

ABSTRACT

FRAZIER, MALCOM ANDREW. Employee Perceptions of the Deployment and Effectiveness of Management Practices in Eight State Revenue Agencies. (Under the direction of James E. Swiss.)

The purpose of this study is twofold. The first purpose is to determine if employees in state revenue agencies perceive a relationship between the deployment of nine different management practices and their perceptions of results. The nine management practices are: strategic planning, performance measures, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition and process improvement. The result measures are: taxpayer satisfaction, improvement in processes leading to improved services, service delivery, job satisfaction and morale.

The second purpose is to determine if employees' favorable perception of the management practices and results is dependent upon their position in the agency (i.e., senior executives, managers, front-line supervisors and non-supervisors). Employee opinions were collected from eight different state revenue agencies using a 44-item web-based survey. There were 4,186 completed surveys, for a total response rate of 50.5 percent.

The major findings indicate that state revenue employees perceive that the "hard components" of management (i.e., strategic planning, performance measures, performance feedback and process improvement) have larger effects on results than do the "soft components" of management (i.e., customer service, empowerment, teamwork, training, and rewards and recognition). The most effective management practice, as perceived by employees, is process improvement, followed by strategic planning, performance measures and performance feedback. Although some of the agencies did not collect comparable objective performance data, an analysis of the available objective data suggested a relationship between some of the management practices and actual results, thereby supporting the survey findings.

This research also indicated that upper level managers generally had much more favorable views about the extent of management tool deployment, and about the results, than did lower level employees. Interviews with agency employees were used to explore possible reasons for these disparities.

**EMPLOYEE PERCEPTIONS OF THE DEPLOYMENT AND EFFECTIVENESS OF
DIFFERENT MANAGEMENT PRACTICES IN EIGHT STATE REVENUE AGENCIES**

by
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DEDICATION

This dissertation is dedicated to my wife, Pam, and my son, William. Their love, patience and understanding throughout my doctoral work made the completion of my dissertation possible.

BIOGRAPHY

Malcom Andrew (Andy) Frazier was born in Lawton, Oklahoma on April 27, 1952, and grew up in Woodstock, Virginia, graduating from Central High School in 1971. He is a 1975 graduate of James Madison University with a B.S. Degree in Political Science, and received a Masters Degree in Public Administration from North Carolina State University in 1989. He is married to the former Pamela Ann Yeatman of Birmingham, Alabama and they have a son named William.

Andy Frazier is a former Executive Director of the North Carolina Republican Party, and served in the administration of Governor James G. Martin as his workforce preparedness advisor. During his tenure in the Governor's office, he assisted Martin in the creation of the Governor's Commission on Workforce Preparedness. He also assisted the Commission in conducting the first inventory of North Carolina's workforce preparedness programs and preparing its first biennial strategic plan for 1993-95.

In addition to his duties as workforce preparedness advisor, Andy Frazier was a consultant to the NC Business Committee for Education. As staff consultant to the 90-member Business Committee for Education, Andy played a key role in re-defining the Committee's mission and rejuvenating the organization to take a more pro-active role in education reform. Andy assisted the Business Committee in organizing a coalition of statewide business and education organizations to support legislative proposals for education reform, and the development and management of several statewide programs, including the N.C. School-to-Work Initiative, and the N.C. Total Quality Partnership Project.

After leaving the Governor's office in 1993, Andy was a partner in the consulting firm WorkPrep Connections, Inc. He is the author of a book entitled, *A Roadmap for Quality Transformation in Education: A Guide for Local Education Reform Leaders*, published in 1997 by St. Lucie Press. He served three years as a member of the Board of Examiners for the N.C. Quality Leadership Awards Council.

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CHAPTER 1

INTRODUCTION TO THE STUDY

INTRODUCTION

The purpose of this study is to determine whether the implementation of certain management practices have effects on state agencies. Those management practices include: strategic planning; performance measures; performance feedback; customer service; empowerment; teamwork; training; rewards and recognition; and process improvement.

This chapter begins with a discussion of recent history regarding two major trends in public management reform known as Total Quality Management and Reinventing Government. In this section, we discuss the basic concepts of these two movements. We also discuss two of their more lasting contributions: The first being Results-based Management and the other the Malcolm Baldrige National Quality Award, both of which have been established in federal law. The next sections of this chapter discuss the purposes of this study and its major goals. Finally, we conclude with a preview of the upcoming chapters.

RECENT HISTORY OF MANAGEMENT REFORM IN GOVERNMENT

Management reform has been described as first and foremost an “explicit and rational activity” to make “administrative repairs.” (Arnold, 1995, p. 408) Since the 1970s, executive reorganizations and management reforms have become a means by which politicians could respond to public dissatisfaction with government operations. For that reason, management reforms have taken on a “populist accent, promising to change government to make it more acceptable to popular American expectations.” (Arnold, 1995, p. 412)

The latest management reformation, which began in the early 1980s and continues to this day, has emerged in response to a perception among American citizens that government has failed to meet its obligations. This reformation is made up of at least two separate, but overlapping movements, known as Total Quality Management and Re-inventing Government.

Total Quality Management

The first of these two management reform movements is known as Total Quality Management (TQM). TQM is a philosophy and different people have given the philosophy different spins over the

years. The most prominent proponent of the philosophy, W. Edwards Deming, articulated 14 points that he believed every organization should adapt to its organizational culture:

1. Creating constancy of purpose in improving products and services.
2. Adopt the new “quality” philosophy.
3. Building quality into the product during production rather than inspecting for quality when the product comes off the production line.
4. End the practice of awarding business on the lowest bid alone; instead look for the best quality and establish a long-term relationship with suppliers.
5. Constantly and forever improve the system of production and service.
6. Institute training for workers in statistical methods of control.
7. Institute modern supervisory methods by which supervisors can help workers to do their jobs.
8. Drive out fear by building a culture that encourages workers to contribute their ideas and suggestions for improvement.
9. Break down barriers between departments so workers can work together in improving products and services and reducing costs.
10. Eliminate numerical goals for the workforce.
11. Eliminate work standards and numerical quotas.
12. Remove barriers that hinder employees from producing quality work.
13. Institute a vigorous program of education and self-improvement.
14. Put everybody to work to accomplish the transformation. (Deming, pp. 23-24)

Deming also equated quality with customer satisfaction. (Deming, p. 5) Special note should be made of his tenth and eleventh points. Unlike other TQM proponents and the Reinventing Government movement, Deming was diametrically opposed to numerical performance standards and management-by-objective. Instead, Deming argued that the focus should be on improving the process and results would take care of themselves.

Other TQM “pioneers” like Joseph M. Juran argued that the growth of mass production and the separation of different functions into departments led top management to delegate responsibility for quality which eventually led to negative effects on quality. Juran proposed that top management needed to once again become involved in the quality issue to signal its importance to subordinates through mechanism such as quality councils, establishing a quality policy and quality goals. Once goals were established then management needed to provide the necessary resources to achieve them. (Kruger, pp. 150-151)

Yet another important TQM pioneer is Philip B. Crosby. It was Crosby who proposed the concept of “Zero defects” and “doing it right the first time,” which he expected to be the only standard of

performance. Crosby argued that management was under a number of erroneous assumptions about quality. First, it is assumed that “quality means luxury or goodness signifying the relative worth of things.” However, Crosby believed that the absence of quality was non-conformance. The second assumption is that “quality is not measurable.” Crosby argued that the cost of non-conformance (doing it wrong) is very measurable. Third, it is assumed that quality problems originate with workers.” Crosby maintained that management leads by example and the workers follow. The final erroneous assumption is that “quality originates in the quality department.” Crosby argued that it is the responsibility of every worker. Crosby proposed a “quality vaccine” including: “do it right the first time; the system of quality is prevention; the performance standard is ‘zero defects’; and, the measurement of quality is the price of non-conformance.” (Kruger, pp. 152-153)

In addition to Deming, Juran and Crosby, other important TQM pioneers are Armand V. Feigenbaum and Koaru Ishikawa. It was Feigenbaum who contributed the notion that quality was the responsibility of everyone in the company and that the “costs of non-quality have to be categorized if they are to be managed.” (Kruger p. 151) Ishikawa’s contribution to the quality movement are quality circles and the now Fishbone diagram. Ishikawa also articulated the importance of not only meeting the needs of external customers, but also the needs of internal customers by championing the idea that “the next process is your customer.” (Kruger, pp. 154-155)

Among all the tenets of TQM, arguably, customer focus is the first among equals because TQM aims to meet or even exceed the expectations of customers. To put it another way, it is customer’s who define quality. Consequently, another important focus of TQM is “doing it right the first time,” and doing so means the continuous improvement of the methods of production and delivery of service, as well as the products and services themselves.¹ Nevertheless, it must be noted that TQM is not a quick fix because implementing TQM requires a cultural transformation of the organization and that can take years. TQM has to be seen as an incremental approach that requires a great deal of commitment and patience on the part of the organization’s senior leadership.

What we know today as TQM first emerged as a new management philosophy in the private sector in the early 1980s in response to increasing foreign competition. However, as with most

¹ In a 1997 *Public Administration Review* article, Patrick Connor claimed that in actuality the idea of “do it perfectly” is the only new idea offered by TQM. Most of TQM’s other ideas have been around for years, even decades. However, the notion of “zero defects,” according to Connor, is original to TQM. The operational definition of quality prior to TQM was the acceptance of error or rejection rates. In other words, a certain amount of mistakes were acceptable. This acceptance of some errors or rejects, according to Connor, was proven untenable with the death of the Apollo astronauts Gus Grissom, Edward White, and Roger Chaffee in a flash fire aboard a space capsule on January 27, 1967.

management reforms, TQM began to find its way into the public sector shortly thereafter. Madison, Wisconsin began applying the principles of TQM as early as 1983.²

Reinventing Government

The other management reform movement sprang from a 1992 book by David Osborne and Ted Gaebler entitled, *Reinventing Government*. Their manifesto decried American bureaucratic institutions as failing because they were products of the industrial age. Osborne and Gaebler (1992) claimed that the current bureaucratic model was “developed in slower-paced society, when change proceeded at a leisurely gait. It developed in an age of hierarchy, when only those at the top of the pyramid had enough information to make informed decisions. It developed in a society of people who worked with their hands, not their minds.” (Osborne and Gaebler, 1992, p. 15) In their opinion, the bureaucratic model had become inefficient, ineffective and unresponsive. In contrast, Osborne and Gaebler (1992) pointed out that we now live in a different time of “breathtaking change.”

In the new information society, everyone has equal access to information and educated workers demand autonomy. “Today’s environment,” argued Osborne and Gaebler (1992), “demands institutions that are extremely flexible and adaptable. It demands institutions that deliver high-quality goods and services, squeezing ever more bang out of every buck. It demands institutions that are responsive to their customers, offering choices of non-standardized services; that lead by persuasion and incentives rather than commands; that give their employees a sense of meaning and control, even ownership. It demands institutions that empower citizens rather than simply serving them.” (Osborne and Gaebler, 1992 p. 15)

Osborne’s and Gaebler’s book was very influential in government circles at all levels when it first appeared in 1992, especially with the new Clinton-Gore Administration in Washington, D.C. Recurring federal deficits and a citizenry discontented with the federal bureaucracy led President Clinton to create the National Performance Review (NPR) shortly after his inauguration in January, 1993. (Notably, Osborne was a consultant to the effort throughout much of its lifetime.) On March 3, 1993 Clinton asked then Vice-President Gore to lead a 6-month review of the federal government. The mission of the NPR was to “reinvent the systems of government, redesign agencies and programs to make them more responsive to their customers, and streamline the government. The system reinvention work (was to) result in a framework for the development and delivery of cost effective policies and programs by the federal government. This framework (would) clarify managers’ accountability for achieving results,

² In actuality, the Naval Air Systems Command, a public sector organization, conceived the term “Total Quality Management” in 1985.

create a focus on clearly identifying and serving the customer, and provide managers the tools and incentives to focus on results.” (Kamensky, 1996, p. 252)

At the end of the 6-month review, Vice President Gore delivered 1,250 recommendations to President Clinton in over 38 reports consisting of approximately 2,500 pages. The overall recommendations were entitled, *From Red Tape to Results: Creating a Government that Works Better and Costs Less*. The NPR continued its operations after these initial reports to monitor the implementation and progress of the recommendations. A central focus of the recommendations was on changing internal federal agency cultures by empowering front-line staff and holding them accountable for results. The results as measured by the “customer” included “better and more efficiently delivered services.” To accomplish this empowerment meant reducing the number of people in “overhead functions,” cutting in half the number of regulations, and “developing and publishing customer service standards.” (Kamensky, 1996, p. 252) A second review was initiated in 1994 producing another set of recommendations.³

More recently, some empirical evidence has emerged regarding the power of reinvention strategies to actually improve organizational performance. A study by Gene Brewer and Sally Selden (2000) developed a model for predicting organizational performance using data from the 1996 Merit Principles Survey of the U.S. Merit Systems Protection Board. The 1996 survey sampled 18,163 full-time employees in the 23 largest federal agencies. This particular survey of government employees included statements about job-related behaviors and attitudes, agency characteristics, and the NPR.

Brewer and Selden (2000) hypothesized that a high performance organization were “clear on their missions, define outcomes and focus on results, empower employees, motivate and inspire people to succeed, are flexible and adjust nimbly to new conditions, are competitive in terms of performance, restructure work processes to meet customer needs, and maintain communications with stakeholders.” (Brewer and Selden, 2000, p. 687)

The dependent variables in the model developed by Brewer and Selden (2000) measured employee perceptions of organizational performance and was operationally defined as follows:

1. My organization has made good use of my knowledge and skills in looking for ways to become more efficient.
2. In the past 2 years, the productivity of my work unit has improved.

³ As already pointed out, TQM and Reinventing Government are not mutually exclusive. Much of the reinvention philosophy owes its beginnings to TQM. Osborne and Gaebler (1992) did credit W. Edwards Deming, a leading founder of the TQM philosophy, with contributing to the formation of their own philosophy claiming that five of their principles (results, customers, decentralization, prevention and a market approach) were similar to Deming’s own views. (Osborne and Gaebler, 1992, pp. 21-22) Similarly, the earlier TQM movement laid much of the foundation for the reinvention movement of the 1990s. As Governor of Arkansas, President Clinton reportedly saw what could be done to change government when he introduced TQM to the state government. (Kamensky, 1996, pp. 248-249)

3. The work performed by my work unit provided the public a worthwhile return on their tax dollars.
4. In general, people of my race/national origin group are treated with respect in my organization.
5. Overall, how would you rate the quality of work performed by your current coworkers in your immediate work group?
6. My organization provides fair and equitable treatment for employees and applicants in all aspects of personnel management without regard to their political affiliation, race, color, religion, national origin, sex, marital status, age, or handicapping condition.⁴

The independent variables in the model included both agency-level factors and individual-level factors. The agency-level factors included measures of organizational culture, human capital and capacity, agency support for NPR, leadership and supervision, and red tape (i.e., number of management layers). The individual-level factors were: structure of task (flexibility given for accomplishing work); task motivation; public service motivation; and, individual performance.

The model was tested using ordinary least squares regression. Overall, the test showed that the independent variables explained 70 percent of the variation in the employee perceptions of organizational performance. The most influential agency-level factor was organizational culture. Among the individual-level factors, all four of the variables were “modestly important predictors” with “structure of work” the most important and “individual performance” the least important. Overall, the results showed that the most important variables among the factors that influenced organizational performance were efficacy, teamwork, building human capital, structure of task, protection of employees, concern for the public interest, and task motivation. In conclusion, Brewer and Selden (2000) perceived that “These variables have one thing in common: They are elements of a high-involvement workplace strategy. Performance is higher in agencies that empower employees, clients, and other stakeholders.” (p. 706)

Re-inventing Government in State Agencies

Although reinvention reforms may have first taken hold in the federal government, state governments were not far behind during the early half of the 1990s. A 1995 study by Jeffrey Brudney, Ted Herbert, and Deil Wright (1999) investigated 93 types of agencies in all 50 states. Brudney and his colleagues sought to determine the extent and variation that state agencies were implementing 11 different reinvention reforms aggregated from major proponents of reinvention, including Osborne and Gaebler.⁵

⁴ In the 1996 MSPB survey, the first four of the dependent variables were scaled from 1 equaling strongly disagree to 5 equaling strongly agree. The fifth variable was scaled from 1 equaling poor to 5 equaling outstanding. The sixth variable used a four point-scale, which ranged from 1 equaling less than 70 percent of the time to 4 meaning always.

⁵ The reinvention reforms measured in the 1995 study included:

The study found that the implementation of these reforms in state agencies were rather limited. (Of course, what became known as reinvention had only emerged three years prior with the publication of Osborne and Gaebler's book.) The reforms that state agencies claimed to have fully implemented were strategic planning (39.3%), customer service training (20.4%), quality improvement programs (16.7%), and reduction in hierarchical levels (16.6%). The least likely to be fully implemented were greater discretion in procurement (7.1%), greater discretion to carry over funds (5.4%), privatization (5.2%), and simplification of human resource rules (5.0%). When the categories for fully implemented and partially implemented were combined, most state agencies claimed to have deployed customer service training (81.5%), strategic planning (79.4%), quality improvement programs (76.6%), benchmarking (62.0%), decentralization of decision making (54.7%), and measuring customer satisfaction (51.7%). (Brudney et al., 1999, p. 23) However, it must be kept in mind that self-reports are always overstated.

One of the major findings of this study showed that state agencies have a tendency to implement some of these reforms as a package. The 11 reforms were "positively intercorrelated minimally at the .001 level of statistical significance." (Brudney et al., 1996, pp. 23) Another significant finding was that agency type has a relationship with implementation. Staff agencies, such as finance and human resources, are more likely to implement these reforms than regulatory agencies. Likewise, larger agencies, agencies where the Governor appoints the director, and agencies experiencing dramatic shifts in priorities were more likely to implement reinvention reforms. Finally, certain features of the administrator's background had a relationship with implementation. Administrators were more likely to implement reinvention reforms if they place a high value on organizational leadership, value customer service, and were more conservative. (Brudney et al., 1999, pp. 27-28)

Results-based Management

While the NPR did not outlive the Clinton-Gore Administration, a more lasting contribution of the reinvention movement was the passage of the federal Government Performance and Results Act of 1993 (GPRA). This legislation "enshrined" strategic planning, performance measurement, and evaluation

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1. Training programs to improve client or customer service;
 2. Quality improvement programs to encourage team problem solving and to empower employees;
 3. Benchmarks for measuring program outcomes or results;
 4. Strategic planning that produces clear agency mission statements;
 5. Systems for measuring client or customer satisfaction;
 6. Simplification and relaxation of human resource (personnel) rules;
 7. Increasing manager's discretion to transfer funds or carry over year-end funds;
 8. Privatization of major programs;
 9. Reduction in the number of levels in the agency hierarchy;
 10. Decentralization of decision making to lower organizational levels; and
 11. Greater discretion in procurements of goods and supplies. (Brudney et al., 1999, pg. 22)

of results as a recurring sequence of activities for every federal agency. The intent was to shift focus away from the “activities” or processes of government and to a focus on the results of those processes. Congress articulated several purposes for enacting the legislation, which include:

1. Improving the “confidence of the American people” by holding federal agencies accountable for results;
2. Improving the efficiency and effectiveness of each agency through a new focus on results, service quality, and customer satisfaction;
3. Helping federal managers to improve service delivery through planning and monitoring of results;
4. Improving Congressional decision-making by providing more objective information; and
5. Improving the internal management of each federal agency.

The legislation, enacted with “overwhelming” bipartisan support, was constructed around three distinct processes that include strategic planning, annual performance plans, and annual program performance reports.

Under the Act, every federal agency was required to develop a 5-year strategic plan by September 30, 1997. Each plan was to contain a comprehensive mission statement, general goals and objectives (including outcome-related goals), strategies, key external factors that could affect the achievement of the agency’s general goals, and the method for evaluating and revising goals and objectives. By 1999, each agency was expected to prepare an annual performance plan that established annual, quantifiable performance goals and set out the level of performance (targets) to be achieved. Beginning in March of 2000, and every year thereafter, each federal agency was expected to issue a program performance report to the President and Congress. Each report, beginning in fiscal year 2001, was to include results from the previous two fiscal years for each performance goal. If the performance goal is not met, the report has to explain why and what action is to be taken to meet it.

In spirit with the GPRA, the Bush Administration used performance analyses in making decisions about the 2003 federal budget. This was the first time an administration has done so. The Bush Administration used the review to reward programs that were high performing at the expense of programs that were low performing or duplicative. In addition, reviews were used to set performance targets for some programs and to eliminate others.

Results-Based Management in State Agencies

Like the federal government, strategic planning as a management strategy has also found its way into state government. In a national survey of state agency administrators in 1994, Berry and Wechsler (1995) found that strategic planning had become widespread with 60% of the administrators claiming

they use it in their agency.⁶ (p. 160)

In addition, Berry and Wechsler (1995) noted 5 trends in the evolution of strategic planning in state agencies. First, a “substantial number” said that the process had become more inclusive of both internal and external stakeholders. (p. 163) Second, respondents generally cited that strategic planning was becoming more formalized, such as establishing a staff capacity to manage the process. Third, there is a move to longer time horizons for strategic planning. Generally, respondents indicated they were moving from a 1- or 2-year cycle to a 5-year cycle. Fourth, the integration of strategic planning and a “broader, organization-wide total quality management initiative” (TQM) was cited by a number of respondents. Finally, “several” respondents indicated that it was easier to “update and revise plans” than to start over from scratch. (Barry and Wechsler, 1995, p. 164) In their conclusions, Berry and Wechsler (1995) said they found “very little disillusionment” with strategic planning among those state agencies that use it. (p. 165)

In addition to strategic planning, successful results-based management requires the development and management of performance measures. In a survey of state budget officers and state agency staff, Julia E. Melkers and Katherine G. Willoughby of Georgia State University, and in association with Government Accounting Standards Board staff, sought data in response to five basic questions:

1. To what extent are performance measures being used?
2. In what ways are performance measures being used?
3. How effective are the performance measures that are being used?
4. How are performance measures being maintained and communicated?
5. How are performance measures being implemented?

⁶ Some of Berry and Wechsler’s (1995) other major findings included:

1. Almost all the respondents (96%) cited the desire to set program and policy direction as an important objective of the strategic planning process. A majority (55%) identified program and policy direction as the most important objective they hoped to achieve. (p. 162)
2. Nearly 2 in 3 (65%) cited “cutback management” pressures and 60 % the “need to resolve competing agency resource allocation priorities” as very important objectives in adopting strategic planning. However, only 1 in 10 cited these factors as the most important objective of strategic planning in their agency. (p. 162)
3. Over half said that the most important objective of strategic planning in their agency was to “assert their personal leadership.” (p. 162)
4. Approximately 3 out of 4 respondents said that the agency used SWOT in their strategic planning process. (p. 162)
5. Three-fourths of the respondents claimed that they do link the strategic planning process with the agency’s budget process. However, some respondents indicated that linkages were usually made 1 or more years after implementing strategic planning. (p. 163)
6. Although somewhat uncommon, some agencies link “strategic planning to budgeting and evaluation processes by undertaking benchmarking and establishing outcome performance measures in the strategic plan.” (p. 163)

Approximately 1 in 3 (36%) said that their strategic planning scope was 5 years, approximately 1 in 4 (27%) said 1 year to 2 years, 11% said 3 years, and 9% said 4 years. (p. 163)

The survey showed that most state agencies were using input (63.1%), activity/process (60.1%), and output measures (62.9%). A little more than half said they were using outcome measures (51.9%). One-third (33.6%) claimed to be using “cost/efficiency measures, and approximately one-fourth said “quality/customer satisfaction measures” (24.8%), “explanatory measures” (23.2%), and benchmarks (26.7%). (GASB/NAPA, 1997, p. 6)

When asked if they used performance data for comparison purposes, while 42.3% of state agencies said they “always” compared “with prior periods,” only 27.0% said they always compared “with established targets,” 11.9% said they always compared “with national standards or guidelines from federal agencies, accreditation, and/or professional groups,” and 3.1% said they always compared “with programs/services of other governments.” (GASB/NAPA, 1997, p. 12)

The survey respondents were also asked the effectiveness of their measures. Among state agencies, most (58.1%) claimed that their measures helped to increase “awareness of, and focus on, results.” Approximately 60% of state agencies agreed or strongly agreed that performance measures have increased efficiency. (GASB/NAPA, 1997, pp. 15-16)

Less than half of state agencies claimed the following benefits:

- Improved the effectiveness of the agency’s program (43.7%)
- Changed strategies to achieve desired results (47.0%)
- Improved communications between departments and programs (43.4%)
- Improved communications with the public about agency performance (34.0%)
- Improved responsiveness to customers (44.3%)
- Improved program/service quality (38.8%)
- Improved cross agency cooperation/coordination (29.6%)
- Improved external government cooperation/coordination (23.9%)
- Increased awareness of factors that affect performance results (40.6%)

On the issue of how performance measures are communicated, while most (84.2%) said that they were communicated by budget requests, or by annual reports (67.8%), only 35.5% said that they were communicated by “reports to citizens, stakeholders, or clients/customers.” (GASB/NAPA, 1997, p. 22)

In terms of the “important aspects of a successful performance measurement system,” state agencies rated the following aspects the highest:

- “Performance measures that help staff monitor progress toward intended program/service results,” (71.2%)
- “A link of performance measures to the strategic plan,” (63.9%)
- “Communication of the purpose for using performance measurement to employees,” (63.9%)

- “Adequate technology for collecting, analyzing, and reporting performance measures,” (63.7%)
- “Regular use of performance measures by executive leadership,” (61.6%)
- “Staff participation in the process of developing performance measures,” (58.2%) (GASB/NAPA, 1997, pp. 23-24)

The Malcolm Baldrige National Quality Award

Although rooted in Total Quality Management, the federally sanctioned awards criteria known as the Malcolm Baldrige National Quality Award now encompasses most of the management practices under discussion, including results-based management.

Federal law established the Baldrige National Quality Award in 1987 (Public Law 100-107) to recognize organizations that demonstrated quality practices and performance excellence and to promote quality management practices. The Award was created in response to America’s declining productivity growth relative to foreign competition during the 1970s and 1980s. The Award is integrated into seven basic categories which today include: (1) Leadership; (2) Strategic Planning; (3) Customer and Market Focus; (4) Information and Analysis; (5) Human Resource Focus; (6) Process Management; and (7) Business Results. Winners of the Baldrige Award are chosen only if they exceed the standards for performance excellence, and not if they happen to score the most points on the criteria. In other words, if an award category does not have an applicant that exceeds the performance standards, then an award is not given in that category. For example, even though educational organizations became eligible in 1999, an educational organization was not recognized until 2001. To date, no healthcare organization (which also became eligible in 1999) has been recognized.

The Baldrige Award criteria underwent major changes in its first seven years, with fewer significant changes in the years leading up to the present day. However, in the spirit of continuous process improvement (as would be expected), some modifications are made each year with more significant changes taking place on a two-year cycle. (Vokurka, 2001, p. 16) Although most of the seven categories have changed in name, they have not changed in concept. Over the years, the number of items has been reduced from 62 to 19 (18 in 2002) and the areas to address from 278 to 27 (34 in 2002). (Vokurka, 2001, p. 17) Perhaps the most significant change has been the growing emphasis placed on business results. In 1988, Customer Satisfaction held the most points in the Baldrige score. However, by 1997 the emphasis switched to business results where today it is 45% of the total score.

The Baldrige has also influenced the growth of state quality awards. In 1991, only 10 states had programs similar to the Baldrige, but by 2000, programs had been established in 43 states. Moreover, there are “approximately 60” national awards with many based on the Baldrige criteria. (Vokurka, p. 18)

Although the Baldrige does not presently have a category for government, most of the state quality award organizations do recognize government agencies for the quality initiatives. A survey of state quality award organizations, conducted by the author of this dissertation in 2000, found hundreds of local, state and federal agencies having received a quality award or having been recognized as early as the late 1980s. (Frazier, unpublished) In state government alone, at least 122 state departments and agencies have either won a quality award or been recognized for their quality achievements since 1993.

