary exchange" (p. 218). Internal distributive factors are described as the processes whereby "...public agencies define problems, determine solutions, and distribute or redistribute resources accordingly..." (p. 218). In a Total quality management intervention scenario these factors are said to manifest themselves in the form of "problem identification; goal setting and strategic planning; and process improvement..." (p. 218) activities. According to Durant and Wilson (1993), the degree of difficulty encountered in introducing changes in a government agency will vary with:

> ...the degree of statutory precision afforded; the

> nature of the problem(s); the solutions; and the desired outcomes (single versus multi-attribute [Stokey & Zeckauser, 1978]); the decision parameters characterizing the possible choices associated with the product (decision structures, access structures, entry times, energy loads, and energy distribution (Cohen, March, & Olsen, 1972); and the types and number of contextual goals (i.e., due process, procedural, and fairness goals not directly related to agency's primary mission, but mandated by law, such as affirmative action or set-asides for minority contractors.... (p. 220).

Durant and Wilson (1993) identified Pascal and Ethos' (1981) and Mintzberg's (1989) definitions of Integrative Processes:

> ...integrative processes can be *hard* (structural, systemic, and strategic) or *soft* (i.e., realized through staff recruitment, leadership style, skill development, and choice of subordinate goals)...these processes encompass five primary coordinating mechanisms: by direct control, (hierarchy), process (compliance with procedures), performance (outcome measurement), recruitment (of like-minded professionals), and adhocracy (creation of collateral or parallel organizational structures, such as project teams or matrix management) (pp. 227-228).

Durant and Wilson (1993) described *Socioemotional* processes as "... less tangible, yet no less important, integrating features: employee attitudes, allegiances, and morale" (p. 228), which directly enhance work environment's quality and indirectly "...buoy an organization's productivity and product quality" (Durant & Wilson, 1993, p. 228).

Boundary exchange processes described by Fredrickson (1971) as "the general relationship between the publicly administered organization and its reference groups and clients" (p. 235). Durant and Wilson (1993) further

maintained that "Endemic to this process are decisions related to internal and external distributive processes of resource allocation: what goods, services, and opportunities are provided, with what quality, and in whose benefit? What drives these decisions" (p. 235)?

Based on Durant and Wilson's (1993) propositions, there appears to be a need to attempt to identify and analyze leader attitudes, perceptions and descriptions of organizational processes, leader perceptions, and leadership style influence on success/failure areas, and predictions regarding future developments within government agencies attempting to implement TQM or similar principles. This effort should be expected to culminate in developing percepts and insights into the leadership aspects of one of the most highly touted management methodologies in recent years. This feat can be accomplished through a synthesis of knowledge and information gleaned from leader responses to questions posed to them utilizing the aspects of the contingency model and processes as proposed by Durant and Wilson (1993).

## Background of the Study

A historical perspective of organizational management points to its emergence and existence as far back as the Summarians, Babylonians, and the beginnings of the Roman Catholic church (Hodgett, 1979). With such a long tradition it is not surprising that many methods and approaches to

managing organizations have emerged, been implemented, and evolved, eventually becoming the subject of study and debate (Domelly, et al. 1975; Horton, 1972), and part of the culture and civilization itself (Drucker, 1974).

The concept of organization by its very nature conjures up images of people in particular settings engaged in purposeful activities. These images in turn bring forward notions of relationships among the people in the organization. As the world has become a society of institutions it also has come to accept organizational management as a function within societies' organizations, and as the people engaged in those functions, the emergence of this acceptance has been described as one of the most significant events of the times (Drucker, 1974).

Any study of leadership as a concept has to find its roots in the context of the organization, management methods and practices, and the dynamic of the interactions among people. At its core, such an study has to be a serious attempt to sense the structure and patterns of complex relationships emanating from effective and productive management (Zimet and Greenwood, 1979).

Horton (1972) indicated that the role of a manager dissolves into that of a leader when expectations become that of assimilating divergent styles and approaches of management into a set of organizational values. Organizational philosophies, in turn, determine the

availability of fertile ground for the transformation of managers to leaders. The spectrum of such philosophies span a range from strict adherence to expectations of follower obedience to voluntary followership in an atmosphere of inspiration and persuasion (Horton, 1972).

Managers, whether leaders by choice or accident, have generally been charged with tasks essential for organizational image, integrity, and survival. The necessity of dynamic leadership in setting the overall tone and direction of any organization through personal characteristics (Etzioni, 1961), building up leadership in others (Sergiovonni, 1966), influencing activities of others (Hershy and Blanchard, 1985), or promoting teamwork and cooperation (Ouchi, 1981) points to the importance of the leaders in ordinary and, more importantly, extraordinary challenges faced by the organization.

The added significance of the role of leaders in an organization in extraordinary times may have become evident in the United States as its institutions of economy and government faced the challenges of foreign competition. Faced with sagging productivity growth and loss of markets new management and leadership strategies were essential elements of survival (Stevenson, 1993). As the federal government's efforts during this period signifies (Hamson, 1990; Hull, 1991; Koons, 1991; McCarthy, 1991; Milakovich, 1991; Penzer 1991; Postula, 1990; Randolph, 1989; Stratton,

1991; Tuttle, 1993; and Zentmyer, 1991), Total quality management Concepts and principles were chosen as part of a survival strategy. The success or failure of this new management method has been attributed to a combination of internal and external factors. However, to a large degree the successes or failures have been assigned to a single important element, leadership, or lack thereof (Ebel, 1992; Hickock, 1992; Reeg, 1992; Sword, 1992).

The federal government has been credited for spearheading efforts in facilitating the introduction of Total quality management efforts in business and industry, as well as its own agencies, including the military (Hamson, 1990; Hull, 1991; Koons, 1991; McCarthy, 1991; Milakovich, 1991; Penzer 1991; Postula, 1990; Randolph, 1989; Stratton, 1991; Tuttle, 1993; and Zentmyer, 1991). State government agencies, in turn, have followed suit with extensive implementation and training efforts (Carr and Littman, 1990). A recent survey ("Quality Oklahoma," 1994) indicated 41 states as being involved in TQM implementation programs, 35 states involved with quality awards, and 32 states doing both. The State of Oklahoma has been no different than many other states in riding the wave of this newest management trend. Then Governor of Oklahoma, David Walters, through his cabinet mandated implementing TQM principles and procedures for all state agencies and their subdivisions in 1991. All state employees were required to be trained in

and implement TQM principles and practices.

The proliferation of Total quality management efforts in government agencies has in some respects rekindled traditional debates regarding the introduction of essentially private sector and market-oriented principles into the public domain (Durant and Wilson, 1993). Although questions remain regarding Total quality management's ability to be as effective in most areas, as touted by proponents (Butler, 1990; Perrine, 1990; Wagenheim & Rewark, 1991), the scrutiny and debate regarding its viability in government agencies is of particular interest, as it also implies political and philosophical dimensions of the management of the publics' business.

In the absence of viable empirical evidence regarding Total quality management performance in government agencies (Durant and Wilson, 1993) and amidst mostly anecdotal tales of massive gains or downright failures (Dumas, 1989, Clemmer, 1991), a scientific inquiry into effectiveness of these efforts, on the one hand, and the role of leadership, touted as one of the necessary ingredients for success or failure, on the other, is bound to benefit the professional community as well as expand the knowledge base in this arena. The use of the contingency theory, as developed by Fiedler (1987) and forwarded by Durant and Wilson (1993), to explore the dimensions of such success or failures is expected to bring much needed structure to the exploration

in this area of management, where measurements would be difficult due to lack of either precisely defined measurable objectives, or goal achievement that may not easily lend itself to scientific inquiry.

The thrust of research formally proposed in this document will be to determine the factors which may play a role in facilitating and/or inhibiting introduction and implementing of new management techniques, in general, and Total quality management, in particular, in a government agency setting. Since leaders and their particular involvement in such introductions and implementations are purported to be pivotal, the focus of research proposed will be at the managerial levels and involve those individuals definable as such to have leadership roles and responsibilities.

## Statement of the Problem

Based on the discussions forwarded earlier, the following statement of the problem is justified and proposed for this study: the study seeks to determine the perceptions of upper and middle managers of the Oklahoma Department of Corrections concerning the implementation of total quality management and the factors related to those perceptions.

## Statement of Purpose

The purpose of this study is to identify leader perceptions of organizational processes theoretically identified as essential to successfully implementing a

total quality management program in a government agency and the influence of leadership style upon those perceptions. Total quality management proponents (Carr & Littman, 1990) have repeatedly called upon leaders in organizations to rally behind and carry the mantel of total quality management principles within their organizations (Deming, 1991). However, the elements of leadership, be it style, philosophy or approach, most suitable and essential to carry an organization through the period of transition and successful implementation of total quality management methods and processes remain to be identified and studied. The study of this problem in a state government agency not traditionally associated with modern management techniques, will also provide an opportunity for exploring private/public distinctions in implementing total quality management.

## Research Questions

The following research questions provided focus for this research, incorporating the central ideas of both the statement of the problem and the statement of purpose, both provided above.

1. What are the perceptions of Department of Corrections upper and middle-managers concerning: a.) behaviors necessary for successful implementation of total quality management, b.) success of total quality management implementation

in the Department of Corrections?

2. What are the general self-reported leadership behaviors, as defined, of Department of Corrections' upper and middle-managers?
3. Are self-reported general leadership behavior, logevity in position, longevity in the agency, position function, gender, age, race, and educational levels related to Department of Corrections' upper and middle-mangers perceptions concerning a.) Behaviors necessary for successful implementation of total quality management, and b.) Implementation of total quality management in the Department of Corrections?

## Significance of the Study

From a historical perspective one could observe a full spectrum of attempts at understanding the dynamics of human organizations. From the earliest simple interactive systems of economic interaction created by mankind (i.e., marketplace and craftsmanship) to the rise of organized production systems (i.e., industrial revolution), the nature of interaction between man and his environment, on the one hand, and relationship between human beings on the other, has been of interest. This interest, whether altruistic and curious in nature (e.g., human behaviorist movement of the 1920's) or rationalistic and process (i.e., profit) oriented (e.g., scientific management), has given rise to a body of

knowledge and critical analysis possibly affecting every single individual in society. At the core of this interest one can deduce the existence of a desire for provision of better (quality) goods or services by those human organizations (Ehrenberg and Stupak 1994).

The Total quality management approach may be viewed as yet another chapter in the long history of organizational management and administrative sciences. The rise in the popularity of this management method may be traced to many factors, most important of which could be described as a survival mechanism in the competitive business environment of 1980s and 90s (Ehrenberg and Stupack, 1994; Stevenson, 1993). This fundamental necessity, according to Ehrenberg and Stupack (1994), gave rise to Total quality management as a subset of systems theory. In their estimation, the proponents of total quality management recognized key shortcomings of the systems theory, mainly the role of leaders and leadership. They articulated its influence as a management philosophy as:

> ...a new paradigm for considering organizational relationships which according to Richmond (1990) has four key characteristics: 1) a shift from the straight line to **circular causality**; 2) a shift from interdependent factors to **interdependent relationships**; 3) a shift from external to **internal locus of control**; 4) a shift from a correlation to **operational specifications**; determining what will happen rather than explaining what did happen (p. 78).

Adding the dimensions of "customers and suppliers" (p.

78) to the decision-making, problem-solving, and process consideration (all total quality management requisites) made the systems approach, according to Ehrenberg and Stupack (1994), inevitable and necessary.

The implementation of total quality management concepts in the public sector has been wrought with many challenges. Despite evidence to the contrary that public and private organizations have more in common than not (Knott, 1993), the perception of the differences and existence of valid concerns over these differences remain (Knott, 1993). At the core of total quality management implementation in any organization lies an underlying theme of organizational cultural change (Ehrenberg and Stupack, 1994). As such, an understanding of the cultural imperatives required for change may be necessary, if not sufficient, in understanding the organization processes being changed and the role of members of the organization in such changes. Given the importance attributed to the role of leaders in implementing total quality management (Carr & Littman, 1990; Deming, 1991), and the many faceted organizational change variables--in the form of elements and behaviors-- and the necessity for integration and cohesion among these variables (Durant & Wilson, 1993), the need for deciphering these relationships takes on an added dimension of importance. The process of implementing a new management philosophy, which proponents claim requires "transformational leadership" approaches

(Ehrenberg and Stupack, 1994), in an organizational environment not known, and often criticized for lack of flexibility and disregard for its internal and external customers, is a phenomenon and an opportunity for exploration of questions from organizational, as well as leadership perspectives.

The significance of this study may be argued from several points of view. This study attempted to explore the seemingly intangible space created from the interface of organizational dynamics in a public agency, new philosophical approaches to management (i.e., total quality management), and leadership attributes as the arbitrator of the two. Additionally, one has to contend with those attributes of government agencies thought to distinguish them from their privately run counterparts. Given the variables just enumerated, there remains little empirical evidence taking into account the interaction of these elements thus creating an environment with little theoretical support for attempts at reforms of large magnitude in government settings. The cornerstone assumption in this study is the belief that leaders of an agency are key to the success or failure of any total quality management implementation effort. Furthermore, it is deemed significant to understand the interactional effects of leadership styles, organizational processes at work, and organizational dynamics created as a result of the

introduction of new or different process requirements. Furthermore, additional reasons for this research may be enumerated as follows:

1. A study such as this has not been attempted in this or any other state, or at the national level.
2. The Oklahoma experience in this area, may or may not be different. As such, it is imperative to investigate the issue so that by comparison or contrast we might open additional avenues of knowledge.
3. The need to contribute to the existing body of literature in this area tasks us in pursuing the questions.
4. The possibility of learning as a result of the process of the research exists to the extent that new questions might be formulated at the end leading us to new research possibilities.

## Assumptions

This study was predicated on several assumptions. These assumptions were:

1. The population selected for study is representative of similar populations in the nation.

2. The analysis of leadership variables and contingency factors is generalizable to other similar settings.
3. The target population and individuals therein will participate in the research project in accordance with credos and norms of their profession.
4. The questionnaire items depict a representative sampling of contingency and leadership factors being studied.
5. Descriptive analysis of results has the capability of isolating relevant factors and their respective correlations.
6. Other major assumptions not readily apparent prior to the study will be revealed at the conclusion

## Research Design and Methodology

This study was designed to use quantitative methods to obtain leaders' perceptions of behaviors necessary for successful implementation of total quality management in the in the Oklahoma Department of Corrections.

The primary instrument in this research study was a questionnaire developed from the contingency factors identified by Durant & Wilson (1993). This instrument utilized a five point likert-type scale to obtain the respondents' levels of agreement with each statement. The instrument, and its characteristics (i.e. validity, reliability, scoring, etc.) will be discussed in chapter

three.

## Definition of Terms

Total Quality Management Carr and Littman (1990) have defined Total quality management as "involving everyone in an organization in controlling and continuously improving how work is done, in order to meet customer expectations of quality" (p. 3).

Transformational Leadership revolves around analyzing and implementing of new goals and processes peculiar to Total quality management (Behn, 1989), or "The process of formulating and communicating new, visionary goals that respond to fundamental and often currently unmet human and organizational needs, desires, and expectations" (West et al., p.177).

Transactional Leadership is described as "The process of obtaining commitment from organizations and individuals for new programs and policies. Transactional leadership involves either voluntary acceptance (achieved through processes of mutual accommodation and exchange, often involving present or future benefits and promises), or coercion (involving manipulation, deceit, or threats)" (West et al., 1993, p.177).

