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Factors Related to Employee Perception of Their
Leaders' Commitment To Implement
Continuous Quality Improvement

Dissertation

Presented in Partial Fulfillment of the Requirements of
the Degree of Doctor of Philosophy in
the Graduate School of The Ohio State University

By

Lee Jones, B.A., M.A., M.A.B.A.

* * *

The Ohio State University

1995

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Dedication

This dissertation is dedicated to my Heavenly Father, Jesus Christ. It is through His grace and power that I have survived this academic ritual. This dissertation is also dedicated to my late parents, Ms. Carrie Jones and Mr. Levi Jones. My mother died when I was seventeen. Her abiding love, support, and strength have provided constant peace during many lonely nights. My father died during the early stages of my doctoral studies. Although my parents are not physically with me, their early teachings continue to provide guidance encouragement and hope. Through their vision, I will forever be dedicated to a life of unconditional love.

Finally, this dissertation is dedicated to the millions of Africans who gave their life so that people like me could obtain a formal education.

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Third, thanks go to the Business and Administration central administration staff for their commitment to quality. I am forever grateful to Kim Clements and her student staff for spending days entering data from over 800 instruments.

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Last, there are several people who are not specifically mentioned, but who have played a significant role in this endeavor. I will be forever grateful to each of you.

Thank you!

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Minor Field:	Adult Education

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Chapter I

Introduction

There is growing unrest about the quality of higher education from local, state, and federal levels of government. The poorly prepared college graduates, uninformed professionals, outdated instructional methods, dysfunctional workflow processes, leader unwillingness and inability to change are just a few of the challenges that higher education is experiencing. Other challenges include a major dispute over the mission of the university; meeting the needs of a more diverse student population; the mistrust that many external constituencies have of the university; fiscal exigency (Cornesky, McCool, Barnes, and Weber, 1992). Quel (1989) purports that there is a major erosion of confidence in the leadership and the quality of higher education in this country. Respect for colleges and universities is in grave danger.

Universities are generally seen as large enterprises that have assets in excess of a billion dollars. The faculty and administrative staffs of America's universities are the largest group of intellectuals in any formal

educational setting. Although universities spend millions of dollars for faculty and administrative salaries, universities are still an enigma and a paradox (Anderson, 1993). Many within the university do not know where the university is headed (Kerr, 1990). The problems within universities are not necessarily with faculty/staff salaries, rather with the university's unwillingness to respond to the needs of society and leaders who are unable to respond to change.

In the past decade, higher education seemingly settled into a conglomerate of intellectual islands where the educational and social needs of a variety of students were met. During the beginning of the decade of the 1980s, higher education enjoyed what many in the academy called "fiscal flexibility" (Rhodes, 1992). The academy had the luxury of sincere collegiality, expanding budgets, that resulted in an increase in academic and administrative departmental spending, and a leisurely work place. Universities had no real or pressing issues that threatened their future. In fact, many of the faculty and administrators saw the university as a safe haven where accountability for the academic and administrative performance was not an issue (Selin, 1991). The university functioned practically without worry of major external influences.

The recent enrollment shifts within the academy have caused many universities to take a good look at themselves. This self-exploration came about as a result of the shifting needs that the increasing diverse demographics placed on higher education. It is predicted that by the year 2000, over half of the student population will enroll part time and will be nontraditional (Johnston and Parker, 1992). Not only are universities competing for students, but students attending college are beginning to assess the benefits of attending college. They are asking important questions. For example, How will the university's academic and administrative support programs assist me in achieving a degree? Additionally, many technological advances have made it possible for some universities to offer long distance learning. Business and governmental organizations continue to compete with the academy through offering their own training programs for their employees that prepare them for job assignments. For example, in 1992, corporate America spent over 48 billion dollars in training programs (ASTD, 1993). This was in response to the dissatisfaction with the "products" (i.e students) that higher education produces.

Finally, the economic conditions of the American economy does not look good for the foreseeable future. The decrease in funding for higher education will keep universities focused on new and creative ways to meet the needs of a changing world. In the words of the former

President of Harvard University (1990), Ernest Bork, "there has to be a renewed approach to how we do things within the university."

In summary, the challenges in the environment, competition for funds and students, doing more with less are just a few issues that have forced higher education to make a major transformation and explore alternative ways to provide visionary leadership as the twenty-first century approaches.

Statement of The Problem

Like many other profit and non-profit organizations, higher education has been plagued with consistent criticism about the lack of administrative and academic leadership to manage these organizations, given the major transformation that is occurring. Problems with administrative leadership range from their inability to actually manage the changing organizational dynamics to operating a dysfunctional system that is based on fear. The lack of vision, insight and administrative skill contributes to the lack of formal and informal management training.

During the rapid growth of higher education in the 1960s and 1970s, unskilled or inefficient managers set the stage for long term problems associated with strategic planning and development, fiscal management, organizational development (Cornesky, 1992). Administrators without

leadership qualities or visionary ability generally yield to their fear of the unknown when confronted with change. These and other problems with higher education's leadership affects how employees view the organization and the level of trust they have in their leaders' ability to manage them. No longer can universities ignore the public's criticism of its leadership as a mere expression of "intellectual shallowness" (Keith and Girling, 1991) Economic forces, among other drastic societal changes, have forced the university to explain itself, defend its central character and demonstrate that its services are worth the cost. The tensions and conflicts that beset the university are just a mere reflection of the problems that all governmental, profit and nonprofit business organizations are facing.

The journey of self-reflection that leads to a quality driven organization is a struggle for higher education because of its long history and traditions. In an attempt to ensure that higher education's customers are satisfied and to take the pressure off the academy from its external stakeholders, many institutions have begun to implement quality initiatives. Weber and McCool, (1993) suggested that if leaders within higher education follow the points of the quality gurus, like W. Edwards Deming, Philip Crosby, Joseph Juran and Imani, they will have:

- * constructive competition
- * shared values and unity of purpose

- * collaboration on broad issues
- * simulations and synergistic planning
- * emphasis on responsibility to contribute
- * decentralized partnerships built upon situational management
- * team accountability
- * constancy of purpose
- * win-win resolution to conflicts via conflict management
- * and probably most important, a superior professorate, student body and administration

In summary, the organizational culture will be transformed and front line employees will become a part of the planning and implementation of organizational goals.

Continuous Quality Improvement (CQI) is a proactive management philosophy created by Americans during World War II. CQI was first adopted by the Japanese to help improve the quality of products, expand the paradigms of organizational leaders and increase the performance of all employees within the organization.

Deming (1989), Juran (1990), and Crosby (1990) have been the leading pioneers and scholars in the quality movement. They offer theoretical foundations and many practical techniques on how the university can be transformed. Currently the university is a loosely run, poorly managed, departmentalized bureaucracy. Implementing

the quality techniques offered by these scholars will lead to a self directed organization that has a defined mission; organized processes for implementing its goals and objectives; value driven leadership who believes in the human potential and who makes things happen; a commitment to customer satisfaction; and an effective means for ensuring quality throughout the organization (Bonstingl, 1993).

There are many reasons that make it difficult to incorporate the CQI principles into the university. Today's state universities find themselves competing with other state agencies and business sectors for limited tax dollars. In response to the consistent dissatisfaction with higher education's graduates, many corporations offer their own specialized training programs. There is also competition between and among departments on campus. To survive, universities must rethink their critical processes and how they can more effectively provide services that meet the needs of their students.

Deming (1989) offered the following management recommendations that need attention when implementing the continuous quality improvement process:

1. develop top leadership commitment
2. recognize quality improvement as a system
3. define it so that others will recognize it
4. analyze change behavior that lead to service
5. measure the quality of the system

6. develop improvements in the quality of the system
7. define who the customers are
8. measure the gains of quality and link them to customer satisfaction
9. develop plan to ensure constant results
10. attempt to replicate the improvements in other areas of the organization.

The university's passionate convictions and traditional ways of doing business and its tightly held assumptions about quality make it difficult to incorporate a shift in the way it does business.

There are at least four major assumptions that are the basis for why universities and public colleges must change and consider implementing continuous quality improvement initiatives (Lewis and Smith, 1993):

1. It builds on the traditions of concern for quality that has characterized higher education in the United State and throughout the world.
2. It recognizes the need for the continuous development of the people who are a part of the higher education system, whether faculty, staff or students.
3. It involves principles applicable to institutional administration and classroom teaching, thus bridging the gap between traditionally separate parts of the system.

4. It helps us to meet the challenges of the twenty-first century.

The perception that many external constituencies have of universities is that universities have focused much of their energies on meeting the needs of a few self-centered faculty and have lost control of and knowledge about who its real customers are. The university's quest for faculty personal achievement has lost perspective on the changing student demographics and why these students are demanding more from universities. CQI's goal within the university is not to change the mission of higher education, rather it is to ask fundamental questions: What is the role of the university? Who are the university's customers? How does the role of the university lend itself to the changes that are taking place externally? How must we change to align ourselves with society's needs? These and other questions challenge universities to review their role and mission. These questions force the university to rethink how they operate and how their contributions impact positively on the students.

Lewis (1992) cautioned the university on making the assumption that CQI can resolve all the issues surrounding the functions of a university. However, if universities approach the CQI process as a way of reviewing the critical processes and examine ways that will connect all of its "loose" parts to better serve the students--and ultimately

make a measurable impact on society--then they will initiate a quality program that will be successful.

Universities that have adopted the principles of CQI are faced with the inevitable challenge of making significant organizational cultural changes. The American Association of Quality Control (1993) recently published a list of over 100 colleges and universities that have begun to implement CQI within their organizations. Unfortunately, most of the universities that have begun to implement CQI have focused their CQI techniques on employees' participation in decision making. This approach is typically implemented without the benefit of assessing the need to change the culture of the organization so that it can take full advantage of the experiences and skills of its human resources (Winter, 1992). Barriers to the successful implementation of CQI within the university fall in two categories:

1. Universities see themselves as participatory. Since they are structured both in a hierarchal and matrix form, they assume that faculty and staff input is present and effective.
2. Tradition and standard organizational culture determine the receptiveness to and application of CQI (Bensimon, Neumann, and Birnbaum, 1992).

A National Center for Research Survey (1991), which sought to determine faculty and administrators' perceptions of their work place, shows that many non-teaching personnel within the university stated that they felt that faculty had too much influence on institutional and academic policies. Almost all the participants polled in the study said that the major barrier to the successful implementation of CQI relates to their leader's (university president) lack of demonstrated commitment toward CQI.

Purpose of The Study

Many public universities have begun to initiate quality initiatives that fit their unique structure. While some universities have focused quality initiatives on the entire university, many have implemented CQI within the administrative functions of the university.

The purpose of this study was to investigate the factors related to how front line employees within the Office of Business and Administration at The Ohio State University perceive their managers' commitment toward implementing CQI on the job.

Of specific interest, the study explored the relationship between middle managers' perceived knowledge and skills of and commitment toward CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job.

The objectives and hypotheses for this study were:

Objective 1.

To describe the independent and dependent variables of the population.

Main Independent Variables

- a. Middle managers' perceived knowledge and skills of CQI
- b. Front line employees' perception of their own knowledge and skills of CQI
- c. Middle managers' commitment toward implementing CQI on the job.

Extraneous Variables

- d. Front line employees' attitude toward their manager
- e. Front line employees' attitude toward their job
- f. Front line employees' length of time on the job
- g. Middle managers' length of time on the job

Main Dependent Variable

- a. Front line employees' perception of middle managers' commitment toward implementing CQI on the job.

Objective 2.

To investigate possible relationships among selected independent variables.

- Ha. 1.** There is a positive correlation between middle managers' perceptions of their knowledge and skills

of CQI and their commitment toward implementing CQI on the job.

Objective 3.

To investigate relationships among selected independent variables and the dependent variable.

Ha. 2. There is a positive correlation between front line employees' perceptions of their own knowledge and skills of CQI and front line employees' perceptions of their managers' commitment toward implementing CQI on the job

Ha. 3. There is a positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perception of their middle managers' commitment toward implementing CQI on the job.

Significance of The Study

The leader's role in facilitating change within higher education is a difficult one as we approach the twenty-first century. The role of today's leaders in higher education is to look carefully at the critical processes of the university and define a clear vision and mission that will focus the university to help achieve society's and customers' needs (Thor, 1993; Murgatoryd & Morgan, 1993). The academy's quest to deal with writing such a mission statement raises many questions. What unique contributions

should the university make to society? How does what the university teaches relate to what is happening in the broader society? What types of services should the university aim to provide for its broad student constituency? (Schmoker and Wilson, 1993). Whatever the academy chooses as its purpose, it must commit itself to implementing the principles of CQI. More importantly, leaders within higher education must have the knowledge skills, and attitudes to demonstrate its commitment to involve every level of the organization to assist in the transformation process.

A review of the quality literature indicates that there has been little written about applying CQI to Higher education (Holt, 1993). There is even a smaller body of literature written about implementing CQI within higher education and the perception that employees have about its principles. Much of the quality literature focuses on business and industry.

It is apparent that quality initiatives are applicable to higher education (Abernethy and Serfass, 1992; Danne, 1993; Teeter, 1993). The significance and benefits of investigating employees' perceptions of managers' commitment toward implementing CQI is of major relevance. Almost all the literature on quality (Juran, Crosby, Deming, Collard et al.) purports that if CQI stands a chance of surviving in

any organizational setting, there must be strong leadership commitment from the top.

Many CQI studies speak to the need for leaders to improve their performance. The CQI principles are being applied to organizational settings without the benefit of employees' perception of their leaders. Investigating employees' perception of leaders' commitment to CQI within the higher education setting will open many avenues for future research in this area.

This study investigates the factors related to front line employees' perception of their managements' commitment toward implementing CQI on the job. Chapter I provides an overview of the problem and introduces the significance of the study. Chapter II provided a view of Frederick Taylor's scientific management philosophy and a theoretical framework on how his contributions to organizational development has contributed to today's management philosophies. A history of quality improvement and an overview of three of the leading pioneers within the quality field was discussed. The final section focuses on the role of leadership while implementing CQI in higher education.

Chapter III provides a description of the research procedures which include: research design, population, instrumentation, data collection procedures, and data analysis. Chapter IV highlights the findings followed by

tables that provides a more detailed description of the data.

Chapter V summarizes the conclusions and offeres recommendations for practice and future research.

Definition of Research Terms

The research terms listed below appear frequently. In an effort to facilitate a clear understanding of the reader's knowledge of these terms, definitions are offered to reduce ambiguity.

Continuous Quality Improvement

A management philosophy and set of concepts and methods employed throughout an organization with the mission toward continuously improving the product or service provided to the customer (Pike and Barnes, 1993).

CQI Implementation

The development of a proactive approach by the management to operationalize the principles of CQI and infuse its basic tenets throughout all levels of the organization.

Commitment

A conscious and demonstrated intent on the part of middle managers within the Office Of Business and Administration to affect change and implement the basic tenets of CQI within their departments.

Customers

The recipients of services rendered within departments. Within higher education, the recipients are the students and their parents, business and industry, who employ higher education's graduates, the organizations that contract for research, alumni, the people who receive technical services from the university...etc.

Focus Group Interviews

Structured group interviews designed to solicit qualitative data from front line employees and middle managers from pre-designed questions. The participants' responses were recorded and the individuals' names are protected.

Front line Employees

All employees with the Office of Business and Administration who are responsible for "getting the job done," including all non-directors/managers and senior administrators.

Perceived Knowledge of CQI

A person's reported opinion of his/her understanding of the basic tenets of CQI.

Middle Managers

All departmental directors/managers and senior assistant vice presidents employed by the Office of Business and Administration at The Ohio State University.

Process Improvement

A method for re-examining work process across the organization and improving upon it (Pike and Barnes, 1993).

Stakeholder Panel

The stakeholder panel is a group of internal and external customers of Business and Administration. The panel also includes front line employees, middle managers and senior level administrators from the Business and Administration Office.

Limitations of The Study

The major thrust of this study focuses on describing the factors that relate to specific perceptions that front line employees' have of their middle managers' commitment toward implementing CQI on the job. A major limitation of the study is its descriptive focus. The independent

variables are not manipulated and only specific extraneous variables were explored.

Second, the measures of the employees' perception of their managers' commitment toward implementing CQI are limited to the 818 employees within the Office of Business and Administration at The Ohio State University who completed the questions as of February 28, 1995.

Third, the study does not distinguish the respondents by race or gender. This is a limitation in that it is assumed that the responses to the question would vary depending on race and gender. While it is not the intent of the study to compare responses by race and gender, this is, yet another area of research to explore in the future.

Chapter II

Review of Related Literature

Introduction

In order to understand Deming and his contributions to management and quality, it is important to first understand Frederick Taylor and his contributions to the organizational development literature in the early 1900s, especially the limiting application of his school of thought to today's organization. Frederick Taylor's work is specifically addressed in greater detail because of the major influence scientific management has had on the evolution of organizational culture (Deming, 1990). After a brief presentation of some management paradigms, an overview of Frederick Taylor's scientific management philosophy, which became the chief management philosophy of the 20th Century, will be offered. An outline of the limitations of Taylor's work and how scientific management is used today is presented within the text. The second section deals with the history of CQI and a presentation of Deming (1990), Juran (1985) and Crosby (1988) quality paradigms. The

common principles of the quality movement followed by an overview of the results from a few Continuous Quality Leadership studies concludes the second section. The third section highlights the role of the leader while implementing CQI within higher education.