PURPOSE OF THE STUDY

Some of the major themes in the reform movements previously discussed include: long-range planning, management-by-fact, customer-focus, employee empowerment, different approaches to organizing and inspiring employees, and continuous improvement. The purpose of this study is to determine whether the implementation of these major themes produces any perceived effects on a group of state agencies. The specific management practices being assessed include strategic planning (long-range planning), performance measures and performance feedback (management-by-fact), customer service (customer focus), empowerment, teamwork, training, rewards and recognition (approaches to organizing and inspiring employees) and process improvement (continuous improvement). Each of these strategies represents one of five Baldrige categories (i.e., Strategic Planning; Customer and Market Focus, Information and Analysis, Human Resource Focus, and Process Management).

Specifically, this study examines two aspects of the effects of management practices among employees of state agencies.

First, this study correlates the perceptions of state revenue employees regarding the extent the nine management practices are deployed with their perceptions of results to determine if there is a positive relationship and the strength of that relationship. The result indicators include taxpayer satisfaction, improvements in processes, service delivery, job satisfaction and morale.

Second, it compares state revenue employee perceptions of deployment and results by employees' position within the agencies (e.g., manager, front-line supervisor, and non-supervisor). Employee perceptions of deployment and results were compared to their position in the agency in order to determine whether different levels have differences of opinion.

BASIC RESEARCH METHODOLOGY OF THIS STUDY

The study began with a preliminary survey mailed to all 50 state revenue agencies to identify which states are implementing the management practices, to what degree, whether they engage in quality

practices and whether they have won or received recognition for being a quality organization. Another purpose of the survey was to identify at least eight state revenue agencies that would be willing to participate in a survey of their employees.

Any agency that agreed to participate was asked to circulate a survey to its employees that measured employee perceptions as to the degree the nine management practices were deployed within their agency, and their perceptions of certain results. The employees were given the opportunity to complete a web-based survey that they entered through a URL address embedded in an e-mail message. Comparing the eight state revenue agencies provides evidence as to whether the perceived deployment of the nine management practices leads to better, worse or no significant difference in perceived results; and, whether different levels of authority within the agencies have different perceptions of deployment and results.

In addition, objective performance data was collected. Again, a comparison provides evidence as to whether the impact of these management practices, as perceived by employees, leads to better, worse or no significant difference in actual performance.

Once the analysis of the employee survey was concluded, a number of employees were interviewed among the participating agencies to probe for explanations of key findings.

UNIT OF ANALYSIS: STATE REVENUE AGENCIES AND THEIR EMPLOYEES

Unlike the private sector, public organizations are often plagued with goal ambiguity; uncertainty about what it is they are expected to achieve. Expectations can be varied and conflicting because of poorly written legislative mandates, inadequate funding, changes in political leadership, or pressure from outside groups. Even when expectations are clear, those expectations may be very difficult to measure. Consequently, public agencies have more difficulty than private organizations in assessing their performance.

In his book, *Inside Bureaucracy*, Anthony Downs describe private organizations as being two-sided. On one side they buy inputs to produce outputs. On the other side, private organizations face output markets to sell what they produce. If they can sell what they produce for more than what they paid for the input, private organizations remain in business. This provides a “voluntary quid pro quo” which allows for an “automatic evaluation of the work of the producer.” (p. 29)

On the other hand, public organizations are one-sided. While they deal with input markets, public organizations do not deal with an economic output market. This means they have no way of evaluating their work in relation to the costs of their inputs. “Thus,” says Downs, “there is no direct relationship between the services a bureau provides and the income it receives for providing them.” (pp. 29-30)

“As a result,” the bureau’s ability to obtain income in a market cannot serve as an objective guide to the desirability of extending, maintaining, or contracting the level of expenditures it undertakes. Nor can it aid the bureau in determining how to use the resources it controls, or in appraising the performance of individual bureaucrats. In short, the major yardsticks for decisionmaking used by private nonbureaucratic firms are completely unavailable to men who run bureaus.” (p. 30)

Anthony Downs astutely describes the fundamental differences between private and public organizations and the difficulty of gauging when a public agency is successful in accomplishing its mission. The problem is compounded when attempting to find a “yardstick” by which to compare the performance of two or more agencies. Differences in legislative mandates, administrative rules and organizational structure make it very difficult to find common measures to make comparisons on agency performance.

The reason for selecting state revenue agencies as the unit of analysis is because these agencies generally have a clear technology. In other words, the links between input, process, outputs, and results are “clearly and tightly connected.” A program is said to have a clear technology when the “inputs clearly and consistently lead to the processes and then to specific early, intermediate and final outcomes.” (Swiss, 1998, p. 430) The processes among state revenue agencies are also essentially the same. These agencies issue tax forms, educate and assist taxpayers, process returns and deposit tax revenue, audit returns for fairness and accuracy, detect, investigate and seek prosecution of tax-related fraud, and issue refunds of overpayment. Because these agencies have clear technology it was hoped that common measures could be found to compare across agencies.

The types of tax revenue collected by these agencies include income, sales, property, estate, and excise taxes (e.g., gasoline, cigarette, beer wine, and liquor, tobacco). It should also be noted that some state revenue agencies have responsibility for functions other than tax administration. The other functions most common are the regulation of motor vehicles and child support enforcement.

Another reason why state revenue agencies were selected is because they have been active in seeking recognition and awards from state quality awards organizations that use a Baldrige-based criteria. In seeking recognition, an organization has to conduct a self-assessment using either the current Baldrige criteria or something very similar, in order for a state team of examiners to provide feedback on strengths and areas for improvement. The Baldrige criteria models’ all of the management practices being considered in this study. At least ten state revenue agencies have sought state-level recognition or awards from their respective state quality organizations since 1994 and others have used the Baldrige criteria to do organizational assessments of their practices.

State revenue agencies are also none for their innovation. In a 1987 study of state revenue agencies seeking data on their practices, Keith Snavelly (1988) declared, “The overall picture is one of

impressive innovation and experimentation in tax administration . . . States are testing and adopting new services and (in) auditing and collection powers and procedures, and they are experimenting with methods to mold taxpayer attitudes. Computer technology is fast being installed, not only in tax form processing and auditing but in collections and services functions as well.” (p. 909)

SIGNIFICANCE OF THIS STUDY

While there has been research on management reforms in the public sector, most of that research falls into the category of descriptive or single-case research. Contrary to the wide-spread use of these practices in public sector organizations, there has been little empirical research conducted on the impact of management reforms on their performance. (Brewer and Selden, p. 686) Likewise, there is little evidence that the nine management practices in question have any impact on public sector performance, and whether employees at different levels in public sector organizations perceive them differently.

More importantly, little, if any, research has been conducted on the impact of management reforms as a comprehensive and integrated whole. Proponents claim that while any of these reforms may produce higher outcomes in isolation, achieving optimal organizational performance would require the implementation of all these reforms in a symbiotic relationship. In their 1985 book, *Toward a Systemic Education of Systems Scientists*, Jamshid Gharajedaghi and Russell K. Ackoff argued that a system as a whole couldn't be studied by their separate parts. “Because the effects of the behavior of the parts of a system are inter-dependent, it can be shown that if each part taken separately is made to perform efficiently as possible, the system as a whole will not function as effectively as possible . . . The performance of a system is not the sum of the independent effects of its parts; it is the product of their interactions. Therefore, effective management of a system requires managing the interactions of its parts, not the actions of its parts taken separately.” (Patton 1990, pp. 79-80)

Even though the state revenue agencies are self-selected and the data collected is largely based on employee perceptions, this study provides more empirical evidence than previously available regarding the effectiveness of each of the nine management practices on results within a public sector agency. It also provides empirical evidence of the symbiotic effects of these practices as a whole on results. In addition, the study provides empirical evidence (where little currently exists) regarding the deployment of these nine management practices from the perspective of employees at different levels within the organization, especially rank-and-file employees.

Finally, this study is somewhat unique in the fact that employee perceptions are collected using a web-based survey. As a result, this study achieved high response rates from all of the participating state revenue agencies, with an average response rate of 50.5 percent and a total response of 4,186.

RELEVANCE TO PUBLIC ADMINISTRATION

This study attempts to provide answers to the three “big questions” that Robert Behn (1995) claims are fundamental to the field of public management. Behn’s big three include:

1. How can management break the micromanagement cycle (more and more procedural rules) that impedes agencies from producing results?
2. How can management motivate employees to “work energetically and intelligently” to accomplish public purposes?
3. How can management measure achievements with the purpose of improving results?

In Behn’s (1995) opinion, each of the three questions is based on the assumption that it is the job of public managers to not only “understand the behavior of public agencies but also to improve the performance of these agencies.” (p. 315) This study attempts to provide answers to Behn’s three questions by focusing on the specific management practices in question to see which of the practices employees believe are the most effective in improving organizational performance.

In providing these answers, hopefully, public managers will get some sense as to which of the nine management practices have the greatest impact on agency performance, including job satisfaction, at least as perceived by their employees. As a consequence, public managers will have some practical guidance as to where to invest their time and energies toward the goal of improving the efficiency and effectiveness of their organizations. Moreover, knowing the perspectives of rank-and-file employees regarding the deployment of these management practices may help public managers’ to implement these practices with the least resistance and greater acceptance.

PREVIEW OF UPCOMING CHAPTERS

Chapter two sets forth the hypotheses of this study and then explores the empirical evidence for each management practice and its effect on organizational results. The chapter also explores empirical evidence on differences in perception among employees at differently level of authority.

Chapter three further explains the research design for this study and the procedures and techniques that will be used to collect and analyze the data. Chapter four explores the findings to the first research question as to whether there are positive correlations between employee perceptions of management practices and results, both perceived and objective. Chapter five explores the finding to the second research question as to whether an employee’s opinion of the management practices and results are determined by their position within the agency. Finally, chapter six summarizes the findings,

discusses some practical applications and implications of those findings, and offers suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

INTRODUCTION

This study focuses on two different research questions.

First, does the practice of the nine management practices lead to improved organizational performance? (The management practices include strategic planning, performance measurement and management, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition, and process improvement. Organizational performance includes taxpayer satisfaction, improvements in processes, service delivery, job satisfaction and morale.

Second, do employees at different levels of the agency perceive nine management practices, result measures, including job satisfaction, differently? In other words do managers have different perceptions than front-line supervisors? Do front-line supervisors have different perceptions than non-supervisors (rank-and-file employees)?

In this chapter, we explore the empirical evidence for each management practice and its impact on organizational performance, and differences in perception on organizational change among employees at various levels of authority.

Research Hypotheses

The first research question is delineated into 12 different hypotheses. Hypotheses 1 through 10 postulates that there is a positive relationship between each management practice, as perceived by employees, and their perception of agency results and job satisfaction.

- H1: The greater a state agency's deployment of strategic planning the higher the level of agency results and job satisfaction.
- H2: The greater a state agency's deployment of performance measures the higher the level of agency results and job satisfaction.
- H3: The greater a state agency's deployment of performance feedback the higher the level of agency results and job satisfaction.
- H4: The greater a state agency's deployment of customer services the higher the level of agency results and job satisfaction.
- H5: The greater a state agency's deployment of empowerment the higher the level of agency results and job satisfaction.

- H6: The greater a state agency's deployment of teamwork the higher the level of agency results and job satisfaction.
- H7: The greater a state agency's deployment of training the higher the level of agency results and job satisfaction.
- H8: The greater a state agency's deployment of rewards and recognition the higher the level of agency results and job satisfaction.
- H9: The greater a state agency's deployment of human resource practices (performance feedback, empowerment, teamwork, training, and rewards and recognition) the higher the level of agency results and job satisfaction.
- H10: The greater a state agency's deployment of process improvement the higher the level of agency results and job satisfaction.

Hypothesis 11 postulates that all the management practices combined have a positive relationship with agency results and job satisfaction.

- H11: The greater a state agency's deployment of all nine management practices the higher the level of agency results and job satisfaction.

Finally, hypothesis 12 says there is a positive relationship between employees' perceptions of all management practices and other objective performance data.

- H12: The greater a state agency's deployment of all nine management practices the higher the level of objective performance data.

The second research question is delineated into two different hypotheses.

- H13: Managers within state revenue agencies will have more favorable perceptions regarding the deployment of management practices than front-line supervisors, and front-line supervisors will have more favorable perceptions than non-supervisory employees.

- H14: Managers within state revenue agencies will have more favorable perceptions regarding perceived agency results and job satisfaction than front-line supervisors, and front-line will have more favorable perceptions than non-supervisory employees.

OVERVIEW OF THE CHAPTER

The beginning section of this chapter discusses the theoretical underpinnings for this study. We begin the literature review by exploring studies that have investigated strategic planning's impact on organizational performance. Next, we consider performance measurement and look at empirical research into goal-setting and management-by-objective. In the next section, we review literature on performance feedback. The fourth management practice investigated is customer service, looking specifically at the

links between customer service strategies and organizational performance, especially customer satisfaction. After customer service, the next sections discuss the empirical research on individual human resource practices, including empowerment, or participatory decision making (PDM), teamwork, training and rewards and recognition, to discover each practice's relationship with result measures, such as productivity and satisfaction.

We then turn to reviewing literature related to process improvement and its impact on performance, followed by a section on Total Quality Management. The next section addresses the second major research question, investigating literature that considers the differences in perception among managerial and rank-and-file employees regarding the success or failure of implementing organizational change. Since much of this dissertation's research will be based on employee perceptions, our final review explores research findings related to the correlation between perceptual data and objective measures. The last section of this chapter summarizes the findings of the empirical research on the management practices in question.

THEORETICAL GROUNDING OF THE STUDY

The fundamental theoretical underpinning of these management practices (particularly strategic planning, performance measurement, performance feedback and process improvement) is systems theory. As described by Daniel Katz and Robert Kahn in their book, *The Social Psychology of Organizations*, open systems, which are cyclical in nature, have inputs, through-puts, and outputs and the system reactivates itself through the feedback or energy gained from the outputs. Another characteristic of the open system is "negative entropy." Survival is dependent upon acquiring "negative entropy" to prevent the entropic process which is endemic to all living systems. Negative entropy is gained when the system imports more energy than it uses. For example, a business will try and reap profits from its outputs to not only build financial reserves to maintain both operations and its competitive position, but also to invest in growth and newer technology. Open systems are also characterized by negative feedback. Negative feedback or information allows the organization to make adjustments and corrections to its course of action. In other words, organizational survival is dependent upon adapting to external changes in the environment.

The theoretical basis for the "soft" or "human" elements of the management practices (namely empowerment and other human resource practices), find their roots in the theories of Douglas McGregor in his book entitled, *The Human Side of Enterprise*. McGregor conceptualized two different forms of organization. Under the more traditional form of management called "Theory X", management controls the actions of subordinates through means of rewards and punishment. This top-down, command and

control system of management looks upon workers as lazy, self-centered, resistant to change and slow-witted. McGregor claimed that Theory X forms of management stifle worker motivation and workers' desires for self-fulfillment. In contrast, McGregor proposed a more worker-friendly form of management called "Theory Y." Instead of looking upon workers as drones, Theory Y calls for management to help make it possible for workers to develop their own capacities to become responsible and self-directed. It was management's responsibility, believed McGregor, to create the conditions by which workers can control their own performance in order to achieve organizational goals. McGregor saw practices such as decentralization and participatory decision making as conforming to his Theory Y form of management.

Another important theoretical underpinning to this study is goal-setting. Simply stated, goal-setting argues that "difficult, specific goals lead to higher performance than easy goals, vague goals or no goals (for example, 'Do your best') do." (Rainey, p. 237) Setting goals focuses the attention, energy, and determination of the organization and its members on the desired outcomes. (In other words, you get what you measure.) In addition to setting challenging goals, goal-setting also requires commitment to their achievement and feedback regarding progress towards achievement. Commitment is necessary for motivating organizational members to want to expend the energy. Feedback is especially critical for helping the organization and its members to gauge their precision and for judging the effectiveness of their means for achieving the goals.

A further theoretical basis for these management practices, at least for incentive practices such as recognition and reward systems, is expectancy theory. In essence, expectancy theory maintains that people will consider the consequences of any task. If the probability of achieving a good consequence is high and a bad consequence low, then people will be motivated to perform the task. In other words, people will carefully weigh the likely outcomes and take action only if the good outcomes significantly outweigh the bad.

STRATEGIC PLANNING AND ORGANIZATIONAL PERFORMANCE

Although much discussed in public administration literature, there is little empirical evidence of the impact strategic planning plays on the performance of non-profit or public agencies. That is not the case for the private sector, where "over 50 studies of the impact of planning on performance in the private sector have been published." (Boyne, 2001, p. 74) In addition, there have been some noteworthy meta-analyses of strategic planning studies.

Empirical Evidence on the Strategic Planning and Performance Link in the Private Sector

A literature review identified at least five empirical studies in the private sector that researched the impact of strategic planning on organizational performance.

Brian Boyd (1991) conducted one of the earliest meta-analyses to study planning's impact on performance using 21 studies representing 29 different samples of 2,496 organizations. The result of his analysis of the overall effect of planning on performance was "very weak." Boyd (1991) then looked at the effect size on each of 9 separate performance measures to see if the planning-performance link varied from indicator to indicator.⁷ For the most part, the effect sizes were also weak.

While Boyd's (1991) findings weaken the hypothesis of a strategic planning-performance link, other studies tend to confirm it (Capon et al. 1994; Miller and Cardinal, 1994; Schwenk and Shrader, 1993; and, Boyne, 2001).

Capon et al. (1994) conducted a study of 113 *Fortune* 500 manufacturing firms. Capon et al. (1994) confirmed their hypothesis that a positive relationship existed between sophisticated planning processes and performance. In their findings they noted "a strategic direction stressing resource allocation at the corporate level to growing businesses in which the firm is well positioned improves performance of firms that plan strategically by more than 1 per cent return on capital." Moreover, firms that use strategic planning "appear to double the longer term likelihood of survival as a corporate entity." (p. 109)

In a meta-analysis of 26 studies, Miller and Cardinal (1994) also found a positive effect between strategic planning and firm performance. Specifically, Miller and Cardinal (1994) found a positive relationship with both growth, measured as sales, earnings and deposit, and profitability correlations, measured as returns on assets, equity, sales and investment. (p. 1656)

In a meta-analysis focused exclusively on small businesses (< 100 employees), Schwenk and Shrader (1993) focused on studies that contained only objective data of performance rather than perception data. They also only included studies that focused on strategic planning as opposed to more narrowly focused studies researching types of planning.

Schwenk and Shrader (1993) found a positive relationship between strategic planning and sales and revenue growth. The outcomes also showed a significant relationship between planning and return measures (i.e., return on sales, return on investment). (p. 59) Schwenk and Shrader (1993) concluded by stating "we were able to provide straightforward support for the general assertion that strategic planning does have a significant, positive association with performance across studies . . . While our analysis does not prove planning improves performance, it argues against the assertion that strategic planning is only

⁷ Earnings growth, deposit growth, earnings per share growth, sales growth, price-earnings growth, profitability, return on assets, return on equity, and return on investment.

appropriate for large firms.” (p. 60)

A more recent study shines further light on the impact of strategic planning on organizational performance. Using the statistical significance levels in 47 published studies; Boyne (2001) calculated the percentage support for planning. According to Boyne (2001), “the mean level of support for a positive impact of planning” among these 47 published studies is 55 per cent, meaning that planning is associated with “superior performance.” “This is far higher,” claims Boyne (2001), “than would be likely to occur by chance alone.” (p. 79) “Therefore, although the strength of the evidence is not overwhelming, it provides a fairly solid empirical foundation for arguments that planning leads to organizational success. Furthermore, the lag structure in many of the empirical tests is consistent with the view that planning is not simply *associated with* but is *causally prior* to performance.” (p. 80)

Even when Boyne (2001) further investigated for confounding effects, the results were the same. First, he looked at the variation in sample size among the studies to see if larger studies disproportionately support the impact of planning. Boyne (2001) divided the studies into two separate groups, with one group above the median sample size and the other below it. The results were identical for each group. Second, Boyne (2001) sought to discover if performance was affected by a variety of external and internal variables. The studies were divided into two groups. The first group contained those studies that contained controls and the second group those studies that controlled for neither variable. Again, the results were similar for both groups. (p. 80)

However, Boyne (2001) provided a cautionary note regarding the extrapolation of the results of his study to the public sector. He warned that no one is sure under what circumstances planning works best. He further cautioned that it isn’t clear for who and how planning works. Third, most of the “evidence consists of correlation coefficients that show the closeness of the statistical relationship between planning and performance but not the strength.” (p. 83) Finally, Boyne (2001) warned that most of the evidence regarding planning and performance pertain only to financial performance. It does not provide evidence of planning’s impact on other measures of organizational success.

Empirical Evidence on the Strategic Planning and Performance Link in the Non-Profit Sector

There is at least one published study that provides some evidence of the impact of planning on non-profit organizations. Odom and Boxx (1988) developed a study to determine if the level of planning sophistication is related to the size and growth of churches. The population for their study was Southern Baptist churches in the state of Arkansas. The Odom and Boxx (1988) study included four growth (organizational success) measures: (1) Growth rate of average Sunday school attendance; (2) Growth rate of offerings (\$000); (3) Growth rate of total additions; and (4) Growth rate of baptisms. (p. 203) The

results of their analysis revealed a statistically significant difference between informal planners (i.e., no written plan for at least one year) and long-range planners (i.e., a written plan for at least three years, including specific goals and a plan of action for accomplishing goals) on three of the four growth measures. More specifically, long-range planning had a positive impact on Sunday school attendance, total additions, and baptism.

Summary of the Empirical Evidence on the Link between Strategic Planning and Organizational performance

This dissertation postulates a positive relationship between strategic planning and organizational performance in public agencies. For the most part, the aforementioned empirical evidence, although primarily from private sector studies, demonstrates at least a modest relationship between strategic planning and organizational performance.

While Boyd's (1991) study showed a weak relationship, Capon et al. (1994), Miller and Cardinal (1994), Schwenk and Shrader (1993), Odom and Box (1998), and Boyne (2001) provided evidence of at least a moderate relationship. While Boyd, Capon et al. (1994), Miller and Cardinal (1994), and Schwenk and Shrader (1993) found a relationship with financial performance measures, Odom and Box (1988) established a relationship with non-financial measures of performance.

PERFORMANCE MEASURES AND ORGANIZATIONAL PERFORMANCE

While there has been little, if any, empirical research on the topic of performance measures and management per se, there has been a great deal of empirical research on the topic of goal-setting and its relationship to organizational performance. Goal-setting is the theoretical underpinning of performance measures and results-based management. The theory behind goal-setting suggests that "difficult, specific goals lead to higher performance than easy goals, vague goals or no goals (for example, 'Do your best'). Difficult goals enhance performance by directing attention and action, mobilizing effort, increasing persistence, and motivating the search for effective performance strategies. Commitment to the goals and feedback about progress toward achieving them are also necessary for higher performance." (Rainey, 1997, p. 237)

Empirical Evidence on the Goal-Setting and Performance Link

At least three empirical studies were found that empirically explored the relationship between

goal-setting and organizational performance (Tubbs, 1986; Mento et al., 1987; and, O’Leary-Kelly et al., 1994). All three studies support the hypothesis of a positive relationship.

Mark Tubbs (1986) conducted a meta-analysis of 87 goal-setting studies to investigate the major relationships of goal theory (i.e., goal difficulty, goal specificity/difficulty, feedback, and participation in goal setting). Tubbs (1986) found strong support for three of the major goal-setting propositions. First, difficult goals lead to higher performance than do easy goals. Second, specific, difficult goals lead to higher performance than “do-your-best” and no goals. Third, participation in the goal-setting process leads to higher performance than goals that are assigned. (p. 477)

Mento et al. (1987) conducted a meta-analysis to empirically answer the same questions asked by Tubbs (1986) regarding the major relationships of goal theory. In addition, Mento et al. (1987) also conducted two smaller meta-analyses. First, they investigated the effect on performance of hard, specific goals with feedback to hard, specific goals without feedback. Second, they investigated participatively set goals with goals that were assigned.

On the issue of goal difficulty, Mento et al. (1987) used 70 studies to find a large effect size on performance, claiming a productivity increase equal to 11.63%. Likewise, a significant effect size was found between goal difficulty and specificity and performance using 49 studies. This was equivalent to a productivity increase of 8.88%. Mento et al. (1987) found a small number of studies ($n = 6$) available to determine if “participatively” set goals led to higher performance than assigned goals. Although the effect size was smaller, the impact was significant and equal to a “productivity increase of 4%.”⁸ This study, claimed Mento et al. (1987), “contributed additional support to the increasingly overwhelming evidence” regarding the two major propositions of goal theory, namely goal difficulty, and goal specificity and goal difficulty. (p. 74)

In contrast to studies focused on individual goal effect size, O’Leary-Kelly et al. (1994) conducted a meta-analysis to determine the strength of the *group* goal effect on *group* performance by comparing groups involved in group goal setting with groups that have no goals or low goals. In addition, they sought to determine how certain goal characteristics impact it.⁹

O’Leary-Kelly et al. (1994) found that the mean performance of groups with goals as compared to groups without goals was nearly one standard deviation higher. The effect size was large and the authors noted that this compared favorably to the individual goal effect size that had ranged from 0.52 to 0.82 (p. 1291) However, O’Leary-Kelly et al. (1994) were not able to use meta-analysis to determine the effect of certain moderators due to the “low variance” across the studies in question. Instead, the authors

⁸ However, Mento et al. (1987) concluded that the results were “inconclusive” given that two of the six studies favored assigned goals, while the other four favored participatively set goals.

⁹ The authors identified 10 studies for their meta-analysis that included 26 “usable effect size values.” Among the 10 studies were data on 163 groups and 1,684 individuals. (O’Leary-Kelly et al., 1994, p. 1289)

conducted a qualitative review to determine the “representativeness” of certain variables among the group goal studies. (pp. 1291-1292)

For goal specificity, O’Leary-Kelly et al. (1994) found that 95 percent of the studies that used specific goals yielded positive results. However, only half of those that did not specify specific goals had positive results. Moreover, among studies that used difficult goals, 81 percent yielded positive results. Likewise, 67 percent of the studies looked at assigned versus participative goal-setting. A positive result was found in 78 percent of the studies that used assigned goals, and 100 percent of the studies that used “participatively” set goals. (O’Leary-Kelly et al., 1994, p. 1294)

Empirical Evidence on the Management-by-Objective and Performance Link

A more formalized method of goal-setting coupled with feedback is management-by-objective (MBO). MBO is defined as encompassing three processes (i.e., participatory decision making, goal setting, and objective feedback). It involves the “continuous review and revision of objectives,” using participatory decision making as means to promote understanding, and objective feedback given by managers to subordinate on their progress in achieving their objective(s). (Rodgers and Hunter, 1992, p. 27)

Rodgers and Hunter (1991) provided evidence that the practice of MBO does have a positive impact on performance. The Rodgers and Hunter (1991) study included 70 studies of private and public organizations, in which 29 studies used ratio scale data (productivity, productivity outputs, attendance behaviors, and costs), 12 used ordinal scale measures of productivity, and 34 were qualitative assessments. The 29 studies using ratio scale data reported a mean gain of 44.6% in productivity. Among studies that reported productivity outcomes the mean increases was 46.7% (26.1% for cost data and 24.1% for attendance behavior estimates). Among the 12 studies using ordinal data the mean was 42%. However, large standard deviations suggested the possibility of a moderating variable. (pp. 328-329)

When Rodgers and Hunter (1991) factored high, moderate, and low commitment, the studies using ratio scale data reported a productivity gain of 56.5% ($SD = 29.9\%$), while moderate and low commitment organizations reported gains of 32.9% ($SD = 14.1\%$) and 6.1% ($SD = 8.2\%$) respectively.¹⁰ The smaller standard deviations across levels of management support showed that commitment moderates the impact on MBO. A similar finding was found for studies with ordinal data. (pp. 329, 331)

In a later article published in *Public Administration Review*, Rodgers and Hunt (1992) looked at whether MBO’s effect on productivity was as large in government as it is in business. They found positive results in 30 out of 30 public sector studies with before and after productivity data, confirming

¹⁰ Similar results were found for productivity outcomes, costs, and attendance behaviors.

that it works just as well. In terms of top-management commitment, they found that high commitment equaled an average gain of 63.3%, a moderate commitment an average gain of 42.4%, and an average gain of 9.2% in organizations with low commitment. (p. 30-31)

Empirical Evidence of Goal-Setting and Performance Feedback in the Public Sector: The High Performance Cycle

In a particularly noteworthy study, Selden and Brewer (2000) set out to test the high performance cycle that challenging goals lead to higher performance. They specifically sought to determine the relationship between goals, individual performance, rewards, job satisfaction, and organizational commitment. Selden and Brewer (2000) assessed this model of work motivation using attitudinal data from the U.S. Office of Personnel Management's 1991-1992 survey of federal employees. The study was limited to the 2,731 federal executives that completed the survey.¹¹

According to Selden and Brewer (2000), "The model predicts that when performance is commensurate with rewards, employees will be more satisfied vis-à-vis equity theory. In turn, more satisfied employees will be more loyal and committed to the organization. In summary, the high performance cycle model explains how organizations can use goals as inducements to create and sustain high performance." (p. 536-537)

Selden and Brewer (2000) found that demands have a "strong and significant impact on individual performance, indicating that individuals with more challenging and demanding jobs record higher performance levels." (p. 542) In addition, feedback was shown to have a "significant and positive" impact on individual performance. The conclusions drawn by Selden and Brewer (2000) tend to reinforce the contention that goal-setting and performance feedback catalyze higher performance.