Representational Leadership involves "the process of obtaining support and legitimation from stakeholders of the organization for its results, objectives, and processes. Representation involves substantial education efforts and

political boundary-spanning" (West et al., 1993, p. 178).

Internal Distributive refers to factors describing the processes whereby "...public agencies define problems, determine solutions, and distribute or redistribute resources accordingly..." (Durant & Wilson 1993, p. 218). In a total quality management intervention scenario these factors are said to manifest themselves in the form of "problem identification; goal setting and strategic planning; and process improvement..." activities (Durant & Wilson 1993, p. 218).

Integrative Processes refer to organizational behaviors, "*hard* (structural, systemic, and strategic) or *soft* (i.e., realized through staff recruitment, leadership style, skill development, and choice of subordinate goals)...these processes encompass five primary coordinating mechanisms: by direct control, (hierarchy), process (compliance with procedures), performance (outcome measurement), recruitment (of like-minded professionals), and adhocracy (creation of collateral or parallel organizational structures, such as project teams or matrix management)" (Durant & Wilson, 1993, pp. 227-228).

Socioemotional processes are "... less tangible, yet no less important, integrating features: employee attitudes, allegiances, and morale" (Durant & Wilson, 1993, p. 228), which directly enhance work environment's quality and indirectly "...buoy an organization's productivity and

product quality" (Durant & Wilson, 1993, p. 228). Boundary Exchange processes are described (after Fredrickson (1971)) as "the general relationship between the publicly administered organization and its reference groups and clients" (Durant & Wilson, 1993, p. 235).

## Limitations

This study was limited to the Oklahoma Department of Corrections, which organizationally consists of a central; office, and four geographical regions managed through their respected regional offices. This limitation primarily is imposed by the research design and a need for limiting extraneous variables which will place in jeopardy the focus of the study and the ability to draw relevant conclusions from its finding and generalize them.

This study was also limited to the managerial levels and those individuals who have leadership roles and responsibilities in the Oklahoma Department of Corrections. As such, this limiting of the ranks of participants served the purpose of establishing a baseline for future studies. Introduction of the instruments to other employees of the department at this time may have also introduce variables which could make the task of drawing conclusions from findings unreasonably encumbered for any valid and succinct conclusions.

# CHAPTER II

# REVIEW OF SELECTED LITERATURE

## Introduction

Understanding of Total Quality Management (TQM) concepts, described as the most pervasive management issue in organizations in recent years (Kinlaw, 1992; Cali, 1993), in addition to its history and development, is essential for any in-depth study of the subject. In this section a comprehensive review of TQM history, principles and techniques are presented.

The history of the concept of quality may be traced back to the craft guilds existing in the Middle Ages, yielding, in evolutionary pattern, to more recent scientific management, and finally to refined statistical production systems (Steeples, 1992). Carr and Littman (1990) have defined Total Quality Management as "involving everyone in an organization in controlling and continuously improving how work is done, in order to meet customer expectations of quality" (p. 3). They viewed quality, within the TQM context, as "Everything of value to a public service organization and its customers (the end user of products and services). This includes the physical quality of the products and services, productivity, efficiency, ethics,

morale, safety, and wise use of resources" (p. 3). According to these authors, the tools and procedures of TQM are not new to management circles, but only its principles and standards that promote and enhance quality. According to Carr & Littman (1990), the essential areas of difference between Total Quality Management and others are organizational processes dealing with customers, lack of tolerance for errors, prevention of problems, fact-based decision-making using hard data and long-term planning. Additionally, teamwork among managers; continuous improvement of every aspect of how work is done; horizontal and decentralized structure, based on maximizing value added to products and services, and vendor partnership in long-term buyer/seller obligations, based on quality and continuous improvement are also reported to play strong roles (Carr & Littman, 1990).

Edward M. Baker (1989), Director of Quality Planning and Statistical Methods for the Ford Motor Company, described TQM-prescribed methods of management as a partnership of suppliers and manufacturers; stability and control definitions through statistics and natural variation terminology; improvement and innovation through mutually interacting causes, if the pattern of variation indicates

stability, control achieved by enterprise-shared values and beliefs, and knowledge of mission purpose and customer requirements. The adoption of Total Quality Management techniques also involves continuous improvement of work processes by those who perform the tasks and an expectation that they become thinking partners with management in improving the overall organizational functioning (Cohen and Brand, 1993).

This research study aimed at understanding those behaviors necessary for successful implementation of total quality management in the Oklahoma Department of Corrections through the perceptions of the leaders of the agency. The research also attempted to determine the perceptions of those leaders regarding the actual implementation of total quality management in DOC. In order to properly understand behaviors and perceptions, it is necessary to understand the context, and background of total quality management.

## The Origins of Total Quality Management

The role of Total Quality Management (TQM) in the epoch of recent organizational development and change has to be discerned with an understanding of not only its techniques and procedures, but its role and place in particular settings, in which the techniques and understandings are

applied. Wallace (1992) specifically cautioned against broad generalizations of TQM concepts. In explaining the origins of the quality movement, in general, and TQM in particular, Pines (1990) related the efforts of the U.S. War Department in 1942 to establish a "Quality Control" section and the recruiting of personnel from among the employees of Bell Telephone Laboratories. He related that, "Eleven years earlier, a Bell Labs statistician, Walter A. Shewart, had published his ideas on quality control. Noting that all manufacturing processes entailed variation, Shewart defined acceptable upper and lower limits for tasks" (p. S5).

Shewart's ideas proved useful in monitoring and controlling manufacturing processes. With obvious advantages for military planners (dealing with many suppliers), these techniques eventually came to be regarded as military secrets; and , according to Pines, "America's defense needs had given birth to a highly guarded, valuable 'body of quality knowledge'" (Pines 1990, p. S8). Following the war, the information and files were opened to business and industry. However, by that time ". . . an America enjoying the war's legacy of consumer prosperity did not have the same interest in quality" (Pines 1990, p. S8).

The social and economic conditions of post war Japan

and the involvement of the U.S. occupation government in its affairs provided the next stage for the quality movement's main players. One of Shewart's disciples, W. Edward Deming, played a key role in transplanting and promoting the practices of quality techniques into the mainstream of Japanese business and industry circles. According to Pines (1990), Deming's July 1950 address to presidents of Japan's leading companies urged them into a "working partnership with their vendors, to develop instrumentation and to gain control over their processes" (p. S8). He further explained that the "customer is the most important part of the production line" (p. S8). According to Pines (1990), "the Japanese top management hearkened to Deming's words. They learned to serve the international customer, and the rest is history" (p. S8).

The historic influence of Deming's teachings in transforming the economy and status of Japan's business and industry may be found in the essence of his teachings. Deming (1991) believed that hard work and great effort without what he has termed "profound knowledge" leads to "ruin in the world that we are today" (p. 10). He has described his system of profound knowledge as consisting of four elements: (a) appreciation for a system, (b) knowledge

of theory of variation, theory of knowledge, and (d) knowledge of psychology.

Deming's (1991) discussion of appreciation for a system naturally begins with a description of a system. According to Deming, "a system is a series of functions or activities (subprocesses), stages-hereafter components within an organization that work together for the aim of the organization" (p. 13). Components of a system form an interdependent relationship and "the aim of the system must be clear to everyone in the system" (p. 13). The aim is further described as a value-judgment which can be achieved through optimization. Deming contends that "for optimization, a system must be managed" (p. 14). The changes in boundaries (size) or complexity, he also believed, must be adjusted to fit the aims.

A theory of variation deals primarily with the understanding of "common" and "special" causes for variation (Deming, 1991). This in turn will lead to understanding the capabilities of a "stable" system. According to Deming (1991) "the leadership of people (manager, leader, supervisor, teacher) is entirely different in the two states, stable and unstable. Confusion between the two states leads to calamity" (p. 19). Furthermore, he asserted

that an understanding of the distinctions between enumerative studies and analytic problems are necessary. The theory of sampling and design of experiments is of the former variety, while prediction that a change in a process is good or bad is described as the latter variety. Deming maintained that "As a good rule, profound knowledge must come from the outside by invitation" (Deming 1991, p. 21).

In discussing his notions of a theory of knowledge, Deming (1991) argued that "any rational plan, however simple, requires prediction concerning conditions, behavior, comparisons of performance of each of two procedures or materials" (p. 21). However, he qualified this by also asserting that "This prediction will depend largely on knowledge of the subject matter. . . . It is only in the state of statistical control that statistical theory aids prediction" (p. 21).

Deming's views on knowledge of psychological principles for leaders and managers centered around his assertion that "psychology helps us understand people. . . . People are different from one another. . . . People learn in different ways" (p. 23). In this respect, he claimed "a leader, by virtue of his authority, has obligation to make changes in the system of management that will bring improvement" (p.

23). He further asserted that there is "intrinsic motivation, extrinsic motivation, (and) over-justification" (p. 23). He considered extrinsic motivation as "submission to external forces that neutralize intrinsic motivation" (p. 24). Over-justification he argued, comes from "faulty systems of reward. . . . resignation to outside forces. . . a way out for managers that do not understand how to manage intrinsic motivation" (p. 24).

From the bases of profound knowledge, Deming also proposed a management philosophy (Walton, 1986), consisting of fourteen essential points (Tveite 1990):

1. Create constancy of purpose for improvement of products and service...to stay in business, and to provide jobs.
2. Adopt a new philosophy (a change of focus from quantity to quality...).
3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on the basis of price alone.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.
6. Institute training on the job.
7. Institute leadership. The aim of leadership should be to help people and equipment and gadgets to do a better job.
8. Drive out fear, so that everyone may work effectively for the company.
9. Break down barriers between departments.
10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity.
11. Eliminate work standards and quotas.

Eliminate management by objectives. Eliminate management by numbers, numerical goals. Substitute leadership.

12. Remove barriers that rob people of their right to pride of work. This means abolishment of the annual merit rating and of management by objective, management by the numbers.
13. Institute a vigorous program of education and self improvement.
14. Put everybody in the company to work to accomplish the transformation (pp. 2-5).

Juran also has been touted by many supporters of Total Quality Management as one of TQM's prominent proponents (Oberle, 1990; and Shaaf, 1990). According to Shaaf (1990), Juran's ideas of quality involve "Those features of what is being produced that respond to customer's needs and that create an income" (p. 6). A second definition of quality is attributed to Juran who described it as "freedom from waste, freedom from trouble, freedom from failure" (Shaaf, 1990, p. 6). According to Carr and Littman (1990), Juran also helped Japanese companies expand quality control from production methods to all functions in an organization. They also attributed the "fit for customer use" (p. 23) definition of quality to Juran. Oberle (1990) described Juran's philosophy of quality as one that "urges managers to examine entire process for problems-from material supplier to end user-and then train employees to do the same" (p. 50). He

also stated that "controlling costs to impress upper management is high on Juran's list of quality improvement techniques" (p. 52). In addition, Juran's philosophy of quality, according to Oberle (1990), asserts that: "Whether the defects occur because of shipping, production or poor materials, waste and defect must be eliminated-and that no longer means being tossed out by an inspector at the end of a line" (p. 51).

Other notable proponents and practitioners of TQM include Philip Crosby and Armond Feigenbaum. Crosby has been described as one of the principal pundits of the Total Quality movement and promoted the idea of "Zero Defect" (p. S34) for may years (Pines, 1990). However, Carr and Littman (1990) found that "Organizations tried to apply Philip Crosby's 'Zero Defect Concept' as a motivational tool for workers rather than a management performance standard. They found that the resulting slogans demoralized people" (p. S34). Pines (1990) attributed the notion of "quality is everybody's job" as stemming from Figenbaum's 1956 published article, Total Quality Control, and a predecessor to today's Total Quality Management concepts.

In summary, Total Quality Management concepts and principles are primarily rooted in the teachings and

practiced methods advocated by Deming, Juran, Crosby, and others (Pines, 1990 and Oberle, 1990). The concepts and practices promoted by these men are viewed as the essential contributing factors to Japan's post World War II economic recovery and prosperity. A key concept promoted by all is the role and responsibility of leaders of organizations interested in quality. Oberle (1990), in comparing Deming, Juran, and Crosby concluded that although there are differences in some approaches and methods among them, selecting recommendations from each will bring improvement to any organizational setting.

In Deming's view (Oberle, 1990), "The system-not the worker-is to blame for the organization's quality problems, and management is responsible for that system... Management is responsible for 85% of all quality problems" (p. 51). Juran also places 80% of the blame for quality problems with management (Oberle, 1990). For TQM to work and be effective, the promoters and writers on quality appear to advocate strong managerial involvement and commitment. As Oberle has observed, "whatever tack they take, all mandate managerial commitment" (p. 52).

The second research question for this study attempted to delve into the leadership styles of the Department of

Corrections upper and middle-managers through a self-report questionnaire. It is in the context of the importance of leadership in implementing total quality management efforts and certain purported necessary behaviors that it is necessary to embark on a further understanding of leadership itself.

## Leadership Theories and Models

An understanding of the role of leadership in TQM may be enhanced by a review of organizational leadership in general. The statement: "...a good army without an able commander often becomes insolent and dangerous..." has been attributed to Machiavelli (Griffin, 1991) and is perhaps indicative of the fact that concern for leadership is nothing new, nor is it a recent phenomenon. The question of leadership and effective organizations has been the topic of scientific research since early 1900s. Taylor (1911) postulated that the main focus of a leader was on the needs of the organization and not those of the individual. In the 1930s, Mayo (1945) suggested that the leader should be more concerned with the needs of their employees (human relations) than with the needs of the organization. In the late 1930s, Barnard (1938) combined the two schools of thought and concluded the leader must be concerned with

task, as well as human relations.

Leadership styles have been described in various terminologies by different authorities on the subject. Leadership styles were defined as nomothetic, ideographic and transactional by Getzel's and Guba's (1957) Social Systems theory. Sergiovanni (1966) described leadership as the process of building up the leadership of others and striving to become the leader of leaders, one who is committed to ideas, values, and beliefs. Etzioni (1961) has described leadership as power, based predominantly on personal characteristics, usually normative in nature. Hersey and Blanchard (1985) contended that leadership is the process of influencing the activities of an individual or group in efforts towards achievement in a given situation. According to Hersey and Blanchard (1988), the successful organization has one major attribute that sets it apart from unsuccessful organizations: dynamic and effective leadership.

Leadership theorists have also created various models to describe and expound upon their theories. Blake & Mouton (1985) described five leadership styles, based on two components: concern for the organization (production) and concern for the people. Impoverished management, they

argued is associated with minimum concern for both the organization and the people in the organization. Team Management, on the other hand, represents committed people working towards a unified organizational goal.

Sergiovanni (1966) described five leadership forces contributing to his notions of excellence in educational leadership. Those forces, described as providing bases of competence for leaders, include technical leadership, human leadership and educational leadership. Symbolic leadership (modeling important goals and behaviors) and cultural leadership (defining and articulating enduring values, beliefs and cultural standards) form the bases for excellence in organizations.

Fiedler (1967) promoted the Contingency Model on the premise that managers' effectiveness largely depends on their successfully adapting their style to any particular situation and the needs of their followers. Fiedler maintained that leaders may be either task-oriented or relationship-oriented. He further asserted that leaders can not be both types or be in between and must recognize where they fit in order to be effective.

Hersey and Blanchard (1985) described their Situational Leadership model as consisting of elements of guidance and

direction (task behavior) and emotional support (relationship behavior) from the leader's standpoint, and readiness (maturity [consisting of knowledge, skill and experience]) exhibited by the followers in carrying out each specific task. Based on these elements, and depending on the situation and task, a leader is described as engaging in either telling, selling, participating or delegating style(s) of leadership. Each style is a combination of the amount of direction provided, in conjunction with the level of two-way communication engaged in by the leader and the subordinate. They contended that employees in organizations may respond positively or negatively to each type of leadership exhibited and attempted to explain the differences in employee responses to leadership by the "Follower Readiness" level of the employees.