Overview of Management Philosophies

Many organizational development theorists have made significant contributions to the field of management and organizational development (Faylo, 1967; McGregor, 1985; Peters, 1980; Taylor, 1993; Weber, 1930 et al.). Many of these management philosophies continue to permeate today's governmental, business and educational organizations and have played a unique role in shaping how they have operated over the years and how leaders have managed their employees. Emerging from the industrial revolution and the machine age, early twentieth-century scholars (Frederick Taylor, Max Weber, Henri Fayol et al) tended to view their organizations as machines and their employees as cogs (Bolman & Deal, 1987). For example, Weber's theory of organizational bureaucracy was developed from a mechanistic perspective. Weber used studies from sociology, religion, and economic life to develop how leaders should function within organizations. He was concerned with the relationship of authority figures and structure. His major contribution to the development of organizations was his theory of

efficiency and why there is a need for structure. His contributions distinguished between authority and power. He defined power as "the chance for men to realize their own will in a communal action, even given the resistance of others who are participating in the action." He also stated that bureaucratic "legal authority" is one that justifies the power that managers have over their employees. He believed that the legitimacy of the manager to give commands rests upon the rules that are rationally established by enactment, by agreement or imposition. Orders are given in the name of the impersonal norm, rather than the name of personal authority.

Weber outlined three types of authority present in organizations:

1. charismatic,
2. traditional, and
3. rational-legal.

He described charismatic leadership as the personal characteristics and qualities of the leader that sets him/her apart from "ordinary people." An organization led by this type of leader is unstable, in that once the leader leaves his post, there is a split among the ranks. Most of the organizational employees begin to fight over who will reign as the next new leader.

The traditional type of organizational leader succumbs to established norms, traditions, and rules. The leaders

inherent in an organization with its traditions and customs. The authority of a traditional type of organization takes on a bureaucratic nature. The organization is bureaucratic because the focus becomes one of structure and is designed to achieve specific goals. This type of rationality suggests that to accomplish specific goals, every person in the organization contributes to the completion of the goals. The organization consists of rules, norms, and people who exercise "legal authority" to accomplish departmental goals. Weber strongly believed that the bureaucratic structure is an efficient system filled with coordination and control. It systematically shows the ability to calculate the consequences of actions.

In summary, Weber developed his theory of organizational development using historical concepts of capitalistic economic systems, which are based on the rational long term calculation of economic gain. If economic gains occur, there is no need for long term planning.

Toward the middle of the century, organizational development theorists began to concentrate on several other functions within organizational development (Drucker, 1987). They studied parts of the entire organizational design (human behavior; planning and decision making process; leadership styles). Perhaps the single most important piece of knowledge gained from these inquiries is that any one

part of the organizational design, when utilized to the exclusion of the others, is less effective than when used in conjunction with others (Bryman, 1986).

Bolman and Deal (1987) categorize the management philosophies into four main groupings:

1. Rational Systems Approach (RSA). The Rational Systems Approach emphasizes design, technology and efficiency (Dachler, 1967; Galbraith & Nathanson, 1978; King, et al).
2. Human Resource Model. The Human Resource Model concentrates on individuals and their "fit" with the organization (Austin, 1985; & Argyris, 1979).
3. Political Perspective. The Political Perspective analyzes power and conflict within the organization (Baldridge, 1971 & Brown, 1982).
4. Symbolic Perspective. The Symbolic Perspective looks at how organizations make meaning of their different parts through ritual, ceremonies and positional power (Anderson & Kelly, 1987).

Many of today's organizational development scholars have incorporated two or more of these perspectives while managing their organizations (Seymour, 1992; Cornesky, 1993). While there have been significant differences in organizational development perspectives, no other management perspective has influenced the operation of American

organizations as does Frederick Taylor's scientific management.

Perhaps the most significant contribution of Taylor's work is his initial theory of scientific management. Taylor believed that management needed to create a process where both employers and employees work together to accomplish organizational goals. He believed that the objective of management is to secure maximum production from the employees. Taylor also believed that managers should control employees in getting the job done. He further believed that there needs to be a process in the organization where by the employees are paid by the amount of work that they produce. Managers need to control the employees by developing a system that leads to the most efficient method of production. Taylor's major thrust was to provide managers with a pay range that mirrors the amount of work that employees perform. He purports that employees will work harder if their work leads to more pay. Figure 1 highlights the progression of management theory from the 1900s through the introduction of Total Quality Management.

Figure 1. Progression of Management Theory from the 1900s

Barnes, A. And Pike, J. (1994), *TQM in Action! A Practical Approach to Continuous Performance Improvement*. Champion & Hall. Boundary Row: London SE1 8HN U.K.

History of Scientific Management

Frederick Winslow Taylor (1856-1915), an American engineer, is known as the father of scientific management. The major framework of his managerial philosophy was production quotas enforced by new pay and personnel systems designed to require workers to meet scientifically determined work standards which were well above the accepted norms. The employees who worked toward these goals increased their outputs tremendously and almost doubled their pay. Scientific management is said to have been highly successful in increasing the industrial outputs of the United States.

As an unskilled laborer, Taylor came in contact with many deliberate output restrictions. Taylor classified this low output as two types of soldering on the part of the employees: natural soldering and systematic soldering. Natural soldering was "natural instincts" and the tendency of men to take it easy on the job. Systematic soldering was the workers' careful thought and reasoning as to what they felt would best promote their interests. He suggested that employees deliberately kept their employers ignorant of how fast work can be done. Another observation was that management was ignorant of what it took to produce outputs on the plant floors. The three most common themes of Taylor's management thinking during this period were:

1. The concept of organization as a vast and complex mechanism amenable to scientific analysis and, ultimately, control and prediction in Newtonian terms via standardization of all work.
2. The inappropriateness of the craft guild system under "ordinary management," which kept the knowhow of production in the heads of the workers and foremen.
3. The unequal division of labor between management and worker.

Once Taylor rose to the ranks as manager he led an experiment with these thoughts and his obsession with efficiency. He systematically broke down the different tasks to determine the optimum time to complete each task. If a task could be completed by a less skilled worker, it was shifted away from the skilled one. The "time-and-motion studies" originated from Taylor's experiment.

Through these scientific inquiries he was able to define what activities constituted a job task, which employee's performance should be measured, and what allowances were to be made for differences in materials and uncontrollable interruptions. After observing the work of the employees, he studied how much additional pay would be offered to achieve maximum output. He decided upon the pay ranges from 30% to 100% over what their normal pay range would be. He labeled this the "task system." "The setting of a measured

standard of work for each man to do each day," for which he was well paid--if he could meet the work standards. If the employees did not meet the standards, they would be severely penalized by Taylor's new piece rate pay system.

This new system resulted in a more management controlling work environment. Taylor firmly believed that there is one best way of doing things. He expected more from management. He suggested that management perform at least 50% of the work within the organization. Management should be proactive in selecting, training, and motivating the employees. He also felt that it was important that management work very closely with employees to ensure that the standards were being adhered to. When this philosophy was followed, productivity rose. The beliefs that employees should receive pay raises proportionate to their level of output and that management should control the employees' productivity, still play a significant role in how some managers operate today (Martin, 1994).

Taylor clearly intended to run the place with only the best workers. He rationalized this to himself on the basis that scientific management always created more jobs, which the ordinary men who had been forced out could take. A summary of Frederick Taylor's Scientific Management Principles are outline below:

1. Develops a science to replace the old rule of thumb knowledge of the workmen, which the workmen kept in their heads. Reduces this knowledge to law.
 - * Provides no principles of learning, just a transfer of knowledge (no indication of how)
 - * Suboptimizes at the task level
 - * Expects identical results in future
 - * Does not consider variation
 - * Breaks the draft guild system
 - * Gives revolutionary, discontinuous improvement
2. Scientifically selects the workmen, then progressively develops them.
 - * Makes assumptions of knowledge and ability to select workmen
3. Brings together the science and the scientifically selected workmen.
 - * Provides extrinsic motivation
 - * Conditions company's loyalty to both workers and management on the compliance with work standards
 - * Demands quota for above average performance for all workers
4. Divides almost equally the work of the establishment between the workmen on one hand and the management on the other.
 - * Assumes that everyone needs to be supervised

- * Creates multiple layers of supervisors to enforce standards and quotas
- * Creates ladder for ambitious managers to climb.

An overview of Taylor's scientific management limitations compared with how "taylorism" is practiced in many of today's organizations can be found in appendix A.

History of Quality Improvement

In complete contrast to Frederick Taylor's scientific management philosophy, Edward Deming (1986) is credited with popularizing Quality Management within America's businesses. Deming along with Juran (1988) and Crosby (1985) are cited as the quality "gurus." They have worked relentlessly over the last 50 years to develop the concepts and principles of quality improvement. Deming is credited with popularizing quality improvement. During World War II Deming felt that American businesses could not play a leading role in the global economy unless they radically alter their management philosophies. He offered several management philosophies that he believed would revolutionize American businesses and industries (Bonser and Swiss, 1992). Deming suggested that his management principles, if applied, would rectify, what he regarded as, the "deadly sins" of American businesses. A lack of constancy of purpose within the organization; an overemphasis of on short-term goals, strategies and objectives; lack of long-term perspectives

and planning; damaging work flow systems; and too much focus on outcomes were at the heart of Deming's management philosophy. Deming was first and foremost a statistician who contributed to the improvement of quality through the application of Statistical Process Control (SPC) to work situations. The essential element of Deming's work is reducing variations with products produced. He purports that random or common causes for variations are due to the processes themselves. He estimates that 94% of the problems in the product are due to deficiencies in the system rather than the operators of these systems. Managers induce variations through their own practices and policies.

Deming defines quality as "a predictable degrees of uniformity and dependability at low cost and suited for the market." His fourteen points for quality are outlined below:

1. Create constancy of purpose toward improvement of product and service with the aim to become competitive and thus stay in business and provide jobs.
2. Adopt a new philosophy. We are in a new economic age. We no longer need to live with commonly accepted delays, mistakes, defective materials, and defective workmanship.

3. Cease dependence on mass inspection to achieve quality. Require instead statistical evidence that quality is built in.
4. End the practice of rewarding business on the basis of price tag alone. Instead minimize total cost by working with a singular supplier.
5. Improve constantly and forever every process for planning, production, and service.
6. Institute modern methods of training and education on the job including management.
7. Adopt and institute leadership.
8. Drive out fear so that everyone may work effectively for the economy.
9. Break down barriers between staff.
10. Eliminate slogans, exhortations, and targets for the work place asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.
11. Eliminate numerical quotas for the work force and numerical goals for management.
12. Remove barriers that rob people of pride and workmanship. Eliminate the annual merit system.

13. Institute a vigorous program of education and self-improvement for everyone.
14. Put everyone in the company to work to accomplish the transformation. (p.23-24).

Deming stressed the importance of leadership in identifying its customers and creating a culture in which quality may be successfully implemented. Developing an organizational climate whereby front line employees involved in the quality process will increase their level of commitment. The relationship between these three elements are best demonstrated in Figure 2.

Deming also believed that the western form of management needs to be completely transformed. He identified weakness within American businesses as the "deadly sins." These deadly sins include:

***Lack of Constancy of Purpose**

Customer values should dominate all decision making.

***Emphasis only on short-term goals**

Managers lack a vision of what their organizations are going to look like 5-10 years down the road.

***Evaluation of the process**

Performance evaluation disregards the fact that employees work with systems that are variable and unstable.

Figure 2. Relationship between employees, customers, and processes.

Barnes, R. and Pike J. (1994). TQM in Action: A practical approach to Continuous Performance Improvement. Chapman and Hall. Boundary Row. London SE1 8H4, UK.

***Mobility of management**

"Job-hopping" among managers shows short term thinking. Deming stressed the need for employees to become educated about the process, the causes of variation and teamwork. He recognized the importance of systems thinking when there are interdependent parts linked together to develop a process.

Because Deming was ignored by American businesses, he took his ideas to Japan. The Japanese embraced and successfully implemented his work after World War II. By the early 70s, Japanese products (i.e. automobiles, electronics, etc.) were recognized world-wide for being of much higher quality than their American counterparts.

In the 1950s, the Japanese changed their management school of thought from Frederick Taylor's scientific management to Deming's principles of quality. The Japanese had operated under the throes of Taylorism for over 50 years, but Deming's approach to transforming their management philosophy was overdue. The Japanese changed for the following reasons (Pike and Barnes, 1993): (1) Deming told them that if they made these changes they would capture the markets of the world; (2) They believed Deming's teaching had an impact on the outcome of the war; (3) The changes Deming suggested were consistent with the Japanese culture to a greater extent than Taylor's management

philosophy; and (4) Japanese top management was absolutely committed to improvement.

The Japanese openly acknowledged Deming for his phenomenal success with producing quality products. This acknowledgement was reflected in Japan's initiation of the "Deming Application Prize" in 1951.

Joseph Juran (1985) and Philip Crosby (1989) have also made major contributions to the quality field. Other major contributors to the quality field have been made by, Feigenbaum, (1980) Conway, (1982), Taguchi, (1989), Ishikawa, (1984), Shigeo-Shingo, (1981 et al.).

Joseph Juran

Juran, like Deming, contributed to the post-Second World War reconstruction of Japan. He was employed at the Western Electric Company in Chicago between 1924-1932. Many of the now famous motivational studies were carried out by Elton Mayo (1967) which led to the emergence of the Human Relations School of Management and later led to the organizational development approaches from which CQI evolved.

Juran agreed that it was system deficiencies that lead to waste rather than the employees. Much of Juran's emphasis however is on the management of quality. He suggests that quality has two basic definitions that dominate the use of the word. First, quality consists of

those product features which meet the needs of the customers and thereby provide product satisfaction. Second, quality consists of freedom from deficiencies. Juran has highlighted his contribution to quality by focusing on quality management. He calls this "The Juran Trilogy of Management Process": Quality Planning, Quality Control, and Quality Improvement. The Quality Control consists of a series of steps: (A) Determine the needs of the customers, (B) Develop product features which respond to customer needs, (C) Develop processes which are able to produce these features and (D) Transfer the resulting plans to the operating forces.

The second managerial process in Juran's trilogy is "Quality Control." Quality control is a process designed to achieve product and process goals. Under this process, problems are identified, the causes are analyzed, and the problems are addressed to keep from getting worse. Juran believes that deficiencies arise because the process is designed that way. The waste can be eliminated using Juran's third trilogy, Quality Improvement. The Quality Improvement emphasizes the improvement of both products/services and customers' needs. Juran was one of the first to recognize that customers are both internal and external to the organization. The external customers are those who are impacted by the product, but who are not members of the company. The internal customers are those

who work within the organization, but who supply goods and services to each other. In summary, Juran outlines ten steps that organizations can follow when implementing quality initiatives: (1) Build awareness of the need and opportunity for improvement, (2) Set goals for improvement, (3) Organize to reach goals (establish a quality council, identify problems, select projects, appoint teams, designate facilitator), (4) Provide trainers, (5) Carry out projects to solve problems, (6) Report progress, (7) Give recognition, (8) Communicate results, (9) Keep score, and (10) Maintain momentum by making annual improvement part of the regular system and processes of the company.

Philip Crosby

Philip Crosby has also played a significant role in the development of quality initiatives over the last thirty years. He introduced, what he calls, the "four absolutes" in the early 60s when he was employed by the Martin Corporation. Many of his ideas derived from his 14 years of experience as Senior Vice President for Quality at ITT. Crosby's "four absolutes" are typically applied to the quality philosophy and can be adjusted to fit any work situation. The first absolute is: everyone in the organization should have the same understanding of quality. Conformance to customer requirements should be the goal, rather than "goodness and excellence." He suggests that the

customer is anyone who passes through the chain of internal processes which ultimately lead to some form of service. Customers can be both internal and external. Second, there must be a formal process or system that will ensure quality of the output. The system should be a process of prevention, not checking or appraisal. Third, the standard of performance against which non-conformance must be measured is zero defects, not acceptable quality levels or percentage defective values. While the level of non-conformance is greater than zero there must still be room for improvement.

Crosby's fourth absolute answers the question, "how should quality be measured?" Some of Crosby's other views of note are:

- * People will take quality just as seriously as management takes it.
- * Integrity is unrelenting. It cannot be done in short burst of enthusiasm stemming from regret.
- * The tools of quality control are not designed to cause prevention throughout the organization.
- * Think about Quality Improvement in terms of earning per share. A well established process will double it.
- * Every individual in the company needs continuous education concerning his or her role in getting things done right the first time.

Continuous Quality Improvement Principles

The overview of three of the best known thinkers in the quality field warrants a discussion of their common and different ideas on CQI. As discussed, Juran totally disagrees with Crosby's definition of quality as "conformance to customer requirements." Juran regards this as inadequate. Both Deming and Juran find Crosby's concept of "zero defects" unacceptable. Zero defects are seen as an unrealistic target to achieve and hence can become dysfunctional, or can be seen as an exhortation to the work force, a means of motivating the employees to avoid mistakes. Crosby defends his position by arguing that the zero defects concept was meant to be a performance standard to be applied to all processes. Crosby sees it as an attitude. When things go wrong the organization should not regard them as inevitable, rather it should aim to prevent them from occurring in the future so that the organization can achieve defect-free production of goods and services.

Juran is a major supporter of individual goal setting and Crosby supports the use of quality circles. Deming on the other hand suggests that organizations eliminate management by objectives and link management pay to its outputs.

While there are many differences among the three quality gurus, there are many similarities in their approaches:

- * Constant high levels of training and education.
- * Creates awareness of opportunity and constant search for improvement- permanence of the process.
- * Error-friendly problem-solving environment.
- * Prevention orientation and attention to detail
- * Use of self-defined measurement by all employees (Use of suppliers by SPC or auditing.
- * High levels of non-financial employees.
- * Open communication of results of projects and business performance.
- * Concept of internal customer and management of processes.