¹¹ The model comprises several moderating variables that regulate the relationship between demands placed on employees and high performance. The first variable is "ability." The model assumes that employees have the abilities to accomplish their goals. The second moderating variable postulates that employees must be committed to the goals. Another variable is "job-related feedback" that "enables individuals to gauge their progress toward goal attainment." "Self-efficacy" is the fourth moderating variable which "captures a self-confidence dimension." The final variable is "task complexity." Less complex tasks are more likely to increase the chances of achieving higher performance. (pp. 534-536) In addition to the moderating variables, the model also includes several "mediators." The first is "direction of attention." Employees are more likely to achieve goals that are clearly articulated and easily understood. The second mediator is effort. The more effort put forward, the better the performance. "Persistence" is the third mediator which encompasses tenacity, doggedness, and the willingness to put in longer hours. The final mediator is "task specific strategies." This postulates that those who develop task specific strategies to adapt to changing goals are more likely to perform better. (Selden and Brewer, 2000, p. 536)

Summary of the Empirical Evidence on the Link between Goal-Setting, MBO and Organizational performance

This dissertation claims that the practice of performance measures in public agencies, leads to gains in organizational performance. The empirical evidence related to goal-setting and MBO would appear to provide strong support for those hypotheses. Moreover the empirical evidence suggests that the relationship is as strong in the public sector as it is in the private sector.

Tubbs (1986), Mento et al. (1987), and O’Leary-Kelly et al. (1994) found strong support for the proposition that goal-setting leads to higher performance. Moreover, O’Leary-Kelly et al. (1994) found a large effect size when comparing the performance of groups with goals to groups without goals. Tubbs (1986), Mento et al. (1987), and O’Leary-Kelly et al. (1994) specifically demonstrated that difficult, specific goals leads to higher performance, as opposed to easy and do-your-best or no goals. While Tubbs (1986) provides evidence that participation in the goal setting process leads to higher performance (as opposed to assigned goals), Mento et al. (1987) concluded their results were “inconclusive.” O’Leary-Kelly et al. (1994) found positive results in 78 percent of the assigned-goal studies, but 100 percent of the “participatively-set” goals.

Finally, Rodgers and Hunter (1991) found that MBO does increase productivity. They also found that MBO’s impact on productivity increases as top-managements’ commitment rose from low (6%) to moderate (33%) to high (56%). (p. 29) More germane to this study, Rodgers and Hunter (1992) proved that MBO’s effect on productivity was as large in government as in business. Moreover, Rodgers and Hunter (1992) found even higher productivity gains based on high commitment among top managers in the public sector than in the private sector. Likewise Selden and Brewer (2000) showed that demands placed on federal executives and performance feedback has a significant and positive impact on performance.

As Mento et al. (1987) concluded, “If there is ever to be a viable candidate from the organizational sciences for elevation to the lofty status of a scientific law of nature, then the relationships between goal difficulty, specificity/difficulty, and task performance are most worthy of serious consideration. Certainly, if nothing else, the evidence from numerous studies indicates that these variables behave lawfully.” (p. 74)

PERFORMANCE FEEDBACK AND ORGANIZATIONAL PERFORMANCE

A key variable in the goal-setting-performance process is feedback. Performance feedback provides individual or group information to “adjust” their behavior or actions in pursuing a goal or goals.

“Lacking clear feedback and a specific goal, an individual will be unable to judge when to alter a chosen course of action (direction) or how much effort to expend (magnitude).” (Earley et al., 1990, p. 89)

Empirical Evidence on the Performance Feedback and Performance Link

While Tubbs (1986) and Mento et al. (1987) also researched the issue of performance feedback, at least two other studies (Earley et al., 1990; and, Neubert, 1998) were found that empirically focused on the issue exclusively. All four studies tend to support the conclusion that performance feedback leads to higher performance.

Although both studies only identified a small number of studies (three to be exact), Tubbs (1986) and Mento et al. (1987) found support that performance feedback mediated the goal-setting and performance link. The effect size found by Mento et al. (1987) was significant, equating to a productivity increase of 17.46%. (p. 76)

Earley et al. (1990) studied two different types of feedback and its effect on the goal-setting-performance correlation. The first type is “outcome feedback” which they defined as “information concerning performance outcomes.” The second type is “process feedback” which they defined as “information concerning the manner in which an individual implements a work strategy.” (p. 88) While outcome feedback signals when adjustments may be necessary, it does not provide the specific information necessary to know how to adjust. On the other hand, process feedback provides specific information on the behavioral processes that produce goals, thus facilitating the development of appropriate strategies. In addition to these two feedback methods, Earley et al. (1990) also investigated the “interactive effect” of self-confidence, effort and task strategy on the relationship between goal-setting and task performance.

Earley et al. (1990) utilized 85 college business majors to perform a stock-market simulation exercise to test their hypotheses. Their findings showed that “process feedback interacted with goal setting to strongly affect the quality of people’s task strategies and information search.” At the same time, “outcome feedback interacted with goal setting to affect effort and self-confidence. It is also interesting to note that the highest mean level of performance was associated with the combination of the specific, challenging goal and both forms of specific feedback, suggesting that the effects of the two types of feedback may be additive.” (Earley et al., 1990, p. 101)

In conclusion, Earley et al. (1990) emphasized that “Using process feedback with goal setting appears to be a direct and powerful way of shaping an individual’s task strategy, and using outcome feedback is a much less efficient way of shaping strategy.” They further concluded by stating, “This study’s results reinforce the thesis that feedback moderates goal setting’s relation to performance and that

both outcome and process feedback are important contributors to goal-setting effects.” (p. 103)

A meta-analysis by Mitchell Neubert (1998) was intended to expand on both meta-analyses conducted by Tubbs (1986) and Mento et al. (1987) by taking into account “more performance criteria and a broader range of goal difficulties.” (p. 322) Unlike Tubbs (1986) and Mento et al. (1987) where only a small number of studies were used to test the hypothesis, Neubert’s (1998) analysis included 11 studies representing 16 effect sizes. (p. 325)

Neubert (1998) focused on three hypotheses related to feedback. First, individuals that are provided with either “process or outcome feedback and goals” will outperform those who are only provided goals. Second, the effect of adding feedback to goal setting for complex tasks will be greater than adding feedback to simpler tasks. Finally, the effect of adding feedback to goal setting compared to goal setting alone will be greater for feedback delivered personally than impersonally.

Neubert’s (1998) results confirmed his first hypothesis indicating that performance is enhanced when feedback is added to goal setting. Furthermore, the effect for complex tasks was more than double that of simple tasks confirming his second hypothesis. However, there was a small difference in effect size for Neubert’s (1998) third hypothesis providing no support that personal feedback is better than impersonal feedback (e.g. technology). (pp. 329-330)

Summary of the Empirical Evidence on the Link between Performance Feedback and Organizational performance

This dissertation claims that performance feedback leads to higher organizational performance. The empirical evidence seems to support that claim.

Tubbs (1986), Mento et al. (1987), Early et al. (1990) and Neubert (1998) found that feedback enhanced the relationship between goal-setting and performance. Early et al. (1990) provided evidence that specific, challenging goals combined with both process and outcome feedback, led to the highest mean level of performance. On the other hand, Neubert (1998) showed that adding feedback to goal setting for complex tasks had twice the effect compared to simpler tasks.

CUSTOMER SERVICE AND ORGANIZATIONAL PERFORMANCE

It is assumed that when an organization emphasizes customer service it pays dividends in customer retention and satisfaction, which leads to improvements in other organizational outcomes (e.g., profits). Since employees, especially frontline employees, normally interact with customers, a customer service orientation means that the organization must create a climate for service among their employees.

A climate for service is facilitated when an organization puts in place certain policies, procedures and practices that support it.

However, Swiss (1992) cautions that government agencies serve a number of different constituencies who have competing, even contradictory, demands for services. Consequently, agencies are often forced to find compromises, which means that the principles of “delighting” or even satisfying “customers begs too many questions to be a clear or useful goal.” (p. 359) Despite this problem, Swiss (1992) still felt it useful to gauge customers’ reactions to services as “one consideration of decisionmaking.”

Empirical Evidence on the Customer Service and Performance Link in the Private Sector

Only two studies were found that specifically addressed the hypothesis of a customer service-performance link (Johnson, 1996; and, Schneider et al., 1998). The findings of both studies tend to support the contention that a customer service orientation leverages higher customer satisfaction, but neither study provide any evidence that such an orientation positively impacts other indicators of performance.

Jeff Johnson (1996) established that certain practices or strategies are important in building a service climate that lead to customer satisfaction. In a study of a large bank with branches in four states, Johnson (1996) found that certain service climate dimensions, (organizational policies, procedures, and practices), were related to some aspects of customer satisfaction. In fact, eight of 11 dimensions had “significant partial correlations with overall customer satisfaction. The dimensions of information seeking, training, and rewards and recognition showed the strongest relationships; service support, management service orientation, and employee service orientation had the weakest relationships. In addition, the overall service climate variable was significantly related to all customer dimensions except bank statements.” Moreover, Johnson (1996) found a positive relationship between employee ratings of their customers’ satisfaction and actual customer satisfaction ($r = .45, p < .01$). However, Johnson (1996) warned that the correlation was too low to substitute employee perceptions for customer perceptions. (p. 846)

Johnson (1996) stated that his study provided evidence that certain practices are effective. For instance, “having a strategy for how service is to be delivered, seeking information about customers’ needs and expectations, training in delivering quality service, teamwork between units, rewarding and recognizing excellent service, employee and management service orientation training, managing the transition between sales and delivery, and designing service systems, policies, and procedures to promote the delivery of service were all shown to be significantly related to some aspects of customer perceptions

of service quality.” (p. 847) The three dimensions showing the strongest relationship (information seeking, training, rewards and recognition) were also highly related to each other.

Johnson (1996) concluded by saying that “This study shows empirically that creating a climate for service in an organization is likely to enhance customer perceptions of quality service delivery.” (p. 850)

In a study of large northeastern bank with 134 branches, Schneider et al. (1998) found that service climate and customer perceptions of service climate affected each other over time. In other words, Schneider et al. (1998) found both were of equal magnitude, which they interpreted as meaning there is a reciprocal relationship of causality between the two. (p. 158) More specifically, customer perception is not only affected by the service they receive, but customer perception can affect organizational practices.

According to Schneider et al. (1998), the findings suggest that the reciprocal relationship is created through customer feedback where data is collected from customers, shared with employees, and steps taken to fashion “new service-oriented policies and procedures.” “The data reveal,” reason Schneider et al. (1998), “that organizations paying the closest attention to their customers’ expectations and needs are the organizations most likely to create conditions yielding a climate for service. That climate for service, in turn, yields behaviors that result in customer perceptions of service quality.” (p. 159)

Empirical Evidence on the Customer Service and Performance Link in the Public Sector

At least one study has found a positive link between the subjective satisfaction of citizens and the internal performance measures of local governments. Using meta-analysis, Swindell and Kelly (2000) compared 12 cities and 1 county on seven dimensions of public service delivery, including police service, fire and emergency services, road maintenance, garbage collection, street lighting, parks and recreation, and libraries. (p. 31) Swindell and Kelly (2000) found a positive relationship between the “subjective citizen service evaluations” and objective performance measures.

Summary of the Empirical Evidence on the Link between Customer Service and Organizational performance

The focus of this dissertation regarding customer service claims that public agencies that engage in customer service oriented practices will have higher organizational performance. The empirical evidence provided by Johnson (1996) and Schneider et al. (1998) appear to support that claim, at least as it relates to improvements in customer perceptions of service quality.

Although Schneider et al. (1998) found a reciprocal relationship of causality between service climate and customer perceptions of service quality; they surmised that this reciprocal relationship is created through a customer feedback loop. Organizations that collect data from its customers and use it to make changes in services and/or products tend to produce higher customer satisfaction. Likewise, Johnson (1996) demonstrated that customer service oriented strategies were effective in improving customer satisfaction.

However, the abovementioned evidence is largely from the private sector. Furthermore, the empirical evidence among these private sector studies suggest that customer service oriented practices only leads to higher customer satisfaction. No real evidence is provided that these practices lead to improvements in other measures of performance. Interestingly, it is the one public sector study that provides some evidence of that link. Swindell and Kelly (2000) demonstrated a link between customer satisfaction and other organizational outcomes when they demonstrated a connection between customer satisfaction and local government performance measures.

EMPOWERMENT AND ORGANIZATIONAL PERFORMANCE

Organizational effectiveness and productivity are said to be enhanced when employees are empowered to make or participate in making decisions about their work. Proponents argue that frontline employees have more knowledge of their work than do higher levels of managerial authority. Consequently, frontline employees should be empowered with more decision-making authority on how they perform their work. Furthermore, employees that are empowered will have higher job satisfaction.

Empirical Evidence on the Empowerment and Performance Link in the Private Sector

The literature identified a number of studies among private sector organizations that explored the relationship between empowerment and organizational performance (Miller and Monge, 1986; Wagner and Gooding, 1987a and 1987b; Spector, 1986; Cotton et al., 1988; Leana et al., 1990; Wagner, 1994; and, Black and Gregersen, 1997).

Miller and Monge (1986) conducted a meta-analysis of 47 studies testing cognitive, affective and contingency models of the effect of participation in decision making (PDM) on satisfaction and productivity.¹² Miller and Monge (1986) found an overall moderate relationship between participation

¹² Cognitive models suggest that workers have more complete knowledge of their jobs than do their supervisors and managers. On the other hand, affective models propose that “intervening motivational processes” influence the relationship between participation and productivity. In other words, job satisfaction comes before increases in productivity. (p. 731) Advocates of contingency models believe that the relationship depends on the people and the

and satisfaction, and an overall small relationship between participation and productivity. (p. 740, 742) Furthermore, Miller and Monge (1986) found no support for any of the contingency models, and that participation is no more effective for upper-level employees than lower-level employees. Miller and Monge (1986) did find a significant, but small correlation between participation in goal setting and productivity. (pp. 743-744) “Finally,” concluded Miller and Monge (1986), “our analysis indicates specific organizational factors that may enhance or constrain the effect of participation. For example, there is evidence that participative climate has a more substantial effect on workers’ satisfaction than participation in specific decisions, and it appears that participation in goal setting does not have a strong effect on productivity.” (p. 748)

In an earlier publication, Wagner and Gooding (1987a) reported finding a moderate correlation between participation and its outcomes. However, when they divided the correlations in to two subgroups, they found a moderate correlation for studies using percept-percept measures, and a small correlation for multi-source correlations.¹³ (Wagner and Gooding, 1987b, p. 525) Wagner and Gooding (1987b) speculated that “these results suggest that evidence substantiating positive participation-outcome relationships might be largely artifactual; it may reflect the inflation of effect size often engendered in percept-percept procedures rather than the true level of efficacy of participatory processes.” (pp. 525-526) Wagner and Gooding (1987b) further noted that these findings have practical implications suggesting that participatory programs might not produce the “objective gains” being sought, other than motivation. (p. 536)

In a meta-analysis of 88 studies yielding 101 samples, Paul Spector (1986) found a mixed bag regarding participation’s effect on outcomes. While there was a weak relationship between participation and performance, overall satisfaction, work satisfaction, supervisor satisfaction, and motivation were moderately strong and statistically significant. (p. 1012)

In a study of different forms of participation in decision making, Cotton et al. (1988) conducted a narrative review of 91 studies to determine if different forms are associated with different outcomes, namely productivity and job satisfaction. Using “. . . a simple, positive, negative, and null ‘voting’ system to cumulate the outcomes,” Cotton et al. (1988) classified the various studies into six dimensions. 14

Cotton et al. (1988) concluded that their findings supported their hypothesis that effectiveness

situation, and that participation is only effective for certain types of employees and organizations (e.g., research, service, middle managers, and upper-level employees). (p. 732)

13 Percept-percept measures are where respondents answer questions related to both participation and outcomes in a single questionnaire. Multisource is defined as “at least one objective measure or assigned condition, different respondents for data on participation and outcome variables, or a longitudinal break between the collection of data on both participation and outcome variables from the same respondents.” (p. Wagner (1994) and Gooding, 1987b, p. 531)

14 The six dimensions include “(a) Participation in work decisions, (b) Consultative participation, (c) Short-term participation, (d) Informal participation, (e) Employee ownership, and (f) Representative participation.” (p. 10)

depends upon the form of PDM. They found that while participation in work decisions has a “relatively consistent and positive” effect on productivity, it has an inconsistent effect on job satisfaction. (p. 12) In the second form of PDM, consultative services, which primarily encompassed “Scanlon plans and quality circles,” Cotton et al. (1988) determined the findings “inconclusive” because of poor research methods among the available studies. (p. 12) Likewise, short-term participation showed few effects on productivity and conflicting reports on job satisfaction. (p. 14) However, Cotton et al. (1988) concluded that informal participation and employee ownership has a positive effect on both outcomes. (p. 14) Finally, Cotton et al. (1988) found that while representative participation doesn’t increase performance, it does increase satisfaction. (p. 16)

However, Leana et al. (1990) criticized the conclusions reached by Cotton et al. (1988).¹⁵ They carried out their own analysis of the studies used by Cotton et al. (1988), using more “careful procedures.” (p. 140) They claimed to have found many discrepancies between what Cotton et al. (1988) reported and what they found reading study results. Leana et al. (1990) found little support for the conclusions reached by Cotton et al. (1988) that effectiveness depends upon the form of PDM.

John Wagner (1994) also collected the studies reviewed by Cotton et al. (1988) to perform a replication of their meta-analysis. Of the studies reviewed by Cotton et al. (1988), Wagner (1994) found 52 that contained correlation coefficients which he divided into the six PDM forms identified by Cotton and his colleagues. Wagner’s (1994) meta-analysis did not substantiate the conclusions reached by Cotton et al. (1988). His analysis failed to reveal any statistically significant difference among the different forms of participation. (p. 318)

More importantly to this dissertation, Wagner (1994) reviewed the findings of 10 previous meta-analyses on the participation-performance link. Two of those studies were narrative reviews [Locke & Schweiger (1979); Schweiger and Leana (1986)] which found participation had little effect on performance. The seven remaining studies were Meta-analyzes [Locke, Feren, McCaleb, Shaw and Denny (1980); Guzzo, Jackson and Katzell (1985); Rogers and Hunter (1991); Neuman, Edwards, and Raju (1989); Miller and Monge (1986); Wagner and Gooding (1987a and b); Spector (1986)]. The review also included Wagner’s (1994) meta-analytic replication of Cotton et al. (1988). In most instances, Wagner (1994) found that participation has only small, but statistically significant effects on performance. (p. 323)

15 Leana et al. (1990) first took issue with the classification system used by Cotton et al. (1988) claiming that theoretically it should have yielded 192 cells. They questioned what happened with the remaining 186 categories since Cotton et al. (1988) only used six. Presumably, suggested Leana et al. (1990), they did so because the 186 were not descriptive of any existing PDM studies. Leana et al. (1990) asserted that the system used by Cotton et al. (1988) violated mutual exclusivity among categories and internal homogeneity within categories. (p. 138) Moreover, Leana et al. (1990) expressed concern of an interrater reliability problem because it appeared there was no independent verification of the conclusions reached.

Wagner (1994) concluded by stating, “the results of the meta-analytic reanalysis reported in this article do not substantiate the conclusion of Cotton and his colleagues (1988) that certain forms of participation have stronger effects than others on performance and satisfaction. Instead, support is provided for the conclusion that research has produced evidence of statistically significant but small relationships between participation and performance or satisfaction and that it has failed to verify the presence of strong, large relationships. Evidence from the findings of 10 other reviews of participation research upholds the same conclusions. Together, the conclusions of this article give cause to question the practical significance of participation as a means of influencing performance or satisfaction at work.” (p. 327)

A later study by Black and Gregersen (1997) took a different approach to determining the effect of PDM on performance. They predicted that when controlling for other dimensions of participatory decision making (rationale, structure, form, issues, decision processes, and degree of freedom), the degree of involvement in 5 separate aspects (decision processes) have different effects on satisfaction and performance.¹⁶

Black and Gregersen (1997) found that the link between the decision processes and satisfaction was stronger than the link between decision processes and performance, which is consistent with results from uni-dimensional studies. They also found that all 5 decision processes accounted for a significant portion of the variance in worker satisfaction and performance. (p. 870) Three of the processes (generating alternatives, planning implementation, and evaluation) were “relatively significant to satisfaction.” As predicted, “involvement in identifying results was more positively related to satisfaction than performance, while “involvement in identifying problems was not related strongly to either” outcome. However, neither was “involvement in selecting solutions.” (p. 871)

Black and Gregersen (1997) suggested that involvement in all five processes may be accumulative. They found that individuals with high involvement in all five decision processes had significantly higher levels of satisfaction and performance than those individuals with low involvement. (p. 872)

Empirical Evidence on the Empowerment and Performance Link in the Public Sector

While the preponderance of the PDM-performance evidence is to be found with studies conducted in the private sector, there is some evidence of its link in the public sector. Only two studies could be found that explored this relationship among public agencies.

¹⁶ The five processes include: (1) identifying problems or issues; (2) generating alternative solutions to the problem; (3) selecting a specific solution; (4) planning the implementation of the selected solution; and (5) evaluating the results of the implementation. (p. 862)

In the 1970s, Washington State initiated a participative form of performance appraisal that required both supervisors to rate and employees to self-assess their performance. Based on the “joint assessment,” supervisors and employees were then required to agree upon goals and objectives for the coming year. (Lovrich, 1988, pp. 262-263) The employee also had the right to request a higher-level manager to mediate any differences. Using panel study data of over 400 state employees taken before implementation and then 18 months after implementation, Lovrich (1988) sought to compare before and after intervention measures of job commitment among employees in the top one third (enriched jobs) and bottom one third (non-enriched jobs) scores of a test measuring job characteristics such as skill variety, task identity, task significance, autonomy, and task feedback. (p. 264) Job commitment was measured using an organizational climate index composed of ten separate scales of workplace assessment.

Lovrich’s (1988) results showed “marginally positive effects” for employees in the bottom one third for eight of the ten dimensions. However, employees in the top one third showed “marginally negative differences.” (p. 270) The results for job satisfaction were similar to the results for organizational climate with the participative performance appraisal process more positive for non-enriched jobs than enriched jobs. Finally, very similar results were obtained for employee aspirations but without achieving statistical significance. (p. 273) Lovrich (1988) concluded that it appeared the “degree of job enrichment” is a “salient” issue in research on worker participation.

Using the data from the Washington State study, Soden and Lovrich (1988) sought to answer two additional research questions: (1) What “workplace dimensions” distinguished motivated and unmotivated public employees; and (2) What effect does participation have on unmotivated employees?

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First of all, they found that “work values” was the strongest single dimension that differentiated motivated from unmotivated workers. (Soden and Lovrich, 1988, pp. 106) Soden and Lovrich also found statistically significant improvement in workplace motivation among unmotivated employees after the implementation of the participative performance appraisal program. There was no significant change among motivated employees on three of the four workplace dimensions measured. The one dimension (advancement in grade aspirations) that was significant showed a “marked worsening of aspiration level.” (p. 110)

Soden and Lovrich (1988) concluded by saying proponents of workplace participation should be “heartened.” These findings show that unmotivated workers “brought into a participative process reflecting trust in their capacity for workplace contribution did indeed register improvement in commitment to work and self-improvement.” (p. 111)

17 The four workplace motivation dimensions included: (1) aspirations concerning one’s job standards; (2) aspirations concerning one’s advancement in grade; (3) one’s degree of desire for personal growth in one’s work; and (4) one’s degree of desire for exercising independent thought and action on one’s job. (p. 100)

Summary of the Empirical Evidence of the Link between Empowerment and Organizational performance

This dissertation predicts that employee empowerment has an effect on organizational performance in public agencies. Most of the above private sector studies found only small to moderate, but statistically significant relationships between participation and outcomes. Miller and Monge (1986) found a modest relationship between participation and satisfaction, and even weaker relationship between participation and productivity. Wagner and Gooding (1987a) found a modest relationship between participation and outcomes. However, when dividing correlations between those derived through subjective means and those through objective sources, Wagner and Gooding (1987b) found that objective sources were relatively weak. On the other hand, Spector (1986) found a more moderate relationship between participation and satisfaction (overall, work satisfaction, and supervisor satisfaction), and participation and motivation.

In a narrative review, Cotton et al. (1988) found that effectiveness depended upon the form of employee participation. However, in a critique of Cotton et al. (1988), Leana et al. (1990) conducted their own study and came to a different conclusion, finding little support for the conclusion reached by Cotton et al. (1988). Likewise, Wagner (1994) replicated the Cotton et al. (1988) meta-analysis using correlation coefficients. His findings could not substantiate the claim made by Cotton et al. (1988), finding no significant evidence that certain forms have stronger effects than others. More importantly, Wagner's (1994) review of other meta-analyses found that participation had statistically significant, but small effects on performance.

On the other hand, Black and Gregersen (1997) believed that different parts of the decision making process had varying impacts on satisfaction and performance. They found the link between the decision processes and satisfaction was stronger than the link between decision processes and performance. They also argued that satisfaction is individually perceived, and thus subjective measurement of satisfaction was more important than its objective measurement.

At least one public sector study seems to marginally bolster this dissertation's contention that employee empowerment has positive effects on public sector performance. Lovrich (1986) found a marginally positive relationship between the participative appraisal process and organizational climate and job satisfaction for non-enriched jobs. Using the same data Lovrich and Soden (1988) found that participation also improved the commitment and self-improvement of unmotivated workers.

Although the aforementioned studies provide empirical evidence of a positive relationship, the link between empowerment and performance or productivity is relatively weak, while the link appears to be more substantial with satisfaction and motivation. However, this dissertation does not predict the size

of the relationship between empowerment and performance, only that a relationship exists. Consequently, the evidence would appear to support this hypothesis.

TEAMWORK AND ORGANIZATIONAL PERFORMANCE

Proponents of teaming or teamwork argue that decision making and performance is enhanced when people interact as a group on tasks that are highly interdependent. However, where tasks have low interdependency, teaming may not improve performance. What little empirical evidence exists seems to support that conclusion.

A literature review identified at least two empirical studies (Watson et al., 1991; and, Banker et al., 1996) that provide evidence of a teamwork-performance link. Both studies tend to support the hypothesis that teamwork impacts performance.