Theory X and Y, as described by McGregor (Bass, 1990), holds that leaders may possess one of two opposing belief systems regarding human behavior. Those who believe that people are essentially lazy, in need of constant direct supervision and motivated primarily by simple material rewards are described as Theory X leaders. On the other hand, individuals who believe that people are intrinsically motivated, enjoy work and willingly contribute to the

organization are said to espouse a Theory Y method of thinking. The possession of either belief system is said to determine the mode of leadership and managerial style exhibited by any individual manager. More recently, theory Z, as described by Ouchi (1981) is purported to be the primary foundation for Japanese leadership thinking. This model encourages cooperation, interdependence, loyalty and a noncompetitive atmosphere. Teamwork and positive forces of supportive and trusting individual workers are believed to be the source of individual leaders' powers.

Recent research in the area of leadership styles, various aspects of organizations, and the individuals who form those organizations confirm the use of a wide variety of theoretical models in describing those styles. Barnett and Arnold (1989) indicated three types of leadership styles: supportive, directive, and participative. Hickman (1980) described leadership styles to include oppressors, dominators, maximizers and orchestrators. Roberts (1989) described four distinct leadership styles: top-down task-oriented, bottom-up task-oriented, bottom-up process-oriented and top-down process-oriented. Raspberry and Lemoine (1989) described leadership styles as authoritarian, democratic, participative and laissez-faire (after Tannebaum

and Schmidt, 1958).

In an attempt to shed light on the emerging leadership styles of the past decade, Culpan (1989) reviewed ten popular management books published in the United States during the last ten years. Based on his observations, the emerging leadership patterns may be categorized as: (a) concern for employees, (b) responsiveness to customer needs and satisfaction, creation of a functional organizational culture, and strategic planning. In a survey of the research literature on public and private sector leadership styles, and the effect on productivity, Bruns and Shumnan (1988) concluded that although employees of police departments rated their departments as benevolent-authoritative in large and medium sized departments, and consultative in small departments, all groups were found to support a more participative management style.

The context within which today's managers must operate has a more political slant overall than the strict numerically oriented management of the past, thus taxing the managers's skills more in the areas of goal setting and motivation than, maybe, budgeting and marketing (Wriston, 1992). Syrett's (1992) proclamation that "Managers do things right, leaders do the right thing. Managers accept

the status quo, leaders challenge it." (p. 5) may be viewed as the type of challenge facing management in the organizational dynamics generated by the changes of views on organizational leadership, in general, brought about as a result of shift from a mechanically oriented view to one of shared cultures and values (Syrett, 1992). The role ascribed to leadership in TQM must be examined with care, as leadership/management occupies an important place in TQM in the context of today's organizations. This context is ripe with promises of growth and prosperity for leaders who heed the new requirements of leadership, or doom for those who refuse to change (Arnold and Plas, 1993). What is required is a shifting of attitudes away from subordination towards followership (Sergiovanni, 1992).

Many researchers have focused on different aspects of organizations being influenced by leadership styles, job satisfaction, and its correlates. Townsend and Gebhardt (1989) distinguished between "managers and leaders" and suggested that a manager only cares if a job gets done, but a leader cares that the job gets done and about the people who do the job. In examining leaders' decision-making styles and their impact upon employee job-satisfaction, Paul and Ebadi (1989) found that managers whose workers were more

satisfied with supervision spent a high percentage of their time on productive activities.

Rahim (1989), investigated the effectiveness of the bases of leader power, such as coercive, reward, legitimate, expert, and referent, in influencing behavioral compliance and employee satisfaction. He concluded that expert and referent power bases were positively associated with compliance and satisfaction. Examining the nature of power and its influence on employees, Hinin and Schrieesheim (1988) found that there is a correlation between worker satisfaction and commitment. They also concluded that the way workers view the supervisor's power-base correlates with the supervisor's influence tactics.

Correlating types of supervisor-subordinate similarities and their relations with subordinates' job satisfaction, performance, and pay ratings, Turban and Jones (1988) concluded that perceived similarities affect supervisor-subordinate interactions. They based their observations on the effect of such perceptions on employee evaluations. Investigating the purported advantages of strong corporate cultures and the congruence in peoples' values, Meglio, et.al (1989) demonstrated that workers were more satisfied and committed when their values were

congruent with the values of their supervisors. Measuring managers' styles, in terms of structure and consideration, Nolan (1988) concluded that productive managers will appraise personal qualities, and leadership style, in terms of seeing themselves as others do. Differentiating leaders in five categories and describing leaders as those who tell, sell, consult, share or delegate, Whyte (1988) found that groups led by a leader who offered guidance and encouragement produced the highest quality products and the highest level of satisfaction.

The terminology describing leadership styles, duties, "dos" and "don'ts" is varied and diverse. The emphasis in today's organizational environment is on leadership as an art form. This new leadership is the leadership of others towards self-management and self-efficacy (Sims and Lorenzi, 1992). The role of the leader in modern administration is one of creator and perpetuator of the organizational culture (Schein, 1992) and its architects (Nanus, 1992), and as such is distinguished from traditional attributes of management. There also has been much emphasis on the presence of vision as an integral part of leadership, which requires diligence in remembering the importance of the work of others in the organization (Cali, 1993). Vision also has been described

as the leader's indicator of where the organization wants to go to achieve ultimate victory (Saylor, 1992). Chance (1992) viewed the role of vision for administrators as a tool to maintain focus during periods of turmoil. Leadership has been described as passion, requiring, not acting lessons, but a keen understanding of one's interest about one's work (Conger, 1992).

## Leadership and TQM

A precise definition of leadership in a Total Quality Management environment may be difficult to formulate but its importance and presence would be hard to ignore. In discussing strategies for managers implementing TQM principles, Scholtes and Hacqueberd (1988) focused on specifics of the essential roles managers are expected to perform in a TQM environment. These roles are enumerated below.

1. Top managers learn to become leaders, exemplars, and teachers of quality.
2. Managers establish improvement projects that are carefully selected and guided by managers, conducted by cross-divisional teams using the scientific approach, and coached by technical advisers.
3. Top managers engage in quality transformation planning with a two-year blueprint for preparation, start-up, and early expansion.
4. Managers establish processes for the internal coordination, oversight, and technical training and assistance needed to support all quality improvement efforts.

5. Managers undertake specific efforts to change the organization's culture to one more supportive of total quality.
6. Education and Training (Quality begins with education and ends with education) (pp. 44-47).

Scholtes and Hacqueberd also viewed the core of quality leadership as consisting of education, training, and development and two areas of emphasis for leaders. They claimed "first, they should study Deming's techniques. Second, leadership study should focus on variation" (p. 48). They also emphasized that "managers who do not understand variation can not manage effectively" (p. 48). Baker (1989) contrasted the expectations of leadership in traditional management with those purported to be acceptable TQM methods and concluded that in a Total Quality Management environment leadership's job is to provide people with opportunities for personal growth and development. He further asserted that statistical methods provide the profound knowledge necessary for management-leadership, through which managers avoid over-invention and focus on providing leadership. He also believed that any competition allowed is for the benefit of customers or improvement of the environment.

A variation of the term, Total Quality Management, is used by Joiner and Scholtes (1985) to discuss its implication for TQM leaders: *Total Quality Leadership* (TQL).

According to Joiner and Scholtes, the focus in TQL includes a deep understanding of the Deming and Juran teachings, with the requirement for leaders to educate and reeducate mangers, become leaders instead of bosses, and coaches instead of enforcers. They further argued that leaders must: focus on solving problems and constant improvement, instead of blaming and controlling; communicate a clear vision of the organization's future; form and develop a true management team; target implementation efforts and an overall strategy. Joiner and Scholtes (1985) also viewed leaders as individuals who improve processes by focusing on management-selected projects and project teams, using the scientific approach. Furthermore, they saw the process of Total Quality as a tool to involve developing or recruiting a senior statistician (a key resource), a senior organization development specialist, and intermediate level resources who are trained both in statistics and organization development to coach the project teams. They also stated that:

> Leadership, participation and oversight by managers, beginning at the top. This is an absolute essential. The most frequent cause of failure of any quality improvement effort is the non-involvement of top and middle management. Passive support is not enough. Total Quality Leadership must involve everyone (pp. 7-8).

With respect to TQM leadership, Senge (1990) argued that "The old model, 'the top thinks and the local acts,' must now give way to integrating thinking and acting at all levels" (p 14). The "new roles" purported by Senge (1990) for leaders in a TQM environment include leaders as designers. He added: "the first task of organization design concerns designing the governing ideas of purpose, vision, and core values by which people will live" (p 10). Senge also described the leader's role as that of a teacher who engages in "helping people achieve more accurate, more insightful, and more empowering views of reality" (p 11). The role of the leader as the steward is described by Senge as operating on two levels, "stewardship of people by the leader and stewardship for the larger purpose or mission that underlies the enterprise" (p. 12).

Normann (1991) elaborated on the role of Total Quality Management leaders as motivators of their personnel and as change agents who positively act to set standards, promote role models, and set codes of conduct through personal behavior. Talley (1991) expounded on similar concepts in calling for leaders to become visionary, dynamic, open, caring, available and, above all, charismatic, rather than skilled managers to ensure their organizations' economic

survival. The role and importance of leadership in organizational survival in today's global competition was also echoed by Arnold (1993).

The focus of this study was the organizational perspectives of change brought about as a result of iimplementingTotal quality management in a ggovernmentalsetting. As West, Berman and Milakovich (1993) observed:

> Successful implementation of TQM involves leadership challenges. The scope of change is large, especially for departments that have been steeped in traditional styles of top-down management, management by objectives, procedure rather than goal-oriented pprocesses and fear-based styles of employee management (pp. 176-177).

West, et al. (1993) viewed leadership as an "*organizational* phenomenon" (p. 177), which They described as "a set of strategies public mangers undertake to implement change, rather than as the activities or characteristics of leaders who help implement TQM" (p. 177). They further elaborated on these strategies as three distinct leadership task areas. The leadership tasks described as "transformational" (p. 177) revolve around analyzing and implementing new goals and processes unique to Total Quality Management (Behn, 1989), or "The process of formulating and communicating new, visionary goals that

respond to fundamental and often currently unmet human and organizational needs, desires, and expectations" (West et al., p.177). Transformational leadership and the change ideas involved are based on "structural-rational theories of organizations" (West et al., 1993, p. 177). Transformational tasks also involve structures, communications, goals, and boundaries of the organization (Kotter, 1990). The transformational tasks, in turn, translate into creation of systems for identifying customer needs, using new techniques in measuring performance and training and empowering techniques for employees (Grady, 1992).

The leadership tasks associated with "*transactional* leaders" (West et al., 1993, p. 177) are geared towards an insistence and persistence in the adoption of newly introduced (e.g., TQM) principles by the organization (Burns, 1978). According to West, et al. (1993) transformational leadership involves: "The process of obtaining commitment from organizations and individuals for new programs and policies. Transactional leadership involves either voluntary acceptance (achieved through processes of mutual accommodation and exchange, often involving present or future benefits and promises), or

coercion (involving manipulation, deceit, or threats)" (p.177).

The process of achieving success is further described by West, et al. (1993) as one of developing small "pockets of commitment" (p. 178) and gradually attempting to expand to other parts of the organization.

The acceptance of the changes introduced within the organization by outside groups such as other professionals, political, and community groups, are described as the primary focus of "*representational* leadership" (West et al., 1993, p. 178). They involve "the process of obtaining support and legitimation from stakeholders of the organization for its results, objectives, and processes. Representation involves substantial educational efforts and political boundary-spanning" (p. 178). Efforts in these areas are expected to secure survival and acceptance of changes by ensuring continuity in the face of managerial changes that might take place during the process.

# CHAPTER III

# METHODOLOGY

## Introduction

This research studied the leaders of a state agency, the Oklahoma Department of Corrections, to ascertain their perceptions of those behaviors deemed necessary for successfully implementing Total Quality Management in a government agency, and how those leaders' styles of leadership possibly filter or moderate those perceptions, and factors associated with those perceptions.

The purpose of this chapter is to describe the planning for and implementation of specific procedures which were employed in this research study. Areas that will be covered include population selection and identification, design of the study, instrument design and validation, data collection and analysis methodology.

The first research question of this study delved into those behaviors necessary for successful implementation of total quality management. Total quality management efforts in business, industry and government in recent years have been evident in the efforts of the federal and state governments in promoting and implementing its concepts (Hamson, 1990; Hull, 1991; Koons, 1991; McCarthy, 1991;

Milakovich, 1991; Penzer 1991; Postula, 1990; Randolph, 1989; Stratton, 1991; Tuttle, 1993; and Zentmyer, 1991). According to Stevenson (1993), new trends and practices in business and industry, including global competition, operations strategy, flexibility, time reduction, technology, worker involvement, environmental issues, and Total Quality Management (TQM), were identified as responses to outside competition and productivity problems in the United States. He described Total Quality Management as a management method where " . . . the entire organization, from the president down, becomes committed to, and involved in, a never ending quest to improve the quality of goods and services" (Stevenson, 1993, p. 30). As a management philosophy, Total Quality Management encompasses all aspects of an organization (Reeg, 1992) and differs in some fundamental aspects from traditional management methods in such areas, as total attention to customer input and requirements, decentralization of organizational structure (Carr & Littman, 1990), achievement and control through shared values within the organization (Baker, 1989), and total people empowerment (Cali, 1993).

Although implementing Total Quality Management practices in an organization depends to a great extent on introducing new processes, such as continuous improvement techniques (Carr & Littman, 1990), systems appreciation (Deming, 1991), and statistical process control (Rosander,

1985), it is important to understand the role of leaders and managers. Leaders' complete attention and involvement in the success of Total Quality Management implementation efforts is viewed as one of the fundamental keys to its success (Reeg, 1992). Houghton (1992) attributed failure of Total Quality Management efforts in many companies to basic disregard for elements of a quality process, chief among them: leadership. Other researchers (Nowlin and Hickock 1992, Swords 1992, Ebel 1992) also have asserted the necessity for change in leadership process management in organizations going through TQM transformation. The introduction of Total Quality Management techniques and principles in governmental agencies has also introduced new concerns, in addition to the traditional organizational differences associated with public-private entities (Knott, 1993, Carr & Littman, 1990; Master, 1991). The critics generally have downplayed TQM principles as old management techniques in new wrapping, while the advocates have touted universal applicability and success (Durant & Wilson, 1993).

While the jury may still be out on many issues regarding Total Quality Management, some reviewers have suggested organizational and cultural transformation difficulties as major obstacles to success (Clemmer, 1991; Durant & Wilson, 1993). Mathews & Katel (1992), on the other hand, have cited a lack of delivery on promises of improved competitiveness and rising implementation costs as

disappointments leading to the abandoning of TQM concepts. The existence of such diverse viewpoints on this subject has prompted support for development of "guideposts for anticipating and understanding the sources of bureaucratic resistance, for diagnosing how amenable agency processes are to TQM intervention, and for crafting coping strategies" (Durant & Wilson, 1993, p. 216). These authors also advocated abandoning traditional views of the problems from the standpoint of private-public distinctions in favor of observing " . . . inter- and intraorganizatonal differences in market discipline, political scrutiny, and governance structures" as more functional " . . . predictors of behavioral differences among and within bureaucracies confronted by reforms like TQM . . . " (Durant & Wilson, 1993, p. 217). Citing anecdotal and empirical evidence in the difficulties in Total Quality Management implementation in governmental agencies, Durant & Wilson (1993) proposed a set of contingency factors and propositions for " . . . application, testing, and refinement in future TQM research" (p. 218), within a structure of " . . . four basic processes at work in government agencies: distributive (internal and external), integrative, socioemotional, and boundary exchange" (p. 218).