In summary, Pike and Barnes (1994) outline 17 basic assumptions that underline the quality movement. The assumptions can be found in any approach to quality improvement:

1. Total Quality Management is about improvement
2. Improvement requires change.
3. Change represents a disturbance to the status quo.
4. The status quo is maintained by a balance of forces or variables.
5. Change or improvement, therefore requires an alteration of these forces or variables.
6. Effective change requires managers acting as change agents to alter these forces or variables

in such a way that people affected own the changes and are committed to them.

7. The change process thus requires consensus between all concerned.
8. Consensus is achieved through involvement and participation of employees at all levels in the identification of the variables that need to be changed and in the formulation of an approach to change these forces or variables.
9. Any change program involves a set of core values.
10. The core values of effective TQM strategies are those made explicit in what McGregor (1978) calls theory Y.
11. Total Quality Management must affect the culture change of the organization as well as the behavior of individuals.
12. Education and training may assist the process of culture change, but is not sufficient by itself. Change in the organization's policies, structure, and technical systems are also likely to be necessary.
13. For change to occur there has to be a desire for change.
14. Where desire for change does not exist, the agents of change will need to analyze why and create the desire.

15. Resistance to change is not easily overcome.
Approaches to over-coming resistance will need to be devised.
16. Changing organizational culture and individual behavior takes time, at least 4-5 years, perhaps even 20 years or more.
17. Most managers in the prevailing culture work on short-term time perspectives. Consequently few managers are able to consider providing continuing support for a project that does not produce tangible results in the short term-say 6 months. To cope with this paradox an appropriate strategy needs to be employed.

Continuous Quality Leadership

While many quality gurus have emphasized different principles of quality, leadership commitment from the top of the organization stands out as a common theme. Most of the Continuous Quality Leadership literature suggests that leadership is at the center of the current quality movement (Thor, Deming, Juran, Smith & Lewis, Seymour et al). Continuous quality leadership is defined as the behaviors or actions a leader demonstrates in directing or leading his or her followers to make a success of fulfilling expectations of quality. Darling (1992) conducted a study of 100 managers and administrators within higher education who had

been recognized as successful CQI leaders. The study showed that successful leaders share the following leadership characteristics when implementing CQI:

1. Attention through vision: the administrators or managers create a clearer quality focus to gain attention from people.
2. Meaning through communication: the managers or administrators talk openly and sensitively with front line employees so that they can understand the meaning of their quality message.
3. Thrust through positioning: the managers or administrators make themselves known and make their position clear in order to establish trust from individuals of the organization.
4. Confidence through respect: the administrators or managers spend time with the front line employees and are concerned with their issues relating to people in order to build confidence for both themselves and their employees.

Darling also found that managers who are successful in implementing CQI typically:

1. Model appropriate quality behavior.
2. Respect the fact that quality is a long-term improvement process.
3. Involve front line employees in decision making
4. Are spokesperson for quality.

5. Promote continuous learning.
6. Put customers first.
7. Facilitate cross-functional team communication

In his book *In Search of Excellence* (1982), Tom Peters studied American businesses and reported that over 80% of quality programs fail because leaders have implemented quality programs without the benefit of input from front line employees. Peters (1982) suggests that if organizations are to achieve the goals of CQI, leaders must:

- (1) place the customers first,
- (2) clearly define the organizational mission and standard,
- (3) support an innovative climate,
- (4) espouse and practice a simple lean management staff,
- (5) view the employees as its customers,
- (6) manage their staffs,
- (7) keep abreast of employees responsibilities,
- (8) utilize all employee skills,
- (9) promote teamwork,
- (10) remove all hierarchal structures and create quality circles,
- (11) empower front line employees,
- (12) continuously educate themselves on CQI principles,
- (13) realize that eight percent of the problems are due to process,
- (14) use statistical methods to solve the problems,
- (15) view CQI as a process, and
- (16) invite all employees of the organization to participate in the quality program.

Rath and Strong Consulting (Fortune, 1992), found, through their study that CQI only works when leaders take a visible role in supporting the initiatives. Their research purports that if employees are to play an active role and

feel a part of the quality initiative, the following leadership behaviors must be present:

1. Work with employees to decide what the company should be.
2. Focus quality efforts on customer service, not cost cutting.
3. Show willingness to change everything
4. Set up pilot program where employees learn how to solve problems.
5. Let front line employees make changes they suggest
6. Reward employees for improving the way the organization serves its customers.
7. Keep the front line employees informed on the success or failure of the quality program.
8. Stay actively involved throughout the quality effort.

A study of the leadership habits required to build a strong relationship between managers and front line employees (Habridge House, 1984) found that leaders who build strong relationships between front line employees exhibit the following behaviors:

1. Provide clear vision
2. Encourage open communication
3. Coach and support employees
4. Provide objective recognition
5. Establish ongoing controls

6. Select the right people to staff the organization.
7. They personally receive and review quantitative reports on product and service performance.
8. They require attendance at training classes on quality and quality measurement techniques
9. They involve customers and suppliers in determining product specifications.
10. They personally attend frequently and lead meetings on the subject of quality.

Garvin's (1988) research on organizations with superior quality performance show that managers possess the following leadership behaviors:

1. They are willing to take time from their busy schedules to attend quality meetings.
2. They get involved in addressing quality issues with front line employees.
3. They take responsibility for quality and raise their organizations' sensitivity to quality.
4. They insist on quantitative and systematic measures relating to quality performance.
5. They encourage quality improvement with proper incentives.
6. They develop systematic goals and similar visions on quality improvement.

7. They develop quality information systems by which information is detailed and reported to high levels in the organization.

Based on the continuous quality leadership literature and a recent study on assessing leadership behaviors (Huang, 1994), the following is a summary of leadership behaviors of leaders who are successfully implementing CQI:

1. They actually walk around every department of the organization to understand the happenings of the system.
2. They convey a clear mission statement that emphasizes quality.
3. They communicate openly and sensitively with individuals within the organization.
4. They take time to participate in quality meetings or other quality related activities.
5. They have a clear idea about the application and interpretation of statistical quality control.
6. They review and discuss the performance reports of the quality personnel.
7. They position their leadership toward quality clearly to gain front line employees' trust.
8. They provide personal feedback about employees work.
9. They offer a budget for letting personnel have training and education to learn about quality.

10. They personally participate in the training and education activities to learn about CQI.
11. They involve internal customers, e.g. students, staff, faculty; and external customers, e.g. employers, parents, to determine the quality specifications of the products or service.
12. They establish a quality team or assign quality personnel to coordinate the activities related to CQI implementation.
13. They prioritized quality as the first requirement of their services and products.
14. They take responsibility for the failures and mistakes that happen in the organizational system.
15. They share their CQI efforts with other organizations.
16. They provide objective recognition or rewards for acknowledging employees' efforts on improving quality.
17. They promote networking among the institutions' units.
18. They work with the quality team or quality personnel to plan and decide activities of their CQI program.
19. They establish a quality information system to keep themselves and other individuals of the

organization informed about the success and failures of the quality efforts.

20. They encourage and accept new ideas or innovations for change in quality.
21. They allocate appropriate resources, e.g., money, work force, and facilities required to make CQI progress.
22. They empower their employees to try to take charge of their work.
23. They encourage cooperation and teamwork across departments and functions.
24. They see CQI as a long-term improvement process rather than a short term innovation.
25. They personally act as spokesperson for quality.

Relating CQI To Higher Education

The Continuous Quality Improvement movement that is sweeping into industry, governmental, profit and non-profit organizations has stimulated debate and long hours of discussion within higher education. Higher education is facing some major challenges never experienced before. Costs are increasing while funding is decreasing. The number of high school graduates will continue to drop and competition for qualified students will continue to mount

between institutions. Additionally, Europe, Japan and other countries are building "world-class" universities. These new universities will likely reduce the enrollment of international students and may eventually attract U.S. students abroad (Berniski, 1992). Major companies like Motorola, General Electric and Westernhouse are beginning to educate their own work forces instead of sending them to universities. Despite these and other major challenges, there are many within the university who refute the need for CQI and doubt its validity and applicability to higher education. When one thinks of quality, it is assumed that there is a generally acceptable definition of the term. In fact a recent Kaplan survey shows that less than 5% of the nation's top business schools have begun to introduce CQI in their curricula (Quality Progress, 1992).

The need for a renewed sense of purpose for higher education was brought on by many forces. There have been many books, reports, and articles written about the role of higher education and whether it is meeting the needs of the broader society. Books like "Prof Scam" and "Impostors In The Temple" have caught the attention of many people affiliated with the university. Many stakeholders have begun to ask the fundamental question, What have you done for me lately? The enrollment shifts within higher education are also cause for the university to take a good look at itself. It is predicted that by the year 2000, over

half of the student population will enroll part time and will be nontraditional.

Competition for students is another factor. Students are beginning to assess the benefits of going to college and asking the question, What will a degree do for me? Many technological advances have made it possible for some universities to offer long distance learning. Also, business and governmental organizations continue to compete with the university by offering training programs for their employees that prepare them for their jobs and careers. For example, corporate America spent over 48 billion dollars in training programs during 1993. This is in response to the consistent dissatisfaction with the products that higher education produces.

The economic conditions of the American economy does not look good for the foreseeable future. This will continue to keep higher education competing with other federal and state agencies for funds. Thus, there has to be a renewed approach to how things are organized within the university. In summary, the changes in the environment for higher education; competition for funds and students; and doing more with less are a few issues that have caused higher education to respond to the changes that it faces as the Twenty-First Century approaches.

The principles associated with CQI are intertwined with what higher education has purported for decades. CQI

focuses, in sum, on knowledge and education; teaching and managing by facts not supposition; constant improvement; and an ongoing development of people and what they need for the purposes of personal and organizational development. Deming (1989) talks about encouraging education and self-improvement for everyone. This has also been one of the aims of higher education. The basic scientific model for higher education has been to (1) analyze, (2) experiment, (3) review, and (4) implement/evaluate (Smith and Lewis, 1992). In Deming's book, *Out of Crisis* (1989), he talks about a model that is similar to higher education's scientific model. His model is also based on a four-step process: (1) plan (2) do, (3) check, and (4) act.

Many universities have begun to implement some of the basic tenets of quality. A study by Henderson (1992) shows that at least 126 institutions are involved in some form of quality improvement. Of the 220 colleges and universities reporting in 1992, over 150 were in various stages of implementing quality practices in administration. While there are a few institutions which have initiated quality within the ranks of the faculty, most have focused their efforts solely on the administrative functions of the universities.

CQI's application to higher education is broader in scope than originally visualized. CQI's application to higher education encompasses improvement in functions that

produce a product and a service, such as human resources and information systems. The two overriding elements of CQI are improvement and customer service. Because of the organizational, cultural and behavioral variables of improvement, there is no model that is universally applicable. There is not one methodology or prescription for improvement. CQI contains a philosophy and a set of operational concepts. Based on several university efforts to implement CQI, organizational leadership and commitment, strategy, deployment and participation, customer orientation, continuous improvement, and progress assessment have been found to dominate the CQI implementation process (Melean, 1993).

Since CQI represents a change in the way organizations operate, the traditional hierarchical arrangement warrants that leadership initiate, promote, and sustain change. The administrative functions of higher education are, for the most part, organized in the manner similar to businesses.

As with any new philosophy or way of thinking, CQI is subject to various degrees of acceptance ranging from complete and enthusiastic adoption to total rejection. Resistance to change and cultural conflicts within the organization are factors which must be dealt with. For this reason, demonstrated commitment and involvement by the leaders of organizations are necessary to facilitate and

maintain the change process. The existence of a champion among leaders tends to smooth and even accelerate change.

On the one hand, successful CQI efforts have consistently shown that leadership, on-going support and involvement by the principles of the power structure exist (Shein, 1991). Even as organizations mature in CQI, practices find upper management involvement critical to maintain improvement momentum (Troy, 1992). Deming (1992) would suggest that those organizations that fail in their efforts to implement CQI lack management commitment and what can be termed a lack of "constancy of purpose."

By definition, any organization that is successful in implementing CQI has demonstrated that all functions of the organization are participating, including its suppliers (Troy, 1992). Within a university environment this could include coordinated quality improvement efforts among administrations, registration, student services, finance, human resources, information systems, etc. In addition to function deployment, CQI requires both commitment and participation from all the members of the organization, management and front line employees alike.

Since CQI represents a paradigm shift, it is essential that the rationale for the change be communicated to everyone in order to achieve acceptance and support of the front line employees. Like any organization, higher education will not succeed in implementing CQI without the

support of both managers and front line employees. It is important that the leaders assure that goal congruence is achieved. Melean, Thompson, and Berneski (1990) suggest that the development of a shared vision statement was a critical factor in the CQI initiative. The vision must be developed in a way that all employees are knowledgeable of and have participated in its development. Additionally, Thompson (1991) has outlined four areas in which articulating a vision is important:

1. A vision of a customer satisfaction must serve to drive all organizational efforts.
2. The question, How do you know if you are really satisfying the costumer? must be answered.
3. The vision must describe the future state of the organization. What will it look like in the future? How will we know when we get there?
4. Developing a strategy of how the organization will achieve its vision is paramount for success in any quality initiative.

The real challenge in implementing a quality-driven vision in higher education is to keep in mind some important differences between business and education. First, school is not a factory. The students are not the product; their education is the product. The customers for the product are multiple. Students need to co-manage their own education. Finally, in such a vision, there are no opportunities for

recall (Tribus, 1993). Figure 3 highlights higher education as a system.

A corollary to having a system for continuous quality improvement is providing a means for measuring results. Having goals or a target in place is necessary. The primary external measures are customer satisfaction, response or cycle time and defects or errors. Because customer focus is a key element in CQI, satisfaction measures become important in assessing improvement. Other internal measures for higher education may include:

- * Registration-wait time
- * Physical Plant-response time to a service request
- * Admissions-response time to an application
- * Library-retrieval of a published item, response time to a request

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- * Registration-wait time
- * Physical Plant-response time to a service request
- * Admissions-response time to an application
- * Library-retrieval of a published item, response time to a request
- * Human Resources-satisfaction with staff services, response time
- * Food Service-satisfaction with food quality, variety, and service.

Focusing on the administrative and staff functions of the university provides the most expedient application of CQI at the present time (Kanter, 1993). As noted previously, these operations are similar in many respects to those of a business. The primary difference is that, with educational institutions, many activities are calendar-driven and, therefore, cyclical in nature. The administrative functions of higher education are organized in a command structure. It is not uncommon to find

- * Human Resources-satisfaction with staff services,
response time
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and service.

Focusing on the administrative and staff functions of the university provides the most expedient application of CQI at the present time (Kanter, 1993). As noted previously, these operations are similar in many respects to those of a business. The primary difference is that, with educational institutions, many activities are calendar-driven and, therefore, cyclical in nature. The administrative functions of higher education are organized in a command structure. It is not uncommon to find suboptimization, lack of communication, and other characteristics that inhibit their effectiveness. Consequently, an improvement in methodology which is systematic in nature and can address the barriers to work flow and serve as a means for achieving significant changes in the way an organization operates. Survey data on businesses applying CQI methodologies show that sustained and significant improvement can be achieved regardless of the methodologies used provided that leaders are committed and that a system is in place to create it (GAO, 1992).

The Role of Leaders While Implementing CQI in Higher Education

Higher education seems to be the last bastion of resistance in implementing CQI (Sink, 1992). There are those who would rather cling to the "good ole day," those who are early adopters but are not quite sure what they are adopting, and those who are skeptics or at least cautious observers of the situation. One reason there seems to be such resistance to implementing CQI in higher education is that the current structure in education seems to embody much of what CQI warns against (Berneski, 1993).

CQI calls for teamwork. In universities, teamwork does not exist. Professors are autonomous and administrative offices create silos to protect their turf. CQI calls for a flat organization. In universities there are layers upon layers of bureaucracy that prohibit their effectiveness. Because of their size and ties to the community, local colleges are at the forefront of implementing CQI initiatives. The next section deals with the role of leadership in implementing CQI.

The role of the university leaders while implementing CQI, during a time of transformation and fiscal constraints, is a difficult one. In the face of redefining the institution's mission, the criticism has continued to mount for higher education. For example, Kirk (1987) purports that higher education has lost all sense of purpose. He

suggests that higher education is nothing more than an industry that hires thousands of people and supplies "research" to satisfy the egos of the faculty.

He characterizes higher education's curriculum as a "cafeteria style" setup whereby students come to the campus and pick and choose courses with little direction. He further suggests that the size of many large universities is "inappropriate" and is designed for constant failure of students. While these claims may be an unfair examination of what the university is about, the cries of criticism from many of its internal and external stakeholders is worth examining.

The leader's role in facilitating change in a university setting is a difficult one during these times. It brings about many questions as universities look at how they can position themselves for the Twenty-First Century. Martin (1985) discusses the need for universities to redirect their energies to examining the fundamental mission of the university. The mission statement for the university can at least give purpose for and direction to what the university is and what it "ought to be" (Bouge and Sauders, 1992). Writing a mission statement requires a careful review of the university's unique dimensions that set the institution apart from other institutions.

The university leader's role is also to look carefully at how the institution can invest its human and fiscal

resources. Finally, the mission statement must reflect the increasing changes that are occurring outside the university; the cultural diversity of society in and outside of the university; changes in the state and federal economy; and the expansive growth in knowledge technology and communications, etc.