Empirical Evidence on the Teamwork and Performance Link in the Private Sector

In an experimental simulation, Watson et al. (1991) organized graduates students into groups from 5 to 6 to examine their behavior and performance (at three points in time) over a four-month semester. The purpose of the study was to see if group problem solving was more effective over time than the performance of the group's best member. Using course grades as the reward, groups engaged in daily decision making similar to that experienced by "everyday work organizations." (p. 807)

Watson et al. (1991) found that "Groups typically scored higher than their best member by approximately 70% at each point in time . . ." However, they did not increase their scores significantly over time. They also found significant group added value (GAV) and synergy ratio scores at all three points in time.¹⁸ (p. 807) In addition, Watson et al. (1991) found that while the best member score was the best predictor of the group score at times 1 and 2, the reverse was true between times 2 and 3. The value of having a best member decreased while the value of group knowledge and group success in problem solving increased. Another important finding made by Watson et al. (1991) was that no individual was the best member consistently across all three time periods. (p. 807)

"A primary finding of this study," concluded Watson et al. (1991), "is that groups perform at or above the level of their best member so consistently that the greatest contribution of group-consensus decision making may be the fact that going with the group every time may virtually eliminate a really bad

¹⁸ The GAV score "was the percentage that the group exceeded the best members' scores, and synergy ratio score was a measure of the extent to which group input could compensate for deficiencies in the knowledge of the best member." (Watson et al., 1991, p. 807)

decision and, in most instances, result in decisions of a higher quality than would be possible for even the group's most knowledgeable member." (p. 808)

Banker et al. (1996) reported a study that examined the impact of work teams on manufacturing performance. The work teams investigated by Banker et al. (1996) (also referred to as high performance work teams) were essentially defined as having some decision-making authority.¹⁹

Banker et al. (1996) found that quality and labor productivity did improve over time after work teams were created for the plant as a whole. Their findings for the quality measure were negative and significant for the 21-month period, showing a 38 percent reduction in the defect rate. (p. 882) Likewise, labor productivity was positive and significant with a 20 percent improvement over the time period. (Banker et al., 1996, p. 886) However, the impact of the work teams on the performance measures was only significant for one of the teams. Two other teams had effects in the predicted direction, but were not significant. (Banker et al., 1996, p. 888)

Summary of the Empirical Evidence on the Link between Teamwork and Organizational performance

This dissertation predicts that teamwork has a positive impact on organizational performance in public agencies. What little evidence exists among private sector studies appears to suggest a positive effect. Watson et al. (1991) in their experimental simulation found that groups consistently perform at or above the level of their best members. In a study of teams in a manufacturing plant, Banker et al. (1996) found that teams improved the performance of the plant as a whole, showing statistically significant reductions in defects and increases in labor productivity.

TRAINING AND ORGANIZATIONAL PERFORMANCE

Training is also argued to have an impact on organizational performance for the obvious reasons. Improving the knowledge and skills of employees improves individual job performance, which in turn improves organizational performance.

At least four empirical studies were found that researched the training-performance link (Russell et al., 1985; Bartel, 1994 and 1995; and, Koch and McGrath, 1996). All four studies tend to support the hypothesis that there is an association between employee training and performance.

¹⁹ The study was conducted over a 21-month period in a unionized manufacturing plant looking at four different teams. The dependant measures were quality (percentage of total units produced that were defective) and labor productivity (ratio of the number of units produced to total production hours). The impact of the teams on quality and labor productivity over time was the independent measure.

Empirical Evidence on the Training and Performance Link in the Private Sector

Russell et al. (1985) hypothesized that performance would be positively correlated with emphasis given to training, organization support, and highest for those that combine both. (p. 852) Russell and his colleagues used archival and survey data gathered from 62 retail stores within the same organization.²⁰

Russell et al. (1985) found support for their first hypothesis in that the objective measure “percentage trained” “consistently predicted” store performance. For every percentage point increase in the percent trained equaled an increase of \$88.29 in sales volume per employee. “With an average size of 422 employees,” claimed Russell et al. (1985), “this translates to a \$37,258 increase in sales. And, improvement by one-half of a standard deviation in percentage trained and effort yields a sales gain of \$613,646 for the average store.” (p. 860) However, no support was found for either the training or support variables. (p. 859)

Ann Bartel (1994) examined the effect of formal employee training programs on labor productivity in the manufacturing sector for a three-year period. Bartel (1994) found a productivity gain of 18.6% over a three-year period after the introduction of new training. “The major finding is that businesses that were operating below their expected labor productivity levels in 1983 implemented new employee training programs after 1983 that resulted in significantly larger increases in labor productivity growth between 1983 and 1986. This higher rate of productivity growth was sufficient to bring these businesses up to the labor productivity levels of comparable businesses by 1986.” (Bartel, 1994, p. 423)

Bartel (1995) also studied the personnel records of a large manufacturing company to determine the relationship between on-the-job training and wages and performance. The personnel in this study were restricted to professional employees, such as accountants, engineers, market researchers, and scientists. The total sample included 19,000 observations averaging 3,800 employees per year. (p. 404) Bartel (1995) found that individuals who received training during 1989 “were significantly more likely to receive increases in their performance ratings between January 1989 and January 1990. The receipt of training also increased the probability that an individual’s performance score did not decline.” (p. 422)

Finally, Koch and McGrath (1996) looked at whether human resource planning sophistication, investments in gathering productivity information on potential job applicants, and investments in employee development was positively related to labor productivity (total output divided by total labor inputs).

Koch and McGrath (1996) found that while the results supported human resource planning

²⁰ Performance was measured by sales volume per employee and store image (as perceived by employees). Training was measured by the percent trained in basic sales procedures and training emphasis (ratings by full-time employees). Support was measured by supervisory support and merchandising support. (Russell et al., 1985, pp. 853-855)

sophistication and investments for hiring, it did not support investments in human development. (p. 347) However, Koch and McGrath (1996) did find support for investments in human development when “the interactive effects of capital intensity with human resource policies are taken into account. Specifically,” claimed Koch and McGrath (1996), “our research indicates that firms that systematically train and develop their workers are more likely to enjoy the rewards of a more productive workforce than those that do not.” (pp. 350-351)

Summary of the Empirical Evidence on the Link between Training and Organizational performance

This dissertation predicts that training has a positive impact on organizational performance in public agencies. The empirical evidence noted above seems to support that prediction, at least for the private sector.

Russell et al. (1985) showed that the percentage trained consistently predicted retail store performance. Likewise, Bartel (1994) found that businesses operating below performance and then implementing new employee training programs had significant increases in performance afterwards. Bartel (1995) also found that professional employees in a large manufacturing company who had training were more likely to have increases in their performance ratings. Similar to Russell et al. (1985) and Bartel (1994), Koch and McGrath (1996) found that firms that systematically trained and developed workers were “more likely to enjoy the rewards of a more productive workforce.”

REWARDS AND RECOGNITION AND ORGANIZATIONAL PERFORMANCE

It is suggested that when employees are provided rewards and recognition for individual performance, then higher organizational performance is a result. Proponents have chiefly argued that financial incentives have a direct bearing on employee motivation and organizational outcomes. On the other hand, critics have charged that financial incentives are detrimental to intrinsic motivation. Furthermore, critics argue that financial incentives do not promote cohesiveness, cooperation and collaboration in the workplace, especially where workers and their performance are mutually dependent.

A literature review found little empirical research that linked non-monetary rewards to performance. However, several empirical studies in the private and public sector were found that did address the relationship between financial incentives and performance.

Empirical Evidence on the Financial Incentives and Performance Link in the Private Sector

A literature review revealed at least three private sector studies on the impact of financial incentives on performance (Guzzo et al., 1985; Jenkins, et al., 1998; Shaw et al., 2002). While one of the three studies did not find a statistically significant relationship, the other two tended to support the hypothesis of a positive association between financial incentives and performance.

In an earlier meta-analysis, Guzzo et al. (1985) looked at the impact of a number of human resource practices on productivity with one of those human resource practices being financial compensation. While Guzzo et al. (1985) did not find financial compensation to be statistically significant with productivity, they did caution against interpreting financial incentives as having no effect on productivity. The variability in effect sizes were greatest for financial compensation. Guzzo et al. (1985) surmised that pay for performance depended “heavily on the circumstances and methods of applying them . . .” (p. 285)

In a more recent meta-analysis, Jenkins et al. (1998) analyzed 39 studies which contained “47 financial incentives – performance relational statistics . . . Forty-one statistics concerned performance quantity, and six concerned performance quality.” (p. 779) Jenkins et al. (1998) found that financial incentives were significantly related to performance quantity with an effect size estimated at .34. However, they found that financial incentives did not affect performance quality (.08).

In a more recent study, Shaw et al. (2002) sought to determine if the interaction of pay dispersion and individual incentives that are high would have a significant and positive impact on workforce performance (negative if incentives are low). (p. 493) Next, they hypothesized that the interaction of pay dispersion and work interdependence that is high would have a significant and negative impact on workforce performance. Finally, Shaw et al. (2002) hypothesized a three-way interaction among pay dispersion, individual incentives, and work interdependency on workforce performance. They conjectured that when interdependency is low, the relationship between pay dispersion and performance will be positive when incentives are high. In contrast, when interdependency is high, the relationship between pay dispersion and performance will be negative when incentives are high. (p. 495)

Shaw et al. (2002) conducted two separate studies. The first study was conducted in the trucking industry where the driver’s job is “independent in nature,” thus interdependency is low. The result of the first study showed strong support for the first hypothesis in that where interdependency is low; the relationship between pay dispersion and performance is high when incentives are high. (p. 499)

The second study was among production workers in the concrete pipe industry. Interdependency was measured by the extent of use of self-managed work teams. The results of the second study found “moderate to strong support” for the first and second hypotheses, meaning that dispersion can foster

competition and lack of cooperation when interdependency is high. The third hypothesis was supported “to some extent. When interdependence is high,” declared Shaw et al. (2002), “pay dispersion is negatively related to performance, but this negative effect is weaker when individual incentives are used than when they are not. This effect occurs despite the fact the use of individual incentives is inconsistent with the goals of interdependence.” Shaw et al. (2002) rationalized this inconsistency by conjecturing that individual incentives “may ameliorate deleterious effects when work is interdependent by providing a rationale for pay differentials.” (p. 508)

Empirical Evidence on the Financial Incentives and Performance Link in the Public Sector

While some private sector studies show a stronger link between financial incentives and performance, empirical research in the public sector (Pearce et al., 1985; Perry et al., 1989; and, Selden and Brewer, 2000) appears to weaken that claim.

Pearce et al. (1985) employed a time series study to determine if a merit pay plan (Civil Service Reform Act of 1978) influenced organizational performance among managers. The merit pay system allocated one-half of annual pay increases for managers automatically and the other half based on their performance rating.

In a study of some 20 Social Security Administration sites, Pearce et al. (1985) found that the merit pay system had “no statistically significant, gradual, permanent effect” on organizational performance from October 1977 to February 1982. “For whatever reason,” said Pearce et al. (1985), “organizational performance was improving in the Social Security Administration offices well before the passage of the Reform Act, and neither the implementation nor merit pay as a system, nor the first year of rewarding managers with merit pay had any additional effects.” (p. 271)

In a later study of a different federal merit pay system, Perry et al. (1989) sought to determine the extent to which performance ratings and allocation of rewards under the 1984 Performance Management and Recognition System²¹ conformed to effective practice, and if employees’ future performance was influenced by merit pay. They used a sample of federal managers from the General Services Administration to test the results of merit increases on employee performance.

Perry et al. (1989) found a high concentration of performance ratings in the upper two ratings (i.e., “highly successful” and “outstanding”), which they believed undermined the ability to “discriminate effectively among different levels of performance,” and thus diminished the “potential motivational power of merit pay.” (p. 34)

²¹ The Performance Management and Recognition System required federal employees to be evaluated at one of five levels. Those rated at the top two levels (highly successful and outstanding) were to receive performance awards of at least 2 percent but no more than 10 percent.

Perry et al. (1989) did find that two monetary rewards (performance awards and percentage salary increase) did have a positive effect on performance in 1986. However, none of the reward variables were significant in 1987. “The widespread distribution of merit increases and performance awards,” believed Perry et al. (1989), “could communicate to employees that financial rewards are readily available and do not require extraordinary efforts. The significance of the reward variables in the 1986 equations but not the 1987 equations could be a reflection of this learning.” (p. 34) Another explanation, offered by Perry et al. (1989), is that the difference between 1986 and 1987 could reflect the “maturation” in salary levels. In other words, some employees may have reached their maximum rate in salary.

Perhaps in contrast to the findings of Pearce et al. (1985) and Perry et al. (1989), Selden and Brewer (2000), in their study of the high performance cycle, did find that job satisfaction was directly influenced by both contingent and non-contingent rewards. As perceptions of contingent rewards increased, said Selden and Brewer (2000), job satisfaction also increased. However, Selden and Brewer (2000) also showed that satisfaction with non-contingent factors, such as annual leave and sick leave, are inversely related to job satisfaction. Moreover, job satisfaction was shown to be positively associated with positive organizational consequences.

In their test of the high performance cycle, Selden and Brewer (2000) believed the relationship between individual performance and contingent rewards, and the relationship between contingent rewards and job satisfaction are particularly noteworthy and significant. “In the high performance cycle, rewards follow rather than precede performance.” This is in contrast to behaviorist theory where rewards catalyst performance. “The model implies that rewards will not necessarily encourage high performance in the future unless such performance is first emitted – an event that cannot occur without specific and challenging demands. Once high performance is emitted, rewards can be used as an incentive to reinforce and perpetuate this behavior.” The model also shows that “high performance will lead to job satisfaction when rewards are commensurate with performance.” (Selden and Brewer, 2000, p. 545)

The implications of Selden and Brewer’s (2000) findings show that “individual performance is driven in part by specific and challenging demands placed on the individual and in part by moderating and mediating factors that include experience, feedback, commitment, self-efficacy, and task complexity. Once high performance is obtained, it must be rewarded. Such rewards may be either internal or external, and they may include feelings of pride and accomplishment, personal recognition, and pay increases. A tight coupling between performance and rewards produces job satisfaction, which in turn produces organizational commitment and other positive net benefits.” (p. 545)

Selden and Brewer’s (2000) findings lends some credence to the claim that there is a positive association between rewards and recognition and job satisfaction. Moreover, Selden and Brewer (2000) provide evidence that higher job satisfaction is associated with higher performance. However, their

findings place a new wrinkle on the rewards and performance link, namely, that performance must first be emitted before rewards can be effective.

Summary of the Empirical Evidence on the Link between Rewards and Recognition and Organizational performance

This dissertation predicts that when public employees are rewarded and recognized for individual performance, then organizational performance improves. While little empirical evidence exists for non-monetary rewards, there is considerable evidence for financial incentives. However, the empirical evidence for financial incentives is somewhat mixed. Although private sector studies provide more evidence of a positive relationship, public sector studies are contradictory.

The Guzzo et al. (1985) meta-analysis did not find a statistically significant relationship between financial compensation and productivity, but surmised that pay-for-performance depended on circumstances and methods. Jenkins et al. (1998) found that financial incentives were significantly related to performance quantity. However, they found that financial incentives did not affect performance quality. Shaw et al. (2002) showed that where interdependency among workers is low, the relationship between pay dispersion and performance was positive when incentives are high. Even when interdependency is high, Shaw et al. (2002) found that while pay dispersion was negatively related to performance, the effect is not as negative when individual incentives are used. The findings of Shaw et al. (2002) suggest that the effectiveness of financial incentives is contingent upon the level of interdependency among the employees receiving them.

Among federal employees, Pearce et al. (1985) and Perry et al. (1989) found no real relationship between merit pay and organizational performance. However, Selden and Brewer (2000) found a significant relationship between contingent and non-contingent rewards and job satisfaction, and between contingent rewards and individual performance. In turn, job satisfaction was shown to be positively associated with positive organizational consequences.

PROCESS IMPROVEMENT AND ORGANIZATIONAL PERFORMANCE

A “process” is defined as a set of activities that are linked for purposes of providing a “product” or “service” to internal or external customers. “Generally, processes involve combinations of people, machines, tools, techniques, and materials in a systematic series of steps or actions.” (MBQNA 2002, p. 32) In many ways, process improvement is an integral part of the goal-setting and performance feedback system. The system requires setting “difficult and specific goals” and providing feedback regarding

progress in meeting them. If the organization is having problems meeting goals, how the goals are accomplished may be the culprit. If so, adjusting current processes or designing new ones may be the solution to higher performance (i.e., improve the processes and the results will follow).

Empirical Evidence on the Process Improvement and Performance Link

A literature review revealed some empirical evidence regarding process improvement's impact on organizational performance. (Powell, 1995; Samson and Terzioski, 1999; and, Wilson and Collier, 2000)

In a study of CEOs with 50 or more employees among firms in the northeast United States, Thomas Powell (1995) sought to determine Total Quality Management's effectiveness on performance.²² Among 12 TQM features²³, including process improvement, Powell (1995) found only three resulted in significant partial correlations. Those three were executive commitment, open organization, and employee empowerment. According to Powell (1995) this suggests "that the key to TQM performance lies not in TQM tools and techniques like benchmarking and process improvement, but in intangible, behavioral factors like leadership, organizational skill, and culture." (p. 27-28) However, Powell's (1995) results also intimated that while the "intangibles were universally important to TQM success, other factors were context-dependent." For example, while closer supplier relationships were significant for manufacturers but not service firms, process improvement was important for promoting TQM performance among service firms but not manufacturers. (p. 30)

In a study of 5,000 Australian and New Zealand manufacturers, Danny Samson and Mile Terziovski (1999) focused their empirical investigation on the reliability and validity of TQM's components to predict organizational performance, and which components predict organizational performance. (p. 394) The components Samson and Terziovski (1999) chose to research were common to all quality awards and include leadership, management of people, customer focus, information and analysis, process improvement, and strategic and quality planning. In developing their survey, Samson and Terziovski (1999) developed their constructs using the criteria of these awards, particularly the criteria of the Malcolm Baldrige National Quality Award (1995).²⁴

²² The CEOs were asked to rate their firm's overall or total performance according to their perception of profitability, sales growth, and overall financial performance for the past three years. Likewise, they were asked to indicate how TQM had impacted results such as productivity, competitive position, and revenues.

²³ Committed leadership, adoption and communication, closer customer relationships, closer supplier relationships, benchmarking, increased training, open organization, employee empowerment, zero-defects mentality, flexible manufacturing, process improvements, and measurement. (Powell, 1995, pp. 22-23).

²⁴ Other award criteria used include the Deming Prize, European Quality Award, Australian Quality Award, and Made in Britain. Samson and Terziovski (1999) mailed a 17-page survey to approximately 4,000 Australian manufacturers, and 1,000 New Zealand manufacturers. The survey included 246 questions with 53 variables TQM related. (pp. 399-400) The performance measures included productivity, quality, employee morale, customer

While Samson and Terziovski (1999) found all the components of TQM both valid and reliable, they also found that only leadership, human resource management and customer focus were positively related to performance and strongly significant. Strategic planning and process management were not significantly related, and information and analysis was negatively related. They also reported a multiple *R* value of 0.463 interpreting it as a “relatively strong relationship.” (Samson and Terziovski, 1999, p. 403) (The adjusted *R*-square value was 0.210)

Samson and Terziovski (1999) found it interesting that the “soft” components were the strong predictors of performance, and that the “more systems and analytic oriented criteria” were not. (p. 403) Samson and Terziovski (1999) stated, “we have strongly concluded that TQM is substantially composed of ‘the right stuff’ for management.” (p. 404)

However, Daryl Wilson and David Collier (2000) came to some different conclusions in their study. They investigated the Malcolm Baldrige National Quality Award criteria to determine if there were other important relationships between the Baldrige categories, (besides what we already know about leadership driving the system to achieve results). Wilson and Collier (2000) hypothesized that the seven Baldrige categories are related in a recursive causal model and that the sign of each path coefficient is positive. Hence, as the score on Leadership increases, so should the scores increase on each of the four System categories and the two Results categories.” (p. 363) Wilson and Collier (2000) developed a survey based on the 1995 Baldrige criteria. The survey included 101 questions. The survey was mailed to a sample of 800 manufacturing companies and had a response rate of 31.4%.

Using Path Analysis, Wilson and Collier (2000) found that leadership indirectly impacts results through their model of the Baldrige criteria. The causal model showed leadership’s impact on process management, human resource development and management, strategic planning, and information and analysis as significant. However, only two of the four system components had a significant impact on financial performance, namely process management and information and analysis. Likewise, process management and information analysis had a significant impact on customer satisfaction. (pp. 376-377) This led Wilson and Collier (2000) to conclude that “the most powerful means (pathway) for the Leadership of a company to impact Financial Results is through the Information and Analysis and Process Management functions.” (pp. 378) Wilson and Collier’s (2000) findings are in direct contradiction to the findings of Samson and Terziovski (1999), whose study claimed that it is the soft components of Baldrige (leadership, customer focus, and human resource practices) and not the hard components (information and analysis and process improvement) that predict stronger performance.

Wilson and Collier’s (2000) analysis also added within system paths from strategic planning to human resource management, and human resource management to process management. These within

satisfaction and delivery performance.

system paths were statistically significant for both performance variables. In addition, information and analysis was shown to have a statistically significant relationship with the other three system components. “It is the only Baldrige category other than Leadership that influences four other categories. The importance of Information and Analysis to Financial Results or Customer Satisfaction was evidenced by the addition of three within-system paths that were statistically significant. In terms of the importance of the Baldrige categories to predict firm performance, Information and Analysis has emerged as second in importance only to Leadership.” (Wilson and Collier, 2000, p. 379)

Of particular note to the Wilson and Collier (2000) study was the difference in the path coefficients between process management and the two performance variables. The path coefficient between process management and customer satisfaction was twice as large as between process management and financial performance.

Summary of the Empirical Evidence on the Link between Process Improvement and Organizational performance

This dissertation predicts that process improvement positively affects organizational performance. Among the empirical studies reviewed above, there appears to be some evidence to support that prediction. For example, Powell (1995) found that process improvement was “context-dependent.” Although it was not an important factor for manufacturing firms, it was significant for improving performance in service firms. In many ways, service firms have more similarities to public agencies than do manufacturing firms.

However, Samson and Terzioski (1999) and Wilson and Collier (2000) reached contradictory conclusions regarding process improvement’s ability to improve organizational performance. Samson and Terzioski (1999) found that “soft” TQM components (leadership, human resource management, and customer focus) were strong predictors of performance and the “systems and analytic” components, strategic planning, information and analysis, and process management were not. In contrast, Wilson and Collier (2000) established that the Baldrige categories, Process Management and Information and Analysis, had a significant impact on financial performance and customer satisfaction. Furthermore, Wilson and Collier (2000) found that Process Management had twice the impact on customer satisfaction than it did on financial performance.

Both Samson and Terzioski (1999) and Wilson and Collier (2000) used the 1995 Baldrige criteria. However, Samson and Terzioski (1999) used other quality criteria in the development of their questionnaire, including the Deming Prize, European Quality Award, Australian Quality Award, and Made in Britain. Moreover, the questionnaire developed by Samson and Terzioski (1999) included 246

questions in which only 53 were TQM-related.²⁵ Wilson and Collier's (2000) questionnaire included 101 questions that were specifically tied to the 1995 Baldrige criteria. Another important difference was that Samson and Terzioski's (1999) study was conducted among Australian and New Zealand manufacturers, while Wilson and Collier's (2000) study was among U.S. manufacturers in the automotive industry. Given these facts, more weight must be given to Wilson and Collier's (2000) findings than to Samson and Terzioski's (1999) findings.

Of particular note, Wilson and Collier (2000) found that Information and Analysis was the second most important category next to leadership, providing some additional support that performance measures and management do affect organizational performance.

TOTAL QUALITY MANAGEMENT (TQM) AND ORGANIZATIONAL PERFORMANCE

TQM includes many management practices, especially those that are the focus of this dissertation. Consequently, TQM studies provide empirical evidence of these management practices effect, either individually or in combination, on organizational performance. Moreover, some of the studies reviewed in this section include studies that used the Malcolm Baldrige categories as the independent variables.

While most of the empirical research on the impact of TQM is in the private sector, there is some empirical evidence regarding its effectiveness in public agencies.

Empirical Evidence on the TQM and Performance Link in the Private Sector

A literature review identified several empirical studies researching TQM's link with performance among private sector firms (Powell, 1995; Hendricks and Singhal, 1997, 2001a, 2001b; and, Eaton and Jarrell, 1998).

Thomas Powell's (1995) findings did support his proposition that firms deploying TQM outperformed non-TQM firms. Powell (1995) also found that years since adoption and TQM performance were significantly correlated, although it was non-significant for total performance. When comparing the attributes of firms with more than 4 years experience with TQM, and those with less than 4 years experience, long- and short-term adopters differed significantly on six basic features of TQM, with extent of training and process improvement being "very highly significant." (Powell, 1995, p. 26)

However, Powell (1995) did not find that manufacturing TQM firms outperformed service TQM

²⁵ Using factor analysis, eight variables failed to meet their cutoff using factor analysis. Subsequently, Samson and Terzioski's (1999) results are based on 45 variables measuring the seven constructs.

firms. While manufacturers were more satisfied with TQM, “their performance gains did not exceed those of service firms because the manufacturers did not surpass them in the intangible areas most responsible for TQM performance.” (p. 27)

Quality Award Winners and Performance

Kevin Hendricks and Vinod Singhal (1997) investigated the impact of TQM on the operating performance of firms that had won quality awards over a 10-year period.²⁶ Their results showed that firms that have won quality awards outperform the control firms on operating income-based measures. According to Hendricks and Singhal (1997) “Over a 10-year period, starting 6 years before to 3 years after the year of winning the first quality award, the mean (median) change in the operating income for the test sample is 107% (48%) higher than that of the control sample. We also find that over this period the changes in the ratios of operating income assets, to sales, and to employees are higher relative to the control by about 20%. The evidence supports the hypothesis that implementing effective TQM programs improves the operating performance of the firms.” (p. 1271)

Hendricks and Singhal (1997) also found “reasonably strong evidence” that award winning firms do better on sales growth than control firms. The mean (median) change in sales for the award winners is approximately 64% (24%) higher for the 10-year period, than the control group. “Similar to results on operating income, sales start improving just before the winning of quality awards.” (p. 1272)

However, Hendricks and Singhal (1997) found weak evidence for reducing costs. “From year –6 to +3, the change in cost per dollar of sales of the firms in the test sample is –1.27% (weakly significant at the 10% level) when compared with the control. The mean change from years –1 to +3 is about –1% again weakly significant at the 10% level.”²⁷ (p. 1272)

Hendricks and Singhal (2001a) also investigated the effectiveness of TQM on the long-term stock price performance of quality award winners. Their sample included 608 firms that had been the recipients of a quality award from 140 different award givers. The sample was also limited to those firms that had stock price information available on the University of Chicago Center for Research in Security Prices

²⁶ Hendricks and Singhal (1997) gave two reasons for using a sample of quality-award winners. First, quality award providers offer a third party certification that the firm has effectively implemented a TQM program. Second, quality award providers do not consider financial performance information. As a result, Hendricks and Singhal (1997) obtained financial performance information through an independent source. (p. 1259)

²⁷ Hendricks and Singhal (1997) noted two limitations to their study that are worth mentioning. First, the accounting data used is reported for the entire firm and quality awards are frequently given to divisions of a firm. Consequently, the study may not have adequately captured the true financial impact of TQM where a firm’s division wins a quality award. Second, Hendricks and Singhal do not differentiate award recipients based on the quality award provider. (p. 1272)

daily tape.²⁸ (p. 361)

Hendricks and Singhal (2001a) found no difference on stock price performance between the sample and control groups during the TQM implementation stage (prior to winning the quality award). However, they found that the sample significantly outperformed the control groups during the post-implementation stage. Depending on the control the mean ranged from 38% to 46%. (p. 367-368) Hendricks and Singhal (2001a) concluded that their results proved that TQM implementers must have patience. “The evidence suggests,” says Hendricks and Singhal (2001a), “that even after effective implementation, it still takes a couple of years before financial performance starts to improve.” (p. 368)

In another study of the TQM-performance link,²⁹ Hendricks and Singhal (2001b) found that the award winners had a statistically significant ($p \leq .001$) mean change in operating income of about 39% higher than the control firms. The mean change in sales was approximately 26% higher for the award winners in comparison with the non-award winners and also statistically significant at the 1% level. Moreover, the cost per dollar of sales decreased by 1.22% ($p \leq .025$).