## Population

The selected state agency for this research, the Oklahoma Department of Corrections, was chosen because of

several factors, including time lapsed since implementation of total quality management training, comprehensiveness of the training in this area, and records filed with the Quality Oklahoma Office indicating a variety of total quality management activities since the inception of the training process.

The selection of a target population for this study necessarily had to conform to the parameters implied within the definition of the problem and the proposed research questions. Since the second research question for this study attempted to ascertain the leadership styles of the participants, the population in this study had to be limited to individuals fulfilling the roles of manager/leaders in government settings selected for the study. The potential population for a study such as this could have technically included a wide range of settings in state or Federal governmental agencies. The diversities of services and settings however would have made generalizations regarding the findings difficult and, at some level, meaningless. In order to reduce the risks involved with a large population, this research only drew upon what Borg & Gall (1983) termed an "experimentally accessible population" (p. 241), such as inclusive members of a special occupational group, which Sudman and Bradburn (1988) deemed appropriate in studies such as this. Thus, the target population for this research study was the entire upper and mid-level management of the

Oklahoma Department of Corrections. The classification of individual managers followed the department's own established definition for such. This definition, which was confirmed through a formal request, included managerial levels responsible for day-to-day and long range affairs of defined subunits of the Oklahoma Department of Corrections. This definition allowed for the inclusion of seventy-five individuals as potentially suitable targets for this study.

The selection of the Oklahoma Department of Corrections stemmed from data obtained from Quality Oklahoma, a clearing house for training in Total Quality Management and repository of data regarding state agency activities. According to the information supplied by this office the Oklahoma Department of Correction has engaged in numerous activities related to TQM training and implementation, thus making them an optimum candidate for this study. The researcher's first hand knowledge of the organization, as a previous employee, also was a factor in the selection of the agency.

As indicated earlier, in the absence of substantial empirical evidence of Total Quality Management's successes or failures in governmental agencies (Durant and Wilson, 1993), the selection of an initial small population, in addition to collection of extraneous data regarding the group, served as a basis for establishing such empirical evidence guiding future research. In addition, it was this

researcher's intent to ensure that the selected population meets the principle of "population validity" (Borg and Gall, 1983, p. 242), in that the variables most relevant to the study, namely Total Quality Management Training and Leadership roles, were present in the population selected. Finally, it was expected that the results from this research study would guide in future sample selection of larger populations and serve as a pilot case for the chosen methodology (questionnaire) in studying leadership roles in organizational reform. The respondents in this study constituted a non-random or a non-probability sample most commonly used in social science employing questionnaire design procedures (Frankfort-Nachmias and Nachmias, 1992). Non-probability samples are often used for exploratory work (Frankfort-Nachmias and Nachmias, 1992). Additionally, it has to be stressed that this sample did fit the criteria for a purposive sample which is said to be "representative of the population (Franfort-Nachmias and Nachmias, 1992, p. 175)." A current organizational chart (attachment A) of the Oklahoma Department of Corrections was utilized to identify the appropriate members of the agency for this study.

## Research Design

As Mowday and Steers (1979) observed, there are analogous patterns of inquiry within organizational settings and organized efforts in deciphering the intricacies of such interactions. The authors maintained that;

> It is possible to draw a parallel between the way investigators approach a particular research problem and the way employees approach their work environment. Members of organizations develop beliefs about relationships between different aspects of their work environment and the causes of events which transpire in the work setting. They observe events which occur around them and formulate explanations for what they have observed.
>
> This process that people follow to make greater sense out of their work environment is not too different from one followed by researchers interested in learning more about organizations (cf. Ross, 1977). Both observe events in the work setting and seek to provide explanations for these events. Such explanations provide the basis for subsequent predictions about what is likely to result when certain events occur (Stone, 1978). In this regard, people in general can be regarded as naive scientists trying to bring greater cognitive order to their experiences (p. 1).

They, however, point out that the essential difference between the activities of most people and formally trained researchers remains the systematic procedures and stringent analysis applied by the latter in drawing inferences and conclusion from the results of their inquiries. The preceding elements formed the basis of this study. Tapping the ability of employees, specifically manager/leaders, to observe events and formulate hypotheses regarding causes and effects of such events was instrumental in this researcher's ability to study concepts and percepts of the phenomenon under consideration, namely leadership and Total Quality Management. The application of a systematic procedure in this case provided the opportunity to categorize and apply appropriate tools of analysis in order to determine any

underlying factors and themes which might not be readily discernable, remain unobserved, or merely be dismissed as chance occurrences by the uninitiated.

The distinction between concrete and abstract areas of interest in research projects played a fundamental role in the formation of the character of this study, methodology employed and eventual outcomes of such projects. When the subject at hand presents the researcher with concrete settings or ideas, the initial search for hypothesis formation may be more conducive to pinpointing the area of interest and perhaps narrow the questions of interest to specific questions of inquiry. However, as Ellsworth (1979) observed, when the topic of choice is abstract in nature:

> ...the investigator has maximal freedom in his choice of instances, since when nothing is known the information gain is bound to be great, no matter what the starting point. Virgin territory is rare, however, and additional considerations come into play in the secondary growth of follow-up studies (p. 63).

One might be able to argue the degree of abstractness of such concepts as leadership or management style from a variety of points of view. The operational definition of concepts such as these, and the prevalence of such definitions in professional parlance, may be a necessary tool in obtaining a more precise focus for the purposes of scientific inquiry.

In the traditional sense of investigating a topic of interest, it is a basic requirement to hypothesize the

possible relationship between an independent and a dependent variable. The dependent variable in this instance is thus the determinant of the setting and the formulation of the hypothesis. The task of the investigator is therefore to explore this relationship in an appropriate setting. Ellsworth (1979) summarized this research paradigm as follows:

> The choice of the setting for the hypothesis "Whenever *X* occurs, *Y* will happen" is determined by *X*. The investigator does not look for settings in which both *X* and *Y* occur, for to do so would be to load the research . . . The aim is to find a setting that provides a good realization of *X*, and the *possibility* of *Y*. In considering *Y*, one simply wants to assume that no extraneous factors are preventing *Y* from occurring or the investigator from measuring it. (p. 67)

The aforementioned proposition, in conjunction with an understanding of the complexities of the concepts under study, provides the opportunity for exploration, and the responsibility for careful examination of the results. The constructs of contingency theory, as delineated by Durant and Wilson (1993), and a leadership style continuum, as outlined by (West et. al., 1993), have been used to develop a questionnaire (Appendix A). The questionnaire design has taken into consideration those elements of leadership and contingency theory purported to influence the implementation of Total Quality Management and determine its success or failure. The purpose of this research study was to determine some dynamics of the aforementioned theoretical

constructs in the Total Quality Management implementation process. It was then hypothesized that such dynamics, if any, would be manifested as implementation inhibitors or facilitators.

The completed questionnaires were subjected to a comprehensive statistical analysis, using a correlation matrix and comparisons of means. Since the theoretical constructs of the contingency theory, leadership principles, population, and the settings involved present the possibility of many variables to contend with, the use of these methods (Borg and Gall, 1983) was deemed appropriate.

## The Instrument

The instruments of this study included a questionnaire (attachment A) which was constructed since none existed. Relying on the Sudman and Bradburn (1988) checklist for measuring perceptions and attitudes, a questionnaire utilizing closed-ended question, as compared to open-ended one, was developed. Closed-ended questions tend to be easier to answer and easier to analyze (Franfort-Nachmais and Nachmais, 1992), in addition to allowing the use of a numeric scale for the lower end as "least socially desirable" (Sudman and Bradburn, 1988, p. 149). The questionnaire was devised to include three distinct segments. The first segment included items gleaned from the Total Quality Management Contingency factors, as described

by Durant and Wilson (1993). These contingency factors were described by the authors in the form of four distinct organizational processes: *Internal Distributive, Integrative and Socioemotional,* and *Boundary Exchange.* Each of these organizational processes, in turn, was broken down to a set of contingency factors further outlining the areas of organizational processes believed to be at work. Internal Distributive factors are described as the processes whereby . . . public agencies define problems, determine solutions, and distribute or redistribute resources accordingly . . . " (p. 218). In a Total Quality Management intervention scenario, these factors are said to manifest themselves in the form of " . . . problem identification; goal setting and strategic planning; and process improvement . . . " (p. 218) activities.

Durant and Wilson (1993) employed Pascal's and Ethos' (1981) and Mintzberg's (1989) definitions of Integrative processes, describing them as "five primary coordinating mechanisms: by direct control, (hierarchy), process (compliance with procedures), performance (outcome measurement), recruitment (of like-minded professionals), and adhocracy (creation of collateral or parallel organizational structures, such as project teams or matrix management)" (pp. 227-228).

Durant and Wilson (1993) described Socioemotional processes as " . . . less tangible, yet no less important,

integrating features: employee attitudes, allegiances, and morale" (p. 228), which directly enhance work environments quality and indirectly " . . . buoy an organization's productivity and product quality" (p. 228).

Boundary Exchange processes are described, consistent with Fredrickson (1971), as "the general relationship between the publicly administered organization and its reference groups and clients" (p. 235). Durant and Wilson (1993) further maintained that "Endemic to this process are decisions related to internal and external distributive processes of resource allocation: what goods, services, and opportunities are provided, with what quality, and in whose benefit? What drives these decisions" (p. 235)?

The individual items of the questionnaire in this study reflected the propositions forwarded by Durant and Wilson (1993) for each factor associated with the defined organizational processes. The three organizational processes, Internal Distributive (items one through fifteen), Integrative and Socioemotional (items sixteen through thirty-nine, and Boundary Exchange (items forty through fifty-two) were represented by fifteen, twenty-four and eleven questions, respectively. These, in turn represented the propositions forwarded for the factors identified for each process. The scoring assumptions provided that the degree of agreement (i.e., higher ranking) of the item reflected the greater probability that the

indicated trait existed and was detectable by the respondent. Sum scores, the total for a series of questions used in a Likert-scale (Sudman and Bradburn, 1988), were calculated for each of the contingency factors and for a total factor. Some items had to be reverse coded in order to keep their direction similar to the entire set of items.

The second segment of the questionnaire was designed to deal primarily with the respondents' leadership styles. The leadership styles described as Transformational, Transactional, and Representational, along with their relative Total Quality Management conceptual corollaries and tasks, as proposed by (West et. al., 1993) formed the core elements of the questions in this segment. The first nine (9) items reflected transformational strategies. Items ten through eighteen (9 items) were believed to correlate with transactional strategies. The remaining items were geared toward representational strategies. The scoring assumptions for this segment provided that the higher rating of engagement in each described activity would result in higher scores for that segment for each individual. Again, sum scores for each leadership style were calculated to be used for the correlational analyses. To figure out an index to compare subjects on each leadership type, the mean for each set of scores was used. This is a relatively straight forward and mathematically robust method of handling these types of items for comparison (Sudman and Bradburn, 1988).

The section with the highest mean determined that subject's primary leadership style.

The third segment of the questionnaire provided an opportunity for rating implementation of total quality management by the respondents and demographic information necessary for additional analysis of group characteristics. Each question provided an opportunity for response on a Likert rating scale, indicating a range of responses from "negative" to "positive" agreement.

The questionnaire was presented to three experts for evaluation, critique, and to ascertain its content/face validity. According to Borg and Gall (1983) content validity is "degree to which the sample of test items represent the content that the test is designed to measure." (P. 276). In this situation, the experts were presented with the questionnaire, an explanation of the research project, and a copy of the original Durant and Wilson's 1993 journal article outlining the contingency factors. These experts were asked to review the questionnaire and indicate their understanding of the extent to which they thought each item/question appeared to reflect its underlying meaning, with respect to the factor it intended to probe. The experts included two individuals holding administrative positions in state government. These individuals also held teaching and research positions with major universities in Oklahoma. Another expert reviewer held academic positions

in lecture and research with academic and professional expertise in government and school administration. Appropriate adjustments to the items were made based on expert recommendations and suggestions. The final questionnaire reflected changes based on these suggestions and recommendations. Items ten, twelve, and twenty were modified to indicate a processes and activities, as opposed to structure, and values. Language modifications were also effected for items twenty-seven, thirty, thirty-four, and forty-six in order to ensure succinct yet strong meaning of the items were conveyed to the respondents.

The questionnaire was test-administered to two members of managerial staff at a closely related state agency, the Office of Juvenile Affairs. Personal interviews with each participant were conducted to determine the strength and weaknesses of the questionnaire items. Their recommendations, generally concerns over clarity of items, were incorporated into the final draft.

The overall scoring for each segment of the instrument was expected to generate a comprehensive picture of the respondents' perceptions and general demographic composition. The responses to each of the three segments were cross-referenced in their entirety, with the expectation that distinct patterns, for specific individual and overall general population, would emerge.

The upper and mid-level management echelons of the

Oklahoma Department of Corrections were provided the opportunity to respond to this questionnaire. The members of this organizational strata were identified through the Department of Corrections' current organizational chart and as a result of further analysis of each position's scope of responsibilities. The questionnaires were administered to the subjects through the Department's chain of command at the regional and central offices. The questionnaire was self-administered and was distributed through the chain of command of the Department of Corrections. Permission from and coordination of the Office of the Director of the Department was successfully solicited to ensure cooperation and follow-up opportunities, as well as compliance with the agency's policies and procedures (Attachment B).

As described by Frankfort-Nachmias and Nachmias (1992), the questionnaire method has many advantages including low cost as a data collection method, "reduction in biasing error" (p. 216), "greater anonymity" (p. 216) in answering questions about one's work environment, and less stress on immediate answers as in interview situations. Many of the disadvantages of mail questionnaires were reduced for the topic of this study. For example, the statements are simple enough that additional probing by an interviewer is not necessary. These are statements where respondents simply identify their degree of agreement. Finally, strategies to increase response rates, by appealing to "good will," and

appeal to their contribution were employed. This was conveyed through the instructions in the questionnaire.

## Analysis of Data

Following the administration of the instrument the results were subjected to several statistical procedures. Univariate descriptive statistics were completed for the demographic, descriptive items (Nouriss, 1990, p. 264). These were also used for the data screening phase of analysis where the initial raw data is scanned for entry errors, outliers, violations of statistical assumptions, etc. (Nouriss, 1990, p. 254). Bivariate methods, specifically correlation, were used for determining and describing relationships among the variables. This was the underlying framework for analyzing the research questions. The propositions described by Durant & Wilson (1993) were presented under contingency factors for three general areas. These contingency factors were described by the authors in the form of four distinct organizational processes: *Internal Distributive, Integrative and Socioemotional,* and *Boundary Exchange*. Each of these organizational processes, in turn, was broken down to a set of contingency factors further outlining the areas of organizational processes believed to be at work. The sum scores from the contingency factor items were used in both the correlational analyses and for the comparison of means for different groups (such as race and gender).

The leadership questions, based on behaviors described by West (1991), were also subjected to a "summative method" (p. 156) to determine the prominent style for each respondent, the mean of the scores for the behaviors on the Likert scales was calculated and the leadership style with the highest mean score was used to decide each respondent's primary style. Sum scores for each of the leadership styles were also used for the correlational analyses.