In writing such a mission statement, many question should emerge. What unique contributions should the university make to society? How does what the university teaches relate to what is happening in the broader society? Which programs should be given priority in the areas of research, teaching, and community outreach? Should the university's aim be focused on community outreach? The answers to these questions will cause many heated debates by faculty and staff and several long discussions on compiling supporting data that will justify counter claims with regards to the mission of the university. According to Rhodes (1988), the university's purpose is neither career development or "character building." Rather, its mission lies in training the mind to critically analyze and debate "truth, realities and assumptions. Denny (1982), however, sees the mission of the university as "the opportunity of each person to develop his/her intellectual, moral, aesthetics, and spiritual capacities."

With whatever purpose higher education chooses to identify with, it cannot view itself as all encompassing.

The leader will have to be a facilitator in dealing with the multiple points of views that will emerge as a result of rethinking the academy's mission.

Today's effective leaders within higher education must have an understanding of the organization's goals and norms. The leader must be able to succinctly communicate those goals and norms and convince the organization members that their individual and group actions are consistent with the broader organizational goals (Argyis, 1974).

The effective leader must also be able to diagnose a situation and develop strategies for improvement. In order to do this well, she/he must have the ability to perceive and apply a multitude of different perspectives or frames as described by Argyis and others. Imagination, openness, and listening skills seem obvious prerequisites for this type of process (Schein, 1980). There is considerable evidence that formal training in these areas as well as in radical re-framing can greatly improve a leader's ability in this area.

The leader must be flexible in her/his own behavior. This requires the ability to be either authoritative or cooperative; antagonistic or conciliatory as dictated by the diagnosis of the specific situation at hand. This flexibility is akin to change and is often difficult to initiate within organizations (Bowers, 1985).

In order to create change, a leader must exhibit the above qualities to maximize effectiveness. Those common

characteristics include the unique power distribution between students, alumni, faculty and staff (between academic departments).

As nearly every experienced leader in higher education will attest, it is always a mistake to neglect the political model when implementing change. Universities, with their dependence on external funding and their physical and philosophical barriers among groups of faculty/staff and students, tend to be highly political in their behaviors. Clark Kerr, (1982) suggests that a United Nations type of decision-making model is appropriate to this environment. Obviously, considerations from other models are also essential, but the political model should always be included.

Goals for both the organization and any particular subgroup should always be developed with as much input and involvement from as many members of the organization as possible (Lawler, 1982). This will increase ownership and support. The primary goal should always be on education. As mentioned earlier, these goals must be congruent with each other and easily understood by all members of the university community (Austin, 1985).

Incentives and reward systems should be designed to encourage each individual to assist the organization to achieve the goal. Just as people are different, they are motivated differently. The leaders should identify with and

motivate each individual and build them into a diverse reward system for the organization (Galbraith, 1987).

In short, colleges and universities should strive to develop organizations that are flexible and responsive to change from within and without, that value input from all members and strive to solicit that input, and that are openly inclusive of diverse perceptions of the organization and its impact.

Summary

Chapter II's literature review provided a brief overview of the evolution of organizational development and the role it has played in shaping the way organizations are formed. Frederick Taylor's scientific management philosophy was specifically discussed to provide an indepth theoretical framework of how his work continues to influence the role of leaders within organizations. The second section dealt with the history of quality improvement and offered three distinct perspectives on quality improvement from three of the most noted quality experts. This section concluded with a highlight of the common quality improvement approaches and a review of some CQL studies. The third section deals with the role of leadership while implementing CQI within higher education.

Chapter III

Methodology

Introduction

The intent of the methodology chapter is to achieve the purpose, objectives, and hypotheses of the study. A detailed discussion of the following research procedures is outlined: research design, population, instrumentation, data collection and data analysis. An indepth discussion of the timelines used to complete the study is provided in appendix B.

Research Design

The study's purpose was to investigate the factors related to how front line employees within the Office of Business and Administration at The Ohio State University perceive their managers' commitment toward implementing CQI on the job. Of specific interest, the study explored the relationship between middle managers' perceived knowledge and skills of and commitment toward CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job.

The objectives and hypotheses of the study are:

Objective 1. To describe the population.

Main Independent Variables

- a. Middle Managers' perceived knowledge and skills of CQI
- b. Front line employees' perceptions of their own knowledge and skills of CQI
- c. Middle Managers' commitment toward implementing CQI on the job

Extraneous Variables

- d. Front line employees' attitude toward their manager
- e. Front line employees' attitude toward their job
- f. Front line employees' length of time on the job
- g. Middle Managers' length of time on the job

Main Dependent Variable

- a. Front line employees' perception of middle managers' commitment toward implementing CQI on the job

Objective 2. To investigate possible relationships among selected independent variables.

Ha 1. There is a positive correlation between middle managers' perceptions of knowledge and skills of CQI and their level of commitment toward implementing CQI on the job.

Objective 3. To investigate relationships among selected independent variables and the dependent variable.

Ha 2. There is a positive correlation between front line employees' perception of their own knowledge and skills of CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job.

Ha 3. There is a positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perception of their middle managers' commitment toward implementing CQI on the job.

The research design selected for this study was a combination of descriptive and correlational survey designs (Campbell and Stanley, 1963). The purpose of descriptive research is to accurately describe the characteristics of subjects and to report the way things are. Descriptive research is also concerned with the assessments of attitudes, opinions, demographic information, conditions and procedures. Objective one was achieved by using the descriptive methodology. Correlational research, on the other hand, investigates possible relationships among variables without trying to influence those variables. The major purpose of correlational research is to study the relationship between two or more variables without any attempt to influence or manipulate them (Frankel and Wallen,

1987). Objectives two to four were achieved using the correlational methodology. Pearson Product Moment Correlation Coefficients were utilized to determine the magnitude of the relationships between the dependent variable and the independent variables.

Survey questionnaires are typical ways of gathering data for this type of research. According to Franklin and Wallen, (1987) survey research is allows the researcher to frame questions in a way to collect information and describe some characteristics from a large population. The independent variables are (1) middle managers' perceived knowledge, (2) front line employees's perception of their own knowledge and skills of CQI, and (3) middle managers' commitment toward implementing CQI on the job.

The extraneous variables are front line employees' attitude toward their managers and their job, (2) front line employees' and middle mangers' length of time on the job.

The main dependent variable was the front line employees' perceptions of middle managers' commitment toward implementing CQI on the job. Figure 4 presents a better understanding of the relationships among the variables.

Independent Variables		Dependent Variable
<p>Main Independent Variables</p> <p>Middle Managers' perceived knowledge and skills of CQI.</p> <p>Frontline Employees' perception of their own knowledge and skills of CQI.</p> <p>Middle Managers' commitment toward implementing CQI on the job.</p>	Descriptive	<p>Frontline Employees' perception of Middle Managers' commitment toward implementing CQI on the job.</p>
<p>Extraneous Variables</p> <p>Frontline Employees' attitude toward their manager.</p> <p>Frontline Employees' attitude toward their job.</p> <p>Middle Managers length of time on the job.</p> <p>Frontline Employees' length of time on the job.</p>		

Figure 4. Relationship Among Variables

Population

The population of the study consisted of the employees and middle managers within the Office of Business and Administration at The Ohio State University. The Office of Business and Administration at The Ohio State University is a complex organization that employs some 1,300 plus employees consisting of front line employees, secretaries, shift supervisors, middle managers, department directors, assistant vice presidents, and a Vice President. The mission of Business and Administration is:

All individuals of Business and Administration are committed to providing services, facilities, and technology to preserve and enrich a quality learning environment that advances education, scholarship, and public service.

The office is made up of the following university departments and areas: Property Management, Trademark and Licensing, Air Transportation, University Bookstore, Food Supply, Mail Services, Printing, Purchasing, Receiving, Reprographics, Stores, Traffic and Parking, Transportation, Travel Services, University Repair, Physical Facilities, Human Resource Management, Utilities, Building Services, Maintenance, Environmental Health and Safety, Engineering, Buildings and Grounds, University Architect, Wexner

Security, University police, and telecommunications.

Appendix C highlights the organizational structure of the Office of Business and Administration and each department represented in the study.

Business and Administration provided five-day classroom instruction to its 1,250 employees over a two-year period. The purpose of this training program was to provide all employees with the tools necessary to implement CQI throughout the organization. The CQI training also addressed organizational culture issues and the importance of CQI. The training reviewed the CQI, university, and the Business and Administration mission statements and the six essential elements of CQI (commitment, communication, education, communication fact-based decision making, proactive approach and continuous improvement).

Additionally, the office invested in a CQI library for its employees. Over 100 books, subscriptions and articles were purchased for the CQI library. The library is made available to all employees within the office who desire a more indepth understanding of CQI and its theories. To further assist the employees explore the CQI principles, quarterly open forums were offered. The forums were designed to update the employees on the new developments of CQI initiatives.

The target population was all front line employees and middle managers within the Office of Business and

Administration (N=1,250). The accessible population was front line and middle managers who completed the "On The Job and Middle Management Instruments" (n=818). The final number of respondents was 732 front line employees and 86 middle managers within Business and Administration. A summary of the target, accessible, and final number of respondents can be found in figure 5.

Instrumentation

To achieve the objectives and hypotheses of the study, the "on-the-job (OTJ) and middle managers' instruments (MM)" were developed by Norland (1994). Part one of the instrument consisted of a five point Likert scale designed to collect information on front line employees and middle managers' perception of their knowledge and skills of CQI. Part two of the instruments was a five point semantic differential scale used to measure employees' attitude toward their job and their manager. Part three of the instruments was designed to measure employees' overall perception of their management commitment as well as report the number of years employees have been on the job. Both instruments were exactly the same except the "Middle-management instrument contained 21 additional open-ended questions. The open-ended questions allowed the middle-managers to respond, in detail, about their perceptions and knowledge of CQI. The scope of the two questionnaires is

broader than the study, therefore only those questions from the instruments that answer the objectives of the study were analyzed and scored.

Figure 5: Population and Sampling Procedure.

Business and Administration
Middle-Managers Data Collection
Timeline

Department	Dissemination Date	Deadline
UNITS	October 11	October 25
Reprographics	October 13	October 27
Transportation	October 20	November 3
Stores	October 27	November 10
Internal Audit	October 28	November 11
Business Management	October 28	November 11
Vice President's Staff	November 8	November 22
Bookstores	November 11	November 25
Physical Facilities	November 14	November 28
Real-Estate	November 16	November 30
Traffic and Parking	November 16	November 30
Architect's Office	December 5	December 19
Purchasing	December 5	December 19
Police	December 9	December 23

Figure 6. Time Lines for Distributing Instruments

Figure 6 provides detailed descriptions of the variables used in the study.

The "on-the-job" instrument was administered to all the front line employees and was designed to measure the employees' perceived knowledge and skills of CQI. The instrument also provides data on employees' attitudes toward their departments, the division and their managers. Additionally, the instrument gathers information about employees' familiarity of CQI and other demographic information (i.e. number of years on the job).

Content validity was determined by soliciting the support of the stakeholder panel. The stakeholder group is a panel of informed customers consisting of managers, front line employees and internal and external customers of Business and Administration. The stakeholder group's major functions were to identify evaluation questions, assess and draft instruments that will answer the questions, make decisions about data collection techniques and review the pilot study data and recommend changes on instruments. The stakeholder team helped to develop the instrument. Step one consisted of generating all possible questions that the stakeholder team might want to ask on the instrument. A total of 94 different questions led to the next step. A synthesis of the trends helped guide the development of the final instrument. Finally, the research team developed proposed operational definitions for all the variables. The

final instrument was much more comprehensive than needed for this study.

The content of the final instrument was assessed by a panel of experts and a field test. The panel (see appendix B) consisted of experts in CQI and measurement. The panel was given a month to determine the completeness of the content and the appropriateness of the language used. The field test included a similar review by persons representing the proposed populations for the study. There were six individuals who reviewed the instrumentation for face validity and content validity. Results of the panel and field test were used to modify the instrumentation.

Pilot Study Summary

A pilot test was conducted to determine the reliability of the OTJ instrument. The reliability of summated scales was determined using Cronbach's Alpha procedure. Cronbach's alphas for all summated scales appear in Appendix B. The instruments were administered to an existing class of employees who were entering their first day of a five day CQI training class in July, 1994 (N=70). The class completed the instrument as a part of their CQI training. The instruments were examined to ensure that they were accurately completed. Instruments that were less than half complete were not used. Less than 10 instruments returned

were not usable. Data were entered and analyzed using SPSS PC for Windows.

As a result of the pilot analysis, no questions were removed or reworded. The instrument was deemed valid and reliable and ready for use with the study. The data were analyzed as one specific group (class).

Data Collection

Data were collected between the months of November, 1994 through February, 1995. The instruments were administered on site by the researchers who attended a special middle managers' meeting for each department within Business and Administration. The special meeting with the managers was divided into three parts. First, the managers were given a brief lecture on the purpose of the study. The managers were then given an opportunity to ask questions. Second, the middle managers were give 45 minutes to complete the instruments. The evaluation team was present during the entire time. After the instruments were completed, the managers were given a ten minute break. Third, the managers were asked to identify one person in their areas, who was viewed as "trustworthy" by their peers, to disseminate the "On The Job" instruments. To ensure the possibility for a high response rate from front line employees, the instruments were given to a peer within this group (not the supervisor) to monitor the completion. The designated

person(s) within these departments was asked to collect the instruments from each person in his/her area/department. The names and phone numbers of each person responsible for disseminating the "on the job" instruments were given to the evaluation team for future follow-up. The employees were given a total of two weeks to complete the instruments. Figure 7 has the specific time line for the distribution and collection of instruments.

The instruments were collected on site once they were completed. The belief is that employees did perceive the process to be confidential and responded to the questions to the best of their abilities, leaving little concern that the data were skewed by the data collection process. On-going follow-up for those who did not complete the instrument was achieved by communicating with the designated persons from each department. During the month of January, 1995, a follow-up memo was sent (see appendix B), by the research team, to all managers reminding them of the deadline date to return instruments. February 28, 1995 was given as the deadline to have all questionnaires returned. Given the confidentiality of the instruments collected, there was not an identification code on the instruments, thus, no follow-up with non-respondents was conducted. The total number of instruments received from middle-managers as of February 28, 1995 was 86. The total number of front-line employee instruments returned as of February 28, 1995 was 732.

Independent and Dependent Variables Measuring

The variables in this study were measured in the following way

Variable	Operational Definition
MM perceived knowledge and CQI	mean of MM 1 (the higher number, the greater the perceived knowledge)
FL employees perceived knowledge and skills of CQI	FL 1,(1-5) (the higher the number, the greater the perceived knowledge) Sum of 5 items
MM commitment toward implementing CQI	MM 24 (1-5) (the higher the number, the more commitment Sum of 5 items
FL employees attitude toward manager	mean of sum of FL 6 (1-5) (the higher the number, the more positive the attitude)
FL employees attitude toward job	mean of sum of FL 2 (1-5) (reverse-coded) FL 10 plus the sum of FL 4 (1-5) (the higher the number the more positive the attitude)
FL employees length of time on job	FL 19c (interval)
MM length of time on job	MM 19c (interval)
FL employees perception of managers commitment toward implementing CQI	mean of Fl 22 plus 3k (1-5) (the higher the number, the perceived commitment)

Figure 7. Description of Variables Used in The Study

At least 50% of the instruments needed to be completed to be included in the study. The final number of 818 middle-managers and front line employees was used for the data analysis. Choosing this form of data collection achieved two goals: (1) allowed for the highest possible return rates from those participating in the study and (2) made the completion of the instrument easy and comfortable for both front-line and management.

Data Analysis

Appropriate statistics were used to analyze, organize and summarize the data for each of the objectives. First, preliminary descriptive statistics were run to verify the integrity of the data. All data that were not usable were coded as missing data. The variables that were reversed coded were re-coded for consistency in scoring. Variables that had more than one question were combined to create an overall mean. Middle managers' means by department was determined and placed with the appropriate front line employees file.

For objective one, descriptive statistics were used to organize the data. Frequency distributions, cumulative distributions, means, standard deviation, and percentages were used to describe the independent variables.

For objectives two and three, analysis using the Pearsons Moment Product Correlational Coefficients were determined at an alpha level of .05.

Chapter IV

Findings

Introduction

The purpose of this research was to investigate factors related to how employees perceive their leadership commitment toward implementing Continuous Quality Improvement on the job. Of specific interest, the study explored the relationship between middle managers' perceived knowledge and skills of and commitment toward implementing CQI on the job. Chapter four presents the findings of this research and is divided into four sections: (1) the population response, (2) the demographics, by departments, (3) the findings, which included: (a) a description of the independent and dependent variables, (b) an investigation of the relationships among selected independent variables, (c) investigation of relationships among selected independent variables and the dependent variable and (4) the conclusion and summary. The data were presented in narrative followed by tables that provide more indepth documentation.

Population Response

The population of the study consisted of all employees within The Office of Business and Administration at The Ohio State University (N=1,250). The target population consisted of front line employees and middle managers with the Office of Business and Administration. The accessible population was all front line employees and middle managers who completed the "On The Job and Middle Manager" instruments as of February 28, 1995 (n=818). The final number of respondents who completed the instruments by February 28, 1995 was 732 front line employees and 86 middle managers. The total number of respondents represents a 65% response rate.