Baldrige and Performance

Eaton and Jarrell (1998) investigated TQM's impact on financial performance for a sample of 108 firms using a Baldrige-based methodology.³⁰ The researchers used an event study approach. Eaton and Jarrell (1998) defined “event” as the point at which the firm begins to seriously deploy TQM, and then its impact on performance is assessed over a 5-year period.³¹

²⁸ Consistent with their previous research, Hendricks and Singhal (2001a) determined that the date of TQM effectiveness was one year prior to winning the award. The study examined the performance of these firms five years after the date of program effectiveness (post-implementation), and five years before winning the award (implementation). Hendricks and Singhal (2001a) chose the five-year period because of the assumption that it takes three to five years to effectively implement TQM. (pp. 361-362) They also chose to compare sample firms with control firms based on the size (market value of equity), book-to-market ratio, and industry. They also required that the controls have the same amount of stock market return data as the sample firms. In analyzing the data, they compared the sample with three different control groups.

²⁹ The winning of a quality award was again used by Hendricks and Singhal (2001b) as the proxy for TQM effectiveness, and one year prior to winning the award as the event date. Again consistent with their previous studies, they used a 5-year period following the event date to determine changes in profitability. The sample included 435 firms. Performance was measured according to the percent change in operating income, percent change in sales, and the percent change in cost per dollar of sales.

³⁰ Eaton and Jarrell (1998) defined TQM as including process focus, systematic improvement, company-wide emphasis, customer focus, management-by-fact, employee involvement and development, cross-functional management, supplier performance and supplier relationships, and recognition of TQM as a critical competitive strategy.

³¹ Eaton and Jarrell (1998) first identified potential firms (over 500) and then interviewed each of them to determine the seriousness of their deployment, the extent to which they have deployed TQM, and the approximate date the initiative began. Each semi-structured interview was conducted by a former senior examiner with the Malcolm Baldrige National Quality Award. An important difference with this study as opposed to other similar studies is that an interviewer trained in evaluation against a TQM ‘standard’ provides an external rather than a self-assessment. In

Eaton and Jarrell (1998) divided the sample into two different groups based on the maturity of their deployment of TQM. Among the 108 firms in the sample, 44 were considered more advanced and 64 less advanced systems. Those selected as more advanced had estimated Baldrige scores above 450 out of a possible 1000 points. (p. 266) Performance was assessed using “accounting-based variables and daily stock returns over the 5-year period following the event.” (Eaton and Jarrell, 1998, p. 258)

Eaton and Jarrell (1998) found strong evidence of overall improvement on accounting variables for TQM firms. The advanced firms were even stronger than the less advanced firms, which were not significantly different from the controls. Moreover, there was evidence that even short-term performance was improved among the advanced firms.

Eaton and Jarrell’s (1998) results for net income, operating income, and sales per employee showed better performance for more advanced firms in the “postevent period” than for the controls. Likewise, performance for all these variables was more improved for advanced firms than for less advanced firms with a significant difference for excess actual sales per employee.³²

Furthermore, like the accounting variables, cumulative stock returns improved long-term performance for event firms in comparison to control firms, and were even stronger from the more advanced firms. “For the full sample,” said Eaton and Jarrell (1998), “the median excess cumulative return is 21.02% in year 5. The improvement is strongly significant ($p = .00$). For the more advanced firms, the median excess cumulative returns are 17.28%, 18.48%, and 22.11% for years 3, 4, and 5, respectively, with $p = .00$ for all 3 years.” (p. 283)

Eaton and Jarrell (1998) also investigated to see if the improved performance among TQM firms could be a result of downsizing. They examined this question by comparing performance with percent changes in the number of employees. They found that the number of employees grew for both event and control firms. However, event firms grew faster than their control counterparts, providing evidence of a positive association between event firms that do not downsize and performance. (p. 286)

In conclusion, Eaton and Jarrell (1998) believed that their study provided “clear evidence that the long-term performance of firms that implemented TQM is improved.” Likewise, they saw stronger performance for the more advanced TQM firms. (p. 298) “(E)ven under the most unfavorable interpretation,” claimed Eaton and Jarrell (1998), “the results of this study clearly provide evidence against the proposition that implementation of TQM actually hurts corporate performance.” (p. 301)

comparison, a questionnaire-based approach permits respondents to self-select into the sample. (Eaton and Jarrell, 1998, pp. 256-257)

³² “Excess inventory is lower for the event firms than for the controls during the post event period for both of the inventory variables examined (total inventory to sales and total inventory to cost of goods sold). The inventory results are stronger for the more advance firms.” (Eaton and Jarrell, 1998, p. 281)

Empirical Evidence on the TQM and Performance Link in the Public Sector

A literature review revealed three public sector studies (Berman, West and Milakovich, 1994; Mani, 1995; and, Poister and Harris, 1996) of the TQM-performance link. These public sector studies provide weaker evidence of TQM's effectiveness to influence performance than the studies found for the private sector.

In a 1993 survey of state government agencies (i.e., health, education, welfare, transportation, and corrections) to determine the status of TQM implementation, Berman, West and Milakovich (1994) said that approximately three-fourths of the agencies responding reported improvements in productivity and quality, timeliness, and customer satisfaction. However, only modest gains were reported for costs reductions and modest improvements in employee morale. (Berman , p. 11)

Using data from IRS Commissioner's Annual Reports between 1970 and 1992, Bonnie Mani (1995) compared input and output data before and after implementation of TQM to determine if there was any difference in productivity. (The IRS began implementing TQM in 1986 to improve the quality of services, after Congress and other oversight agencies began to complain of poor services.) In the first set of data, Mani (1995) compared the "percentage increase in operating cost" and the "percentage increase in personnel." Although the "average annual increase was slightly greater in the years after TQM implementation . . .", the difference between the two means was not statistically significant when the average rates for both input measures were compared before and after implementation. (p. 153)

Likewise, comparing the difference between the average rate of increase for collections before and after was also not statistically significant. When Mani (1995) compared three output indicators (returns filed, returns examined, and refunds issued), there was again no significant difference between the average rates of change for any of the three during the two time periods under study. (p. 153-154)

In summary, Mani's (1995) analysis showed no significantly statistical difference on productivity before and after implementation of TQM. However, Mani (1995) did state that "there have been costs savings and improvements in customer satisfaction as a result of quality improvement process (QIP) team projects, an approach to problem solving specific to TQM." (p. 157)

In a study of TQM's impact on service delivery, Theodore Poister and Richard Harris (1996) examined data collected from the Pennsylvania Department of Transportation. They specifically looked at TQM's impact on employee attitudes and behavior, and with quality and productivity. Poister and Harris (1996) found positive (but moderate) correlations between TQM activity indicators and the attitude indicators.³³ Although it did not prove causality, Poister and Harris (1996) did believe that "these

³³ TQM activity indicators include: Percent of employees with some employee-involvement training, hours of training per employee, quality circle hours per employee 1986-1995, and quality breakthrough team hours per

associations are consistent with the expectation that the training, group processes, team orientation, and empowerment that are emphasized by the TQM approach lead to more positive results.” (p. 95) In terms of behavioral indicators, Poister and Harris (1996) found that increased TQM activity was consistently associated with lower grievance rates, lower sick-leave usage, and reductions in injuries. (p. 96)

Poister and Harris (1996) also looked at the impact of TQM activity on quality ratings and labor productivity. They found that change in the quality ratings correlated weakly with two TQM activities (hours of training per employee and the investment in quality breakthrough teams). On the other hand, Poister and Harris (1996) discovered that while labor productivity was positively associated with investment in quality circles, there was a negative association (although small) with hours of training and investment in quality breakthrough teams. Finally, Poister and Harris (1996) found positive (but weak) correlations between TQM activities and changes in actual conditions of the pavement that are being maintained. Likewise, there were negative correlations between TQM activities and changes in the unmet maintenance needs per mile, but again the correlations were weak. (p. 96)

Poister and Harris (1996) concluded that for the exception of attitude indicators, all the other correlations were small to negligible in size. “TQM is aimed,” said Poister and Harris (1996), “at bringing about fundamental changes in organization culture and capacity that will induce numerous but incremental improvements in performance over time. Thus the results reported here in terms of TQM’s service delivery impacts should not be viewed with surprise.” (p. 98)

Summary of the Empirical Evidence on the Link between TQM and Organizational performance

The preponderance of empirical evidence provides strong support of TQM’s impact on performance in the private sector (Powell, 1995; Hendricks and Singhal, 1997, 2001a, 2001b; Eaton and Jarrell, 1998; Samson and Terzioski, 1999; and Wilson and Collier, 2000). However, the evidence is less convincing in the public sector (Mani, 1995; and Poister and Harris, 1996).

Powell (1995) provided empirical evidence that TQM does provide economic value to business firms. Interestingly, his study showed that manufacturers deploying TQM did not outperform TQM service firms. Powell (1995) found that the intangible TQM components (i.e., executive commitment, open organization, and employee empowerment) were important for success in both manufacturing and service firms. Eaton and Jarrell (1998) found strong support that TQM improved accounting variables and cumulative stock returns among “advanced firms.” Samson and Terzioski, 1999 and Wilson and Collier both found that some TQM components were positively and significantly related to performance.

employee 1986-1995. Attitudes indicators include: commitment, involvement, job satisfaction, relations, and effectiveness.

However, they differed as to which components.

In a study of quality award winners, Hendricks and Singhal (1997) discovered that winning firms do better than control firms on operating income-based measures and sales growth, but found weak evidence for reducing costs. Hendricks and Singhal (2001a) also found that quality award winners significantly outperformed control groups on stock price performance.

Among the public sector studies of TQM's effect on organizational performance, Mani (1995) found no significant statistical difference on productivity before and after implementation of TQM in the Internal Revenue Service. However, although Poister and Harris (1996) found some moderate correlations between TQM activities and employee attitudes, they found "small to negligible" correlations between TQM activities and quality ratings and productivity.

DIFFERENCE IN PERCEPTION TO CHANGE AT DIFFERENT ORGANIZATIONAL LEVELS

Organizational change can breed skepticism and resistance, especially among middle managers and rank-and-file employees. This skepticism and resistance can be even greater among public employees, who are subject to frequent changes in political leadership. Thus, the reaction of subordinates to management and organizational changes has to be of paramount concern to senior leaders. While implementation of new management practices requires committed leadership from the top, successful deployment of these new practices require "buy-in" or "ownership" from the employees at every level of the organization.

Only two empirical studies (Asquith, 1998; and, Johnson, 2000) could be found that address the differences in perception among employees at different levels of the organization. Both studies tend to support this dissertation's hypothesis that there are differences in perception among employees at different levels of authority regarding change management.

Andy Asquith (1998) studied the perceptions of middle managers and "street-level operatives" regarding three different management styles among eight local governments in England. (p. 263)³⁴ Asquith's (1998) analysis sought to determine which management style offered the "most effective environment" to achieve successful change management. His hypothesis predicted that middle managers, who were closer to the strategic center of the organization, would view the change differently than "street-level subordinates." "This," said Asquith (1998), "could be the result of the lines of communication weakening the further away from the strategic centre an employee is located. Hence the

³⁴ The three management styles included the "transactional authorities" (Weberian bureaucratic management), "community leadership" (corporate management style), and "business culture authorities" (use of private sector management techniques). (pp. 264-265)

perceptions of these two population subgroups can be used to assess the success of the chief executives concerned in effectively communicating their respective visions, including the extent to which this has permeated right down the organization.” (pp. 265-266)

Asquith (1998) found that the further away an employee is from the “organizational strategic centre” the weaker the link. (p. 274) He found that middle managers had a “moderate” commitment towards their authority’s aims and objectives, while the commitment of “street-level operatives” was “low.” (p. 275)³⁵

In a study of a large federal government agency, Jocelyn Johnson (2000) sought to determine differences in favorable perceptions among supervisory and non-supervisory employees on issues of quality culture and organizational climate. The study surveyed 15,229 employees with a response rate of 53% (8,126). The survey contained 86 culture and climate items measured on a seven-point scale ranging from “strongly disagree” to “strongly agree.” Many of the items in the survey were based on the Malcolm Baldrige National Quality Award criteria and the President’s Quality Award criteria. (Johnson, 2000, p. 121)

The survey results showed that supervisors were more likely to perceive the agency “as further along in its implementation of quality improvement principles and practices than do non-supervisors.” Likewise, supervisors’ perception of the agency’s quality culture was significantly more positive than non-supervisors’ perceptions for all aspects measured. “For example, supervisors perceive greater top management commitment to quality improvement efforts and more involvement in strategic planning. They perceive a greater focus on the customer, and that practices such as using objective data to improve customer service and continuous improvement of quality assurance systems are implemented to a greater degree than do non-supervisors. Discrepancies or gaps in perception between supervisors and non-supervisors relative to the quality culture are greatest in the areas of Recognition, and Empowerment and Involvement.” (Johnson, 2000, p. 123)

On organizational climate, Johnson (2000) found that supervisors were again more favorable on all aspects than were non-supervisors. Discrepancies were greatest in areas of Decision-Making, Creativity and Innovation, and Labor Management. The results of this study also supported research in both the public and private sector that employees at higher levels in the organization have higher levels of

35 There was also difference in perception as to how adequately the change had been explained. More middle managers indicated that the change had been adequately explained than did their subordinates. Similarly, Asquith (1998) found a difference in perception regarding the ability of the two groups to contribute to the change process. Middle managers had substantially greater confidence their contributions would be heard and acted upon than their subordinates in the “establishment and operationalization of the change management agenda.” The difference was less so once the change process had been implemented. (pp. 275-277) Perhaps very telling, Asquith (1998) found that while middle managers placed a “low” value on their subordinates, they considered their superiors to value them more “moderately”. “Again, it would appear from this evidence,” believes Asquith (1998), “that the middle managers have lessons to learn from their own line managers in relation to basic people skills.” (p. 277)

job satisfaction.

Summary of the Empirical Evidence on the Difference in Perception to Change at Different Organizational Levels

This dissertation postulates that employees at different levels of authority perceive the extent of deployment of organizational change differently, as well as the impact of that deployment on organizational performance. More specifically, managers will have more positive perceptions as to the extent of deployment and their results, than will front-line supervisors. Likewise, front-line supervisors' perception will be more positive than rank-and-file employees.

Although the literature review found only two relevant studies, both support this dissertation's hypothesis as it relates to differences in the perception of deployment. However, logic would assume that if lower level employees are likely to have difference in perceptions regarding deployment than higher level employees, then lower level employees are likely to have differences in perception regarding the effectiveness of the management practices in question to positively influence organizational performance.

In summary, Asquith (1998) found that employee commitment to organizational change weakened the further away an employee was from the "strategic centre." While middle managers had a moderate commitment, "street-level operatives" had a low commitment to the organization's aims and objectives. Similarly, Jocelyn Johnson (2000) found differences in perception between supervisors and non-supervisors regarding the successful implementation of quality improvement principles. Supervisors were more likely to see implementation further along, and were more positive regarding different dimensions of the quality culture than were non-supervisors. In addition, Johnson's (2000) research showed that higher level employees had higher levels of job satisfaction.

THE CORRELATION BETWEEN PERCEPTUAL AND OBJECTIVE MEASURES OF ORGANIZATIONAL PERFORMANCE

The independent and dependent variables for hypotheses 1 through 11 are percept measures. In other words, the extent of deployment of the nine management practices and agency results are based on the perceptions of the employees. This brings into question the relationship between subjectively viewed results and objective measures. Specifically, do employees' perceptions of organizational performance strongly and positively correlate with objective data of the organization's performance?

Empirical Evidence on the Perceptual and Objective Correlation

A literature review of this question revealed five studies (Dess and Robinson, 1984; Dess, 1987; Venkatraman and Ramanujam, 1987; and, Powell, 1992, 1995) addressing the perceptual-objective correlation. All of the studies were conducted in the private sector.

In a study of 26 manufacturing firms, Gregory Dess and Richard Robinson (1984) explored the relationship between subjective and objective measures, postulating that there was a significant positive correlation between the two when measuring return on assets, growth in sales, and two global measures of global performance, (overall firm performance/success, and percent of ideal or optimal performance compared to competitors). They found strong support for all three hypotheses. Subjective and objective measures of return on assets and sales achieved a significant correlation coefficient ($r = 0.611$, $p < 0.01$ and $r = 0.694$, $p < 0.001$ respectively). Among global measures related to objective and subjective measures of growth in sales and return on assets, Dess and Robinson (1984) found strong support. Among eight correlations, six were statistically significant at the $p < 0.05$ between the two global measures and four measures of economic performance. (p. 269) While Dess and Robinson did note that subjective measures should not be seen as substitutes for objective measures, they did find that top manager' perceptions of their firms performance was consistent with how the firm actually performed. (pp. 270-271)

In a later study of 27 manufacturing firms, Gregory Dess (1987) found a statistically significant relationship between "self-reported" objective measures among CEOs and subjective measures of organizational performance [$r = 0.58$, $n = 14$ ($p < 0.01$), and $r = 0.60$, $n = 15$ ($p < 0.01$). (p. 270) The self-reported measures were the total firm sales at two points in time used to yield "annual sales growth" and average "after tax return on total assets."

Likewise, Venkatraman and Ramanujam (1987) in a study of senior-level managers found a strong positive relationship (validity coefficients greater than 0.04, < 0.01) between managerial perceptions of performance and secondary data (data collected from external sources). They concluded that their study provided "modest support" that managers were "less biased in their assessments of their organizational performance" than researchers may otherwise believed. "It appears that perceptual data from senior managers, which tend to strongly correlate with the secondary data can be employed as acceptable operationalizations of BEP" (Business Economic Performance). (p. 118)

Two studies conducted by Thomas Powell also provide support for the relationship. In a study of furniture and apparel firms, Powell (1992) looked at the convergent validity of subjective measures with objective performance measures from 52 firms that provide both subjective and objective financial information. Powell found significant correlations between subjective and objective measures on sales growth Venkatraman and Ramanujam (1987) and profitability ($r = 0.58$, $p < 0.001$). (p. 126) Powell (1995)

again looked at convergent validity in his study of TQM as a competitive advantage. Powell (1995) collected objective data from 15 of the survey respondents. He found a significant correlation between the objective data and the “subjectively-derived total performance measure ($r = 0.64$; $p \leq 0.01$), suggesting that, although the objective and subjective measures are not identical, the objective measures constituted a key element of the respondents’ subjective assessments.” (p. 25)

Summary of the Empirical Evidence on the Perceptual and Objective Correlation

The empirical evidence would seem to suggest a strong, positive correlation between perceptual and objective measures of organizational performance [Gregory Dess and Richard Robinson (1984); Dess (1987); Venkatraman and Ramanujam (1987); and, Powell (1992) and (1995)]. All but one study showed correlations between 0.58 and 0.694.

However, all of the perceptual data from the studies reviewed were collected from senior-level employees. There does not appear to be much evidence that the perceptual measures of organizational performance by employees at lower levels of authority correlate with objective performance data.³⁶ Positive correlations between perceptual and objective measures among lower-level employees probably depend upon the willingness and frequency senior-level managers provide performance feedback and share objective performance data with subordinates.

CONCLUSIONS

Although the empirical research discussed above is predominately about the private sector, the literature tends to confirm that there is a positive relationship (albeit weak in some specific cases) between each of the nine management practices (i.e., strategic planning, performance measurement and management, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition, and process improvement), and organizational performance. The rather limited evidence also tends to support the contention that senior managers, middle managers, and rank-and-file employees have differences in perception regarding the deployment of change.

For the most part, the evidence would appear to provide some support for all fourteen hypotheses.

³⁶ An exception in Johnson’s (1996) study of a large bank with branches in four states which found a positive but relatively moderate relationship between employee ratings of their customers’ satisfaction and actual customer satisfaction ($r = .45$, $p < .01$).

CHAPTER 3

RESEARCH DESIGN

INTRODUCTION

There are a number of purposes to this chapter. First, we discuss the basic methodology employed in this study, including both quantitative and qualitative techniques such as survey research, interviews and collection of objective data. Second, we discuss the potential internal and external validity threats to the study's findings and how they were controlled. Third, we cover the procedures involved in the survey of employees. Fourth, we discuss the independent and dependent variables for each hypothesis of this research, and outline the items that measured each of the nine management practices and the five results and job satisfaction. Fifth, we talk about the data analysis procedures that include statistical techniques for validating the survey instrument and for measuring the strength of the relationship for each hypothesis. Finally, we report on the response rates for the survey.

METHODOLOGY EMPLOYED

Randomly selecting state revenue agencies and then expecting those agencies to willingly participate in this kind of study is not very likely. Consequently, this is a quasi-experimental study where there is no manipulation of the independent variable and there is no randomization, instead, the comparisons depend upon non-equivalent groups that differ from each other in many ways other than the presence of a treatment whose effects are being tested." (Cook and Campbell, p. 6)

This is also a comparative case study. The basic research design is called a "methodological triangulation" which uses a number of methods to study an issue. (Patton, p. 187) In case study research, methodological triangulation is a means by which to strengthen the validity of the findings. In this case, both qualitative and quantitative methods will be utilized, including survey methods for the collection and analysis of data.

The basic research design is in four parts. First, it calls for using a preliminary survey, along with expert judgment, to identify prospective state revenue agencies. Second, a survey will be designed to measure employee perceptions of the deployment of the management practices and their perception of results and job satisfaction. Third, objective data will be collected from each self-selected state agency for comparative purposes. Finally, the researcher will conduct follow-up interviews to explore explanations of findings.

Preliminary Survey

The research design began with a preliminary survey mailed to all state revenue agencies in the United States that have responsibility for tax administration in October, 2002. A copy of the 2002 Directory of State Tax Administrators, published by the Federation of Tax Administrators was acquired to identify contacts and produce mailing labels. Each survey instrument was coded by the state's abbreviation in order to keep track as to which state revenue agency responded.

The survey asked each state revenue agency to respond to questions designed to illicit some basic information regarding its management practices. A copy of the survey is provided in the Appendices on page 248. The survey cover letter (also provided in Appendices on page 251) outlined the purpose of the survey and requested that each agency consider participating in the employee survey by completing the contact information requested (i.e., name, phone number, email address). The letter also stipulated that anonymity would be maintained for all state agencies participating in the employee survey.

As an incentive to encourage participation, each state revenue agency was told that they would receive immediate feedback in the form of a written report analyzing the results of their employee survey. Moreover, each agency was told that they would also receive a benchmark report comparing their agency's response to that of the other participating agencies.

In addition to the preliminary survey, contact was made with the Federation of Tax Administrators (FTA) to identify state revenue agencies that are known to be actively involved with the Malcolm Baldrige criteria. The FTA identified 11 states including Arizona, Connecticut, Delaware, Florida, Illinois, Iowa, Missouri, Nebraska, South Carolina, Texas and Wisconsin.

A total of 33 surveys were completed and returned after the initial mailing of the preliminary survey in October, 2002 for a response rate of 66 percent. Among the 33 responses, 15 state revenue agencies indicated interest in participating in the employee survey. Each of the 15 agencies was contacted by telephone, and eight state revenue agencies expressed further interest in participating.

In March, 2003, a second mailing of the preliminary survey was sent to those agencies that had not replied to the first mailing in October, 2002. An additional 9 state revenue agencies responded bringing the total response rate to 84 percent.

Among the original eight state revenue agencies that had expressed interest in participation in October, 2002, only two of those agencies committed when re-contacted in April, 2003. Several state revenue agencies were contacted by electronic mail and by telephone which finally yielded six additional state revenue agencies agreeing to participate in the study. Since anonymity was promised, the eight self-selected agencies will only be identified by the geographic location of their state. The eight agencies will be identified as "1 Northwest", "2 Southwest", "3 South", "4 Mid-Atlantic", "5 Northwest", "6

Southwest”, “7 South”, and “8 Mid-West”.

Employee Survey

The employee survey sought to measure employees’ perceptions as to the extent that management practices were deployed throughout the agencies. Moreover, these employees were measured on their perceptions of results and job satisfaction.

The design of the employee survey was principally based on the 2002 Malcolm Baldrige Criteria for Performance Excellence. The variables being measured are based on the criteria for five of the seven Baldrige categories (i.e., Strategic Planning, Customer Focus, Information and Analysis, Human Resource Focus, and Process Management).³⁷ (The two Baldrige categories not addressed are Leadership and Business Results.) The Baldrige criteria are generally accepted as the accumulated knowledge of best managerial practices “and the collective wisdom of practitioners and experts.” (Evans, 1997)

Another source in the development of the employee survey was the General Services Administration’s annually administered Culture Survey also known as the “Quality Culture and Organizational Climate Survey.” The General Service Administration’s survey is based on the criteria of the President’s Quality Award and Malcolm Baldrige National Quality Award. (Johnson, p. 121)

The employee survey is not meant to cover every Baldrige item or to measure actual Baldrige deployment. Instead, the measures are designed with the intent of seeking the average employee’s perception of the deployment of these practices in the employee’s work environment. In designing the statements, it is the perspective of the rank-and-file employee that was kept in mind and what their experiences were likely to be with the deployment of these practices. Aggregating the perceptions of employees should provide evidence as to the extent and depth of deployment agency-wide. The survey design was also intended to be “neutral” to allow for employees to respond to the statements no matter their agency’s level of involvement in the management practices. Consequently, Baldrige or management terminology was intentionally avoided.

Objective Data

In addition to the data collected by the employee survey, each of the eight state revenue agencies

³⁷ The Baldrige criteria provide a systems perspective for managing organizations. According to the Criteria, “successful management of overall performance requires organization-specific synthesis and alignment.” Alignment requires senior leaders’ to focus on the organization’s strategic directions and on its customers. Furthermore, it means that they “monitor, respond to and manage performance” based on their results. It also requires using measures to link “key strategies with key processes” and aligning “resources to improve overall performance and satisfy customers.” (MBNQA 2002, p. 4)

was requested to provide objective data for up to a five-year period of time (i.e., 1998, 1999, 2000, 2001, and 2002).

A recent FTA task force on performance measures discovered, that for the most part, state revenue agencies share the same processes. Consequently, having the same processes means that there should be compatible performance measures. (FTA, p. 1 of 3) The task force articulated 31 agency-wide process measures for consideration by state revenue agencies that were grouped into three broad areas including stakeholder satisfaction, efficiency and compliance. Those measures include:

Stakeholder Satisfaction

1. Length of time to issue refunds from date of claim receipt until date of mailing (time series).
2. Percent of refunds issued accurately.
3. Average call center queue time.
4. Call center abandon rate.
5. Transactional-based taxpayer surveys
6. Tax practitioner surveys
7. Employee satisfaction measures

Efficiency

1. Percent \$\$ deposited on the same day as receipt in mail room.
2. Number of days from receipt of payment in mail room to deposit (\$\$ weighted)
3. Percent of \$\$ received via EDI/EFT.
4. Percent of reconciliation-based deficiency dollars collected.
5. Percent of reconciliation-based deficiency notices resulting in a payment.
6. Percent of reconciliation-based deficiency dollars compromised/corrected
7. Percent of reconciliation-based deficiency notices resulting in a compromise/correction.
8. Percent of reconciliation-based deficiency dollars collected not requiring post-notice intervention.
9. Percent of reconciliation-based deficiency notices collected that did not require post-notice intervention.
10. Total revenue collected per total dollar spent.
11. Total revenues collected per filled FTE.

12. Enforced (involuntary) collections per enforcement-related dollar spent.
13. Enforced (involuntary) collections minus enforcement-related dollar spent.
14. Enforcement-related expenditures as a percent of total expenditures.
15. Average number of days from receipt of return in mailroom until mailing of reconciliation-based deficiency notice.
16. Average number of days from receipt of return in mailroom until completion of reconciliation.
17. Percent of returns filed that produce a reconciliation exception.
18. Percent of reconciliation exceptions cancelled prior to deficiency notification.

Compliance

1. Dollars collected voluntarily as a percent of total receipts.
2. Percent of tax returns filed timely.
3. Percent of tax returns filed not generating a deficiency notice.
4. Voluntary remittances as a percent of total due for audited taxpayers (tax only).
5. Percent of total revenues audited.
6. Percent of tax returns audited.

All eight of the state revenue agencies were asked to review the list of 31 FTA measures and identify those measures for which they collect data. Each agency was requested to provide data for those measures that most or all of the participating agencies have in common. In addition to these 31 measures, each agency was requested to provide any taxpayer satisfaction data they possessed for up to five years.