The nature of this questionnaire provided scores that corresponded to each variable of concern in the research questions: contingency factors, leadership styles, perceptions of success and both personal and professional characteristics. The analysis of these components was clearly defined and completed without scientifically improper manipulation of the data.

# CHAPTER IV

# ANALYSIS AND INTERPRETATION OF DATA

## Introduction

This section of the research is devoted to the examination of the data collected and the analysis and interpretation of the same. This research attempted to explore the perceptions of middle and upper mangers in the Oklahoma Department of Corrections concerning behaviors, expressed in contingency factors, necessary for successful implementation of total quality management, in general, and its implementation in the agency, in particular. Additionally, self-reported leadership styles of these middle mangers were also explored to examine the dimensions of those behaviors deemed beneficial for successful implementation of total quality management. Finally, the relationship among the middle-managers' self-reported general leadership behaviors, longevity in position, longevity with the department, lapsed time since training in total quality management, position function, gender, age, race and educational level, and their perceptions of successfulness of total quality management implementation were explored.

The selected state agency for this research, the Oklahoma Department of Corrections, was chosen becuase of

several factors, including time lapsed since implementation of total quality management training, comprehensiveness of the training in this area, and records filed with the Quality Oklahoma Office indicating a variety of total quality management activities since the inception of the training process.

The questionnaire devised for this study implicitly included elements of the contingency theory, as proposed by Fredrickson (1971) and hypothetically advanced by Durant and Wilson (1993) as a possible means for studying total quality management issues in public sector agencies. The contingency factors, purported by the authors to permeate through the structure of these agencies, include internal distributive, integrative and socioemotional, and boundary exchange factors. In addition, the questionnaire developed for this research included items encompassing theoretical constructs of three leadership styles: transformational, transactional, and representational.

The basic premise of this research study was that behaviors necessary for successful implementation of total quality management, as described by and through the contingency factors, may be discerned and further understood from the perceptions of the agency's leaders. The demographic features of the selected sample, in conjunction

with contingency factors and leadership style representations, were then to be utilized as possible intervening variables for any measurable perceptual variations and interaction effects of each upon the other.

## Descriptive Analysis

The participants in this research were to include the entire upper and mid-level management echelons of the Oklahoma Department of Corrections. However, due to logistical reasons, distributing the questionnaire to all of the employees identified was difficult. Since the majority of the targeted individuals were reached, it is believed that any unintended consequences of not reaching the entire desired population are minimal. Each member of the targeted population was identified through a review of the latest Department of Corrections organization chart and position descriptions. The selected individuals were listed as those responsible for managing a major unit/function in the department, in either a field (direct client contact) or support (none, or limited client) roles. As such, the selected individuals were deemed appropriate and did fulfill the requirement for probing the "leadership" tiers of the department.

A code book and data-dictionary were developed to track the treatment of the results from the questionnaires. Due

to the detailed analyses needed for the study, a computer statistics package, SPSS for Windows, was used.

A total of 75 questionnaires was distributed. It should be noted that the participation was voluntary, encouraged by regional supervisors, and allowed for anonymity. The returned and completed questionnaires totaled 54. Table 1 depicts the gender, race and educational attainment distribution of the respondents. For the most part, there were few non-responses for the demographic questions (Table 1). Fifty-three respondents indicated their gender. Forty-one (77.4%) were male and twelve (22.6%) female. The racial breakdown of the respondents was summarized into a white and nonwhite category. For comparison purposes, due to the small number of the nonwhite groups, they were combined into a single group and accounted for 37% of the sample. Fifty-two individuals indicated their race, thirty-three (63.5%) were white and nineteen (36.5%) nonwhite. Likewise, the same procedure was employed for educational levels. Combining post-bachelors degree into one group, graduate degree or courses, two groups were attained. Therefore, Forty-nine percent of the sample has bachelors degree or less; fifty-one percent has graduate degree or courses.

In order to ensure anonymity and confidentiality, a

limited number of questions sought information about the respondents' current positions and work locations. Additionally, one question attempted to determine whether a respondent's work was focused on fieldwork (primarily involving day-to-day operation of a facility), with client

TABLE 1

DESCRIPTION OF SAMPLE

| | Count | Col % |
|---|---|---|
| GENDER | | |
| Male | 41 | 77.4% |
| Female | 12 | 22.6% |
| Total | 53 | 100.0% |
| RACE GROUP | | |
| White | 33 | 63.5% |
| Nonwhite | 19 | 36.5% |
| Total | 52 | 100.0% |
| EDUCATION LEVEL GROUP | | |
| Bach. degree or less | 26 | 49.1% |
| Graduate degree or courses | 27 | 50.9% |
| Total | 53 | 100.0% |

contact, or support work (non-facility, or non-client related managerial level duties). Due to a formatting error in the display of this item on the questionnaire, these items (support/operations, and field/non-field) were combined, which made for a confusing display. Therefore, results from these items/questions were deemed unreliable

and were consequently not included in any analysis.

Additionally, There were items/questions on time-in-present position and longevity with the department. Table 2 portrays a summary of responses to these items/questions. The mean number of months in current position for the sample was forty-eight months, with a standard deviation of thirty-eight and a range of 4 to 192 months. The mean number of months working for the Department of Corrections was two hundred-two with a standard deviation of fifty-seven months and a range of 36 to 303 months. The respondents to this study appear to portray a stable work force with an average of almost 17 years of service with the Department of Corrections and an average of four years in their current positions.

Only forty-seven of the respondents indicated their age. A mean age of forty-four, standard deviation of six years and a range of 30 to 54 years was calculated.

TABLE 2

LONGEVITY IN CURRENT POSITION AND WITH THE DEPARTMENT(IN MONTHS)

| | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Months in present position | 51 | 48 | 38 | 4 | 192 |
| Months working for DOC | 51 | 202 | 57 | 36 | 303 |

The first segment of the questionnaire posed a total of

fifty-two items/questions to the respondents. This segment was designed to probe the perceptions of the mangers of the organization in areas described by contingency factors as distributive, integrative/socioemotional, and boundary exchange. As recommended by Sudman and Bradburn (1988) sum scores were calculated for each section to arrive at a total score. Since some of the statements were stated in the negative, they were reverse coded to maintain parallel with the other questions. This means that in order to maintain higher numbers as corresponding with more congruent views of contingency factors, and possibly total quality management, the negatively stated items were coded to reflect lower numbers to mean higher agreement and vice versa. By summing the results, a higher score would indicate a more positive outlook on the total quality management contingency factors. These scores provided the input for additional analyses throughout the analysis. The results of the contingency factor scores are presented in Table 3. The overall possible range of scores for this segment was 52 to 260. An actual range of 89 to 192 with a mean of 140, and standard deviation of 19 was obtained from this sample. An in-depth analysis of the responses to each item/question is included in Appendix F and is summarized below. Additional item/question analysis treatment commonly used in developing

instruments were not used for this study since the focus was primarily exploratory.

TABLE 3

SUM SCORES OF CONTINGENCY FACTORS

| Contingency Factor | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Distributive Sum Score | 54 | 42 | 6 | 27 | 60 |
| Integrative/Socioemotl Sum Score | 54 | 67 | 9 | 48 | 91 |
| Boundary Exchange Sum Score | 53 | 34 | 5 | 21 | 51 |
| Contingency Factors Sum Score | 54 | 143 | 19 | 89 | 192 |

The distributive aspects of organizational processes according to Durant and Wilson (1993) delve into the core of how problems in an organization are defined, solutions for them sought, and resources are managed. Fifteen Likert questions described behaviors for this contingency factor on the questionnaire. For the distributive sum score, the range of possible sum scores is 15 to 75. The results indicated a range of 27 to 60 with a mean of 42 and standard deviation of 6. An analysis of the individual survey items/questions that make up the distributive sum score (Table 4) reveals that agency goals are perceived to be externally set and by statute, as this item/question had the highest mean (3.78) in this set of questions. Limited agency resources, on the other hand, are considered by the respondents to interfere with effectiveness of total quality management, as suggested by the mean of 1.57 (the high and

low means in tables are underlined for further clarity).

Integrative processes, a contingency factor, are primarily focused on staffing, leadership styles, and training aspects of organization management according to Durant and Wilson (1993). The socioemotional contingency factor encompasses employee atmosphere, moral, and patterns of allegiances in an organization, according to these authors as well. Items sixteen through thirty-nine of the questionnaire enumerated the integrative/ socioemotional contingency factors. The sum score for this set of 24 questions could range from 24 to 120; for this sample the range was 48 to 91 (Table 5). The mean was 67 with a standard deviation of 9. All participants responded to these items/qustions. Question 28 within this set of survey items, indicates a perception of immediacy to responding to problems. It had a mean score of 4.39 and a standard deviation of .66. Likewise, the item with the lowest mean, 2.29, is question 35 indicating that maintaining quality is perceived as less of an issue with external sources.

TABLE 4

CONTINGENCY FACTOR DISTRIBUTIVE RESPONSES

| Item | Question/Variable | Mean | S.D. |
|---|---|---|---|
| 1 | Management and staff agree on the agency's goals and objectives. | 3.22 | 0.69 |
| 2 | Statutes regulating this agency's activities are clear. | 3.48 | 1.00 |
| 3 | This agency has too many goals imposed by statutes.* | 2.96 | 0.93 |
| 4 | This agency's managers are encouraged to focus on performance effectiveness. | 3.56 | 0.95 |
| 5 | This agency's managers are encouraged to focus on compliance with goals set by statutes. | 3.78 | 0.77 |
| 6 | Problems associated with this agency's goals are complex.* | 1.94 | 0.98 |
| 7 | Problems at operational levels are generally complex.* | 2.41 | 0.98 |
| 8 | Operating level decisions are complex.* | 2.57 | 0.98 |
| 9 | Operating level decisions are vulnerable to legislative or court challenges.* | 2.11 | 0.98 |
| 10 | The decision making process in this agency is open. | 2.76 | 1.03 |
| 11 | Access to the decision making process in this agency is through a top down structure. | 3.54 | 1.08 |
| 12 | Individual input into decision opportunities is encouraged on a regular basis. | 3.24 | 1.01 |
| 13 | Resource distributions in this agency are balanced. | 2.24 | 1.03 |
| 14 | Resources in this agency are strained and overworked.* | 1.57 | 1.00 |
| 15 | Postponing decisions are common.* | 2.65 | 1.15 |

* the item was reverse coded for analysis

TABLE 5
INTEGRATIVE/SOCIOEMOTIONAL ITEM RESULTS

| Item | Question/Variable | Mean | S.D. |
|---|---|---|---|
| 16 | The implementation of TQM in this agency addressed the existing organizational cultural values. | 2.74 | 0.96 |
| 17 | Commitment to organizational cultural change exists at levels of this agency. | 2.57 | 0.96 |
| 18 | Quality goals and continuous improvement are easily measured in this agency. | 2.62 | 0.88 |
| 19 | The results of our organization's efforts are easy to measure. | 2.74 | 0.89 |
| 20 | Agency managers are willing to collect data when it does not interfere with other desirable activities. | 3.26 | 0.83 |
| 21 | Agency staff have adequate levels of readiness to implement total quality management. | 2.56 | 0.92 |
| 22 | Upper management in this agency have strategically implemented total quality management. | 2.80 | 1.05 |
| 23 | Total quality management has had an effect on activities central to this agency's mission. | 2.89 | 0.90 |
| 24 | Employees resist reforms that they perceive as conflicting with maintaining the agency's mission.* | 2.43 | 0.84 |
| 25 | Legislators micro manage this agency's activities.* | 2.31 | 1.04 |
| 26 | Statistical methods are applied to agency's programs and problems. | 2.72 | 0.83 |
| 27 | Our agency's leadership supports integration among various departments. | 3.52 | 0.84 |
| 28 | In this agency, results are generally needed quickly. | 4.39 | 0.66 |
| 29 | Organizational resources are readily available in this agency. | 2.44 | 0.92 |
| 30 | Employees in various departments of the agency are willing to change. | 2.59 | 0.96 |
| 31 | The public is indifferent to changes in this agency.* | 2.74 | 1.14 |
| 32 | Quality improvements in this agency depends on other agencies' resources. | 2.83 | 0.86 |
| 33 | Other agency input in implementing total quality management. | 2.56 | 0.86 |
| 34 | Implementing TQM requires pooled resources within this agency. | 3.49 | 1.01 |
| 35 | Adhering to TQM principals are required of outside providers by the agency. | 2.29 | 0.87 |
| 36 | Working in project teams is linked to performance appraisal and reward systems in this agency. | 2.55 | 0.93 |
| 37 | The agency has establish total quality support systems before it has engaged employees in mass training for total quality management. | 2.43 | 1.08 |
| 38 | Total quality management efforts have only been emphasized at the lower levels in this agency.* | 3.40 | 1.08 |
| 39 | Total quality management facilitator roles have been well-synchronized with client-system roles. | 2.55 | 0.89 |

* means that the item was reverse coded for analysis

The third aspect of contingency factors examined in this research, boundary exchange, is primarily concerned with the agency interface with its main constituents (Durant and Wilson, 1993). The boundary exchange items/questions for this survey consisted of the last 13 questions of the first segment. The sum score for this set could range from 13 to 65 and for this sample it ranged from 21 to 51 (Table 6). The sample also had a mean of 34 and standard deviation of 5. Table 6 depicts mean and standard deviations for each question item in this segment. Item 45, with a mean of 4.17 was the highest rated indicating a possible inclination for the participants to believe that the agency deals with a complicated clientele. On the other hand, item 46 has the lowest mean, 1.83, and a possible indication that legislative conflict is of minor importance to the participants.

Three types of leadership, described by West, et. al. (1993) were delineated in the segment of the questionnaire designed to elicit a summary self-report from the respondents. The three leadership styles, transformational, transactional, and representational, were represented by items 1 through 9, 10 through 18, and 19 through 22 respectively.

TABLE 6

CONTINGENCY FACTOR BOUNDARY EXCHANGE ITEM RESPONSES

| Item | Question/Variable | Mean | S.D. |
|---|---|---|---|
| 40 | Main agency activities are protected from interference by outside interests. | 2.11 | 0.95 |
| 41 | Managers can exercise discretion in making process changes. | 3.00 | 0.83 |
| 42 | It is easy to get consensus over the design and implementation of quality improvements. | 2.30 | 0.77 |
| 43 | Total quality management efforts in this agency have focused on internal (non-public) processes.* | 2.64 | 0.88 |
| 44 | The agency's culture is dominated by a single professional subculture.* | 2.94 | 1.07 |
| 45 | This agency serves a widely diverse clientele. | 4.17 | 0.91 |
| 46 | There is a great degree of legislative conflict affecting the activities of this of this agency.* | 1.83 | 0.83 |
| 47 | There is a great degree of "publicness" associated with targeted tasks of this agency.* | 2.11 | 0.85 |
| 48 | There are many outside groups able to influence the agency's programs affected by the TQM efforts.* | 2.38 | 1.00 |
| 49 | The work environment in this agency is turbulent. | 2.34 | 1.07 |
| 50 | This agency's work environment is flexible.* | 2.74 | 0.86 |
| 51 | Most changes attempted utilizing TQM in this agency are limited in nature and do not affect activities central to the agency's mission.* | 2.74 | 0.92 |
| 52 | Delays caused by resistance to TQM activities harms this agency's mission.* | 3.10 | 1.12 |

* means that the item was reverse coded for analysis

The items for the leadership section were treated in the same manner as the contingency factors. The only exception was that none of the items had to be reverse coded. Each item presented a leadership behavior and respondents were asked to indicate how often they exhibited that behavior during the past calendar year. Unlike the above set of questions, a total sum score was not calculated. However, sum scores for individual sets of

items/questions that were identified as descriptive of each leadership type are reported.