Number of Returned Instruments by Department

All departments within the Office of Business and Administration participated in the research study. The department of Physical Facilities represented the largest proportional response rate because of the number of employees compared to the other departments. Physical Facilities has a total of seven departments within its operation: Training and Stockroom, Resource Management, University Engineer, Roads and Grounds, Maintenance, Utilities, and Building Services. Additionally, Business Management represents a larger division that has the following departments: Travel, Campus Mail Services,

Purchasing, Receiving Traffic and Parking, Food Supply Services, Stores, Reprographics, Transportation and Bookstores. Each department has middle managers represented. Finally, at the time the study was concluded the Purchasing Department had not yet selected a manager for its operation. Middle managers for this department were reported under Business Management.

There were a total of 111 respondents who did not indicate their departments. Respondents who did not indicate their departments were used in the descriptive research, but were not grouped together by department. Table 1 highlights the frequencies and percentage of front line and middle manager employees by their departments. The names of the departments are coded to provide confidentiality.

Table 1. Frequency and Percent of Front line Employees and Middle Managers and their Respective Departments.

Departments*	Front line Employees	Percent of Frontline	Middle Managers	Percent of Mid- Mgrs.
0001	4	0.5	8	9.3
0002	3	0.4	1	1.2
0003	na**	na	6	7.1
0004	4	0.5	9	10.5
0005	1	0.1	na	na
0006	2	0.3	na	na
0007	24	3.3	na	na
0008	9	1.2	2	2.3
0009	87	11.9	7	8.1
0010	33	4.5	na	na
0011	18	2.5	na	na
0012	34	4.6	na	na
0013	46	6.3	na	na
0014	37	5.1	na	na
0015	94	12.8	na	na
0016	22	3.0	1	1.2
0017	2	0.3	2	2.3
0018	28	3.8	5	5.8
0019	33	4.5	5	5.8
0020	10	1.4	1	1.2
0021	26	3.6	4	4.7
0022	36	4.9	10	11.6
0023	31	4.2	6	7.1
0024	17	2.3	4	4.7
0025	8	1.1	10	11.6
0026	14	1.9	3	3.5
Un-Known	109	14.9	2	2.3
TOTAL	732	100	86	100

* Departments are coded to protect confidentiality.

** Not applicable.

For purposes of this study, middle managers and front line employees groupings were used. All department heads and senior administrators were grouped as middle managers. All other employees within the department were grouped as front line employees.

Classifications of The Respondents

Respondents were classified in two different ways: (1) middle managers or front line employee and (2) all employees were identified by one of six EEO codes. The EEO codes included the following: (00)= Employees who did not respond, (01)= Executive, Administrative, Managerial, (Direct Reports, Associate Vice Presidents, Directors), (02)= Faculty, (03) Professional, Non-Faculty, (managers and supervisors), (04)= Clerical and Secretarial, (05)= Technical and Paraprofessional, (06)= Skilled Crafts, (07)= Service and Maintenance. Table 2 provides a description of the respondents by EEO code job classification.

Table 2. EEO Table.

EEO Job Code	Number of Respondents	Percent of Total
00 Employees who did not respond or not discernible	175	21
01 Executive, Administrative, Managerial, (Direct Reports, AVPS, Directors)	21	3
02 Faculty - Did Not Use	--	--
03 Professional, Non-Faculty, (Managers, Supervisors)	136	17
04 Clerical and Secretarial	73	9
05 Technical and Paraprofessional	39	5
06 Skilled Crafts	105	13
07 Service Maintenance, Self-identified Front Line	269	33
TOTAL	818	100

Results of Objective One:Description of Independent and Dependent VariablesMiddle Managers' Perceived Knowledge and Skills of CQI

The middle managers' perceived knowledge was measured with a single likert-type question on a scale of one to five: 1= "I really do not have any idea what CQI is, 2= I have somewhat of an idea of what CQI is, 3= I have a general understanding of CQI, 4= I have a good idea of what CQI is, and 5= I have an excellent idea of what CQI is. The higher the number, the greater the perceived knowledge. The scores on the middle managers' perceived knowledge and skills of CQI are shown in Table 3.

The mean score for the managers' perceived knowledge and skills of CQI was also reported by department. The overall mean score of the middle managers' perceived

knowledge and skills of CQI was 4.23. The standard deviation was .63. Twenty-eight (33.3%) of the managers indicated they had an excellent perception of their knowledge and skill of CQI. Forty-seven (56%) had a good perception of their knowledge and skills of CQI. Nine (10.7%) of the managers perceived themselves to have a general understanding of CQI. Overall, the middle managers perceived themselves as having a good understanding of their knowledge and skills of CQI.

Table 3. Middle Managers' Perceived Knowledge and Skills of Continuous Quality Improvement

Knowledge Level	Statements on CQI	*n	Percent
1	Do not have any idea of what CQI is.	0	0.00
2	Had somewhat of an idea of what CQI is.	0	0.00
3	Had a general understanding of CQI.	9	10.50
4	Had a good understanding of CQI	47	54.70
5	Had an excellent understanding of CQI	28	32.60
Unknown		2	2.30
TOTAL		86	100

*n = Number of Middle Managers at the CQI knowledge level. Overall mean = 4.23 (on a scale of 1 to 5), S.D=.63

Table 4 shows the respective middle managers' departments and their scores on perceived knowledge and

skills of CQI. The departments are coded to protect the confidentiality of each department.

Compared to other departments, department 0001 mean score (4.63) was the highest. Managers within this department perceived themselves to have an excellent understanding of their knowledge and skills of CQI. Department 0003 had one middle manager to complete this question. This middle manager also felt he/she had an excellent perception of his/her knowledge and skills of CQI.

Table 4. Means and Standard Deviation of the Middle Managers' Perceived knowledge and Skills of CQI by their Respective Departments

Depart	Middle Managers' at Level of Knowledge					Cases	Mean	Std. Dev.
	1	2	3	4	5			
0001	-	-	1	1	6	8	4.63	0.74
0002	-	-	-	-	1	1	5.00	
0003	-	-	-	3	3	6	4.50	0.55
0004	-	-	-	7	2	9	4.22	0.44
0008	-	-	-	1	1	2	4.50	0.71
0009	-	-	1	4	2	7	4.14	0.69
0016	-	-	-	1	-	1	4.00	
0017	-	-	-	1	1	2	4.50	0.71
0018	-	-	-	3	2	5	4.40	0.55
0019	-	-	2	1	1	4	3.75	0.96
0020	-	-	-	1	-	1	4.00	
0021	-	-	1	2	1	4	4.00	0.82
0022	-	-	1	8	1	10	4.00	0.47
0023	-	-	1	3	1	5	4.00	0.71
0024	-	-	-	2	2	4	4.50	0.56
0025	-	-	2	6	2	10	4.00	0.67
0026	-	-	-	2	1	3	4.33	0.58

*Departments are coded to protect confidentiality.

Overall mean=4.23., Std. Dev.= 0.63

** 1=have no idea of CQI

2=have some idea of CQI

3=have general understanding of CQI 4=have good understanding of CQI

5=have excellent understanding of CQI.

Front line Employees' Perceptions of Their Knowledge and Skills of CQI

Table 5 provides a summary of the front line employees' perceptions of their own knowledge and skills of CQI. The mean of the front line employees' perceived knowledge and skills of CQI was measured with a single likert-type question which ranged from: 1=I really do not have an idea of what CQI is, 2= I have somewhat of an idea of What CQI is, 3= I have a general idea of what CQI is, 4= I have a good idea of what CQI is, 5= I have an excellent idea of what CQI is. The higher the number the greater the perceived knowledge of CQI. Of the 732 front line employees who completed the instrument, 667 (91%) responded to this question. Sixty-five (9%) did not respond to this question. The mean score for front line employees' perception of their knowledge and skill of CQI was 3.394. The standard deviation was 1.19. Fifty-eight (7.9%) of the respondents felt they did not have an idea of what CQI is. Two-hundred and forty (32.8%) respondents reported that they had a good understanding of CQI. Overall, front line employees perceived that they had only a good understanding of their own knowledge and skill of CQI.

Table 5. Front line Employees' Perceptions of Their Own Knowledge and Skills of CQI.

Knowledge Level	Statements on CQI	*n	Percent
1	Do not have any idea of what CQI is.	58	7.9
2	Had somewhat of an idea of what CQI is.	97	13.3
3	Had a general understanding of CQI.	154	21
4	Had a good understanding of CQI	240	32.8
5	Had an excellent understanding of CQI	118	16.1
Unknown		65	8.9
TOTAL		732	100

* Number of Frontline Employees at the CQI Knowledge level. Overall mean = 3.39 (on a scale of 1 to 5)
Standard Deviation = 1.19.

Front line Employees' Perceived Knowledge and Skills By Department

Table 6 presents a description of the front line employees' perception of their knowledge and skills by department. The department names are coded to protect the confidentiality of the departments. Those respondents that are listed under "unidentified" did not reveal their departments.

The overall mean was 3.39 and the standard deviation was 1.19. Department 0001 has four front line employees. All four front line employees in this department perceived

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Table 6. Means and Standard Deviation of the Front line Employees
Perceived knowledge and Skills by Their Respective Departments

Departments*	Front line Employees Level of Knowledge					Cases	Mean	Std. Dev.
	1	2	3	4	5			
0001	0	0	0	0	4	4	5.00	
0002	0	0	2	0	0	2	3.00	
0004	0	1	1	2	0	4	3.25	0.96
0005	0	0	0	1	0	1	4.00	
0006	1	0	0	0	1	2	3.00	2.82
0007	0	2	9	8	4	23	3.61	0.89
0008	-	2	2	4	1	9	3.44	1.01
0009	4	8	14	40	17	83	3.70	1.06
0010	1	4	6	18	4	33	3.61	0.97
0011	-	-	2	11	5	18	4.17	0.62
0012	1	5	10	10	4	30	3.37	1.03
0013	-	3	10	-	11	41	3.23	1.24
0014	1	4	9	13	8	35	3.66	1.06
0015	17	23	21	14	6	81	2.62	1.21
0016	-	-	4	15	3	22	3.95	0.58
0017	-	-	-	1	1	2	4.50	0.71
0018	1	-	7	10	8	26	3.92	0.98
0019	-	2	7	15	6	30	3.83	0.83
0020	-	3	3	1	3	10	3.40	1.26
0021	2	4	8	5	6	25	3.36	1.25
0022	3	7	6	11	6	33	3.30	1.26
0023	1	4	6	9	8	28	3.68	1.16
0024	6	-	6	4	-	16	2.50	1.26
0025	-	1	1	4	2	8	3.88	0.99
0026	-	1	2	7	2	12	3.83	0.83
Unidentified	17	16	17	28	11	89	3.00	1.33
Unknown						65		

Departments are coded to protect confidentiality. Overall mean=3.39., Std. Dev.=.1.19 **1=have no idea of CQI, 2=have some idea of CQI, 3=have general understanding of CQI, 4=have good understanding of CQI, 5=have excellent understanding of CQI.

Middle Managers' Commitment Toward Implementing CQI On Job

A five point Likert-type scale (1= lowest level of commitment to 5= highest level of commitment) was used to measure middle managers' commitment toward implementing CQI on the job. Table 7 provides an outline of the middle managers commitment toward implementing CQI on the job. The mean score of managers' commitment toward implementing CQI on the job was 4.31. The standard deviation was .802. Only three (3.5%) of the middle managers rated their commitment toward implementing CQI on the job a one or a two. Forty-three (50%) managers rated their commitment either a three or a four. Thirty-nine (45.9%) stated that they were very much committed to implementing CQI on the job. An overwhelming majority of the middle managers revealed that they are committed to implementing CQI on the job.

Table 7. Middle Managers' Commitment Toward Implementing CQI on the Job

Level of Commitment	Freq	Percent
1	1	1.20
2	2	2.30
3	6	7.00
4	37	43.0
5	39	45.3
Un- Known	1	1.20
TOTAL	86	100

Overall mean = 4.31, (On a scale of 1=lowest level of commitment to 5=highest level of commitment)
Standard Deviation = 0.80

Extraneous Variables

Front line Employees' Attitude Toward Their Managers

There were a number of extraneous variables described in the study. A five point semantic differential scale was used to measure employees' attitude toward their managers. Using the five point scale (1 through 5 for each pair), the front line employees responded to the pairs of adjectives and marked where they thought their managers were on the each pair. Table 8 summarizes the front line employees' attitude toward their managers. The adjectives were as follows: bad/good, unfair/fair, incomplete/complete, unable/able, hate/love, unimportant/important.

The higher the number on each pair of adjectives, the more positive the attitude toward the concept. Of the 732 front line employees who completed the instruments, 719 responded to this item. The mean score for front line employees attitude toward their boss was 3.763. The standard deviation was .91.

Table 8. Means and Standard Deviation of Front line Employees' Attitude Toward Their Managers

Attitude Measure. "MY BOSS IS ?"	n	Mean	Standard Deviation
Bad/Good	707	3.78	1.12
Unfair/Fair	705	3.7	1.14
Incomplete/Complete	683	3.61	1.1
Unable/Able	691	3.9	1.05
Hate/Love	688	3.58	0.9
Unimportant/Important	692	3.93	1.01
Overall mean = 3.76., Std. Dev. = .91			

Front line Employees' Attitude Toward The Job

A five point semantic differential scale was used to measure employees' attitude toward their job. Table 9 highlights the mean score and standard deviation for each item that measures front line employees' attitude toward their job.

There were three questions that measured the employees' attitude toward their job. Questions two, four and ten from the "On The Job" instrument measured front line employees attitude toward their job. Question two was recoded to reflect consistency in scoring. The higher the number the more positive the attitude toward their job. Question four measured employees' attitude toward the job using a five point semantic differential scale. Question ten directly measured the employees attitude toward their job.

The overall mean score for front line employees' attitude toward their job was 3.472 while the standard deviation was .762. The mean score on how employees feel about co-workers conflict was 3.84. Employees felt that for the most part (mean = 3.72) their bosses' words and actions match. The mean score on employee decision making was a 3.13. Finally, employees felt that important information within the department was not shared with everyone.

Table 9. Means and Standard Deviation of Front line Employees' Attitude Toward their Job

Attitude Measure*	n	Mean	Std. Dev.
I experience co-workers argue/many conflicts.	724	3.83	1.16
My boss's words and actions don't match.	720	3.72	1.28
Decision-making in my job is slow.	720	3.39	1.31
Most of the employees are not involved in decision making.	722	3.13	1.33
There is not much communication up and down the line.	726	3.00	1.34
Solving problems is confusing; sometimes full of conflict.	724	3.36	1.27
Important information is not always shared with everyone.	723	2.86	1.37
Things' are different in my job today than they were several years ago.	630	3.14	1.15
Things' are different in my job than they were last year.	647	3.14	1.00
"I FEEL MY JOB IS ..."			
Bad/Good	713	3.92	0.98
Unfair/Fair	708	3.51	1.17
Worst/Best	697	3.58	0.91
Boring/Fun	702	3.61	0.95
Unimportant/Important	711	4.17	0.97

On a five point scale (1=Not a problem, 5=A real problem), Overall mean=3.47., Std. Dev.=.76

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Front line Employees' Length of Time On The Job

Question 19C on the "On The Job" instrument asks the question regarding the number of years on the job. The front line employees' length of time on the job ranged from two months to forty-five years. Six-hundred twenty-eight of the 732 front line employees responded to this question.

There were 34 (4.5%) employees who have been on the job for less than a year. The majority (44%) have been in their jobs from 1 to 5 years. One-hundred thirty-five (18.40%) have been on their jobs from 6 to 10 years. Sixty-five (8.80%) front line employees have been employed for 11 to 15 years. Forty-two (5.70%) have been on their jobs for 16 to 20. Twenty-two (3.00%) have been on the job for 21 to 25 years. Finally, ten employees (1.03%) have been on their jobs for over 25 years.

Table 10. Frontline Employees' Length of Time on the Job

Length of Time	# of Employees	Percent
Less than 1 year	34	4.50
1 to 5 years	320	43.60
6 to 10 years	135	18.40
11 to 15 years	65	8.80
16 to 20 years	42	5.70
21 to 25 years	22	3.00
Over 25 years	10	1.03
Un-Known	104	14.20
TOTAL	732	100

Frontline Employees' Average number of years on the
job = 6.9

Middle Managers' Length of Time on The Job

Table 11 offers a summary of the number of years middle managers have been on the job. All middle managers indicated the number of years they have spent on their current jobs. There were 6 (7.1%) middle managers who had been on the job for less than a year, while only one manager had been on the job for over 25 years. The majority, (n=33, 38.4%) of middle managers have been on their jobs between 1 to 5 years. Twenty-seven (31.4%) of middle managers had been on their jobs between 6 to 10 years. The average number of years that middle managers had been on their jobs was 7.1.

Table 11. Middle Managers' Length of Time on the Job

Length of Time	# of Managers	Percent
Less than 1 year	6	7.1
1 to 5 years	33	38.4
6 to 10 years	27	31.4
11 to 15 years	6	7.0
16 to 20 years	6	7.0
21 to 25 years	4	4.7
Over 25 years	1	1.2
Un-Known	3	3.5
TOTAL	86	100

Average number of years on the job = 7.1

Dependent Variable

Front line Perceptions of Middle Managers' Commitment Toward Implementing CQI On The Job

There were three questions that measured the front line employees' perceptions of managers' commitment toward implementing CQI on the job. Question 3g was recoded to reflect consistency in scoring. The higher the number the higher the perceived commitment.

Seven hundred eleven front line employees responded to item 3g: "My boss would be supportive if employees followed the principles of CQI" (see Table 12). Two-hundred five respondents were neutral on whether their boss would be supportive. Sixty-one felt that their boss would not be supportive, and 153 felt that their boss would be supportive if they followed the principles of CQI. The overall mean was 3.4.