Follow-up Interviews

The final part of the research design called for conducting follow-up interviews with agency personnel after the data analysis had been completed. The purpose of the interviews was to seek explanations for the findings.

RESULTS OF PRELIMINARY SURVEY

Among the 42 state revenue agencies responding to the preliminary survey, 39 indicated they have strategic plans, and 25 of those agencies said their plans have been reviewed and modified within the

last year. (See Appendices page 252.)

Thirty-six (36) state revenue agencies said they develop quantifiable performance measures to track key processes and results. Among those 36 agencies, half indicate they track performance either “Monthly” (9) or “Quarterly” (9), while 13 said either “Bi-annually” (5) or “Annually” (8). When asked how often the review lead to changes in how results are achieved, nearly half (20) said “Sometimes”, while 11 state revenue agencies said “Frequently”.

Most state revenue agencies seek feedback (e.g., focus groups, surveys) from citizens regarding their services at least every two years (10) or at least once a year (13). However, the largest number of agencies completing the survey (17) does not seek feedback with any regularity.

Similarly, most state revenue agencies seek feedback (e.g., focus groups, surveys) from their employees at least every two years (9) or at least once a year (14). Again, the largest number (18) does not seek it with any regularity.

Nearly half of the state revenue agencies completing the survey indicate they are “Satisfied” (19) or “Very satisfied” (1) that their key work processes permit their employees to achieve their best performance. Nearly one-third said they are “Somewhat Satisfied” (13). Only nine indicate either “Somewhat Dissatisfied”, “Very Dissatisfied” or “Neither”.

When asked if their agency has ever completed an organizational assessment using the Malcolm Baldrige National Quality Award criteria or something similar, most said “No” (20) or “Don’t Know” (5), while 17 agencies said they have done so. Among those 17 state revenue agencies completing such an assessment, nine have done so two or more years ago.

Most (23) have not applied for a quality award at the national, state, or local level, while 15 state revenue agencies indicate they have applied. The largest number of agencies (5) applied for an award in 2001. A number of agencies also indicate they have won a quality award of some kind.

LIMITATIONS OF RESEARCH DESIGN

Threats to Internal Validity

Studies using randomized sampling rule out most internal validity threats. However, in quasi-experimental studies, researchers have to try and separate the effects of treatment from the effects of other causes. “To achieve this separation of effects, the researcher has to explicate the specific threats to valid causal inference that random assignment rules out and then in some way deal with these threats.” (Cook and Campbell, p. 6)

Since the agencies participating are self-selected, there exists the possibility there are differences

between those participating from those that did not choose to participate. For example, self-selected agencies may be more likely to engage in the nine management practices being studied and would be more prone to volunteer.

Furthermore, there could be differences among the participating agencies in terms of agency functions and responsibilities. For example, state revenue agencies differ in the type of taxes collected. Moreover, some states do not collect individual income taxes while others do not collect sales taxes. Likewise, some state revenue agencies have other missions beside tax collection, including enforcing financial child support, or administering motor vehicle registration and licensing.

Internal validity threats also exist for the design, implementation, and analysis of the employee survey. One possible threat is history, which refers to an event that occurs during the course of the treatment that confounds the results. For example, something might have occurred during the agency's deployment of the management practices (e.g., pay raises, increased or improved employee benefits) that could have induced employees to give more positive responses to the measures being observed. Likewise, negative responses to the measures may be due to budget cuts and layoffs during periods of fiscal crisis.

Statistical regression is another possibility. The results being studied could have been so low that improvements in results are likely over time with or without the deployment of the management practices. In other words, any positive results in the perception of results among the state revenue agencies may be because these results were relatively low at their introduction.

Another threat is selection bias. This can occur when the effect is due to differences in the members of the groups being studied rather than caused by the treatment. In this case, there could be differences between the employees of each agency included in the study. Such differences could be based on age, race, gender, education, management level or position, work unit, or location. For example, the results of one agency might be biased because an inordinate number of responses came from white males who have a more favorable perception, while another agency might be skewed because they had higher proportion of responses from employees other than white males who have a less favorable perception.

Finally, there exists the threat of statistical reliability. In other words, do the measures measure the same phenomena at different times or in different places? In this study, statistical reliability would mean that we are measuring the same phenomena (i.e., the management practices and results) at each state revenue agency participating in the study.

Qualitative Threats to Internal Validity

Addressing internal validity threats is intended to enhance the validity of the results. Similarly, in case study research, enhancing the quality and credibility of qualitative analysis requires attention to three

inquiry elements:

1. “What techniques and methods were used to ensure the integrity, validity, and accuracy of the findings?”
2. What does the researcher bring to the study in terms of qualifications, experience, and perspective?
3. What paradigm orientation and assumptions undergird the study?” (Patton, p. 461)

All of the above “credibility” issues are relevant to this study. The first and third inquiry elements have already been addressed. In reference to techniques and methods, “methodological triangulation” is being used to ensure validity, while the “paradigm orientation” of this study was discussed in the Theoretical Grounding section of Chapter Two.³⁸

Another qualitative threat to the validity of this study concerns researcher bias. A researcher can have preconceived notions regarding the subject matter that might influence analysis and reporting. For example, a researcher’s bias might influence the design of follow-up questions to the point of biasing responses. Likewise, the way in which a question is asked of an interviewee might also bias responses. In addition, a researcher’s own judgment might lead to what Patton refers to as the equivalent of a Type I and Type II error. For example, an analyst may decide that something is not significant when it is, or decide something is significant when it is not. (p. 406)

Threats to External Validity

The eight state revenue agencies participating in this study do so because they have volunteered. Consequently, the findings of this study may not be generalized to all other state revenue agencies.

However, if it can be shown that a positive relationship exists between the perceived extent of deployment of the nine management practices and organizational results and job satisfaction, then the evidence would be noteworthy. Certainly, other state revenue agencies (or even state government agencies in general) looking to improve organizational performance might want to take notice of the findings. The evidence may even be more persuasive if there is a positive relationship between the perceived extent of deployment of the management practices and objective performance data. This would lead to a reasonable assumption that there is a positive relationship between the implementation of these

³⁸ In regards to the researcher, he has had three years experience as an examiner for the now defunct North Carolina Quality Leadership Foundation. The Foundation provided technical and financial support for the North Carolina Quality Leadership Awards that used the Malcolm Baldrige criteria for its recognition and awards process. Unlike the national Baldrige award, the North Carolina process permitted public sector organizations to submit written applications for assessment by a team of examiners. During his three years as an examiner, he participated exclusively on teams that assessed public sector applications. In addition, he also has had professional experience working with public sector organizations in North Carolina and Texas in completing Baldrige-based self-assessments.

practices and higher organizational performance.

CONTROL

Since the agencies in this study are self-selected, generalization of the findings to other state revenue agencies remains a validity threat. One means of strengthening the validity of this study was to limit the findings to only those employees within the tax administration and administrative support (e.g., budget, human resources, and information technology) units of the eight agencies.

Moreover, the self-selected agencies do differ, which according to Cook and Campbell strengthens the case for validity. One important difference is in the number of employees within each of the self-selected agencies. The number of employees ranged from 2,512 to 71. There were four state revenue agencies with more than 1,000 employees (2,512, 1,130, 1,110, and 1,041), and four with less than 1,000 employees (822, 672, 600, and 71). Another difference is in geographical location. Two of the agencies were from the Southern region of the United States; two were from the Southwest region; two from the Northwest region; one from the Midwest region; and one from the Mid-Atlantic region. The self-selected agencies are also somewhat representative of all state revenue agencies in the taxes administered as shown in Table 3-1.

Table 3-1: Taxes Administered

Tax	All Revenue Agencies	Self-Selected Agencies
Property	36 (.72%)	7 (.87%)
Sales	45 (.90%)	6 (.75%)
Selective Sales	50 (100%)	8 (100%)
Individual Income	43 (86%)	6 (75%)
Corporate	46 (92%)	8 (100%)
Source: Federation of Tax Administrators (www.taxadmin.org)		

The preliminary survey results of the eight self-selected state revenue agencies also indicated that the seven agencies that completed the preliminary survey are roughly representative of all the state revenue agencies that completed it as well. (See Appendices page 254.) However, there are some differences among the seven on at least three of the questions compared to all revenue agencies. The self-selected agencies are more likely to seek feedback from employees at least once a year; and they tend to

be more satisfied with their key work processes. Finally, two-thirds of the self-selected agencies indicate that they have won a quality award, while less than half of all revenue agencies claim they have done so.

Follow-up interviewing and collection of performance data also helped with control. In follow-up interviewing, special attention was given to determining if any events (e.g., pay raises, increased or improved benefits, layoffs, reduced budgets) had occurred that might confound the results of the employee survey.

SAMPLING DESIGN

This study will use both qualitative and quantitative methods of data collection.

Population

The population of this study is state revenue agencies that have responsibility for income and sales tax collection. As already discussed, the selection of state agencies is non-random.

Unit of Analysis

The unit of analysis for hypotheses 1 through 12 is the self-selected state revenue agencies. The unit of analysis for hypotheses 13 and 14 are the employees of the agencies at different levels of management (e.g., managers, frontline supervisors and non-supervisors).

Survey Method

All employees with each participating state revenue agency were given the opportunity to complete the survey electronically. Survey recipients simply clicked the hypertext link in an email message that activated their Web browsers which brought up the Web-based survey. The Web-based survey was developed using the commercial services of www.formsite.com.

A web-based survey has advantages. First, since it is a paperless process, it is both cost and time effective. A researcher is not limited by cost considerations in the number of people that can receive the survey, nor does it require a great deal of preparation and manual entry of data. Second, it is “user-friendly.” Respondents simply have to click their response with a computer “mouse.” Once they have finished completing the questions, respondents then click the “Submit” button and the data is instantly compiled. However, there is a major concern that electronic surveys yield lower response rates than conventional methods of data collection.

Response Rates Using Electronic Surveys via the Internet

A literature review reveals a wide range of response rates using electronic surveys via the Internet. The studies listed in Table 3-2 report a range of response rates from 6.0% to 73.0% for electronic surveys. Among the studies listed, four studies showed response rates for e-mail surveys greater than response rates for surveys sent by conventional methods. However, the other 11 studies showed higher response rates for conventional methods than for e-mail surveys. Differences in response rates between conventional methods and e-mail ranged from 5.9 percent to 48.4 percent. Among surveys sent electronically via the Internet, six studies reported response rates below one-third of respondents (i.e., 6.0%, 7.0%, 8.0%, 19.3%, 28.1%, 29.8%), while 10 studies reported response rates at one-third or more of respondents (i.e., 34.4%, 38.0%, 40.0%, 48.8%, 52.5%, 63.0%, 67.0%, 68.0%, 68.5%, 73.0%). However, Cho and LaRose (1999) reported that “(e)-mail surveys that garner high response rates tend to be done in organizational settings. . . (because) organizational users enjoy special protection from unsolicited e-mail.” (p. 422)

In a discussion of comparative performance, Simsek and Veiga (2000) cited the advantages of Electronic Survey Techniques (EST) over conventional methods. They argued that electronic surveys are more cost effective, efficient, and convenient. Electronic surveys do not require paper or manual entry of data and the cost associated with adding additional respondents is “practically zero.” Speed is another factor cited by the researchers. Sending surveys and receiving them via the Internet is much faster than “snail-mail”, promising to provide data in a timely manner. “EST generates fast data not only because e-mail is a fast communication medium,” contend Simsek and Veiga (2000), “but also because individuals are likely to respond more quickly to an e-mail . . .” (p. 104) They also point out that electronic surveys are a convenient collection technique. Simsek and Veiga (2000) claimed that EST reduce “field and administration errors,” especially those associated with human error, and allow researchers to encode data without “transcribing from paper.” (p. 104)

However, privacy issues appear to be of paramount concern with electronic surveys sent via the Internet. Cho and LaRose (1999) reported a survey that said seven out of ten respondents have more concern with privacy issues on the Internet than they do through mail or over the telephone. (p. 421) According to Simsek and Veiga (2000), previous research has shown that respondents’ concern about anonymity does affect responses rates for electronically-administered surveys. Other disadvantages cited by Simsek and Veiga (2000) are the “noncompatibility” of e-mail packages and “e-mail overload” that many users experience. (pp. 104-105)

Table 3-2 Comparison of E-mail and Conventional Mail Response Rates		
Author(s)	Methods	Response Rates (%)
Sproull (1986)	E-mail	73.0
	Face-to-Face	87.0
Kiesler & Sproull (1986)	E-mail	67.0
	Conventional Mail	75.0
Parker (1992)	E-mail	68.0
	Company Mail	38.0
Schult & Totten (1994)	E-mail	19.3
	Conventional Mail	56.5
Kittleson (1995)	E-mail	28.1
	Conventional Mail	76.5
Mehta & Sivadas (1995)	E-mail (without pre-notice)	40.0
	E-mail (with pre-notice)	63.0
	Conventional Mail (without pre-notice)	45.0
	Conventional Mail (with pre-notice)	83.0
Oppermann (1995)	E-mail	48.8
	Two Mail Surveys	26 & 33
Tse <i>et al.</i> (1995)	E-mail	6.0
	Conventional Mail	27.0
Bachmann <i>et al.</i> (1996)	E-mail	52.5
	Conventional Mail	65.6
Schaefer & Dillman (1998)	4 Mail Contacts	57.5
	4 E-mail Contacts	58.0
	Mixed Mode	48.2
	Mixed Mode	54.4
Hertz <i>et al.</i> (1996)	E-mail	68.5
	Conventional Mail	96.2
C. Smith (1997)	E-mail (without pre-notice)	8.0
	E-mail (with pre-notice)	13.3
Tse (1998)	E-mail	7.0
	Conventional Mail	52.0
Weible & Wallace (1998)	Conventional Mail	35.7
	Fax	30.9
	E-mail	29.8
	Web Form	34.4
Zeiwetrot (1998)	E-mail	38.0
	Conventional Mail	36.0
Sources: Cho and LaRose (1999); Dommeyer and Moriarty (2000)		

Nevertheless, several strategies are recommended to improve response rates. One recommended strategy is to use a web-based survey because identifying information is not automatically conveyed once a respondent submits his or her completed survey. (Cho and LaRose, 1999; Simsek and Veiga, 2000). A second suggestion is that researchers provide prior notification, telling respondents the “purpose of the survey, why their involvement is important, how responses will be used, the sponsor of the survey, person(s) to contact for questions, expected date of the survey, and a statement indicating the strict confidentiality of the respondent’s e-mail address and response.” It is also recommended that prior notification include: “(a) a social utility appeal that emphasizes the worthiness of the survey, (b) an

egoistic appeal that stresses the respondent's place and importance in completing the survey, and (c) an appeal to help the researcher in completing an important project." (Simsek and Veiga, 2000, p. 106)

Further recommendations include a cover letter to reassure respondents their identity and response will be held in confidentiality and articulate what will be done to assure it. In addition, Cho and LaRose (1999) and Simsek and Veiga (2000) suggested using more than one method. Simsek and Veiga (2000) specifically suggested that researchers mention to respondents that the survey could be sent through regular mail. Simsek and Veiga (2000) also recommended that survey instructions be kept clear and simple.

In a later article, Simsek and Veiga (2001) suggested that follow-up mailings should include a copy of the survey as well. "Some empirical evidence," says Simsek and Veiga (2001), "supports the observation that follow-up e-mailing can be an effective method of augmenting responses to Internet surveys. They also suggested that researchers should seek "collaborators" whom respondents perceive as trustworthy. However, Simsek and Veiga (2000) did emphasize that guaranteeing complete anonymity is not possible with electronic surveys sent via the Internet. "Therefore," argue Simsek and Veiga (2000), "strategies aimed at effectively improving potential respondents' perceptions about confidentiality might prove extremely useful in dealing with the negative effects of confidentiality on Internet surveys." (p. 232)

Survey Procedures to Improve Response Rate

Based upon these recommendations, each participating state revenue agency was asked to identify a high ranking or trusted employee to forward e-mail to all employees concerning the survey. The initial e-mail message was to provide employees advance notice of the survey and share information concerning: the survey's purpose and importance; why their participation is important for the study's findings; how the results will be used; the person to contact for questions; the date when they will receive the survey via email; and, assurances of confidentiality and how it will be achieved.

The subsequent e-mail message was to contain the URL address where they could access the web-based survey, and again outline the information provided in the advance notice message. The e-mail message was also to include as an attachment the survey in Microsoft WORD format for those employees who had confidentiality concerns. It was also planned that a follow-up reminder would be sent every week thereafter for three consecutive weeks. Each reminder was also to include the URL address, along with the survey in Microsoft WORD format. The daily monitoring of the results was possible given that the commercial service, www.formsite.com provides tallies on a daily basis.

HYPOTHESES AND VARIABLES

The dissertation includes 14 hypotheses --

- H1: The greater a state agency's deployment of strategic planning the higher the level of organizational results and job satisfaction.
- H2: The greater a state agency's deployment of performance measures the higher the level of organizational results and job satisfaction.
- H3: The greater a state agency's deployment of performance feedback the higher the level of organizational results and job satisfaction.
- H4: The greater a state agency's deployment of customer services the higher the level of organizational results and job satisfaction.
- H5: The greater a state agency's deployment of empowerment the higher the level of organizational results and job satisfaction.
- H6: The greater a state agency's deployment of teamwork the higher the level of organizational results and job satisfaction.
- H7: The greater a state agency's deployment of training the higher the level of organizational results and job satisfaction.
- H8: The greater a state agency's deployment of rewards and recognition the higher the level of organizational results and job satisfaction.
- H9: The greater a state agency's deployment of human resource practices (performance feedback, empowerment, teamwork, training, and rewards and recognition) the higher the level of organizational results and job satisfaction.
- H10: The greater a state agency's deployment of process improvement the higher the level of organizational results and job satisfaction.
- H11: The greater a state agency's deployment of all nine management practices the higher the level of organizational results and job satisfaction.
- H12: The greater a state agency's deployment of all nine management practices the higher the level of objective performance data.
- H13: Senior executives within state revenue agencies will have more favorable perceptions regarding the deployment of management practices than managers, managers will have more favorable perceptions than frontline supervisors, and frontline supervisors will have more favorable perceptions than non-supervisory employees.
- H14: Senior executives within state revenue agencies will have more favorable perceptions regarding perceived organizational results than managers, managers will have more favorable perceptions

than frontline supervisors, and frontline supervisors will have more favorable perceptions than non-supervisory employees.

The independent variables for hypotheses 1 through 10 are each agency's employee perceptions of each management practice, including strategic planning, customer service, performance measures, performance feedback, empowerment, teamwork, training, rewards and recognition, all human resource practices as a single variable, and process improvement. The dependent variables are employees' perceptions of organizational results and job satisfaction.

The independent variable for hypothesis 11 and 12 is each agency's employees' perceptions of the management practices combined as a single variable. The dependent variables for hypothesis 11 are employees' perceptions of organizational results and job satisfaction. The dependent variables for hypothesis 12 are the objective performance data.

The independent variable for hypothesis 13 and 14 is "position" (i.e., managers, frontline supervisors, and non-supervisors). The dependent variable for the first hypothesis is employees' perceptions of deployment. For the second hypothesis the dependent variable is employees' perception of results and job satisfaction.

The employee survey included 44 statements to measure deployment of the nine management practices and five results. Each statement was measured on a five-point Likert Scale where: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strongly Agree.

The items measuring the deployment of strategic planning consisted of six statements. Those statements are as follows:

1. Senior executives have set a long-term direction for the department.
2. Management seeks the opinions of employees on the long-term direction of the department.
3. Each division in the department establishes goals and objectives that support the department's long-term direction.
4. All employees participate in developing their division's long-term goals and objectives.
5. The work that employees do is clearly tied to their division's long-term goals and objectives.
6. Immediate supervisors share the same goals and values as the senior executives.

The items measuring the deployment of performance measures and management included five statements. Those statements are as follows:

1. We use quantifiable measures to *routinely* track our performance.
2. We use quantifiable measures to make decisions about our work.
3. Our use of quantifiable measures has improved cooperation and coordination with *other* divisions in the department.

4. Our use of quantifiable measures has improved communication with *other* divisions in the department.

5. The quantifiable measures we use have led to changes in *how* we achieve results.

The items measuring performance feedback included four statements. Those statements are as follows:

1. Senior executives routinely give feedback to employees on the performance of our department.

2. Performance expectations for my work have been clearly communicated to me.

3. I get regular feedback from my immediate supervisor that helps me to improve my work.

4. Management routinely seeks the opinions of employees on issues related to their job and their work environment.

The items measuring customer service included five statements. Those statements are as follows:

1. We routinely seek input (e.g., surveys, focus groups, advisory groups) from taxpayers about our services.

2. Taxpayers can easily make complaints about our services.

3. We use taxpayer input to improve our services.

4. We take taxpayer complaints very seriously and we act to resolve them in a *timely* fashion.

5. Improving taxpayer access to our services is an important priority for our department.

The items measuring the deployment of empowerment included three statements. Those statements are as follows:

1. Promising ideas and suggestions made by employees are implemented.

2. I am involved in decisions that affect my work.

3. I can make decisions about my work without first checking with my immediate supervisor.

The items measuring teamwork included three statements. Those statements are as follows:

1. My co-workers and I work well together to accomplish goals and objectives.

2. My co-workers and I work in groups to solve problems.

3. My co-workers and I work well with employees from *other* divisions or work units to accomplish goals and objectives.

The items measuring training included two statements. Those statements are as follows:

1. Developing the skills of all employees is a priority for managers and supervisors.

2. I am learning and developing skills that improve my work.

The items measuring rewards and recognition included four statements. Those statements are as follows:

1. I can expect to receive rewards other than money if I perform exceptionally well.

2. I can expect to receive a pay raise or bonus if I perform exceptionally well.

3. Recognizing employees' for their achievements are important activities for managers and supervisors.
4. I receive enough recognition for the work that I do.

The items measuring the deployment of process improvement included seven statements. Those statements are as follows:

1. Procedures necessary to do my job *do not* involve unnecessary steps.
2. I spend time thinking about how to improve my work processes and/or procedures.
3. The process for accomplishing work permits my co-workers and I to achieve our best performance.
4. My co-workers and I regularly look for ways to improve our work processes *and/or* procedures.
5. Managers and supervisors encourage employees to simplify and streamline their work processes *and/or* procedures.
6. The needs of employees in *other* divisions or work units are taken into consideration when we make improvements to our most important work processes *and/or* procedures.
7. The needs of our *taxpayers* are taken into consideration when we make improvements to our most important work processes *and/or* procedures.

The variables measuring employee perceptions of external organizational results were as follows:

1. Taxpayers are more pleased with our services this year *than* last year.
2. Over the last year, there has been measurable improvement in the way we deliver services.

The variables measuring employee perceptions of internal organizational results were as follows:

1. Improvements in my division's processes *and/or* procedures have resulted in improved services.
2. The morale in my division or work unit is generally good.

There is only one statement measuring employees' job satisfaction:

1. In general, I am satisfied with my job.

The survey also included operational definitions for reliability purposes for the following six terms:

- Division: refers to a sub-unit of the department.
- Goals and Objectives: goals refer to a future condition or performance level that an organization and its people plan to achieve. Objectives refer to intermediate points that allow an organization and its people to determine whether they are on track to accomplish their goals.
- Immediate Supervisor: refers to the person who you report to and who is responsible for your performance evaluation.
- Long-term Direction: refers to the department establishing a few broad goals that tell it and its people the general direction they are moving toward over a multi-year period.

- Quantifiable Measures: refers to numerical information that quantifies input, output, and performance dimensions of processes, products, services and the overall organization (outcomes).
- Senior Executive: refers to the department's senior management group or team. Typically, this includes the head of the department (e.g., Secretary, director) and his or her direct reports.

Control Variables

The employee survey includes three control variables (position, work unit, and location). The first control variable is "position," and measured according to the following four values: "senior executive," "manager," "supervisor," and "non-supervisor."

Two additional control variables were added to provide more specific information to the self-selected agencies. The first was "Work unit". Unless the participating agency specified its own values, respondents were asked to indicate if they worked in "executive administration," "support administration," or "tax administration." Executive administration was defined as the offices of the agency's senior executives. Support administration includes support functions such as budget, information technology, human resources, and communication/public affairs. Tax administration included those work units that administer the real work of the agency.

The final control variable was "location." Unless the participating state revenue agency specified its own values, respondents were asked to indicate if they work at the agency's "headquarters," or a "regional or district office."

DATA ANALYSIS PROCEDURES

The service provider for the web-based survey, www.formsite.com, provides the response data as a Common Separated Variables (CSV) file, which means that the data can be imported directly into SPSS. The SPSS file contains 46 variables, including two control variables (state and position). All of the 44 variables measuring the deployment of the management practices and results and job satisfaction are measured using a five-point Likert scale.

Statistical Reliability

Once the employee surveys were completed, the survey data was used to test the internal consistency of the variables that measure each of the nine management practices and results. The

reliability coefficients (alpha) were computed for all survey data, and then the survey data for each of the eight state revenue agencies.

Frequency Tables

Frequency tables were immediately generated for each self-selected agency in this study to provide them the quick feedback they were promised for their participation. The frequency tables provided the percentages and numbers of responses on each value for each of the survey items. Also, frequency tables providing the mean response for each survey item by each of the control variables were provided. Finally, mean responses on each survey item and management practice were prepared in a benchmark report. The benchmark report compared each agency's mean response in rank order. Each agency received a copy of the report with its mean response on each survey item and management practice highlighted for comparison purposes.

The median and standard deviation scores were also computed for each agency and all the agencies collectively on each management practice, all human resource practices and all management practices as single variables, and for each result measure.

Hypothesis 1 through 11: The Association between Employee Perceptions of Management Practices and Their Perception of Results and Job Satisfaction

The independent variables for hypotheses 1 through 8 and 10 are employee perceptions of each management practice, including strategic planning, performance measures, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition, and process improvement. The independent variable for hypothesis 9 is employee perceptions of all human resource practices (i.e., performance feedback, empowerment, teamwork, training and rewards and recognition) as a single variable. The independent variable for hypothesis 11 is employee perceptions of all the management practices combined as a single variable. The dependent variables for hypotheses 1 through 11 are employee perceptions of results and job satisfaction.

For hypotheses 1 through 8 and 10, the statistical question is whether there are positive associations between employee perceptions' of the nine management practices and their perceptions' of the result measures and job satisfaction. For hypotheses 9 and 11, the statistical question is whether there are positive association between employee perceptions' of all the human resource practices and all nine management practices as single variables and their perceptions' of the result measures and job satisfaction.

Three statistical procedures were used in analyzing the data. First, mean responses for each state revenue agency on each of the nine management practices and the result measures were used to generate scatter plots to test hypotheses 1 through 8, and 10. For example, the mean for all six variables that measure strategic planning for each revenue agency was compared to the agency's mean of each result variable. Similarly, the mean responses for each state revenue agency for all of the human resource practices as a single variable (performance feedback, empowerment, teamwork, training, and rewards and recognition), and all the management practices as a single variable and the result measures were manipulated to generate scatter plots to test hypothesis 9 and 11 respectively. In all, this produced 55 individual scatter plots comparing each of the nine management practices and the two combined measures of human resource practices and all management practices with each of the five result measures.

The second statistical procedure was to compute Spearman rho correlations to determine if there are positive correlations between the independent and dependent variables. The Spearman rho is the correlation of choice for this study because it is the appropriate correlation for comparing two ordinal variables or an interval and ordinal variable. Computing a single variable for each of the nine management practices to test hypotheses 1 through 8 and 10, or computing all human resource practices and all management practices as single variables to test hypotheses 9 and 11, requires averaging responses among the variables that make up each of the 11 scales. As a consequence, the new variables for each scale become continuous data while each of the five result measures remains ordinal data. Correlation coefficients were computed for each agency and then for all the agencies collectively to test hypotheses 1 through 11. Correlation coefficients were also computed for each of the 39 survey items among the eight agencies collectively comparing each survey item with the five result measures.