Transformational leadership behaviors are described, by West, et. Al. (1993), as primarily concerned with process of "communicating new, visionary goals . . . " (P. 177) and focus on unmet goals, human and organizational needs. For the transformational leadership type, the most common behavior indicated was "monitor internal performance" with a mean of 3.93 and standard deviation of .87. On the average, "train in total quality management techniques" was the lowest rated item with a mean item score of 1.87. The next lowest mean was obtained for "request a budget for quality improvement." Table 7 depicts the overall mean, standard deviation and ranges of the responses.

Table 7

TRANSFORMATIONAL LEADERSHIP ITEM RESULTS

| Item | Question/Variable: During the past year how often did you: | Mean | S.D. |
|---|---|---|---|
| 1 | identify customer needs? | 3.63 | 0.90 |
| 2 | increase coordination among units? | 3.85 | 0.88 |
| 3 | monitor internal performance? | 3.93 | 0.37 |
| 4 | have input in reformulating mission statements? | 2.87 | 1.13 |
| 5 | train in total quality management techniques? | 1.87 | 0.98 |
| 6 | request a budget for quality improvement? | 1.89 | 0.96 |
| 7 | visit other sites? | 2.87 | 1.21 |
| 8 | attempt bench marking processes? | 2.67 | 1.15 |
| 9 | provide rewards for group performance? | 2.39 | 1.17 |

Transactional leadership behaviors are described by West, et. al. (1993) as primarily focused on obtaining commitment from others, voluntarily or coercively. There was a tie for the items/questions related to planning ("use top-down planning" and "develop plan for cultural change"), a mean score of 2.78. Yet acknowledging the successes ("recognize achievement") had the highest mean, 3.59, and a standard deviation of .81. Table 8 illustrates the responses to transactional leadership items in the questionnaire.

The final set of leadership behaviors described as "representational" (P. 177) are leadership behaviors which are primarily focused on obtaining support and legitimization from the agency's stakeholders (West, et. al., 1993). It was found that "obtaining support from superiors had the highest mean, 3.76 with a standard deviation of .75. To a lesser extent, this sample appeared less likely to seek citizen support, with a mean of 2.56, and a standard deviation of .98 for this item. Table 9 depicts representational leadership item/question distribution.

TABLE 8

TRANSACTIONAL LEADERSHIP ITEM RESPONSES

| Item | Question/Variable: During the past year how often did you: | Mean | S.D. |
|---|---|---|---|
| 10 | recognize achievement? | 3.59 | 0.81 |
| 11 | participate in mid-level implementation teams? | 2.94 | 1.05 |
| 12 | initiate or participate in a pilot project? | 2.83 | 1.04 |
| 13 | sanction grass roots initiatives? | 2.80 | 1.03 |
| 14 | monitor employee satisfaction? | 3.43 | 0.94 |
| 15 | consistently use new performance measures? | 2.91 | 1.03 |
| 16 | use top-down planning? | 2.78 | 0.88 |
| 17 | assess your units' readiness for change? | 2.98 | 0.89 |
| 18 | develop a plan for cultural change? | 2.78 | 1.13 |

TABLE 9

REPRESENTATIONAL LEADERSHIP ITEM RESPONSES

| Item | Question/Variable: During the past year how often did you: | Mean | S.D. |
|---|---|---|---|
| 19 | obtain support from superiors. | 3.76 | 0.75 |
| 20 | obtain support through community participation? | 2.87 | 1.03 |
| 21 | obtain support from influential citizens? | 2.56 | 0.98 |
| 22 | obtain support from other political leaders? | 2.76 | 0.91 |

Leadership scores for each category of items were determined (Table 10). These scores were used in later analyses in conjunction with contingency factor scores and demographic information.

TABLE 10

LEADERSHIP TYPE DISTRIBUTION
By Type Mean Score

| | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Transformational Sum | 54 | 26 | 5 | 13 | 37 |
| Transactional Sum | 54 | 27 | 5 | 14 | 37 |
| Representational Sum | 54 | 12 | 3 | 4 | 18 |

In order to decide the primary leadership style for each respondent, a simple average for each set of leadership items was calculated. The leadership style with the highest mean determined a respondent's primary style and was classified as such. Table 11 illustrates the categorization of this sample into their self-reported leadership styles.

TABLE 11

CATEGORIZATION OF LEADERSHIP TYPES

| LEADERSHIP TYPE | Count | Col % |
|---|---|---|
| Transformational (1) | 13 | 24.10% |
| Transactional (2) | 21 | 38.90% |
| Representational (3) | 20 | 37.00% |
| Total | 54 | 100.00% |

## Inferential Analysis

The previous section depicted an overall description of the collected data, describing how various averages and standard deviations for contingency factors, and leadership styles were determined. In this section additional analyses of the statistics are presented in the form of analysis of

variances and correlational indices, to determine relationships within and among various data elements and the demographic variables described earlier.

The results for the leadership types show fewer respondents in the first group, transformational. Being aware of the discrepancy among the sample sizes, Levene's test for homogeneity was used in subsequent analyses. This preliminary statistical assessment helps determine whether the assumption of homogeneity of variance is violated for statistical tests using comparison of means. Several assumptions for comparing means, whether t-tests or analysis of variance, includes relatively equal sized samples, in comparison groups and similar variance. The Levene's test for homogeneity of variance is one method to detect if this assumption is violated.

Previously, the analysis examined leadership types and contingency factors separately. It is possible that the different leadership types have different ways of reflecting the factors. To examine possible differences among the three leadership types, a one-way analysis of variance (ANOVA) was completed for the contingency factor sum score and for each individual leadership style sum score. Levene's test showed that no assumptions were violated for these analyses. The results of the analyses of variances

are presented in table 12. Based on these results, there are no differences in leadership type for contingency factors and each of the sub factors. Since there were not any significant F ratios, subsequent comparison of means was not attempted. Post hoc analyses of group comparisons are recommended only if the initial F was significant. In such a case, a significant F ratio could suggest that one group may be significantly different from one of the other groups. Individual t-tests do not allow for accurate comparisons from a statistical point of view.

TABLE 12

ONE-WAY ANALYSIS OF VARIANCE FOR LEADERSHIP TYPE

Distributive Sum Scores

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 33.7276 | 16.8638 | 0.4383 | 0.6475 |
| Within Groups | 51 | 1962.1984 | 38.4745 | | |
| Total | 53 | 1995.9259 | | | |

| Group | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Transformational | 13 | 43.39 | 5.7668 | 32 | 53 |
| Transactional | 21 | 41.86 | 6.4365 | 32 | 60 |
| Representational | 20 | 41.35 | 6.2178 | 27 | 51 |
| Total | 54 | 42.04 | 6.1367 | 27 | 60 |

Integrative Socioemotional Sum Score

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 162.1186 | 81.0593 | 1.1168 | 0.3352 |
| Within Groups | 51 | 3701.8073 | 72.5845 | | |
| Total | 53 | 3863.9259 | | | |

| Group | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Transformational | 13 | 69.31 | 10.5149 | 48 | 85 |
| Transactional | 21 | 67.48 | 9.1958 | 48 | 91 |
| Representational | 20 | 64.89 | 5.9991 | 55 | 80 |
| Total | 54 | 66.96 | 8.5384 | 48 | 91 |

Boundary Exchange Sum Score

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 56.3239 | 28.162 | 0.9499 | 0.3937 |
| Within Groups | 50 | 1482.4308 | 29.6486 | | |
| Total | 52 | 1538.7547 | | | |

| Group | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Transformational | 13 | 35.46 | 5.8111 | 28 | 49 |
| Transactional | 20 | 34.80 | 5.8364 | 24 | 51 |
| Representational | 20 | 33.00 | 4.7573 | 21 | 41 |
| Total | 53 | 34.28 | 5.4398 | 21 | 51 |

Contingency Factors Total Score

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 625.6344 | 312.8172 | 0.8711 | 0.4246 |
| Within Groups | 51 | 18314.6804 | 359.1114 | | |
| Total | 53 | 18940.3148 | | | |

| Group | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Transformational | 13 | 148.15 | 21.0073 | 108 | 186 |
| Transactional | 21 | 142.48 | 20.9991 | 89 | 192 |
| Representational | 20 | 139.25 | 14.8674 | 105 | 171 |
| Total | 54 | 142.65 | 18.9041 | 89 | 192 |

Subsequent analyses were done to explore the role of demographic/characteristic variables may have in contingency factors. Results for these t-tests are presented in Table 13. The only statistical significant test results are for race groups with integrative/socioemotional (ISE) contingency factor sum score. The results for these two items show that the means for the ISE scores was 68.82 for whites and 63.42 for nonwhites. For this score, a higher number means greater integrative/socioemotional (ISE) inclination. Observing the contingency factor scores, a mean of 146.66 for whites and 135.10 for nonwhites is reported. As a group comparison, this suggests that the white group had higher perceptions of the contingency factors overall.

TABLE 13

T-TEST FOR CONTINGENCY FACTORS
By Demographic Characteristics Group

| Distributive Sum Scores | | | |
|---|---|---|---|
| Variable | t-value | df | 2-Tail Sig |
| GENDER | -0.34 | 51 | 0.732 |
| RACE GROUP | 1.51 | 50 | 0.136 |
| EDUCATION LEVEL GROUP | 1.02 | 51 | 0.312 |
| **Integrative/Socioemotional Sum Scores** | | | |
| Variable | t-value | df | 2-Tail Sig |
| GENDER | 0.86 | 51 | 0.393 |
| RACE GROUP | 2.24 | 50 | 0.029* |
| EDUCATION LEVEL GROUP | 1.59 | 51 | 0.119 |
| **Boundary exchange Sum Scores** | | | |
| Variable | t-value | df | 2-Tail Sig |
| GENDER | 1.47 | 50 | 0.149 |
| RACE GROUP | 1.08 | 49 | 0.283 |
| EDUCATION LEVEL GROUP | 0.66 | 50 | 0.511 |
| **Contingency Factors Sum Score** | | | |
| Variable | t-value | df | 2-Tail Sig |
| GENDER | 0.55 | 51 | 0.583 |
| RACE GROUP | 2.16 | 50 | 0.035* |
| EDUCATION LEVEL GROUP | 1.49 | 51 | 0.143 |

*p<.05

Due to the nature of several variables, a need for correlation analysis was determined to ensure adequate comparisons. A one-tailed test of significance was identified because of the assumed direction before entering the analysis. Although none of the correlations were

significant, there are several interesting patterns. Time on the job is negatively related with all of the contingency factors and the total score. This appears to indicate that as time with the agency increases people tend to become less positive, and their strength of positive perceptions decreases. A similar statement about "time with DOC" can be made. Table 14 depicts the correlational analyses.

TABLE 14

CORRELATIONS BETWEEN CONTINGENCY FACTORS AND AGE, MONTHS IN POSITION, AND MONTHS WITH DOC

| Variables | Age | Months in current position | Months working for DOC | Explanation of results |
|---|---|---|---|---|
| Distributive Sum Score | 0.019 | -0.1331 | -0.1804 | Pearson correlation coefficient |
| | 47 | 51 | 51 | Valid N |
| | 0.451 | 0.176 | 0.103 | one-tailed level of significance |
| Integrative Socio-emotional Sum Score | 0.01 | -0.0295 | -0.145 | Pearson correlation coefficient |
| | 47 | 51 | 51 | Valid N |
| | 0.487 | 0.419 | 0.155 | one-tailed level of significance |
| Boundary Exchange Sum Score | 0.2115 | -0.0828 | 0.1383 | Pearson correlation coefficient |
| | 46 | 50 | 50 | Valid N |
| | 0.079 | 0.284 | 0.169 | one-tailed level of significance |
| Contingency Factors Sum Score | 0.027 | -0.1063 | -0.0732 | Pearson correlation coefficient |
| | 47 | 51 | 51 | Valid N |
| | 0.428 | 0.229 | 0.305 | one-tailed level of significance |

The participants were also asked to rate their perceptions of agency and own-area success, from 1 to 10, in implementing total quality management. Higher rating indicated increased rating of success. These scores were

then used for additional analysis. A one-way analysis of variance was completed to find out if a difference in the primary leadership types in this area existed. No significant differences in this area were detected (Table 15).

TABLE 15

ONE-WAY ANALYSIS OF VARIANCE FOR PERCEPTIONS OF SUCCESS AND LEADERSHIP TYPES

AGENCY SUCCESS IMPLEMENTING TQM

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 10.1413 | 5.0707 | 1.5328 | 0.2259 |
| Within Groups | 50 | 165.4058 | 3.3081 | | |
| Total | 52 | 175.5472 | | | |

AREA SUCCESS IMPLEMENTING TQM

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | Prob. |
|---|---|---|---|---|---|
| Between Groups | 2 | 10.7934 | 5.3967 | 1.4782 | 0.2376 |
| Within Groups | 51 | 186.1881 | 3.6507 | | |
| Total | 53 | 196.9815 | | | |

The participants' ratings indicating success in carrying out total quality management in their own area and the agency were also analyzed in light of their responses to the contingency factors. One-tailed Significance was identified before the analysis, that is, a higher rating would correspond to higher contingency factors, as presented in Table 16.

TABLE 16

CORRELATIONS FOR SUCCESS WITH CONTINGENCY FACTORS

| Variables | Rate Agency success | Rate Area success | Explanation of results |
|---|---|---|---|
| Distributive Sum Score | 0.5595 | 0.5184 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.00* | 0.00* | one-tailed level of significance |
| Integrative Socio-emotional Sum Score | 0.6234 | 0.5249 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.00* | 0.00* | one-tailed level of significance |
| Boundary Exchange Sum Score | 0.4975 | 0.4527 | Pearson correlation coefficient |
| | 52 | 53 | Valid N |
| | 0.00* | 0.00* | one-tailed level of significance |
| Contingency Factors Sum Score | 0.6097 | 0.516 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.00* | 0.00* | one-tailed level of significance |

* $p<.01$

Although the individual leadership types did not reveal any significant differences in perceptions of success. Statistically significant differences were found when those ratings were compared with the sum scores of leadership behaviors. One-tailed Significance was identified before

the analysis, that is, a higher ratings would correspond to higher leadership behaviors, as presented in Table 17. The only correlation that was not significant was of rating agency success and leadership type "representational."

Table 17

CORRELATIONS FOR SUCCESS RATING WITH LEADERSHIP TYPES

| Variables | Rate Agency success | Rate Area success | Explanation of results |
|---|---|---|---|
| Transformational Sum Score | 0.3786 | 0.4787 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.003* | 0.00* | one-tailed level of significance |
| Transactional Sum Score | 0.3206 | 0.4361 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.01* | 0.00* | one-tailed level of significance |
| Representional Sum Score | 0.2116 | 0.3098 | Pearson correlation coefficient |
| | 53 | 54 | Valid N |
| | 0.064 | 0.011** | one-tailed level of significance |

* $p<.01$

Years on duty and age were not significantly correlated to agency and area ratings of success (Table 18).