Seven hundred fifteen front line employees responded to question 3k: "Leadership in my department is committed to quality." Two-hundred seventy-three felt that their managers were committed to quality, while only 50 strongly disagreed that their managers were committed to quality. The mean for this variable was 3.47.

Finally, 668 front line employees responded to question 22: "The level of commitment of my supervisor toward implementing CQI." There were 177 employees who agreed that their supervisors were committed to implementing

CQI. Only 61 strongly felt that their managers did not have a strong commitment toward implementing CQI.

Overall, many employees took a neutral stance on whether their managers were committed to implementing CQI. However, as noted, there were a large number who responded favorably regarding their managers' commitment. Additionally, very few employees responded unfavorably (strongly disagreed or disagreed) to their managers' commitment toward implementing CQI on the job.

Table 12. Means and Standard Deviation of Frontline Employees' Perceptions of Middle Managers' Level of Commitment Toward Implementing CQI on the Job

Statements	Levels of Commitment					n*	Mea	S.D
	1	2	3	4	5			
If employees wanted to follow CQI principles, my boss wouldn't be encouraging.	61	97	205	195	153	711	3.4	1.2
Leadership in my department is committed to quality.	50	83	185	273	124	715	3.4	1.1
Level of commitment of my supervisor toward implementing CQI.	61	59	203	177	168	668	3.5	1.2

* 1 = Lowest commitment, to 5 = Highest commitment.

** Number of Front line employees.

Results of Objective 2:

Relationships Between Selected Independent Variables

Davis (1971) scale was used to determine the extent of the relationships between variables in the study. The statistical significance for this research was established a priori at an alpha level of .05.

Coefficients Description

.70 or higher	Very Strong Relationship
.50 to .69	Substantial Relationship
.30 to .49	Moderate Relationship
.10 to .29	Low Relationship
.01 to .09	Negligible Relationship

Ha.1 There is a Positive Relationship Between Middle
Managers' Perceptions of Knowledge and Skills of CQI
and Their Commitment Toward Implementing CQI On The
Job.

The findings of this study indicate that there was a positive statistically significant relationship between middle managers' perceived knowledge and skills of CQI and their commitment toward implementing CQI on the job ($r=.51$).

Test of The Hypothesis:

The research hypothesis that there was a positive relationship between managers' perceptions of their knowledge and skills and their commitment toward implementing CQI on the job was supported and found to be significant at alpha level .001 (see Table 13). Therefore the hypothesis was accepted.

Results of Objective 3

Investigate Relationships Among Selected Independent Variables and The Dependent Variable

Ha.2 There is a Positive Correlation Between Front line Employees' Perceptions of Their Own Knowledge and Skills of CQI and Front line Employees' Perceptions of Their Managers' Commitment Toward Implementing CQI On The Job.

The findings of this study indicate that there was a low positive statistically significant relationship between front line employees' perception of their knowledge and skills of CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job ($r=.12$).

Test of The Hypothesis: The research hypothesis that there is a correlation between front line employees' perception of their own knowledge and skills of CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job was supported and found to be significant at alpha level .001 (Table 13). Therefore the hypothesis was accepted. Although the relationship was a low, but significant relationship between front line employees' perceptions of their own knowledge and skills of CQI and front line employees' perceptions of their managers' commitment toward implementing CQI on the job, it is important to discuss the practical significance of this

relationship. The nature of this low relationship between these two variables may suggest that despite how front line employees' perceive their own knowledge and skills of CQI, managers' have to demonstrate their commitment when implementing CQI on the job.

Ha.3 There is a positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perception of their middle managers' commitment toward implementing CQI on the job.

The findings of this study rejects the hypothesis that there is a positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perceptions of their managers' commitment toward implementing CQI on the job ($r = -.060$). There was no relationship between managers' perceived knowledge and employees' perception of managements' commitment toward implementing CQI on the job (see Table 13).

Table 13. Inter-correlations Among Main Independent Variables and Extraneous Variables and the Dependent Variable.

Summary

Overall, employees within Business and Administration tend to have a positive attitude about their jobs and their managers. The findings indicate that there was a substantial positive statistically relationship between middle managers' perceived knowledge and skills of CQI and their commitment toward implementing CQI on the job ($r=.51$). This relationship may suggest that managers who have positive perception of their knowledge and skills of CQI tend to be more committed to implementing CQI on the job.

The findings also indicated that there was a positive low relationship between front line employees' perception of their knowledge and skills of CQI and front line employees' perceptions of their managers' commitment toward implementing CQI on the job ($r=.12$). While this relationship is positive, the author questions the practical significance of this relationship. Despite front line employees' perception of their own knowledge of CQI, they need to see their managers demonstrating their commitment toward implementing CQI on the job.

The findings rejected the notion that there was positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perceptions of their managers' commitment toward implementing CQI on the job ($r= -.060$).

Chapter V

Summary, Conclusions, and Recommendations

Introduction

The purpose of this chapter is to summarize, draw conclusions and make recommendations within the context of the design and the results obtained from the study. Three sections comprise this chapter. The first section summarizes the first four chapters of the study. Second, the findings, interpretations, and conclusions will be provided for each objective presented in Chapter I followed by recommendations on the findings and a review of earlier research. The final section within the study will offer recommendations for future research in this area.

Summary

Given the current flux and transformation that higher education is experiencing, it is imperative that every facet of the organization be involved in meeting the challenge. The leaders within higher education will play a

critical role in ensuring that they are committed to transforming the university while implementing CQI. Additionally, employees will need to play a critical role in the transformation process. This means that managers will have to change the way they manage to ensure that an organizational climate is developed that will include the knowledge and skills of all employees.

There is a growing interest among leaders in education regarding the implementation of higher education. Very little has been written specifically about the factors related to how employees perceive their managers' commitment when they implement CQI. An investigation of these factors will begin what is hoped to be contributions to CQI and CQL. This study investigated the factors related to how front line employees within The Office of Business and Administration at The Ohio State University perceived their leaders' commitment toward implementing Continuous Quality Improvement on the job. There were three objectives for this study. The dependent and independent variables were described. The study also investigated the relationship between selected independent variables and the relationship between selected independent and dependent variables.

Chapter II provided a view of Frederick Taylor's scientific management philosophy and a theoretical framework on how his contributions to organizational development has contributed to how managers' operated within today's organizations. The review of literature specifically

highlighted Frederick Taylor's scientific management philosophy because of its influence on the operations of many organizations. A history of quality improvement and an overview of three of the leading pioneers within the quality field was discussed. The final section focused on the role of leadership while implementing CQI in higher education. Chapter III provided a description of the research procedures which included the following: research design, population, instrumentation, data collection procedures, and data analysis. Finally, Chapter IV highlighted the findings followed by tables that provided a more detailed description of the data.

Summary of Objective 1.

To Describe the dependent and independent variables of the population.

Managers' Perceived Knowledge and Skills of CQI.

A high percentage (54.7%) of middle managers had a good perception of their knowledge and skill of CQI. None of the managers indicated that they did not have an idea of CQI. Additionally, as expected, the majority of middle managers (45.3%) felt they had a high level of commitment in implementing CQI on the job. Only three managers (3.5%) perceived themselves as having a low level of commitment to implementing CQI on the job. Overall, managers tended to

feel that they had a good perception of their knowledge and skills of CQI.

As discerned from the literature, there are at least six behaviors that managers demonstrate when they commit themselves to implement CQI on the job. (Brown, Hitchcock, and Willard, 1993). First, time is spent with the front line employees. Showing an interest and developing a working relationship with the employees demonstrate an effort, on part the of the managers, to invest in the needs of their employees. However, Hitchcock (1993) suggests that the key to managers' establishing a relationship with employees is sincerity and consistency. Second, Managers commit the resources to CQI initiatives. Employees tend to look for the resources that are committed to the CQI initiatives. Third, managers tend to dedicate a significant amount of their time in training and educational courses related to CQI. Managers are visible during CQI sessions. They prepare themselves to attend the entire training or educational sessions with their employees. This demonstrates to the employees that the managers are full participants in the CQI learning process. Fourth, the organizations' suppliers are seen as partners, rather than adversaries. Fifth, managers spend time with the customers. Spending time with the customers will keep managers abreast with their needs. Finally, managers invest in measuring the outcome of CQI initiatives throughout the organization. This includes internal and external data.

Managers are concerned about strategic planning as well as the affects of implementing the basic tenets of CQI.

Recommendations for Practice

1. Although managers perceived themselves as having a high perception of their knowledge and skills of CQI, all managers need to manifest their knowledge and skills through committing themselves to the principles of CQI. Front line employees need to not only know that their managers have the knowledge and skills of CQI, but each employees needs to see and feel the "positive" affects of her/his manager's knowledge and commitment.

One of the ways that the Office of Business and Administration can ensure that managers' perceptions of their knowledge and skills is manifested throughout the different departments is to develop specific departmental CQI training. This departmental training would focus specifically on providing structured activities that focus on the uniqueness of each department. The CQI structured group activities would be designed to "test" the managers actual knowledge and skills of CQI principles.

2. Universities that are attempting to implement CQI throughout the campus, or in specific departments must design their training activities so that the managers'

actual knowledge and skills are measured before and after the training. Managers who have a handle of their knowledge and skills before the training would be in a better position to assess their management style relative to the CQI principles.

Front line Employees' Perceptions of Their Knowledge and Skills of CQI

Over 240 (32.8%) of the front line employees perceived themselves as having a good understanding of the CQI. One-hundred eighteen (16.1%) felt that they had an excellent understanding of CQI. Only 58 (7.9%) felt that they did not have an idea of what CQI is. Overall, employees felt that they were fairly knowledgeable about the principles of CQI.

Brown (1993) highlights several ways to make training of CQI more successful for employees. Examples within the training should reflect actual situations that employees would ordinarily encounter on their jobs. There are several general training programs for organizations. The most successful training programs for employees are those that tailor their training to the organization. Customized training programs are those that provide training to fit the organizational culture. Employees tend to feel good about their own knowledge of CQI when they feel their managers have been trained and are practicing the principles of CQI. Training for managers should be delivered in a similar manner as training for front line employees. It is also

important that managers receive additional training that focuses on the roles they need to play in demonstrating their commitment to implementing CQI (Brown, 1993 p.50). Finally, training programs that are most successful are those that follow-up with concrete actions. For example, managers should be extremely conscious of following-up with employees after training when changes in organizational systems call for new information or a review of the organization's critical processes.

Recommendations for Practice

1. Similar to management CQI training, front line employees within the Office of Business and Administration must feel that the CQI training is relevant to their roles. More importantly, front line employees will need to be given an opportunity to demonstrate their knowledge and skills of CQI on the job. One of the ways front line employees can demonstrate their knowledge and skills of CQI is to participate in facilitating group class sessions.

2. While it is important to ensure that managers are first aware of the CQI principles, the next phase of the training must focus on matching front line employees with managers to begin a departmental dialogue about how CQI fits within the current processes of individual

departments. Placing managers and front line employees in training where they deal with the realities of the their work environments will assist in closing the huge gap that sometimes exists between managers and front line employees.

3. Findings of the study show that a significant number of employees had either a good or excellent perception of their knowledge and skills. Each department within Business and Administration may implement cross functional work teams that provide the front line employees the opportunity to demonstrate their knowledge and skills by actually facilitating a work team of which management is a part.

Front line Employees' Attitude Toward Their Job

Employees tended to have positive attitudes about their jobs. Many of the employees felt that their jobs were fun and a large majority felt that their jobs were important to the department. Employees were neutral on whether there was much communication from their managers. They saw a real problem with important information being shared among the front line employees.

In order for front line employees to reach total job satisfaction, management must release greater levels of authority. Communication regarding changes in organizational systems and policies must be supported by the front line employees (Brown, 1990).

Front line Employees' Attitude Toward Manager

Many employees were neutral about their overall attitude toward their manager. There were some employees who did not have a positive attitude toward their manager. Many front line employees were pleased with their managers. While most employees' attitude toward their managers is positive, it is surprising given the traditional adversarial relationships between manager and employee.

Front line Employees' Length of Time on the job

The majority 320 (43.6%) of the employees had only been on their jobs between 1 to 5 years. Thirty-four (4.5%) of the front line employees have been on the job for less than one year, and ten (1.03%) of the employees have been on the job for over twenty-five years.

Main Dependent Variable**Front line Employees' Perceptions of Managers Commitment
Toward Implementing CQI on The Job.**

Overall, employees viewed their managers as having moderate to high commitment in implementing CQI on the job. Only 61 employees felt that their managers would not be supportive if they wanted to follow CQI principles. Over 270 employees felt that management was committed to quality, while only 50 said that their managers are not committed to quality. Surprisingly, many employees felt that managers were moderately interested in implementing CQI on the job. This disparity suggests that managers may be knowledgeable of CQI, but are unsure of how to implement its principles. This may also suggest that managers may need ongoing training to assist them in understanding the importance of the their role when implementing CQI.

Willard (1993) suggests that manager must understand the critical role they play in the work place. The literature review (Chapter II) suggests the traditional role of managers, which focused on planning, controlling,

staffing and directing their employees. Modern day organizational development theorists (Seymour, Deming, Juran, Crosby et al) recommend focusing their managerial energy on the four Cs: coaching, consulting, cheerleading, and coordinating. Willard (1993) suggests that these competencies will teach managers to learn the following new skills:

- * Use management by walking around in order to build relationships and stay in touch without being a spy.
- * Transfer complex knowledge.
- * Redesign organizational systems to align with the values of team work and quality.
- * Build strong and lasting alliances with others
- * Catalyze action without taking responsibility for the work.
- * Build shared vision.
- * Manage interconnectedness with a self-directed environment.

There are at least four major obstacles that prevent managers from implementing CQI on the job: priority, resistance, skill and arrogance Brown (1992). In the day to day functions of managers, quality has yet to become a priority for many managers. Many have not assimilated to the new practicing CQI because the principles are simply not a priority for them. CQI cannot and will not be achieved in any organization without a drastic change in management philosophy. Managers must adopt a new philosophy in how

they view the customers and how they examine employee involvement in transforming the organization. Secondly, many managers are resistance to changing their way of managing. To assist managers in getting over the obstacle of resistance, Brown, Hitchcock and Willard (1993) offer many suggestions in their book, WHY TQM Fails:

1. Establish an employment policy emphasizing that everyone's role will change but that no one will lose his/her job due to this change.
2. Sell the need more than the solution. Make sure that everyone understands the pressures of the underlying change.
3. Take managers on site visits to other organizations that are further along in the transformation process. There they will learn from disinterested peers that, while the change was difficult, the new role is far more rewarding.
4. Help everyone define a new, inspiring role for him/herself. Employees should be involved in the redesign of their own jobs.
5. Provide additional training so that they can be taught the skills they will need when they will most need them and have time to practice and get feedback on the job.
6. Implement meetings where employees can learn from each other. These meetings may come in the form of informal focus groups.

7. Use active, creative training techniques that draw managers in despite their resistance...

Third, few managers have the necessary skills to implement quality on the job. Much of the training managers are provided does not relate the CQI to their roles as managers. Finally, managers' arrogance is reported to play a critical role in their willingness to implement CQI. Managers routinely underestimate the amount of changing they themselves must do. Organizations must set into motion escalating opportunities for managers to get feedback on their performance.

Recommendations for Practice

1. If CQI is to have a positive impact, front line employees must feel that their managers are committed to fully implementing CQI on the job. Business and Administration must begin to measure management commitment in more practical ways. Managers' commitment must be measured not only by the amount of money saved, but by the amount of quality time spent with front line employees. Secondly, managers must spend time with customers and constantly probe how customers are feeling about services received from their departments.
2. Front lines employees must feel that their managers are invested in their roles. Managers must re-evaluate how

they spend their time. Managers should spend more time evaluating the effectiveness of the CQI initiatives. Front line employees will begin to feel more content about their managers commitment if they actually witness the sincerity of their managers' efforts.

3. Managers need to make a concerted effort to include front line employees in decision-making within their departments. One way this can be accomplished is to develop a communication system that would first ensure that information about decisions is disseminated widely throughout the organization. Second, managers could review the impact that these decisions will have on individuals within the organization.

Summary of Objective 2

Investigate Possible Relationships among selected independent variables

Ha.1 There is a positive correlation between middle managers' perceptions of their knowledge and skills of CQI and their commitment toward implementing CQI on the job.

There was a statistically significant correlation between middle managers' perceptions of their knowledge and skills of CQI and their commitment toward implementing CQI on the job. Managers who have a positive perception of their knowledge and skills of CQI tend to be committed to implementing CQI on the job. This relationship may suggest that managers who are comfortable with their training on CQI

principles feel better about their understanding of CQI, and thus they are more committed. This relationship may also suggest that managers' are making an effort to internalize the new management paradigm.

As noted in chapter II, the new management paradigm is one in which managers commitment is manifested throughout the organization. Managers who are successful in implementing CQI on the job are not only a major "cheerleader" for quality, but ones who model appropriate quality behavior and involve front line employees in decision making. The new management paradigm also suggests that managers who are committed to implementing CQI should promote continuous learning, place customers first, and facilitate cross-functional team communication.

Ha.2 There is a positive correlation between front line employees' perceptions of their own knowledge and skills of CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job.