Multiple regression was the third statistical technique utilized, even though the data does violate some underlying assumptions. However, random sampling is not necessary for regression. One caveat to its use is that significant tests are not relevant and consequently are inappropriate. "Nonetheless, social scientists commonly use significance tests with non-random data due to their utility as an arbitrary decision criterion." (Garson, www2.chass.ncsu.edu/garson/pa765/regress.htm) Thus, even though multiple regression is used, no generalizations are made in this study regarding the findings.

Prior to conducting regression analysis, a correlation matrix was generated to determine if multicollinearity was a problem for the model. Multicollinearity is suspected if the correlation coefficients for each pair of independent variables are equal or greater than .80. (O'Sullivan, Rassel, and Berner, pg. 444)

The final procedure was to conduct a multiple regression equation to determine the predictive power of the independent variables (management practices) on the dependent variables (results). A multiple regression equation including all the independent variables and the result measures as a single

variable was generated for each state revenue agency separately and then for all responses among the eight agencies collectively. These equations ascertained whether management practices explain any proportion of the variance in results, and also determined the importance of each management practice relative to the single dependent.

Technically, using ordinal data in regression analysis is not considered appropriate. Although the independent variables become continuous data when the mean is computed for the variables that measure each of the nine management practices, the dependent variables remain ordinal data. While there is disagreement as to the minimum number, at least seven values of the ordinal measure is usually recommended. (Garson, www2.chass.ncsu.edu/garson/pa765/regress.htm) For that reason, the dependent variables were combined as single variable rather than tested separately.

Hypothesis 12: The Relationship between Management Practices and Objective Performance Data

The independent variables for hypothesis 12 are employees' perceptions of the nine management practices, and human resource practices and all management practices as single variables. The dependent variables for hypothesis 12 are objective performance data. The research question here is: Do those state revenue agencies that have higher favorable perceptions of deployment of the management practices show greater improvement in objective measures?

Scatter plots were used to visually determine if there was a positive relationship between employee perceptions' of the management practices and the objective data. The mean response for each state revenue agency on each of the nine management practices, and human resource practices and all management practices as single variables, were compared with those state revenue agencies that were able to provide the most current objective data.

Attempts were also made to collect objective performance data for up to five-years to measure growth and consistency in performance for each of the state revenue agencies.

Hypothesis 13 and 14: The Association between Position and Employee Perceptions of Management Practices and Results

The independent variable for hypothesis 13 and 14 is "position." The dependent variable for hypothesis 13 is employee perceptions' of management practices. For hypothesis 14 the dependent variable is employee perceptions' of results and job satisfaction.

For hypotheses 13 and 14, the statistical question is whether there is a negative association between employee perceptions' of the nine management practices, all human resource practices and all

management practices as single variables, and their “position” within the agency. Three statistical procedures were chosen to determine if a negative relationship existed.

First, box plots were generated to compare perceptions of management practices and perceptions of results with “position.” Box plots for each value of position can be shown on the same diagram comparing the median response, the 25th and 75th quartiles, and minimum and maximum values. Box plots were generated on each management practice (including human resources and all management practices as single variables) and each result measure and job satisfaction for each agency, and then for all the responses among the eight state revenue agencies combined. Moreover, box plots were generated for each of the 39 survey items with each of the result measures and job satisfaction. Similar to the scatter plots, the box plots provide visual analysis of the relationship between the independent variables (position) and the dependent variables (management practices and results).

The second procedure was to compute Spearman rho correlations for the reasons given above. Unlike hypotheses 1 through 11, for hypotheses 13 and 14 we were looking for negative correlations between employee perceptions of management practices and their position within the agency.

In addition to box plots, cross-tabulations were computed comparing “position” with each of the 39 survey items and the result measures and job satisfaction only. The cross-tabulations help to further reveal patterns when comparing two single variables. Cross-tabulations were not done comparing “position” to the management practice scales because it would require transforming continuous data into the ordinal scale that originally measured each of the 39 survey items. As a result, deciding which values of continuous data for each management practice scale fall into which values of the 5-point Likert scale requires some interpretation and that can be perceived as biasing the findings.

Follow-up Interviews

Once the data analysis was completed, personnel with the state revenue agencies were interviewed to seek explanations for particular findings.

PRETEST

A pretest of the web-based management practices survey was completed among the staffs of the research office and planning office of “3 South”. There were a total of 14 responses and the pretest did not reveal any problems with the survey items.

ACTUAL RESPONSE

For most of the participating agencies, a high ranking official, as shown in Table 3-3, was the person responsible for forwarding emails to all employees within the agency.

In preparation, an advance notice was drafted and provided to the contact person at each state revenue agency (see Appendices page 257). The advance notice memo was intended to be sent in an email to give employees an early warning regarding the survey and to allay any fears regarding confidentiality. A follow-up email to the advance notice would provide employees a URL address to access the survey. Although the text for the advance notice was strongly recommended, most of the participating agencies chose to re-write the memo. Moreover, two agencies chose to include the URL address to the web-based survey with the advance notice (“3 South” and “4 Mid-Atlantic”).

Table 3-3: Inter-Agency Contact on Web-based Survey

State Revenue Agency	Official
“1 Northwest”	Audit Manager
“2 Southwest”	Quality Officer
“3 South”	Director, Planning Office
“4 Mid-Atlantic”	Chief of Staff
“5 Northwest”	Management Officer
“6 Southwest”	Deputy Secretary
“7 South”	Commissioner
“8 Mid-West”	Deputy Secretary; Director of Human Resources

Table 3-4: Web-based Survey Dates

Agency	1 st Email: Advance Notice Only	1 st E-mail: Web-based Survey	2 nd E-mail: Web-based Survey	3 rd E-mail: Web-based Survey	4 th E-mail: Web-based Survey	Survey Closed
“3 South”	None	6/03/2003	6/18/2003	6/25/2003	None	7/12/2003
“8 Mid-West”	6/05/2003	6/09/2003	6/23/2003	7/03/2003	None	7/12/2003
“2 Southwest”	6/05/2003	6/09/2003	6/19/2003	7/08/2003	None	7/12/2003
“7 South”	7/02/2003	7/09/2003	7/16/2003	7/23/2003	None	8/02/2003
“4 Mid-Atlantic”	None	7/29/2003	8/05/2003	8/11/2003	None	8/16/2003
“6 Southwest”	8/04/2003	8/05/2003	8/14/2003	None	None	8/22/2003
“5 Northwest”	None	8/06/2003	8/12/2003	8/25/2003	8/28/2003	8/30/2003
“1 Northwest”	None	9/23/2003	None	None	None	10/11/2003

Table 3-4 above provides the chronological order in which the eight agencies made the survey available to their employees. The table includes the dates for the advance notice email, each subsequent email containing the URL address for the web-based survey, and the date the web-based survey was closed.

The survey was somewhat customized for each participating agency to provide them more useful results. The control variables “work unit” and “location” were different for each agency’s surveys to reflect that agency’s organizational structure and locations. Customizing these two control variables allowed for the 44 survey items to be cross-tabulated by each agency’s divisions and locations.

Moreover, the control variable “position” was adapted. Although the values in each survey remained the same, definitions of these values were sometimes changed to conform to each agency’s hierarchical structure. For the most part, the value “senior executive” was defined differently. For example, “7 South” defined “senior executive” as “Commissioner, Directors & Staff Officers”, while “6 Southwest” defined “senior executive” as “The Secretary and direct reports”.

All of the agencies provided access to a paper-version of the survey to its employees for the exceptions of “4 Mid-Atlantic” and “1 Northwest.” For some agencies, not all employees had access to email. In “6 Southwest” hard copies of the survey were made available to employees through managers and supervisors. Employees completing hard copies were asked to send the completed survey inter-office to the Office of the Secretary, or drop it in a “confidential drop box” set up in several locations. In addition, while “1 Northwest” had 90 positions within the agency’s tax division, 19 were unfilled at the time the survey was taken which means that only 71 employees were available to complete the survey.

Table 3-5: Response Rates for Each State Revenue Agency

State Revenue Agencies	Total Employees	Total Respondents	Response Rate
“1 Northwest”	71	39	55%
“2 Southwest”	1,041	542	52%
“3 South”	2,512	1216	48%
“4 Mid-Atlantic”	1,110	330	30%
“5 Northwest”	600	281	47%
“6 Southwest”	1,000	578	58%
“7 South”	822	494	60%
“8 Mid-West”	1,130	716	63%
Total	8,286	4,186	50.5%

The actual response by agency is provided in Table 3-5. The response rate is based on the number of employees that completed page 5 of the web-based survey. The web-based survey consisted of 5 pages with the 3 control items on the first page and 11 survey items on each of the subsequent four pages. Table 3-6 provides the number for each agency that completed a paper copy of the survey and returned by mail. Table 3-7 provides the response rate by page. However, it should be noted that the total number for each page also includes the respondents who completed that survey item using a paper version.

Table 3-6: Number Completing Paper Copy of Survey

State Revenue Agencies	# Completing Paper Copy of Survey
“1 Northwest”	0
“2 Southwest”	23
“3 South”	93
“4 Mid-Atlantic”	0
“5 Northwest”	21
“6 Southwest”	150
“7 South”	99
“8 Mid-West”	10
Total	396

Table 3-7: Response Rate per Page for Each State Revenue Agency

State Revenue Agency	% Response Page 1	% Response Page 2	% Response Page 3	% Response Page 4	% Response Page 5
“1 Northwest”	94%	73%	69%	62%	55%
“2 Southwest”	61%	55%	54%	53%	52%
“3 South”	56%	50%	48%	47%	48%
“4 Mid-Atlantic”	49%	38%	34%	32%	30%
“5 Northwest”	68%	56%	53%	51%	47%
“6 Southwest”	69%	62%	60%	60%	58%
“7 South”	69%	64%	63%	62%	60%
“8 Mid-West”	71%	66%	65%	64%	63%

Lessons Learned from the Three Initial Agencies

A separate tally was kept on daily response for each participating state revenue agency. It was

evident from the experience of completing the survey with the first three agencies that the length of the process was too long (five to six weeks). It was also evident that the response declined precipitously after the initial email that contained the URL address and each subsequent reminder. Consequently, the process was shortened to three weeks. In addition to shortening the process, “other” was dropped from the survey as a value for each control variable to force a choice among the remaining values.

LESSONS LEARNED FROM WEB-BASED SURVEYS ACROSS AGENCIES

Conducting the web-based survey required the cooperation of each participating state revenue agency to follow the recommended procedures. The researcher, therefore, had less control over the survey process than would have been preferred. For instance, while six of the revenue agencies (“2 Southwest”, “3 South”, “5 Northwest”, “6 Southwest”, “7 South”, and “8 Mid-West”) made the paper version available to its employees, two other agencies (“1 Northwest” and “4 Mid-Atlantic”) did not. While it may have affected the response rate from “4 Mid-Atlantic”, it did not seem to have had an affect on the response rate from “1 Northwest”.

Tracking daily online response revealed different patterns to the initial email and subsequent reminders. In some states, a second reminder yielded much fewer responses than the first reminder, while in other states the opposite was true. It is important to track the response from each survey on a daily basis. Doing so helps to better manage the process and to shorten the survey time from beginning to end. Follow-up reminders should be sent to employees when the response rate begins to bottom-out. However, for the most part, it appears that additional reminders yield increasingly diminishing returns. For this survey, only two reminders in most cases were necessary.

The number of survey items and/or the number of survey pages also appeared to affect response to the web-based version of the survey. Response numbers dropped from the first page to the second page which means that some respondents only answered the control questions. From the second to the last page, the percentage drop ranged from 2 percent all the way up to 18 percent. However, among some states, the drop-off from one page to the next was biased by the number of paper surveys completed.

In addition to the other lessons learned, allowing for comments on each survey item would have been an effective means of probing for understanding why employees gave the response they did. While it is a cumbersome procedure for a hard-copy version, it can be handled very effectively with a web-based survey.

CHAPTER 4
ANALYSIS:
THE ASSOCIATION BETWEEN MANAGEMENT PRACTICES AND RESULTS,
BOTH PERCEIVED AND OBJECTIVE

RESPONSE RATES

As Table 3-5 in Chapter 3 revealed (it is re-inserted again below), response rates to the web-based survey were generally excellent. With the exception of “4 Mid-Atlantic,” all response rates were between 47% and 63% with five agencies having response rates greater than 50%. One can assume the response rate might have been higher for “4 Mid-Atlantic” if it had provided the paper copy to any employees who may have had concerns regarding confidentiality.

Table 3-5: Responses Rates for Each State Revenue Agency

State Revenue Agencies	Total Employees	Total Respondents	Response Rate
“1 Northwest”	71	39	55%
“2 Southwest”	1,041	542	52%
“3 South”	2,512	1216	48%
“4 Mid-Atlantic”	1,110	330	30%
“5 Northwest”	600	281	47%
“6 Southwest”	1,000	578	58%
“7 South”	822	494	60%
“8 Mid-West”	1,130	716	63%
Total	8,286	4,186	50.5%

These rates are consistent with the higher response rates reported by Cho and LaRose (1999). The higher response rates achieved with this study are partly due to the guidelines set forth by Simsek and Veiga (2000) which include: explaining the purpose of the survey; assuring confidentiality; having an authority figure within each agency to forward the survey via email; and, sending follow-up reminders.

INTERNAL CONSISTENCY OF THE SURVEY: STATISTICAL RELIABILITY

The survey used a number of survey items ranging from two up to seven questions to determine

perception on a scale, such as strategic planning and performance measurement.³⁹ The first statistical technique attempted to determine whether the scale questions did in fact cluster together. The reliability coefficient (alpha) was computed for the responses for each state revenue agency separately and then for all responses collectively among the eight agencies.

Table 4-1: Reliability Coefficients

Measures	Standardized Item Alpha
Strategic Planning	.8633
Performance Measurement	.8625
Performance Feedback	.7839
Customer service practices	.7327
Empowerment	.6942
Teamwork	.7028
Training	.5694
Rewards & Recognition	.7380
Process Improvement	.7966
Results	.8214

The rule of thumb is usually to drop any measures that fall below a reliability coefficient of .70. (Garson, David. <http://www2.chass.ncsu.edu/garson/pa765/reliab.htm>.) As Table 4-1 attests, only two measures were below the .70 standard (i.e., empowerment and training). Both management practices will be considered more closely later in this chapter.⁴⁰ An analysis of the reliability coefficients seems to suggest that the variables measuring each of the nine management practices and results are consistent, especially for strategic planning, performance measurement and results.

The reliability coefficients tend to be roughly equivalent for most of the measures when computed independently for the responses from each of the eight state revenue agencies as shown in Table 4-2, especially when the smallest agency in the nonrandom sample is dropped (“1 Northwest”).

³⁹ A total of six questions measured the strategic planning scale; five measured the scale for performance measures; four measured performance feedback; five measured customer service practices; three measured empowerment; two measured teamwork; two measured training; four measured rewards and recognition; and, seven measured process improvement.

⁴⁰ Although empowerment was borderline, training was measured by only two variables.

Table 4-2: Standardized Item Alpha

(1 = “1 Northwest,” 2 = “2 Southwest,” 3 = “3 South,” 4 = “4 Mid-Atlantic,” 5 = “5 Northwest,” 6 = “6 Southwest,” 7 = “7 South,” and 8 = “8 Mid-West”)

Measures	1	2	3	4	5	6	7	8
Strategic Planning	.8146	.8353	.8640	.8301	.8131	.8584	.8593	.8525
Performance Measurement	.7813	.8290	.8870	.8107	.8129	.8528	.8593	.8452
Performance Feedback	.6178	.7610	.7627	.7676	.7465	.7914	.7643	.7654
Customer service practices	.4364	.6660	.7805	.6138	.6163	.7405	.7298	.7380
Empowerment	.4594	.6392	.7045	.6472	.6537	.6868	.7392	.6901
Teamwork	.5663	.6970	.7438	.6623	.6456	.6513	.6999	.7138
Training	.4757	.5504	.5944	.4620	.6289	.4960	.6587	.6301
Rewards and Recognition	.6998	.6851	.7761	.6831	.6493	.7477	.7113	.7235
Process Improvement	.6700	.7859	.8375	.7568	.7353	.7324	.8195	.7627
Results	.8439	.7630	.8414	.7677	.7718	.7895	.8470	.8082

RECAP OF DATA ANALYSIS PROCEDURES

Data Analysis Procedures

This study predicts that the nine management practices (i.e., strategic planning, performance measurement, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition and process improvement) as perceived by state revenue agency employees, will positively correlate with their perception of results (i.e., taxpayer satisfaction, improvements in processes, service delivery, job satisfaction, and morale). The study also predicts that a combination of all human resource practices (i.e., performance feedback, empowerment, teamwork, training, and rewards and recognition) will positively correlate with result measures. Finally, it predicts that when all nine management practices are combined into a single variable there will be a positive association with each of the five result measures.

The variables measuring perceived results include:

3. Taxpayers are more pleased with our services this year *than* last year.
4. Improvements in my division’s processes *and/or* procedures have resulted in improved services.
5. Over the last year, there has been measurable improvement in the way we deliver services.
6. In general, I am satisfied with my job.
7. The morale in my division or work unit is generally good.

Three statistical procedures are used in analyzing the data. First, scatter plots were produced comparing the mean score of each management practice, (including human resources and all management

practices as single variables), with the mean score of each of the five results for each state revenue agency. Second, Spearman rho correlations were computed for each agency correlating each management practice (including human resources and all management practices as single variables) with each of the five result measures.

The final procedure was to conduct multiple regression. First, a correlation matrix was produced to determine if multicollinearity was a problem for the model. Then, multiple regression equations, including all the independent variables and the result measures as a single variable, were generated for all responses collectively and then for each state revenue agency separately.

In addition to comparing employee perceptions of the practices with their perceptions of results, the study also compares employee perceptions of the deployment of the management practices with actual performance data using scatter plots.

Table 4-3: Mean Scores for Each Agency

(1 = “1 Northwest,” 2 = “2 Southwest,” 3 = “3 South,” 4 = “4 Mid-Atlantic,” 5 = “5 Northwest,” 6 = “6 Southwest,” 7 = “7 South,” and 8 = “8 Mid-West”)

Management Practice and Results	1	2	3	4	5	6	7	8
Strategic Planning	2.80	3.29	3.28	2.94	2.73	2.64	2.99	2.75
Performance Measurement	2.71	3.30	3.32	3.11	2.92	2.81	3.11	2.89
Performance Feedback	2.90	3.29	3.39	2.94	2.75	2.58	3.06	2.84
Customer service practices	3.43	3.72	3.68	3.56	3.31	3.27	2.55	3.47
Empowerment	3.26	3.37	3.32	3.13	2.99	2.89	3.03	3.12
Teamwork	3.61	3.74	3.70	3.56	3.68	3.65	3.75	3.48
Training	2.86	3.47	3.59	3.41	3.07	3.19	3.40	3.07
Rewards and Recognition	2.62	2.65	2.76	2.66	2.26	2.27	2.42	2.27
Human Resources	3.04	3.26	3.31	3.08	2.89	2.83	3.07	2.90
Process Improvement	3.27	3.44	3.40	3.36	3.07	3.19	3.22	3.16
All Management Practices	3.07	3.37	3.39	3.19	2.99	2.94	3.18	3.01
Taxpayer Satisfaction	3.17	3.45	3.20	3.48	3.02	2.99	3.15	3.03
Improvements in Processes	3.05	3.50	3.34	3.46	3.00	2.95	3.11	2.93
Service Delivery	2.67	3.33	3.25	3.31	2.83	2.86	2.99	2.72
Job Satisfaction	3.45	3.69	3.70	3.48	3.35	3.27	3.55	3.34
Morale	3.03	3.11	3.15	2.60	2.54	2.38	2.79	2.45

Interviews

In follow-up to the findings, several interviews were conducted with employees’ at all four levels

in five of the participating agencies including “3 South”, “5 Northwest”, “6 Southwest”, “7 South” and “8 Mid-West”. Those interviewed included three senior executives, four managers, five front-line supervisors and 10 non-supervisors. While most of the employees interviewed are female (14), nearly all of the upper management is male. Two of three senior executives and all four managers interviewed are male. In contrast, four of the five front-line supervisors and nine of the ten non-supervisors interviewed are female. Most of the employees interviewed also have been with state government for a number of years. On average, those interviewed have been state government employees for 18.3 years.

FREQUENCIES

The mean scores for each agency are reported in Table 4-3. The mean, median and standard deviation scores for all the agencies collectively are reported in Table 4-4. Tables for the median and standard deviation scores for each agency are reported in Tables 4-48 and 4-49 respectively on pages 148 and 149 of this chapter.

Table 4-4: Mean Scores for All Responses Collectively, Management Practices

Management Practices	Mean	Median	Standard Deviation
Strategic Planning	3.01	3.00	.80172
Performance Measures	3.11	3.20	.80294
Performance Feedback	3.06	3.25	.91152
Customer service practices	3.55	3.60	.64894
Empowerment	3.17	3.33	.90227
Teamwork	3.65	4.00	.78846
Training	3.35	3.50	.95250
Rewards and Recognition	2.52	2.50	.90829
Human Resources	3.10	3.12	.71839
Process Improvement	3.29	3.29	.69535
All Management Practices	3.18	3.21	.64812
Taxpayer Satisfaction	3.11	3.00	.830
Improvements In Processes	3.09	3.00	.983
Service Delivery	2.96	3.00	.994
Job Satisfaction	3.29	4.00	.989
Morale	2.67	3.00	1.201

DOES THE PERCEIVED DEPLOYMENT OF STRATEGIC PLANNING HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The first hypothesis is about strategic planning. It predicts that the more employees perceive strategic planning is deployed in the agency, the higher they perceive the results and job satisfaction.

Analysis by Agency

Based on a visual inspection of the scatter plots, strategic planning appears to have the strongest associations with the result measures “job satisfaction,” “improvements in processes” and “morale” (see Figures 4-1 through 4-3). The association with job satisfaction, as indicated in Figure 4-1 below, seems nearly perfect.

Figure 4-1: Strategic Planning and Job Satisfaction

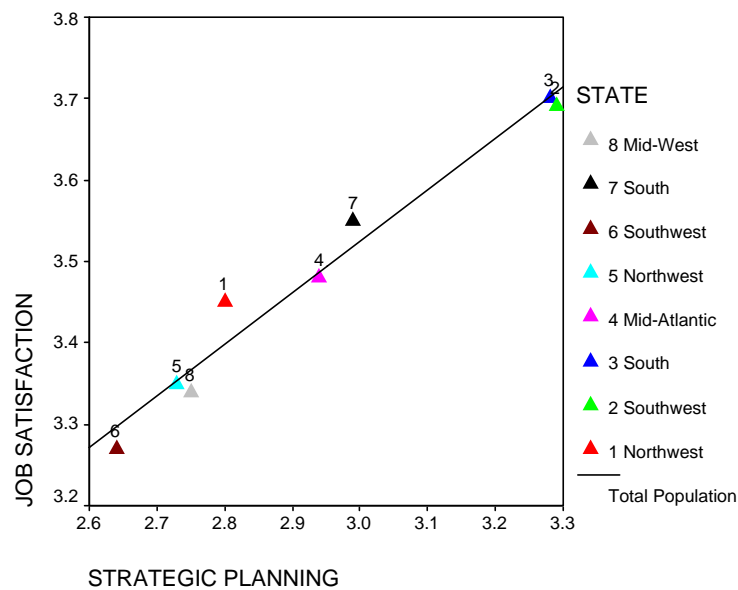


Figure 4-2: Strategic Planning and Improvements in Processes

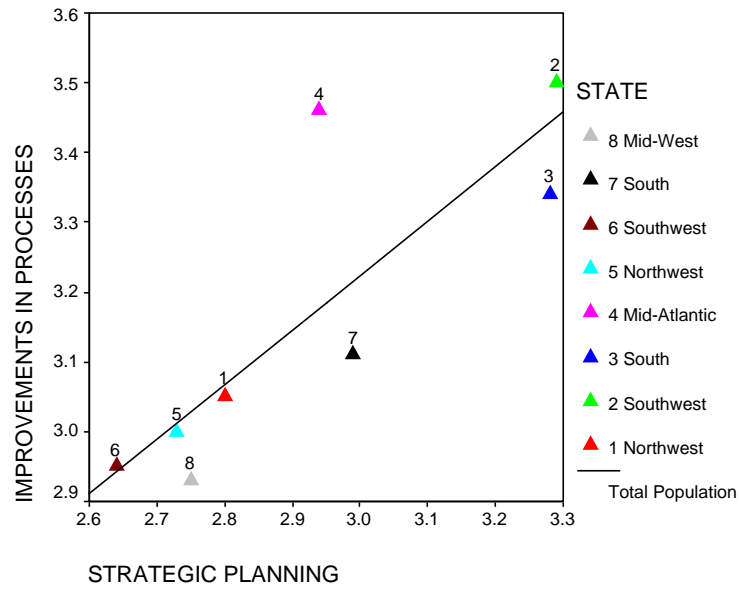


Figure 4-3: Strategic Planning and Morale

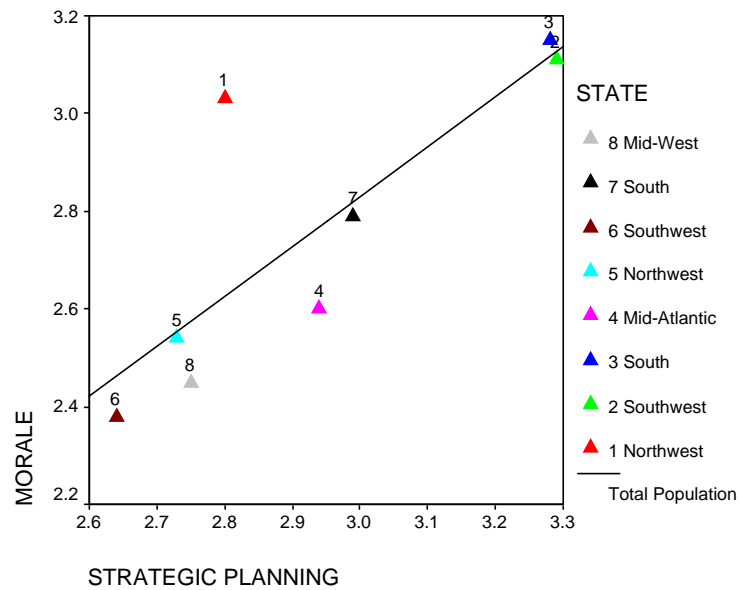


Table 4-5: Strategic Planning by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.255	.526**	.566**	.403*	.526**
“2 Southwest”	.326**	.544**	.502**	.518**	.591**
“3 South”	.446**	.665**	.638**	.583**	.637**
“4 Mid-Atlantic”	.278**	.541**	.484**	.592**	.635**
“5 Northwest”	.264**	.509**	.444**	.465**	.581**
“6 Southwest”	.392**	.602**	.604**	.511**	.690**
“7 South”	.424**	.668**	.622**	.618**	.685**
“8 Mid-West”	.313**	.555**	.529**	.484**	.560**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

The correlation coefficients reported in Table 4-5 indicate that strategic planning has positive associations with all five result measures among the agencies separately. However, unlike the scatter plots the correlations indicate stronger associations with morale, improvements in processes and service delivery than with job satisfaction. Four of the agencies have correlations of greater than .6 (rho = .690, .685, .637, and .635, $p < .01$) while the other four agencies have correlations greater than .5 (rho = .591, .581, .560, and .526, $p < .01$). Correlations between strategic planning and taxpayer satisfaction are the weakest among the five result measures. The two southern agencies, “3 South” and “7 South,” have the largest correlations between employee perceptions of strategic planning and perceived results for the exception of morale, where “6 Southwest” has the largest correlation.

Analysis of All Agencies Collectively

All of the correlations between strategic planning and each result measure are positive (see Table 4-6) for all eight agencies collectively. As already indicated by the agencies separately, strategic planning has its strongest correlation with morale, followed by improvements in processes, service delivery, job satisfaction and taxpayer satisfaction.

Table 4-6: Strategic Planning by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.386**	.617**	.592**	.560**	.652**

** Correlation is significant at the 0.01 level (2-tailed)

When considering the survey items separately that measure strategic planning (see Table 4-7), each item has its strongest correlation coefficient with morale, for the exception of the item: “The work that employees do is clearly tied to their division’s long-term goals and objectives.” That particular item has its strongest correlations with job satisfaction ($\rho = .501, p < .01$) and then improvements in processes ($\rho = .500, p < .01$).