TABLE 18

CORRELATIONS FOR SUCCESS WITH MULTIPLE FACTORS

| Variables | Rate Agency Success | Rate Area Success | Explanation of results |
|---|---|---|---|
| Months in current position | -0.0765 | -0.0079 | Pearson correlation coefficient |
| | 50 | 51 | Valid N |
| | 0.299 | 0.478 | one-tailed level of significance |
| Months working for DOC | -0.1768 | -0.1316 | Pearson correlation coefficient |
| | 50 | 51 | Valid N |
| | 0.11 | 0.179 | one-tailed level of significance |
| Age | -0.0012 | -0.1315 | Pearson correlation coefficient |
| | 47 | 47 | Valid N |
| | 0.497 | 0.189 | one-tailed level of significance |

Likewise, the t-test for gender, race and educational level revealed no significant differences related to success in the agency or in one's own area (Table 19).

TABLE 19

RATE AGENCY SUCCESS AND AREA

| GENDER | Means | | | | 2-Tail |
|---|---|---|---|---|---|
| | Males | Females | t-value | df | Sig |
| Agency Success | 4.37 | 4.09 | 0.43 | 50 | 0.666 |
| Area Success | 5.12 | 4.50 | 0.97 | 51 | 0.335 |

| RACE GROUP | Means | | | | 2-Tail |
|---|---|---|---|---|---|
| | White | Non-white | t-value | df | Sig |
| Agency Success | 4.59 | 3.89 | 1.88 | 50 | 0.067 |
| Area Success | 5.39 | 4.37 | 1.88 | 50 | 0.067 |

| EDUCATION LEVEL GROUP | Means | | | | 2-Tail |
|---|---|---|---|---|---|
| | Bachelors or less | Post-bachelors | t-value | df | Sig |
| Agency Success | 4.76 | 3.89 | 1.73 | 50 | 0.09 |
| Area Success | 5.38 | 4.59 | 1.50 | 51 | 0.14 |

Additionally, t-tests were completed based on the primary types of customers. Two basic types of customers were identified by the respondents. One clear customer was the "public." Other primary customers, identified as "other," were tabulated from responses showing more than a single response. The Analysis sought to determine if there were significant differences between that saw the "public" as the primary customer of the agency and those who identified other customers instead of, or in addition to "public," in terms of a) perceptions of TQM factors, b) leadership style, and c) perceptions of TQM success. Table 20 demonstrates that the differences between the group identifying the

"pulic" as the primary customer of the agency and those indicating others approached significance in responding to internal distributive elements of the contingency factors. However, as tables 21 demonstrates, there is a significant difference between those managers who identified the "public" as the agencies primary customer and those indicating otherwise in leadership orientation, in favor of the "public" group. This group was more oriented toward transformational style of leadership.

TABLE 20

T-TEST FOR INDEPENDENT SAMPLES OF PRIMARY CUSTOMER AND CONTINGENCY FACTORS

| Variable | Means | | t-value | df | 2-Tail Sig |
|---|---|---|---|---|---|
| | Public | Mixed | | | |
| Distributive | 40.70 | 43.83 | -1.88 | 49 | 0.066 |
| Integrative/ Socioemotional | 66.76 | 68.13 | -0.5 | 49 | 0.622 |
| Boundary Exchange | 33.85 | 35.21 | -0.88 | 48 | 0.385 |
| Contingency Factors | 140.26 | 147.17 | -1.32 | 49 | 0.192 |

TABLE 21

T-TEST FOR INDEPENDENT SAMPLES OF PRIMARY CUSTOMER AND LEADERSHIP STYLES

| | Means | | | | 2-Tail |
|---|---|---|---|---|---|
| Variable | Public | Mixed | t-value | df | Sig |
| Transformational | 24.44 | 28.00 | -2.78 | 49 | 0.008* |
| Transactional | 27.26 | 27.67 | -0.33 | 49 | 0.745 |
| Representational | 11.85 | 12.08 | -0.29 | 49 | 0.775 |

TABLE 22

T-TEST FOR INDEPENDENT SAMPLES OF PRIMARY CUSTOMER AND RATINGS OF TQM SUCCESS

| | Means | | | | 2-Tail |
|---|---|---|---|---|---|
| Variable | Public | Mixed | t-value | df | Sig |
| Agency Success | 4.52 | 4.21 | 0.6 | 49 | 0.554 |
| Area Success | 4.96 | 5.04 | -0.15 | 49 | 0.884 |

No other significant relationships were appearant.

## Summary and Conclusion

This study required extensive blending of the raw data collected from the sample. The basic elements of data analysis included synthesis of demographic information into concise summary information for the presentation of the results. It was necessary in some instances (e.g., race, education, primary customer) to combine categories of responses from the participants. In these instances, the limited numbers showing a particular response provided a wide range and variety of answers that would have made it difficult to draw statistically apprpriate meanings from analysis of the data.

In a descriptive analysis of the collected data, an attempt was also made to indicate the overall picture in each category of information. Mean and standard deviations, where applicable, for sums and aggregates of each segment of the questionnaire were developed and presented. Data for

each segment of the questionnaire were represented separately and explained as necessary.

Inferential analysis of the data expanded the possibilities of further analysis. Correlational analysis, along with analyses of variances for and between contingency factor variables, and from leadership styles variables were performed. Additional analysis of variance and correlations were done to ascertain any significant differences which might further an understanding of the sampled population. Several areas of difference with statistical significance were discovered. Mainly the differences were related to the race variables and integrative socioemotional contingency factors, and race and contingency factors in general. Contingency factors were also shown to be significantly differentiated when viewed in light of how individuals rated their own area or agency rated as successful in implementing total quality management. With the exception of representational leadership style, others were also shown to be significantly differentiated when viewed from a rating of success in implementing total quality management.

In indicating whom the respondents thought the agency's primary customers might be, again transformational leadership scores were found significantly different between the groups showing the primary customer being the public, or

indicating several customers.

The analysis of data, both descriptive and analytical, must be viewed within the context of the research questions and parameters, as well as the assumptions forwarded prior to conducting the research. As such, this exploratory effort aimed at gaining possible knowledge from a theoretical basis about agency leaders' perceptions of agency processes that could lead to further understanding of the underlying factors assumed to be at work when total quality management is implemented in a public agency. As such, it is necessary to contend with the data at hand and limit conclusions based on the known elements, and leave to research the areas further that still remains in shadows.

# CHAPTER V

# RESEARCH CONCLUSIONS, CONCLUSIONS, AND RECOMMENDATIONS

## Introduction

The core intent of this study was to determine the Oklahoma Department of Corrections' upper and middle mangers' perceptions regarding behaviors necessary to implement total quality management successfully overall, and in that agency in particular. Further, this study sought to identify the leadership styles of the managers, and explore the interactive effects of their leadership styles, position longevity and position function on behaviors identified as necessary for carrying out total quality management.

A major reason leading to the inception and proposal of this study was a lack of substantial empirical evidence in the literature regarding implementation and process issues of total quality management in government agencies. In particular, as it was suggested by some researchers, the prevalence of mainly anecdotal accounts on the subject had further created an atmosphere of ambiguity and confusion in the literature. Furthermore, lack of a cohesive theoretical basis for studying a new application of total quality management techniques (i.e., in government agencies), demanded exploring new approaches, as well as providing opportunities for exploratory research in this area.

Following initial consultations, and negotiations with appropriate individuals in the Oklahoma Department of Corrections, in January 1997, permission was received to distribute a questionnaire to individuals occupying positions in upper and middle management with that agency. The members of this group were identified from a current organization chart of the department. The questionnaires were then distributed through each recipient's chain of command. Stamped and addressed return-envelopes for each questionnaire were provided in order to facilitate and encourage return.

The theoretical reference for developing the questionnaire (mean to the end), and the study stemmed primarily from the ideas advanced by researchers in the field utilizing contingency factors internal distributive, integrative and socioemotional, and boundary exchange as possible referent behaviors and conditions for assessing a public agency's potential for success in carrying out total quality management. Additionally, other theoretical propositions maintaining that certain leadership styles might be more conducive to implanting total quality management also provided an additional framework for this study. The leadership styles described as transformational, transactional, and representational formed the basis for

developing the second segment of the questionnaire instrument developed for this research study.

Following the collection and tabulation of the returned instruments the data were analyzed using a microcomputer and a statistical analysis package to summarize and format the data for analysis.

The first segment of the instrument for this study was constructed from the contingency factors purported to permeate through the structures and functions of public organizations. Another segment was developed utilizing previously evaluated sets of activities and behaviors associated with leadership styles: transformational, transactional, and representational types. Additional demographic data was collected to provide background information on the participants of the study.

The instrument was self-administered by the selected members of the Oklahoma Department of Corrections upper and middle management. Seventy-five questionnaires were distributed through the chain of command of each regional and central office. Participation was made entirely voluntary and return envelopes (pre-address and stamped) were provided with each questionnaire. A return rate of 72% (N=54) for the final analysis was realized.

The responses to the questionnaire were collectively

subjected to a methodical statistical analysis, both descriptive and analytical. Descriptive analyses were performed to ascertain basic statistical properties of the responses (e.g., means, standard deviations, etc.) and the respondents. Inferential statistical applications included correlation to measure relationships and analysis of variance to measure level of variances among, and within, distinct groups and categories of variables involved. The number of participants and the exploratory nature of the study did not dictate the use of any further statistical procedures of the results.

## RESEARCH CONCLUSIONS

Many levels of findings may be reported for the results of this study. Viewing the results from a strictly descriptive point of view, and with the filter of contingency factors and leadership styles described in the study, interesting glimpses of the population under study and the subject matter at hand may be discerned. Furthermore, this discussion will be framed within the context of the research questions posed from the onset of this study.

This research set out to seek answers to a specific set of questions. These questions emanated from the theoretical framework of contingency factors. These factors were deemed

potentially useful in analyzing how public organizations introduce and implement total quality management. In addition, with a body of literature strongly suggesting and emphasizing the role of organizations' leaders in implementing and promoting total quality management, an opportunity was presented to explore both the contingency factor, and leadership variables in the same organizational setting.

The first research question attempted to peer into the perceptions of the participants concerning behaviors necessary to successfully implement total quality management in general and in the Department of Corrections. The first segment of this research question was presented to the participants in the first section of the questionnaire through 52 questions gleaned from the three contingency factors (internal distributive, integrative/socioemotional, and boundary exchange).

The distributive aspects of organizational processes according to Durant and Wilson (1993) delve into the core of how problems in an organization are defined, solutions for them sought, and resources are managed. The overall responses for this series of questions indicated a moderate level of disagreement with most of them. The low mean score is reflected in percentage of respondents who thought the

existing resources in the agency were overworked and their distribution is not balanced. Respondents also seem to agree that the decision-making process in the agency remains in a top down structure and that the agency is faced with complex operational level problems. Although high agreement existed in congruence between management and staff on goals and objectives, the prevalent belief appears to be that too many goals are imposed on the agency by statue. Similarly, high levels of agreement seem to exist on the belief that the managers are encouraged to focus on performance effectiveness and compliance with statues. From a distributive aspect, the environment described by the participants appears to provide an opportunity for clear goal setting (i.e., through the blessing of clear statues) and an organizational environment that encourages a focus on the agreed-upon goals conducive to total quality management interventions. At the same time, the energy and resource loadings in the agency are perceived as over-stretched and limited, thus creating barriers to total quality management implementation.

The participants' levels of overall agreement with the statements in the integrative/socioemotional segment of the questionnaire represented a low to moderate range of agreement with the presented questions. Integrative

processes are primarily focused on staffing, leadership styles, and training aspects of organization management, according to Durant and Wilson (1993). From this perspective, the low level of agreement appears to reflect concerns regarding commitment from all agency levels in implementing total quality management principles, and readiness in all ranks for accepting such interventions. Furthermore, the results appear to indicate low levels of agreement with statements describing the agency's resistance to training, application of data collection techniques, and imposition of total quality management principles on suppliers. These perceptions appear to be indicative of possible weaknesses in these areas of importance to total quality management. Specifically very low levels of agreement are evident in support system for and facilitation efforts in implementing total quality management.

The last contingency factor examined, boundary exchange, is primarily concerned with the agency's interface with their main constituents (Durant and Wilson, 1993). The scores in this area also indicated a generally low to moderate level of agreement with the statements posed. Overall, there appears to be a perception of interference from outside interests, a great degree of legislative conflict regarding agency goals (in contrast to the earlier

notion that legislative oversight was limited), and turbulence in the agency work environment. Additionally, the diversity of the clients served by the agency appears to have been affirmed. All indications are that, from the boundary exchange perspective, the implementation of total quality management in this agency has faced serious challenges from the onset.

The analysis of the data appears to indicate that the general perception of the participants, with respect to behaviors necessary for successful implementation of total quality management, appears to be unfavorable. This is evident both in the indicated scores of the contingency factors segment of the questionnaire, and in the existence of a statistically significant correlation between their responses to perceptions of contingency factors and how they rated their perceptions of success in implementing total quality management in their area (mean of 5 on a 1-10 scale) and the agency as a whole (mean of 4 on a 1-10 scale).

The second research question related to the leadership styles of the participants. The impetus for delving into this aspect of the managers of the agency under study was the body of literature indicating the importance of the role of leaders and mangers in successful total quality management on the one hand, and notions of important leader

behaviors necessary, but not sufficient, for its successful implementation in government setting, on the other. Utilizing leadership styles identified in previous research as adequate to explore this phenomenon, a series of questions in this regard was also posed to the participants in this study. Previous research has suggested behaviors associated with transformational leadership style as more conducive to implementing total quality management in municipal government settings. This leadership style, as described by West, et. al. (1993), primarily is concerned with process of "communicating new, visionary goals . . . " (p. 177) and focuses on unmet goals, and human and organizational needs. The other leadership styles were transactional, primarily focused on obtaining commitment from others (voluntarily or coercively), and representational leadership, primarily focused on obtaining support and legitimization from the agency's stakeholders. Tabulation of the responses to the individual items representing each leadership style revealed that transformational leadership behaviors were not as prevalent in the agency as were transactional and representational styles. Among the behaviors identified as transformational types, consistently shown as low frequency behaviors, were training in total quality management, attempting bench-

marking, and providing rewards for group performance. Viewing the results for this section, in conjunction with results obtained from the contingency factors segment, assuming an inevitable possibility of correlation between low frequency of transformational leadership behaviors and low total quality management conducive behaviors may be enticing.

The temptation becomes even greater as one also observes that, there is a statistically significant correlation between ratings of success, in implementing total quality management, in the agency and one's own area with leadership styles, with the exception of representational leadership and success in the agency. However, the exploratory nature of the study would suggest prudence in drawing cause-and-effect or hypothetical conclusions without further exploration and verification.

A third research question sought to explore the relationship between the self-reported leadership behaviors, demographic characteristics (longevity in position and agency, time elapsed since training in total quality management, position function, gender, age, race and educational level) and perceptions concerning behaviors necessary to successfully implement total quality management in general and in the Department of Corrections

specifically. As indicated earlier, the various leadership types identified from the respondents' answers did not vary significantly, statistically speaking, in the way they indicated their levels of agreement or disagreement with contingency theory statements. This evidence could be indicative of several underlying dynamics. Remaining on the side of caution, the reader is reminded again of the exploratory nature of this research study and to remain skeptical of all findings until confirmed otherwise. However, it can be argued that leadership types described here may be of limited value in distinguishing the contingency factors (i.e., behaviors necessary for implementing total quality management) at an operational level as well as theoretical. However, in light of the significant correlation between each leadership type, and the manner in which they responded to the contingency factor items, hope is generated that this factor might have more promise in this area than has been borne out in this study and should be investigated further.