There was a statistically significant correlation between front line employees' perception of their knowledge and skills of CQI and their perception of managements' commitment toward implementing CQI on the job. Employees who have a good perception of their knowledge and skills of CQI tend to have a favorable perception of their managements' commitment toward implementing CQI on the job. The relationship between these two variables can be

interpreted by Senge's (1990) assertion that employees tend to have more faith in their managers when there is a genuine sense that the organization (management) is investing in advancing its knowledge through education and training. Additionally, a recent study on employees' training suggests that significant employee improvements in performance and feeling comfortable with their managers tend to be linked to employees' feeling of empowerment (Lawler, 1992).

While the correlation appears to be significant in theory, the practical significance of this correlation offers another perspective ($r=.12$). The "low" practical significance of this relationship may mean that for many employees regardless of their own knowledge of CQI, front line employees need to have their managers demonstrate their commitment to implementing CQI on the job. In fact, sometimes front line employee awareness of CQI can create more resistance. The major concern can sometimes be that CQI is yet another fad, especially, if the front line employees feel that there is no commitment from their managers.

Ha.3 There is a positive correlation between middle managers' perceived knowledge and skills of CQI and front line employees' perceptions of their middle managers' commitment toward implementing CQI on the job.

The findings in this study reject the notion that there is a positive correlation between middle managers perceived

knowledge and skills of CQI and front line employees' perception of their managers' commitment toward implementing CQI on the job.

This means that there was no significant relationship between middle managers' perceived knowledge and skills of CQI and how employees perceived their managers' commitment toward implementing CQI on the job. This finding would suggest that the greater the perceptions of managers' perception of their knowledge and skills the lower the commitment front line employees have of their managers' commitment. The Habridge House (1984) study found that leaders who build strong relationships between front line employees demonstrate their commitment through articulating a strong vision and encouraging open communication between departments.

Recommendations for Practice

1. Managers and front line employees should speak the same language and understand the common tools for implementing a successful CQI program. One of the ways to ensure commonality when implementing CQI is to have both the managers and the front line employees understand the "true" state of their departments. Perhaps, an expert on quality could provide facilitation in gathering information about the true state of affair within the organization. This could be done by conducting a climate survey that addresses the

more critical issues within the individual departments. The climate survey could ask questions regarding management's views on the actual departmental work flows, the critical processes of the departments, the organizational structure of each department.

2. The managers and front line employees should develop a "model for improvement." This model would provide an aim (What are we trying to accomplish?), provide an understanding of the current knowledge (How will we know that a change is an improvement?), and offer cycle for learning and improvement (What changes can we make that will result in improvement?)

Recommendation for Future Studies

The scope of this study was to investigate factors related to front line employees views of their managers' commitment toward implementing CQI on the job. The dependent and independent variables were described. Possible relationships between selected independent variables were investigated. The possible relationship between selected independent variables and the dependent variable was investigated. The methodology selected for this study was descriptive and correlation. While this study has offered invaluable contributions to the CQI literature, the following recommendations are offered for future research:

1. Research should be conducted to determine the levels and all the stages of implementing CQI within academic units in colleges and universities.
 2. Further research is recommended to explore the cognitive, affective, and demographic characteristics of front line employees and middle managers that could predict their commitment toward implementing CQI on the job.
 3. Research is needed to determine the role and commitment of university presidents, vice presidents, and deans toward implementing CQI on the job.
 4. This study explored the relationships of selected independent and dependent variables. It is recommended that this study be replicated where the extraneous variables are controlled.
 5. Future research should be conducted exploring the employees' perceptions of how successful the six essential elements have been implemented with Business and Administration.
 6. This study included all the employees who completed the On The Job and Middle Managers' instruments. It is recommended that future research explore the differences in responses from how CQI graduates and
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non-CQI graduates respond to the organizational changes.

7. During the course of the study the evaluators conducted over thirty-five focus group interviews. Exploring how the qualitative data would add to the depth and breath of this study.
8. Conduct future research to investigate the relationship between management's perceived commitment and departmental budget constraints.
9. Further research is recommended to compare the front line employees and middle managers' levels of commitment toward implementing CQI on the job.
10. Academic support units within colleges and universities who want to measure the effectiveness of their CQI efforts may find the "On the Job" and "Middle Managers'" instruments to be very useful. While the questions on these instruments exceeded the limits of this study, they are highly recommended for use in further investigation of similar studies.

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Appendix A

Narrative Discussion of Taylor's Scientific Management Philosophy Contrasted With Deming's Quality Paradigm

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Taylor and Deming, A Contrast

Delvavigne and Robertson (1994) cites some of the flaws of Taylor's scientific management philosophy. Below are some of the flaws of scientific management followed by the Taylorism in Action today (Neo-Taylorism) and Deming's commentary to the new quality driven organization.

1. Belief in Management Control as the essential Precondition for Increasing Productivity>

- * Formerly, shop-floor workers had the monopoly of production knowledge; improving productivity meant management had to wrestle that control from them.
- * Workers were assumed to routinely restrict their potential output and to conceal their knowledge of how to increase production.
- * Management believed in enforced work standards and even enforced cooperation.

Taylorism in action today (Neo-Taylorism)

- * Your boss is your customer.
- * Management is preoccupied with manipulation of the work force, especially through the dual means of rewards and punishment
- * Management is obsessed with control and results, rather than improvement.
- * Planning is reserved as a managerial activity. Contrast Deming's insistence that management's job is not to control, but to lead, to coach, to provide methods and tools. The results are control-- statistical control.

2. Belief in the possibility of Optimal Processes.

- * Taylor's deterministic outlook assumes static laws and relationships govern the performance of any system, hence all business systems; the inherent randomness in all processes is unrecognized.
- * Process optimally (Taylor's "one right way to do a thing") assumes the absence of variation; so variation in a worker's output was ascribed to soldering or lack of desire to be a first class man.
- * All needed information is assumed to be knowledgeable.
- * Everyone was required to produce at levels well above those of even first class men, enforced by pay systems that heavily penalized substandard performance.

Taylorism in Action (Neo-Taylorism)

- * Perfectionism--a belief that "best efforts" will achieve optimal results
- * Management by Objectives (MBO) as a vehicle for enforcing perfectionism
- * Rejection of continuous quality improvement
- * Belief in certification as a guarantee of quality
- * Demands for repeatability of processes
- * Denial or minimization of failures and dismissal of opportunity to learn from them
- * Reliance on re-engineering and automation as a substitute for reducing inherent process complexity
- * Spreadsheet mentality in planning (assumption that fixed or linear relationships exist among variables)
- * Quotas and work standards
- * Hiring only high GPA college graduates
- * Employee ranking and rating schemes
- * Imitation of others without understanding why, how, or even if they get their results

- * Multiples suppliers with the same product when a singular supplier relationship would be feasible
- * Concentration on measurement of outcome rather than understanding of the underlying system of causes.

Contrast Deming's emphasis on continual learning and improvement.

Contrast Deming's emphasis on understanding variation, special and common causes, and statistical control; also, his to scrap the merit system.

Contrast Deming's position that there are no true value against management beliefs that everything is quantifiable and knowledgeable.

3. A Narrow View of Process Improvement

- * Minimal, if any, focus was on product quality.
- * Improvement was limited to selecting, training, motivating and supervising the workers
- * An "optimum" process was selectively determined off-line by experts, meaning people trained in scientific management.
- * De-skilling tasks (reducing the number of functions included) to reduce cost and enable time-study often left skilled workers "overqualified" and therefore "over-paid"; this move was partially aimed at the disfranchisement of skilled labor.
- * Time studies sometimes used idealized and subjective data taken from other processes
- * Concentration was on a minimum (time) maximums (output) rather than on averages.
- * Introduction of new processes and techniques developed off-line was occasional and discontinuous.

Taylorism in Action (Neo-Taylorism)

- * Manipulation of the symbols of progress, instead of real improvement (looking good verses being good).
- * Chasing words prizes and publicity instead of pursuing improvement.
- * Adoption of spurious measurement systems which ignore variation
- * Adoption of current fad programs as "the one best way."
- * Satisfaction with merely meeting specifications.
- * Reliance on technology, planned invention, and "silver bullets" instead of on continuous improvement.
- * Emphasis on documentation rather than on improvement of processes.
- * Lack of emphasis on continuous learning, and an unwillingness to learn from the past
- * Teaching immediate job skills instead of educating people to think, analyze, and gain new knowledge.

Contrast Deming's use of scientific method (PDSA cycle) to isolate and reduce the flaws and complexity causing variation.

Contrast Deming's (and others') principles that any system is the product of the interactions among its parts, not the sum of individual performances of the parts.

Contrast Deming's position that, as powerful as process improvement is, the truly great leverage in improving an organization comes from treating problems of the system.

Contrast the ideal of developing and increasing knowledge as described in Ikujiro Nonaka's paper "The knowledge-Creating Company" (Harvard Business Review, November-December 1991).

4. Low Level Suboptimization Instead of Holistic, Total-System Improvement

- * Each person's work was redesigned for maximum output, and work standards are based on that maximum.
- * No Concept of continuous improvement existed-- Taylorism always aimed at "one best way."
- * Variation was taken out of the equation, and the mean was made deterministic for the process.
- * Each unit was made best individually, not holistically as part of the system.

Taylorism in Action (Neo-Taylorism)

- * Suboptimization of one component at the expense of another (win-lose), for example, run your department like a business
- * Quotas, goals and targets for various groups, which increase complexity through competition, factionalization, and duplication of effort, instead of benefiting of the whole system.
- * Incessant reorganizations to meet some "new challenge"
- * Intolerance of "idleness" on the part of workers or machinery.
- * Measuring the efficiency of subgroups and individuals often resulting in factionalization and competition to make the measurement better.

Contrast Deming's analogy of a symphony orchestra whose peak performance does not depend on maximizing the performance of each individual unit. When each component of a system maximizes its own performance, the system as a whole will not perform as well as possible.

Contrast Deming's insistence on solutions where "everybody wins."

5. Recognition of only one cause of defects: People

- * "Optimal" systems do not produce defects:hence, the only variable must originate outside the system: the worker.
- * Workers were assumed to deliberately restrict output in order to prevent management from learning their true capacities.
- * As Taylor stated, "Scientific Management" is a complete mental revolution on the part of the working man.
- * Pay schemes, tied to arbitrary speed and production quotas, were designed to "convince" workers that their interest and management's were common.

Taylorism in Action (Neo-Taylorism)

- * Worker -motivation schemes, such as: employees of the month slogans, posters, films, and other exhortations to increase quality, work harder, put forth best efforts, reduce costs etc.
- * Management viewing their job as one of control
- * Arbitrary goals for defect-reduction, as though workers had the means to achieve them
- * Cultivating an atmosphere of fear.
- * Reminding people how expensive they are (life insurance, pensions, medical insurance etc).
- * Ranking and penalizing people on the basis of their output
- * Punishing people for mistakes
- * Laying-off workers and threatening layoffs
- * Threatening use of outside vendors for processes now done in-house
- * Selling units that do not meet imposed objectives.

Contrast Deming's emphasis on the system as cause of most defects and on the need to drive out fear and eliminate barriers to pride and workmanship.

6. Separation of Planning and Doing

- * Separation was applied to jobs, processes, ideas, innovation, and improvement.
- * Expertise was assumed to be outside of the process in the hands of management and experts in scientific management.
- * The system produced the rise of specialization supervisory roles
- * Workers within the process were assumed to be passive and ignorant.

Taylorism in Action (Neo-Taylorism)

- * MBO-the manager is the reviewer and the judge
- * Divergence between espoused and actual practice
- * Separation of learning from working.
- * Reliance on decontextualized views of the process system, rather than on the actual practice of those situated within it.
- * Decontextualized support functions, such as accounting, purchasing, legal, and personnel, allowed to make policy.
- * Managers who are removed from both process and product.
- * Reliance on formal descriptions of work and jobs prepared by "experts" outside of the process
- * Adoption of a growing role as a broker for someone else's products interference as being a producer.

Contrast Deming's emphasis on the values to the company of knowledge carried around in their heads, and the duty of management to understand the processes they manage and help employees increase their knowledge for improvement of products and processes.

7. Failure To Recognize Systems and Communities in the organization

- * Workers were considered only individually.
- * No allowance was made for interaction with other workers or with a system.

Taylorism in Action (Neo-Taylorism)

- * Work viewed individually instead of collaboratively
- * Insistence on a unitary, canonical culture, combined with failure to recognize informal communities in the organization
- * Employee motivation schemes such as posters, programs, exhortations, and prizes.
- * Individual power and "perks" offered as motivation, especially for managers.
- * The rise of the cowboy, or hero, role to deal with crises.
- * Policies put people and departments in competition with one another, such as MBO, quotas, ranking (win-lose models).
- * Empowerment and self-directed work team programs which only maintain power in management's hands, giving employees a double dose of deception.
- * Suppliers and customers treated as outsiders and regarded with suspicion.

Deming is specifically against the above practices, stating instead that: Management's job is to optimize the system, which includes employees, suppliers, and customers., on a win-win basis. Management's job is to help their people, to provide security, and to remove the barriers to their taking joy in their work.

8. View of Workers as Interchangeable, Bionic Machines

- * Taylor paved the way for industrial acceptance of John Dewy's theory that man is merely a machine.
- * Taylor also set the stage for the industrial application of the stimulus-response-response behaviorism of B.F. Skinner America (Psychologist, 1904-1990).
- * Pay was assumed to be the predominant motivator, especially for the lower level employees. (Taylor's idea was later adopted into a much more elaborate scheme by the behaviorist psychologist Abraham Maslow, 1908-1970).
- * Control of the process was removed from the worker and the traditional foremen.
- * Tasks were transferred from skilled to un-skilled workers.
- * No recognition was given to interaction among workers, or to the system in which they work.
- * Combined with a disregard of variation, differences in performance were treated as inherent in the worker rather than caused predominantly by the system in which he/or she works.
- * If a worker would not do what he wanted him to, the manager should make him.

Taylorism in Action (Neo-Taylorism)

- * Failure to recognize the major effect of the system upon an employee's performance
- * Quotas and work standards
- * Planned long-term objectives
- * Management use of the motivational schemes of behavioral psychologists, such as pigeonholing employees according to their economic and organizational status.
- * Stereotypical organizational responses such as the reorganizations which shuffle people around on the assumption that workers, and especially managers, are interchangeable.

- * Management giving out rewards and prizes instead of providing intrinsic motivation.
- * Downsizing to avoid the costs of retaining loyal, effective employees.

The flaws listed above are in direction violation of Deming's profound changes.

Appendix B

**Dissertation Time line, Correspondence,
Instruments, Pilot Study Summary, Panel of Experts
Stakeholder Panel**

**Dissertation Timeline for Completing
Dissertation Draft**

Date	Tasks
02-01-94	Research topic generated
03-09-94	Research topics discussed with advisor
03-28-94	Research topic explored with the Vice President
05-17-94	Comprehensive Exams Completed
06-13-94	Proposal discussed with advisor (1st draft)
07-13-94	Proposal developed (2nd draft)
08-14-94	Instruments approved by stakeholders
08-23-94	Proposal developed (3rd draft)
09-1-94	Proposal accepted by committee
11-10-94	Field testing of instrument
11-15-94	Initiate instrument dissemination
01-15-95	First follow-up
02-11-95	Second follow-up
02-28-95	Last Day to complete instruments
03-01-95	Run and tabulate data
05-05-95	Turn-in Doctoral Draft Form to grad. school

Correspondence

Dear B&A Manager:

As you know, each of your employees received an On-the-Job questionnaire. These questionnaires were distributed by a process used with the middle managers when Lee Jones and I met with you in a focus group sometime late last year. To date we have received ____ of your front line employee questionnaires back.

Please make enough copies to distribute the attached notice to all your front line employees. This notice indicates the deadline for all questionnaires to be returned and also a process of how to get another one to complete if the first one was lost or destroyed.

Thanks.

Sincerely,

**Emmalou Norland, Ph.D
Director Evaluation and Research**

Attachment

**c. Janet Pichette
Lee Jones**

The Ohio State University
Division of Business and Administration
On-the-Job CQI Survey

154

Please complete this survey whether or not you have participated in any CQI training. Your opinion is very important. Please be frank in your responses. No information you share will be linked with your name in any way. THANKS!

1. Which ONE of the following sentences best describes what you know about CQI? (circle the letter of the sentence)

- a. I really do not have any idea what CQI is.
- b. I have somewhat of an idea of what CQI is.
- c. I have a general understanding of CQI.
- d. I have a good understanding of CQI.
- e. I have an excellent understanding of CQI.