The analysis of data appears to indicate interesting glimpses into this group of respondents. From the standpoint of statistical significance, time elapsed since total quality management, gender and educational achievement were not found to be factors in the participants' responses

to contingency factor items. However, the race variable did account for a statistically significant result for contingency factors as a whole and, specifically, for the integrative/socioemotional items. As indicated earlier, statistically significant correlations were also obtained between how the respondents' views of contingency factors and their ratings of agency/area successes in implementing total quality management. The same pattern was also evident for this variable and leadership style categories of the participants.

## CONCLUSION

The particular aims of this research project was to add to the existing body of knowledge in an area with relatively shallow empirical evidence in support of its claims. With the vast array of propositions, pontifications, and zealous saber rattling on various sides of the issues involved, both in the hypothetical and practical realms, it becomes incumbent on the community of interested parties to rely more and more on factual representations, and less on anecdotal ruminations. There always is, and perhaps always will be, room for glorification and anecdotal embellishment of any one feature of a subject, while at the same time camouflaging its idiosyncracies to advance a cause. However, when it is all said and done, it is the objectively

researched, and painstakingly analyzed morsels of factual knowledge which might aid the future researcher in exploring ever more deeper and wider, and far more importantly, guide the bewildered practitioners in making rational choices and decisions.

Through this effort it has become clear that the perceptions of managers and leaders in organizations in general, and this agency in particular, holds the promise of unlocking some of the underlying dynamics at work in this organization. Specifically, our results suggest that the instrument of this research, and the underlying assumptions in its development, could be further developed as part of a system of exploration in this area. Furthermore, managers in this agency were found to be more alike than they are different in their perceptions Total Quality Management facilitating behaviors, leadership orientation, and perceptions of success levels in the agency. It also can be argued that the implementing of Total Quality Management in the agency has had an effect, albeit in a limited way. It is likely that gender and race differences in management/leadership studies generally, also exist in the Oklahoma Department of Corrections.

## RECOMMENDATIONS

The natural expectation from any type of inquiry into

any subject is an anticipation, nay an expectation of inroads to both future inquiries, and at a more important level, practical applicability for the effort. With a firm belief that nature must be allowed to take its course, one must come to grips with this part of the task, albeit with prudence and due diligence to an awareness of limitations imposed on the researcher/scholar, both from theoretical and practical points of view.

The exploratory nature of this research endeavor is in and of itself an invitation for viewing all findings in this study with due caution and skepticism, until supported otherwise, on the one hand, and an open invitation for exploration in any and all of the areas it attempted to cover on the other. This study appears to have scratched the surface of many important variables in this process. Each variable, position, ethnic background, education, the longevity in position, contributing to the results, whether generating statistically significant results or not, deserves further exploration and investigation.

Through the explorations and extrapolations of the results from the contingency factor statistics, leadership questions, and the interaction effects the following recommendations are in order:

- It is necessary to further identify and explore the

behaviors that might be unique to this agency as opposed to others.

- As an added element of data collection, the questionnaire should be followed up with interviews, to gain further insight into the specific answers. In addition, corroborative data should be collected from agency records, and possibly third parties, to support further and strengthen the conclusions.
- The low to moderate agreement levels with the statements relating to behaviors necessary for successful implementation of total quality management tasks the agency in exploring each item further, and possibly through focus groups and available problem identification procedures attempt to pinpoint areas of concern. Reconciling factual matters with perceptual reckonings might aid in better communication and in and of itself discover serendipitous paths to achieving agency goals through clarified perspectives.
- Two areas worthy of further investigation and exploration are the apparent homogeneity of the leaders of the agency in thought and behavior as a whole, while at the same time showing signs of differences in those aspects when viewed from an ethnic background point of view. Furthermore, with the deduction that this group

of respondents represented what appears to be a stable group of employees, a slight exhibition of negative correlation with agreeable statements in total quality management statements might be worthy of further review.

- Although a transformational leadership style has been purported to be most effective in advancing total quality management, the low incidence of transformational leadership behaviors exhibited in this sample should serve as yet another avenue of further exploration and investigation. However, uniqueness of the agency and its unique problems should be factored in as possible intervening variables.
- Total quality management principles put a great deal of importance and emphasis on identifying customer(s) for whom the entity toils, and on subsequently gearing its processes to meeting the needs of the customer(s). The results obtained from this sample were tabulated based on a dichotomy indicating either a singular answer (i.e., "public" or "society"), or answers indicating more than one customer. The existence of a significant difference in the transformational leadership style between the scores for these groups indicates a possible need to clarify the issues involving customer

definitions within the agency.

It is at the conclusion of every effort, be it research or not, that hindsight acquires perfect vision and it somehow becomes clear that had other tactics been applied the destination reached could have been more promising. Such is the case with this study as well. There are areas of results that remain ambiguous, if not more puzzling, than when the study was began. However, the hope remains that this exploratory effort has provided a foundation to build future structures so that additional insights in this area may be gained.

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Appendix A

# Survey Instrument

**Total Quality Management in Government**
**(Contingency Factors)**

You have been identified as a leader in your agency who has received some training in total quality management .
Each statement below describes general aspects of total quality management implementation in government agencies. Please read the items carefully and indicate your level of agreement for each. Feel free to add additional comments at the end of the survey/questionnaire. Your responses to this survey will be held in strictest confidentiality/anonymous

| | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|
| 1 Management and staff agree on the agency's goals and objectives. | 1 | 2 | 3 | 4 | 5 |
| 2 Statutes regulating this agency's activities are clear. | 1 | 2 | 3 | 4 | 5 |
| 3 This agency has too many goals imposed by statutes. | 1 | 2 | 3 | 4 | 5 |
| 4 This agency's managers are encouraged to focus on performance effectiveness. | 1 | 2 | 3 | 4 | 5 |
| 5 This agency's managers are encouraged to focus on compliance with goals set by statutes. | 1 | 2 | 3 | 4 | 5 |
| 6 Problems associated with this agency's goals are complex. | 1 | 2 | 3 | 4 | 5 |
| 7 Problems at operational levels are generally complex. | 1 | 2 | 3 | 4 | 5 |
| 8 Operating level decisions are complex. | 1 | 2 | 3 | 4 | 5 |
| 9 Operating level decisions are vulnerable to legislative or court challenges. | 1 | 2 | 3 | 4 | 5 |
| 10 The decision making process in this agency is open. | 1 | 2 | 3 | 4 | 5 |
| 11 Access to the decision making process in this agency is through a top down structure. | 1 | 2 | 3 | 4 | 5 |
| 12 Individual input into decision opportunities is encouraged on a regular basis. | 1 | 2 | 3 | 4 | 5 |
| 13 Resource distributions in this agency are balanced. | 1 | 2 | 3 | 4 | 5 |
| 14 Resources in this agency are strained and overworked. | 1 | 2 | 3 | 4 | 5 |
| 15 Postponing decisions are common. | 1 | 2 | 3 | 4 | 5 |

(Contingency Factors)

| | | | | | | |
|---|---|---|---|---|---|---|
| 16 | The implementation of TQM in this agency addressed the existing organizational cultural values. | 1 | 2 | 3 | 4 | 5 |
| 17 | Commitment to organizational cultural change exists at all all levels of this agency. | 1 | 2 | 3 | 4 | 5 |
| 18 | Quality goals and continuous improvement are easily measured in this agency. | 1 | 2 | 3 | 4 | 5 |
| 19 | The results of our organization's efforts are easy to measure. | 1 | 2 | 3 | 4 | 5 |
| 20 | Agency managers are willing to collect data when it does not interfere with other desirable activities. | 1 | 2 | 3 | 4 | 5 |
| 21 | Agency staff have adequate levels of readiness to implement total quality management. | 1 | 2 | 3 | 4 | 5 |
| 22 | Upper management in this agency have strategically implemented total quality management. | 1 | 2 | 3 | 4 | 5 |
| 23 | Total quality management has had an effect on activities central to this agency's mission. | 1 | 2 | 3 | 4 | 5 |
| 24 | Employees resist reforms that they perceive as conflicting with maintaining the agency's mission. | 1 | 2 | 3 | 4 | 5 |
| 25 | Legislators micromanage this agency's activities. | 1 | 2 | 3 | 4 | 5 |
| 26 | Statistical methods are applied to agency's programs and problems. | 1 | 2 | 3 | 4 | 5 |
| 27 | Our agency's leadership supports integration among various departments. | 1 | 2 | 3 | 4 | 5 |
| 28 | In this agency, results are generally needed quickly. | 1 | 2 | 3 | 4 | 5 |
| 29 | Organizational resources are readily available in this agency. | 1 | 2 | 3 | 4 | 5 |
| 30 | Employees in various departments of the agency are willing to change. | 1 | 2 | 3 | 4 | 5 |
| 31 | The public is indifferent to changes in this agency. | 1 | 2 | 3 | 4 | 5 |
| 32 | Quality improvements in this agency depends on other agencies' resources. | 1 | 2 | 3 | 4 | 5 |
| 33 | Other agency input in implementing total quality management in this agency is measurable in monetary terms. | 1 | 2 | 3 | 4 | 5 |

(Contingency Factors)

| | | | | | | |
|---|---|---|---|---|---|---|
| 34 | Implementing TQM requires pooled resources within this agency. | 1 | 2 | 3 | 4 | 5 |
| 35 | Adhering to TQM principals are required of outside providers providers by the agency. | 1 | 2 | 3 | 4 | 5 |
| 36 | Working in project teams is linked to performance appraisal and reward systems in this agency. | 1 | 2 | 3 | 4 | 5 |
| 37 | The agency has establish total quality support systems before it has engaged employees in mass training for total quality management. | 1 | 2 | 3 | 4 | 5 |
| 38 | Total quality management efforts have only been emphasized emphasized at the lower levels in this agency. | 1 | 2 | 3 | 4 | 5 |
| 39 | Total quality management facilitator roles have been been well-synchronized with client-system roles. | 1 | 2 | 3 | 4 | 5 |
| 40 | Main agency activities are protected from interference by outside interests. | 1 | 2 | 3 | 4 | 5 |
| 41 | Managers can exercise discretion in making process changes. | 1 | 2 | 3 | 4 | 5 |
| 42 | It is easy to get consensus over the design and implementation of quality improvements. | 1 | 2 | 3 | 4 | 5 |
| 43 | Total quality management efforts in this agency have focused on internal (non-public) processes. | 1 | 2 | 3 | 4 | 5 |
| 44 | The agency's culture is dominated by a single professional subculture. | 1 | 2 | 3 | 4 | 5 |
| 45 | This agency serves a widely diverse clientele. | 1 | 2 | 3 | 4 | 5 |
| 46 | There is a great degree of legislative conflict affecting the activities of this of this agency. | 1 | 2 | 3 | 4 | 5 |
| 47 | There is a great degree of "publicness" associated with targeted tasks of this agency. | 1 | 2 | 3 | 4 | 5 |
| 48 | There are many outside groups able to influence the agency's programs affected by the TQM efforts. | 1 | 2 | 3 | 4 | 5 |
| 49 | The work environment in this agency is turbulent. | 1 | 2 | 3 | 4 | 5 |
| 50 | This agency's work environment is flexible. | 1 | 2 | 3 | 4 | 5 |
| 51 | Most changes attempted utilizing TQM in this agency are limited in nature and do not affect activities central to the agency's mission. | 1 | 2 | 3 | 4 | 5 |
| 52 | Delays caused by resistance to TQM activities harms this agency's mission. | 1 | 2 | 3 | 4 | 5 |

The following statements describe management behaviors describing daily interactions in a typical organization. Please read each behavior carefully and indicate your level of engagement in such interactions during the past year.

| During the past year (calendar year 1995) how often did you . . . | Not very often | | | | Very often |
|---|---|---|---|---|---|
| 1 identify customer needs? | 1 | 2 | 3 | 4 | 5 |
| 2 increase coordination among units? | 1 | 2 | 3 | 4 | 5 |
| 3 monitor internal performance? | 1 | 2 | 3 | 4 | 5 |
| 4 have input in reformulating mission statements? | 1 | 2 | 3 | 4 | 5 |
| 5 train in total quality management techniques? | 1 | 2 | 3 | 4 | 5 |
| 6 request a budget for quality improvement? | 1 | 2 | 3 | 4 | 5 |
| 7 visit other sites? | 1 | 2 | 3 | 4 | 5 |
| 8 attempt benchmarking processes? | 1 | 2 | 3 | 4 | 5 |
| 9 provide rewards for group performance? | 1 | 2 | 3 | 4 | 5 |
| 10 recognize achievement? | 1 | 2 | 3 | 4 | 5 |
| 11 participate in mid-level implementation teams? | 1 | 2 | 3 | 4 | 5 |
| 12 initiate or participate in a pilot project? | 1 | 2 | 3 | 4 | 5 |
| 13 sanction grass roots initiatives? | 1 | 2 | 3 | 4 | 5 |
| 14 monitor employee satisfaction? | 1 | 2 | 3 | 4 | 5 |
| 15 consistently use new performance measures? | 1 | 2 | 3 | 4 | 5 |
| 16 use top-down planning? | 1 | 2 | 3 | 4 | 5 |
| 17 assess your units' readiness for change? | 1 | 2 | 3 | 4 | 5 |
| 18 develop a plan for cultural change? | 1 | 2 | 3 | 4 | 5 |
| 19 obtain support from superiors. | 1 | 2 | 3 | 4 | 5 |
| 20 obtain support through community participation? | 1 | 2 | 3 | 4 | 5 |
| 21 obtain support from influential citizens? | 1 | 2 | 3 | 4 | 5 |
| 22 obtain support from other political leaders? | 1 | 2 | 3 | 4 | 5 |

(Demographics)

Who do you think is/are our primary customer(s) for this agency?

How would you rate the TQM implementation success in this agency?

Poor Excellent
1 2 3 4 5 6 7 8 9 10

How would you rate the TQM implementation success in your area of influence?

Poor Excellent
1 2 3 4 5 6 7 8 9 10

When did you attend total quality management training in your organization? _____
(month/year)

When was the first time you heard about total quality management?

How long have you been in your present position? ____years ____months

How long have you been working for the department? ____years ____months

Which of the following best describes your current position?

___support OR ___operations ___field OR ___non-field

Gender: ___Male ___Female

Race: ___Caucasian ___African-American ___Native American ___Other_____

Age: _____

What is the highest degree you have completed? ___High school or equivalency
___Some undergraduate courses
___Associate
___Bachelor's degree
___Some graduate courses
___Master's degree
___Doctorate
___Other (specify)_____

Appendix B

Department of Correction's letter of approval to conduct research

# MEMO

1-10-97 Approved James A Saffle

From: ~~TO~~ James Saffle, Interim Director

To: ~~FROM~~ Dan Lawrence, Research Coordinator

**SUBJECT** RESEARCH REQUEST

**DATE** January 10, 1997

I have, as instructed, investigated the cost to the department of corrections of supplying Mohsen Pouretedal with the data he needs for his doctoral dissertation. Mohsen will handle all of the mailing and other aspects of getting the survey completed. All we will do is commit two hours of David Scheidel's time to pull the sample. Paper costs will be negligible, probably not more than two or three cents.

The cost to the department will be $33.42 (Dave's time). Mohsen understands this and has agreed to pay these costs. I recommend approval so that we can begin the data collection. Thank you.

RECEIVED
JAN 13 1997
SUPPORT SERVICES

Mohsen,
When you get the sample make out a check to DOC + send to Barbara Bearman.
Thanks
Dan 1-14-97

Appendix C

Department of Correction's Organizational Chart

# OKLAHOMA DEPARTMENT OF CORRECTIONS