2. Rate the following situations which you may be CURRENTLY experiencing in your job. (circle one number for each situation)

	NOT A PROBLEM		SOMEWHAT OF A PROBLEM		A REAL PROBLEM
a. co-workers argue/many conflicts	1	2	3	4	5
b. boss's words and actions don't match	1	2	3	4	5
c. decision-making slow	1	2	3	4	5
d. most employees not involved in decision-making	1	2	3	4	5
e. not much communication up and down the line	1	2	3	4	5
f. solving problems is confusing; sometimes full of conflict	1	2	3	4	5
g. important information is not always shared with everyone	1	2	3	4	5

3. Indicate your agreement or disagreement with each of the following statements. (Circle one number for each.)

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
a. Employees in my department could improve a lot in working together.	1	2	3	4	5
b. Customer service is the major focus in my department.	1	2	3	4	5
c. The quality of the outputs in my department can vary quite a bit.	1	2	3	4	5
d. Quality is very important in my department.	1	2	3	4	5
e. My department shares in decision-making activities.	1	2	3	4	5
f. Employees in my department don't seem to care very much lately.	1	2	3	4	5
g. Even if employees wanted to follow CQI principles, my boss wouldn't be encouraging.	1	2	3	4	5
h. Employees in my department work together to solve problems.	1	2	3	4	5
i. In my department, we do not use a good process to solve problems.	1	2	3	4	5
j. Things appear to be changing for the better in my department.	1	2	3	4	5
k. The leadership in my department is committed to quality.	1	2	3	4	5
l. My department has the attitude that it can always improve customer service.	1	2	3	4	5

- m. In my department, customer satisfaction is not that important. 1 2 3 4 5
- n. In my department, 'the left hand never knows what the right hand is doing'. 1 2 3 4 5
- o. Communication is a problem in my department. 1 2 3 4 5

4. Mark your feelings about your job by circling a number between each of the pairs of words.

MY JOB						
BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
WORST	1	2	3	4	5	BEST
BORING	1	2	3	4	5	FUN
HATE	1	2	3	4	5	LOVE
UNIMPORTANT	1	2	3	4	5	IMPORTANT

5. Mark your feelings about your department by circling a number between each of the pairs of words.

MY DEPARTMENT						
BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
APART	1	2	3	4	5	TOGETHER
BORING	1	2	3	4	5	FUN
HATE	1	2	3	4	5	LOVE
UNIMPORTANT	1	2	3	4	5	IMPORTANT

6. Mark your feelings about your boss by circling a number between each of the pairs of words.

157

MY BOSS

BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
INCOMPLETE	1	2	3	4	5	COMPLETE
UNABLE	1	2	3	4	5	ABLE
HATE	1	2	3	4	5	LOVE
UNIMPORTANT	1	2	3	4	5	IMPORTANT

7. Mark your feelings about your co-workers by circling a number between each of the pairs of words.

MY CO-WORKERS

BAD	1	2	3	4	5	GOOD
STRANGE	1	2	3	4	5	FAMILIAR
SAD	1	2	3	4	5	HAPPY
BORING	1	2	3	4	5	FUN
HATE	1	2	3	4	5	LOVE
UNABLE	1	2	3	4	5	ABLE

8. Mark your feelings about the Division of Business and Administration by circling a number for each of the pairs of words.

THE DIVISION OF BUSINESS & ADMINISTRATION

BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
UNORGANIZED	1	2	3	4	5	ORGANIZED
WORST	1	2	3	4	5	BEST
UNIMPORTANT	1	2	3	4	5	IMPORTANT

9. When they happen, how often are you INVITED to participate in the following activities in your department?

	NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
a. Reading written communications from department leadership	1	2	3	4	5
b. Writing communications for others within the department to read	1	2	3	4	5
c. Being on a work team	1	3	3	4	5
d. During decision-making, being consulted by leadership as to your opinion	1	2	3	4	5
e. Participating as an 'equal' in decision-making	1	2	3	4	5
f. Participating in a group problem-solving process	1	2	3	4	5
g. Attending an on-the-job training session	1	2	3	4	5
h. Other _____					
_____	1	2	3	4	5
i. Other _____					
_____	1	2	3	4	5

Thinking about your job in general terms, how would you compare your situation today with the past?
 N/A=Does not apply to me; I haven't been here that long.

	YES, MUCH WORSE	YES, WORSE	THINGS ARE THE SAME	YES, BETTER	YES, MUCH BETTER	
10. Are 'things' different in your JOB today than they were...						
a. several years ago?	1	2	3	4	5	N/A
b. last year?	1	2	3	4	5	N/A
11. Are 'things' different in your DEPARTMENT today than they were...						
a. several years ago?	1	2	3	4	5	N/A
b. last year?	1	2	3	4	5	N/A
12. Are 'things' different in the DIVISION of BUSINESS & ADMINISTRATION today than they were...						
a. several years ago?	1	2	3	4	5	N/A
b. last year?	1	2	3	4	5	N/A
13. Are 'things' different at OSU today than they were...						
a. several years ago?	1	2	3	4	5	N/A
b. last year?	1	2	3	4	5	N/A

14. Now, think about your department over the last year. Mark your agreement or disagreement with the following statements. 160

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
a. Communication within my department has seemed to improve.	1	2	3	4	5
b. Employees appear to be arguing more among themselves.	1	2	3	4	5
c. Work is going much smoother.	1	2	3	4	5
d. Deadlines are being met most of the time.	1	2	3	4	5
e. Quality of service seems to be sliding downhill.	1	2	3	4	5
f. People in general appear to be happier in their jobs.	1	2	3	4	5
g. Problems are not getting solved.	1	2	3	4	5
h. Employees are consulted more than they used to be about decisions being made.	1	2	3	4	5
i. Bosses are less friendly than before.	1	2	3	4	5
j. There seems to be more confusion than usual.	1	2	3	4	5
k. Conflicts are solved more easily than they used to be.	1	2	3	4	5

Thinking about your own work situation and your answers to this survey, what kinds of 'help' could the leadership of Business and Administration offer to employees like yourself?

(Circle ALL that apply to you)

15. I WOULD LIKE TRAINING OR INFORMATION ABOUT..

- a. conflict management
- b. work skills
- c. communication
- d. balancing work and family
- e. quality control
- f. Other _____

16. I WOULD LIKE BETTER FACILITIES FOR...

- a. working
- b. taking breaks
- c. recreation
- d. friendly conversations
- e. personal needs
- f. Other _____

17. I WOULD LIKE BETTER RESOURCES FOR...

- a. my work
- b. my physical workplace
- c. break areas
- d. Other _____

18. OTHER IDEAS?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

19. Please share the following information about yourself.

162

a. What is your job classification (ie. front line, manager, etc.)? _____

b. What is your department? _____

c. How many years have you been in this job? _____ years

d. How many years, total, have you been with OSU? _____ years

20. About how many of your co-workers in your department have already completed the 5-day CQI training? (Circle your best guess)

Less Than 25% 25% 50% 75% Almost All 100%

21. Has your direct supervisor completed the 5-day CQI training? (Circle your answer)

YES NO I DON'T KNOW

22. What level of commitment do you think your supervisor has toward implementing CQI? (Circle one number)

NONE SOME MUCH
1 2 3 4 5

23. Have you completed the 5-day CQI training yet? (Circle your answer)

YES NO I AM CURRENTLY IN THE TRAINING

↑

If YES, please answer the following:

23a.. About how long ago did you complete the 5-day training? _____ months

23b. What 1-2 things (if any) are you personally doing differently on the job, as a result of your CQI training?

24. What level of commitment would you say you have to implementing CQI? (Circle one number)

NONE SOME MUCH
1 2 3 4 5

25. What other ideas or comments would you like to share about...

163

CQI?

YOUR JOB?

YOUR DEPARTMENT?

ANYTHING ELSE?

THANKS FOR COMPLETING THIS SURVEY!

The Ohio State University
Division of Business and Administration
On-the-Job CQI Survey - Mid-management Version

164

Please complete this survey whether or not you have participated in any CQI training. Your opinion is very important. Please be frank in your responses. No information you share will be linked with your name in any way. THANKS!

1. Which ONE of the following sentences best describes what you know about CQI? (circle the letter of the sentence)

- a. I really do not have any idea what CQI is.
- b. I have somewhat of an idea of what CQI is.
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2. Rate the following situations which you may be CURRENTLY experiencing in your job. (circle one number for each situation)

	NOT A PROBLEM		SOMEWHAT OF A PROBLEM		A REAL PROBLEM
a. co-workers argue/many conflicts	1	2	3	4	5
b. boss's words and actions don't match	1	2	3	4	5
c. decision-making slow	1	2	3	4	5
d. most employees not involved in decision-making	1	2	3	4	5
e. not much communication up and down the line	1	2	3	4	5
f. solving problems is confusing; sometimes full of conflict	1	2	3	4	5
g. important information is not always shared with everyone	1	2	3	4	5

3. Indicate your agreement or disagreement with each of the following statements. (Circle one number for each.)

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
a. Employees in my department could improve a lot in working together.	1	2	3	4	5
b. Customer service is the major focus in my department.	1	2	3	4	5
c. The quality of the outputs in my department can vary quite a bit.	1	2	3	4	5
d. Quality is very important in my department.	1	2	3	4	5
e. My department shares in decision-making activities.	1	2	3	4	5
f. Employees in my department don't seem to care very much lately.	1	2	3	4	5
g. Even if employees wanted to follow CQI principles, my boss wouldn't be encouraging.	1	2	3	4	5
h. Employees in my department work together to solve problems.	1	2	3	4	5
i. In my department, we do not use a good process to solve problems.	1	2	3	4	5
j. Things appear to be changing for the better in my department.	1	2	3	4	5
k. The leadership in my department is committed to quality.	1	2	3	4	5
l. My department has the attitude that it can always improve customer service.	1	2	3	4	5

STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	166
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m. In my department, customer satisfaction is not that important. 1 2 3 4 5

n. In my department, 'the left hand never knows what the right hand is doing'. 1 2 3 4 5

o. Communication is a problem in my department. 1 2 3 4 5

4. Mark your feelings about your job by circling a number between each of the pairs of words.

MY JOB

BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
WORST	1	2	3	4	5	BEST
BORING	1	2	3	4	5	FUN
HATE	1	2	3	4	5	LOVE
UNIMPORTANT	1	2	3	4	5	IMPORTANT

5. Mark your feelings about your department by circling a number between each of the pairs of words.

MY DEPARTMENT

BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
APART	1	2	3	4	5	TOGETHER
BORING	1	2	3	4	5	FUN
HATE	1	2	3	4	5	LOVE
UNIMPORTANT	1	2	3	4	5	IMPORTANT

6. Mark your feelings about your boss by circling a number between each of the pairs of words.

167

MY BOSS

BAD	1	2	3	4	5	GOOD
UNFAIR	1	2	3	4	5	FAIR
INCOMPLETE	1	2	3	4	5	COMPLETE
UNABLE	1	2	3	4	5	ABLE
HATE	1	2	3	4	5	LOVE
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UNFAIR	1	2	3	4	5	FAIR
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9. When they happen, how often are you INVITED to participate in the following activities in your department?

	NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
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Thinking about your job in general terms, how would you compare your situation today with the past?
 N/A=Does not apply to me; I haven't been here that long.

169

	YES, MUCH WORSE	YES, WORSE	THINGS ARE THE SAME	YES, BETTER	YES, MUCH BETTER	
10. Are 'things' different in your JOB today than they were...						
a. several years ago?	1	2	3	4	5	N/A
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11. Are 'things' different in your DEPARTMENT today than they were...						
a. several years ago?	1	2	3	4	5	N/A
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12. Are 'things' different in the DIVISION of BUSINESS & ADMINISTRATION today than they were...						
a. several years ago?	1	2	3	4	5	N/A
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13. Are 'things' different at OSU today than they were...						
a. several years ago?	1	2	3	4	5	N/A
b. last year?	1	2	3	4	5	N/A

14. Now, think about your department over the last year. Mark your agreement or disagreement with the following statements. 170

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
a. Communication within my department has seemed to improve.	1	2	3	4	5
b. Employees appear to be arguing more among themselves.	1	2	3	4	5
c. Work is going much smoother.	1	2	3	4	5
d. Deadlines are being met most of the time.	1	2	3	4	5
e. Quality of service seems to be sliding downhill.	1	2	3	4	5
f. People in general appear to be happier in their jobs.	1	2	3	4	5
g. Problems are not getting solved.	1	2	3	4	5
h. Employees are consulted more than they used to be about decisions being made.	1	2	3	4	5
i. Bosses are less friendly than before.	1	2	3	4	5
j. There seems to be more confusion than usual.	1	2	3	4	5
k. Conflicts are solved more easily than they used to be.	1	2	3	4	5

Thinking about your own work situation and your answers to this survey, what kinds of 'help' could the leadership of Business and Administration offer to employees like yourself?

(Circle ALL that apply to you)

15. I WOULD LIKE TRAINING OR INFORMATION ABOUT..

- a. conflict management
- b. work skills
- c. communication
- d. balancing work and family
- e. quality control
- f. Other _____

16. I WOULD LIKE BETTER FACILITIES FOR...

- a. working
- b. taking breaks
- c. recreation
- d. friendly conversations
- e. personal needs
- f. Other _____

17. I WOULD LIKE BETTER RESOURCES FOR...

- a. my work
- b. my physical workplace
- c. break areas
- d. Other _____

18. OTHER IDEAS?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

19. Please share the following information about yourself.

172

a. What is your job classification (ie. front line, manager, etc.)? _____

b. What is your department? _____

c. How many years have you been in this job? _____ years

d. How many years, total, have you been with OSU? _____ years

20. About how many of your co-workers in your department have already completed the 5-day CQI training?
(Circle your best guess)

Less Than 25% 25% 50% 75% Almost All 100%

21. Has your direct supervisor completed the 5-day CQI training? (Circle your answer)

YES NO I DON'T KNOW

22. What level of commitment do you think your supervisor has toward implementing CQI? (Circle one number)

NONE SOME MUCH
1 2 3 4 5

23. Have you completed the 5-day CQI training yet? (Circle your answer)

YES NO I AM CURRENTLY IN THE TRAINING

↑

If YES, please answer the following:

23a.. About how long ago did you complete the 5-day training? _____ months

23b. What 1-2 things (if any) are you personally doing differently on the job, as a result of your CQI training?

24. What level of commitment would you say you have to implementing CQI? (Circle one number)

NONE SOME MUCH
1 2 3 4 5

25. Would you describe the history of your exposure to CQI? Have you attended any other training here at OSU other than through B&A? Other previous jobs you have had? Read any articles or books? Heard any speakers?
26. How would you describe your knowledge of CQI principles?
27. Of all the CQI principles, which would you say you understand the best?
28. What would be a CQI principle that you do not understand too well? Are there other areas you might describe yourself as needing a refresher?
29. What is your opinion of CQI in general?
30. What specifically do you question about CQI in your workplace? Are there other things that you would say are questionable?
31. How would you describe your commitment to implementing CQI in your workplace?

32. How would you say the implementation of CQI is working? Is it evident that people are participating in a training that is meant to make major changes in the workplace? How about minor changes?

33. What is different in your department that you would attribute to persons being trained in CQI? Are these positive differences?

34. Are there negative impacts within your department that you can link with CQI training? Would you describe them?

35. Would you say that CQI is easy to implement in your department? Which parts of CQI have been most difficult to implement?

36. What are some of the blocks to implementing CQI in your department?

37. What can be done to address these problems with implementation?

38. How would you describe the attitude of persons in your department toward CQI? Why do you say this?

175

39. How would you describe the commitment of your employees in implementing CQI in the workplace?

40. If CQI were fully implemented, would your department be different? In what ways?

41. Could you list a few CQI ideas?

42. What specifically are you doing differently, on the job, that relates to these CQI principles?

Pilot Test Summary

176

The reliability for the summated scale was determined during a pilot test and also during the actual study with study data. Cronbach's alphas for all summated scales appear in Table ?

VARIABLE	No. of Items	N	Pilot Alpha	N	Study Alpha
MM perceived knowledge	4		—		
FL employees perceived knowledge	1		—		—
MM commitment	1		—		—
FL attitude toward manager	6	41	.94		
FL attitude toward job	15		—		
FL length of time on job	1		—		—
MM length of time on job	1		—		—
FL perception of mgr commitment	3		—		

Panel of Experts

Emmalou Norland, Ph.D
Director Evaluation and Research
Office of Business and Administration
The Ohio State University
108 Bricker Hall
190 North Oval Mall
Columbus, Ohio 43210

Janet Pichette
Vice President Business and Administration
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University Systems
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Jim Sage, Ed.D
Associate Professor
Educational Studies
The Ohio State University

CQI Evaluation Stakeholder Team

Helen DeSantis
Assistant Vice President
Business Management
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Jerelyn Schultz
Dean, Human Ecology
231 Campbell Hall
1787 Neil Hall

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Business and Administration
108 Bricker Hall
190 N. Oval Mall

James Sage
Associate Professor
Educational Studies
315 Ramseyer Hall
29 W. Woodruff Ave.

Tina Love
Director Student Life
208 Ohio Union
1739 North High Street

M. Clair Oberst
School of Natural
Resources
210 Kottman Hall

George Hinkle
Assistant Director
Applications Development
University Systems
2212 Kinnear Road

Theodore Pezzatta
Building Maintenance
178 Lord Hall
124 W. 17th Ave.

Jill Morelli
University Architect
400 Central Classroom Bldg.
2009 Millikin Rd.

Raymond Kransniewski
Associate Professor
Accounting and MIS
432 Hagerty Hall
1775 College Rd.

Richard Lighthiser
Director, Maintenance
Physical Facilities
102 Central Classroom Building
2003 Millikin Rd.

Appendix C
The Office of Business and Administration
Organizational Structures

ORGANIZATION OF THE OHIO STATE UNIVERSITY

ORGANIZATION OF THE OHIO STATE UNIVERSITY

ORGANIZATION OF THE OHIO STATE UNIVERSITY

PRESIDENT

ORGANIZATION OF THE OHIO STATE UNIVERSITY

**The Ohio State University
Office of Business and Administration**

**The Ohio State University
Office of Business Management**

**The Ohio State University
Business Management Administration
By Title and FTE**

**Reprographics Department
University Repair Services**

**Reprographics Department
Printing Services**

**Reprographics Department
Campus Mail Services**

**Reprographics Department
Business Office and COP-EZ**

**The Ohio State University
Air Transportation Service
By Title and FTE**

Bookstore Organizational Chart

The Ohio State University
Food Supply Services
By Title and FTE

The Ohio State University Receiving Department

The Ohio State University Travel/ Travel Management

**The Ohio State University
Department of Business Management
Division of Traffic and Parking**

**The Ohio State University
Organizational Chart for the Transportation Department**