Table 4-7: Strategic Planning Items by Result

Survey Item	TS	IP	SD	JS	M
Senior executives have set a long-term direction for the department.	.274**	.438**	.421**	.409**	.445**
Management seeks the opinions of employees on the long-term direction of the department.	.306**	.519**	.507**	.465**	.587**
Each division in the department establishes goals and objectives that support the department’s long-term direction.	.324**	.509**	.486**	.443**	.519**
All employees participate in developing their division’s long-term goals and objectives.	.291**	.458**	.446**	.386**	.489**
The work that employees do is clearly tied to their division’s long-term goals and objectives.	.327**	.500**	.479**	.501**	.465**
Immediate supervisors share the same goals and values as the senior executives.	.269**	.434**	.408**	.395**	.478**

** Correlation is significant at the 0.01 level (2-tailed)

Two survey items have the strongest correlation coefficients with all five result measures. Improvements in processes, service delivery and morale have the largest correlations with the item: “Management seeks the opinions of employees on the long-term direction of the department” ($\rho = .519, .507$ and $.587, p < .01$, respectively). Taxpayer satisfaction and job satisfaction have the largest correlations with the item: “The work that employees do is clearly tied to their division’s long-term goals and objectives” ($\rho = .327$ and $.501, p < .01$, respectively).

Findings

The correlation coefficients by agency and for all agencies collectively indicate positive associations between strategic planning and all five result measures. While an association between strategic planning and the result measures “improvements in processes” and “service delivery” would be expected, “morale” having the largest association was not anticipated. Why would state revenue employees associate more strategic planning with higher morale? An explanation is offered by the correlations reported for each of the six survey items measuring strategic planning. The strongest

correlation coefficient indicates that when management seeks the opinions of employees on the long-term direction of the agency, morale (along with improvements in processes and service delivery) improves among state revenue employees. This would lead one to assume that employees are happier when they feel they have input and as a consequence of that input, “buy-in” into the agency’s vision. Moreover, state revenue employees indicate that establishing division goals and objectives and being able to participate in developing them also improve morale.

This all suggests that state revenue employees are happier and have greater confidence when the agency sets a long-term direction for the future. Moreover, higher morale may be achieved when agency divisions or work units develop goals and objectives that “nest” within the agency’s overall strategic plan. Perhaps knowing where you are going is more psychologically pleasing in a work environment, whereas not knowing creates anxieties.

These conclusions were supported in interviews with employees. The general response among management-level employees interviewed is that strategic planning provides employees a sense of direction and those employees are “happier when they know what is expected of them and where the agency is headed.” One manager felt that an agency with a vision of its future gives the kind of psychological boost that establishes an esprit de corps among employees. Vision, believed the manager, “helps people to excel; it motivates them to come to work.” The manager illustrated his point with a story:

“There was a man walking down the road when he came upon some bricklayers. The man asked the first bricklayer he came to what he was doing. The first bricklayer replied, ‘I’m laying brick.’ When the man came upon a second bricklayer he asked the question again in which the bricklayer replied, “I’m building a wall.” He then asked the question of a third bricklayer who replied, “I’m building a cathedral.”

The manager’s point with the story was that the third bricklayer’s heart was in the construction of that cathedral. Strategic planning, believes the manager, helps employees to know they are “building a cathedral.” A supervisor from the same department as the manager said that strategic planning focuses employees on the big picture even when there are morale problems. According to the supervisor, the implementation of a new comprehensive software program that integrates all the different taxes into a single system has severely affected morale in the department and caused a lot of anger and frustration. Despite the fact that it is taking three times as long to implement it than was projected, the supervisor believes a lot of employees have not quit because management continually emphasizes the “big picture.”

The finding that state revenue employees have higher job satisfaction and morale supports findings found by Tubbs (1986), Mento et al. (1987) and O’Leary-Kelly et al. (1994) that participatively-set goals lead to higher performance than goals that are assigned. Overall, these findings would appear to corroborate the findings of Capon et al. (1994), Miller and Cardinal (1994), Schwenk and Shrader (1993),

Odom and Box (1998), and Boyne (2001) who found evidence of at least a moderate relationship between planning and performance.

DOES THE PERCEIVED DEPLOYMENT OF PERFORMANCE MEASURES HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The second hypothesis predicts that the greater a state agency's deployment of performance measures the higher the perceived level of results and job satisfaction.

Analysis by Agency

In reviewing the five scatter plots, the strongest associations are visually indicated between performance measures and the result measures "job satisfaction" and "morale" as shown in Figures 4-4 and 4-5 respectively.

Figure 4-4: Performance Measures and Job Satisfaction

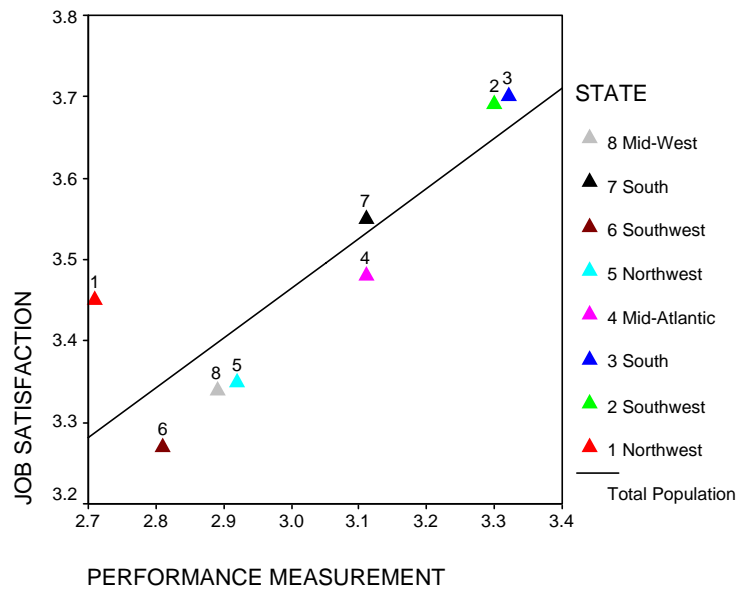


Figure 4-5: Performance Measures and Morale

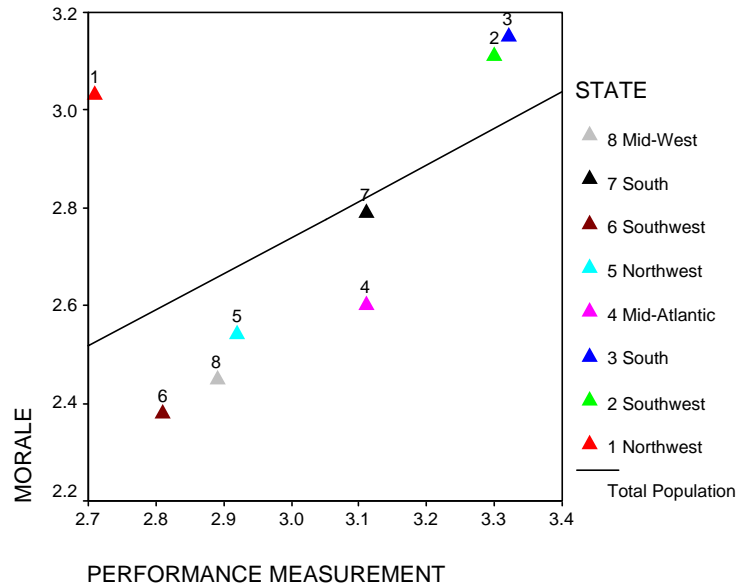


Table 4-8: Performance Measures by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.206	.317*	.496**	.052	.521**
“2 Southwest”	.322**	.563**	.478**	.456**	.494**
“3 South”	.460**	.686**	.633**	.529**	.576**
“4 Mid-Atlantic”	.215**	.514**	.492**	.523**	.484**
“5 Northwest”	.239**	.493**	.507**	.459**	.495**
“6 Southwest”	.407**	.601**	.577**	.470**	.586**
“7 South”	.455**	.686**	.635**	.541**	.564**
“8 Mid-West”	.313**	.527**	.502**	.441**	.476**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

The correlations reported by agency between performance measures and the five result measures in Table 4-8 are all positive. The result measure “improvements in processes” has the largest correlations with the management practice “performance measures.” Three of the agencies report a correlation greater than .6 (rho = .686, .686 and .601, $p < .01$) and three others report correlations greater than .5 (rho = .563, .527 and .514, $p < .01$). Service delivery has the next largest correlations followed by morale. Job satisfaction again has the fourth largest correlations among the five result measures. The weakest correlations are found between performance measures and perceived taxpayer satisfaction. Again, “3

South” and “7 South,” have the larger correlations between employee perceptions of performance measures and perceived results for the exception of morale, where “6 Southwest” has the largest correlation.

Analysis of All Agencies Collectively

Among all the survey responses collectively, performance measures has positive correlations with all five result measures as shown in Table 4-9. The largest correlation is reported with improvements in processes, followed by service delivery, morale, job satisfaction and taxpayer satisfaction.

Table 4-9: Performance Measures by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.388**	.618**	.585**	.507**	.559**

** Correlation is significant at the 0.01 level (2-tailed)

Among the five survey items measuring performance measures as shown in Table 4-10, improvements in processes has the largest correlations with all five individual questions. The item with the strongest correlations among four of the five result measures is the item: “Our use of quantifiable measures has improved communication with other divisions in the department.” The four result measures include taxpayer satisfaction ($\rho = .347, p < .01$), improvements in processes ($\rho = .546, p < .01$), service delivery ($\rho = .524, p < .01$), and morale ($\rho = .494, p < .01$). The largest correlation with job satisfaction is the item: “Our use of quantifiable measures has improved cooperation and coordination with other divisions in the department” ($\rho = .441, p < .01$).

Table 4-10: Performance Measure Items by Result

Survey Item	TS	IP	SD	JS	M
We use quantifiable measures to <i>routinely</i> track our performance.	.263**	.417**	.374**	.354**	.372**
We use quantifiable measures to make decisions about our work.	.285**	.451**	.425**	.390**	.421**
Our use of quantifiable measures has improved cooperation and coordination with <i>other</i> divisions in the department.	.341**	.519**	.518**	.441**	.493**
Our use of quantifiable measures has improved communication with <i>other</i> divisions in the department.	.347**	.546**	.524**	.435**	.494**
The quantifiable measures we use have led to changes in <i>how</i> we achieve results.	.321**	.534**	.510**	.410**	.445**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

All of the correlations, either by agency or among all the survey responses collectively are positive, indicating support for the hypothesis. The correlations indicate the strongest association between performance measures and improvements in processes, followed by service delivery, morale, job satisfaction and taxpayer satisfaction.

Specifically, the largest correlation among the survey items separately reveals that quantifiable measures help to improve communications across divisions within agencies, and as a consequence, improvements in processes result in improved services. Key processes within organizations often cross divisional and unit boundaries, especially in organizations like state revenue agencies where the functions are closely linked and the mission is relatively narrow in scope. In other words, revenue agencies exist to collect taxes for other government agencies to spend. Measures that track the performance of those key processes help to improve the streamlining and fine-tuning of those key processes across divisional and unit boundaries from input through to results. In tandem with communications across divisional lines leading to improvements in processes, the second largest correlation coefficient indicates that the use of quantifiable measures lead to changes in *how* results are achieved, which means that performance measures help to calibrate processes resulting in improved services.

DOES THE PERCEIVED DEPLOYMENT OF PERFORMANCE FEEDBACK HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The third hypothesis predicts that the greater a state agency's deployment of performance feedback the higher the level of organizational results and job satisfaction, as perceived by employees.

Analysis by Agency

A visual reading of the scatter plots in Figure 4-6 and 4-7 would indicate that the associations between performance feedback and the result measures "job satisfaction" and "morale" are both positive and strong. In fact, the association with job satisfaction appears to be nearly perfect.

Figure 4-6: Performance Feedback and Job Satisfaction

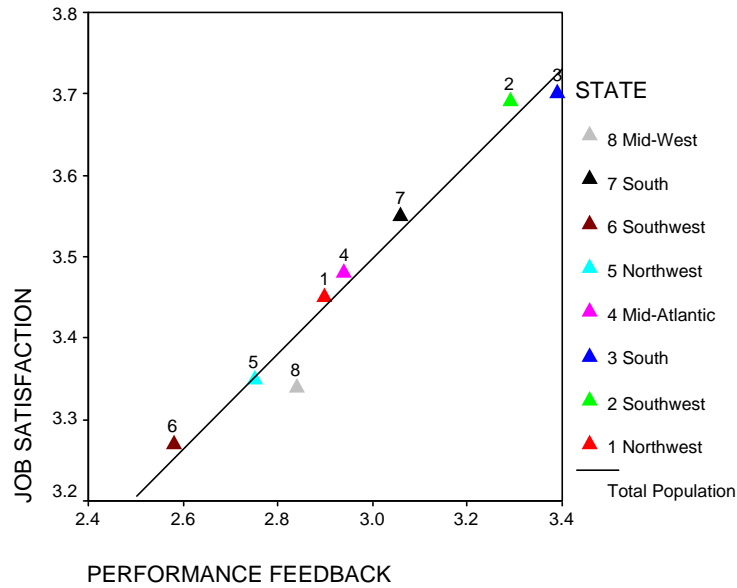
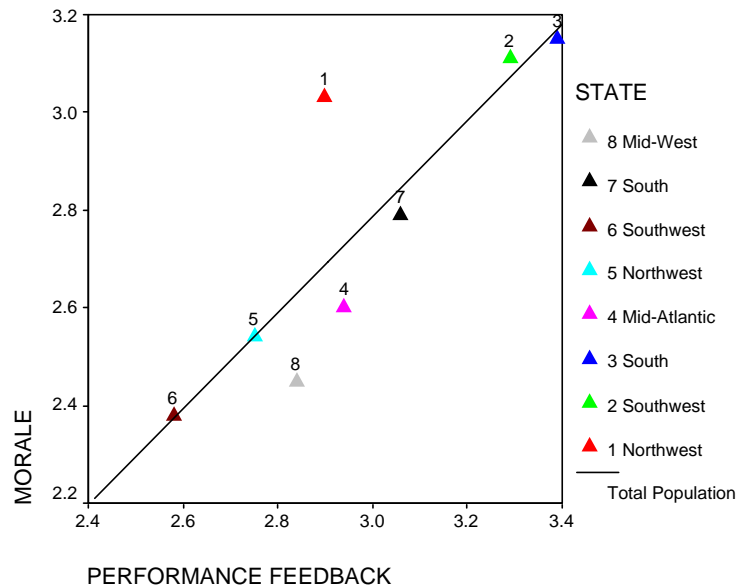


Figure 4-7: Performance Feedback and Morale



All of the correlations shown in Table 4-11 are positive. For seven of the eight agencies, performance feedback has the largest association with morale with three agencies having correlations larger than .6 ($\rho = .678, .658$ and $.626, p < .01$) and four greater than .5 ($\rho = .592, .564, .546$, and $.534, p < .01$). While morale clearly has the largest correlations with performance feedback, a comparison of the remaining four result measures indicates something of a mixed bag between improvements in

processes, service delivery and job satisfaction. All three appear to be relatively close in strength. As with previous comparisons, taxpayer satisfaction has the weakest association with performance feedback. Once again, “3 South” and “7 South” have the largest correlations between employee perceptions of performance feedback with most of the result measures with “6 Southwest” having the largest correlation with morale.

Table 4-11: Performance Feedback by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.356*	.421**	.592**	.291	.563**
“2 Southwest”	.273**	.458**	.445**	.512**	.546**
“3 South”	.363**	.582**	.568**	.585**	.626**
“4 Mid-Atlantic”	.179**	.467**	.458**	.537**	.592**
“5 Northwest”	.262**	.483**	.409**	.450**	.534**
“6 Southwest”	.352**	.578**	.582**	.515**	.678**
“7 South”	.336**	.625**	.546**	.595**	.658**
“8 Mid-West”	.237**	.463**	.446**	.508**	.564**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

When considering all agencies collectively, performance feedback has a positive association with all five result measures as shown in Table 4-12. As already indicated among the agencies separately, morale has the largest association with performance feedback, followed by job satisfaction, improvements in processes, service delivery and taxpayer satisfaction.

Table 4-12: Performance Feedback by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.315**	.542**	.525**	.552**	.629**

** Correlation is significant at the 0.01 level (2-tailed)

An analysis of each survey item measuring performance feedback reveals that morale has the largest correlation with three of the four survey items (see Table 4-13). Job satisfaction has the largest

correlation with the other survey item.

The largest correlation coefficients among all five result measures are with the survey item: “Management routinely seeks the opinions of employees on issues related to their job and their work environment.” The strongest correlation with this item is with the result measure “morale” ($\rho = .609, p < .01$).

Table 4-13: Performance Feedback Items by Result

Survey Item	TS	IP	SD	JS	M
Senior executives routinely give feedback to employees on the performance of our department.	.256**	.387**	.372**	.363**	.427**
Performance expectations for my work have been clearly communicated to me.	.226**	.385**	.391**	.444**	.419**
I get regular feedback from my immediate supervisor that helps me to improve my work.	.193**	.386**	.388**	.430**	.479**
Management routinely seeks the opinions of employees on issues related to their job and their work environment.	.301**	.526**	.491**	.487**	.609**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

The correlations by agency and for all agencies collectively are positive and support the hypothesis that state revenue employees perceive a positive association between performance feedback and results. The largest correlation coefficients with performance feedback by agency separately and collectively are with morale, improvements in processes and service delivery. Again, taxpayer satisfaction has the weakest correlation.

Collectively, state revenue agency employees said that when management seeks their opinions on issues important to their jobs and work environment, results improve, but especially their morale. This finding about feedback is consistent with the previous finding that when management seeks the opinions of employees on the long-term direction of the agency, morale among employees goes up (along with improvements in processes and service delivery). Both these findings seem to suggest that state revenue employees like to provide feedback to management and receive feedback as well.

This finding that performance feedback and results are associated in the minds of employees corroborate similar findings by Tubbs (1986), Mento et al. (1987) Early et al. (1990), Neubert (1998) and Selden and Brewer (2000). All found that the goal-setting and performance link was enhanced by performance feedback.

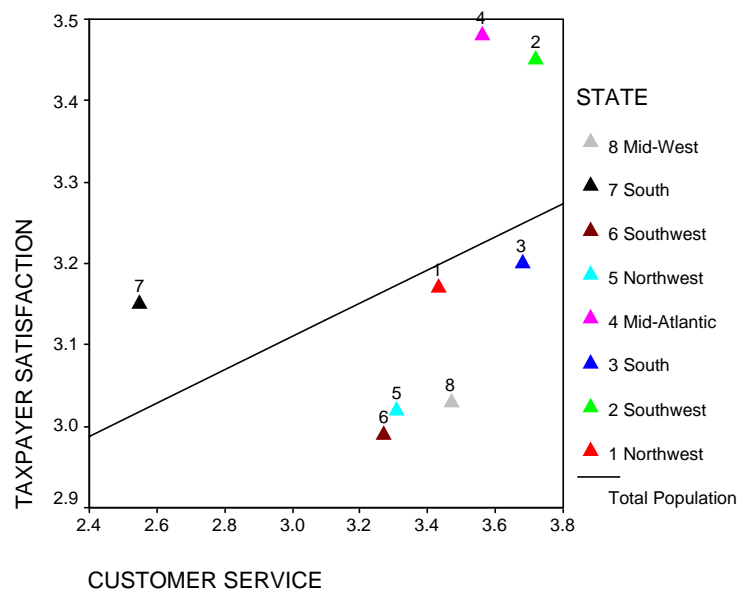
DOES THE PERCEIVED DEPLOYMENT OF CUSTOMER SERVICE HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The fourth hypothesis predicts a positive association between customer service practices and all five of the result measures, as perceived by the employees of state agencies.

Analysis by Agency

Of all five result measures, it would be logical to assume that customer service practices would have the strongest association with taxpayer satisfaction. However, while Figure 4-8 does show some association, that association does not appear particularly strong. In fact, a visual inspection of the other four scatter plots indicates no strong associations.

Figure 4-8: Customer Service and Taxpayer Satisfaction



On the other hand, the variable “customer service practices” shows positive associations with all five of the result measures for each of the eight state revenue agencies as shown in Table 4-14. According to the strength of the correlation coefficients, service delivery has the largest correlations with five of the agencies and improvement in processes has the largest correlations with three other agencies. The largest agency, “3 South,” has the strongest correlations between customer service practices and employee perceived results and job satisfaction.

Table 4-14: Customer Service by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.311	.401*	.304	.161	.281
“2 Southwest”	.308**	.418**	.419**	.364**	.301**
“3 South”	.463**	.596**	.584**	.502**	.512**
“4 Mid-Atlantic”	.291**	.501**	.545**	.404**	.411**
“5 Northwest”	.328**	.427**	.446**	.327**	.335**
“6 Southwest”	.400**	.429**	.444**	.300**	.344**
“7 South”	.368**	.536**	.505**	.466**	.488**
“8 Mid-West”	.330**	.409**	.425**	.339**	.317**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

As shown in Table 4-15, all of the five result measures have positive correlations with customer service among all the agencies collectively. The strongest association is with service delivery, followed closely by improvements in processes, and then morale, job satisfaction and taxpayer satisfaction.

Table 4-15: Customer Service by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.387**	.507**	.513**	.422**	.436**

** Correlation is significant at the 0.01 level (2-tailed)

Service delivery has the largest correlation coefficients with three of the five survey items measuring customer service, and improvements in processes has the largest correlations with the other two items as seen in Table 4-16.

The largest correlation coefficient ($\rho = .464, p < .01$) is between the result measure “improvements in processes” and the survey item: “We use taxpayer input to improve our services.” This item also has the largest correlation coefficients with taxpayer satisfaction ($\rho = .350, p < .01$), job satisfaction ($\rho = .365, p < .01$) and morale ($\rho = .388, p < .01$). The second largest correlation ($\rho = .442, p < .01$) is between the result measure “service delivery” and the item: “Improving taxpayer access

to our service is an important priority for our department.”

Table 4-16: Customer Service Items by Result

Survey Item	TS	IP	SD	JS	M
We routinely seek input (e.g., surveys, focus groups, advisory groups) from taxpayers about our services.	.262**	.325**	.327**	.269**	.319**
Taxpayers can easily make complaints about our services.	.162**	.189**	.190**	.165**	.137**
We use taxpayer input to improve our services.	.350**	.464**	.437**	.365**	.388**
We take taxpayer complaints very seriously and we act to resolve them in a <i>timely</i> fashion.	.274**	.355**	.328**	.335**	.273**
Improving taxpayer access to our services is an important priority for our department.	.286**	.395**	.442**	.316**	.331**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

The correlations by agency and for all agencies collectively are positive and indicate that employees do perceive that the more customer service practices are deployed in the agency, the better the results. The scatter plots, while lending some support to the hypothesis, are not as convincing as the correlations. Service delivery has the largest correlation coefficient for all agencies collectively and for five of the eight agencies separately. Improvements in processes is the second largest correlation collectively as well as for three of the eight agencies.

Among the five survey items measuring customer service as a management practice, state revenue employees specifically believe that using taxpayer input helps improve processes that result in improved services. Employees also believe that when improving taxpayer access to services is a priority for the agency, measurable improvements in the delivery of services follow. Although these findings are intuitive, what may be surprising is that the correlation between customer service practices and employee perceived taxpayer satisfaction is relatively modest. Instead, employees perceive closer links with service delivery, improvements in processes, morale and job satisfaction before perceiving links with taxpayer satisfaction. One possible explanation is that employees are uncertain whether any customer service practices actually result in greater taxpayer satisfaction, probably because any evidence to the kind is sparse or anecdotal at best.

Although the correlation between the practice of customer service and taxpayer satisfaction is modest, it does tend to go along with the findings of Schneider et al. (1998) and Johnson (1996). Schneider et al. (1998) in particular found that when organizations seek input from their customers and use it to make changes, higher customer satisfaction results. Similarly, Johnson (1996) provided evidence that customer service oriented strategies were effective in improving customer satisfaction.

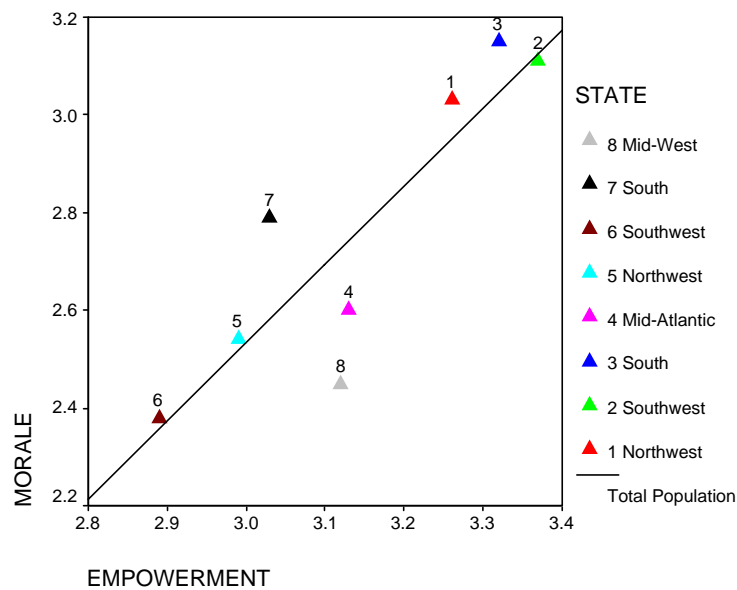
DOES THE PERCEIVED DEPLOYMENT OF EMPOWERMENT HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The fifth hypothesis predicts there will be a positive association between employees’ perception of empowerment and their perception of all five result measures.

Analysis by Agency

The best association among the scatter plots indicates a relationship between empowerment and the perceived result measure “morale” (see Figure 4-9). The remaining scatter plots indicate weaker relationships.

Figure 4-9: Empowerment and Morale



On the other hand, correlation coefficients between empowerment and each of the five result measures are positive for each of the eight agencies (see Table 4-17). Among the five result measures, “improvements in processes” has the most agencies with the largest correlations. Six agencies (“2 Southwest,” “3 South,” “4 Mid-Atlantic,” “6 Southwest,” “7 South” and “8 Mid-West”) have the largest correlations with improvements in processes, while “1 Northwest” has the largest correlation with service delivery and “5 Northwest” has the largest correlation with morale. Taxpayer satisfaction is the weakest

correlation with empowerment for all the agencies separately. The two southern agencies have the largest correlations between employee perceived empowerment and their perception of results and job satisfaction.

Table 4-17: Empowerment by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.346*	.419**	.474**	.444**	.393*
“2 Southwest”	.253**	.491**	.422**	.456**	.419**
“3 South”	.340**	.615**	.531**	.568**	.604**
“4 Mid-Atlantic”	.270**	.566**	.401**	.527**	.500**
“5 Northwest”	.216**	.511**	.428**	.362**	.512**
“6 Southwest”	.201**	.525**	.386**	.489**	.474**
“7 South”	.306**	.642**	.513**	.582**	.630**
“8 Mid-West”	.222**	.552**	.405**	.506**	.509**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

As indicated in Table 4-18, among all agencies collectively, an improvement in processes has the largest correlation with empowerment followed by morale, job satisfaction, service delivery and taxpayer satisfaction.

Table 4-18: Empowerment by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.286**	.578**	.467**	.527**	.551**

** Correlation is significant at the 0.01 level (2-tailed)

In Table 4-19, among the three survey items measuring empowerment, morale, improvements in processes and job satisfaction each have the largest correlation coefficients with one survey item. Taxpayer satisfaction, service delivery and morale have its largest correlation coefficients (rho = .293, .453 and .533 , $p < .01$, respectively) with the survey item: “Promising ideas and suggestions made by employees are implemented.” For improvements in processes and job satisfaction, the largest correlations

(rho = .547 and .473, $p < .01$, respectively) are with the item: “I am involved in decisions that affect my work.”

Table 4-19: Empowerment Items by Result

Survey Item	TS	IP	SD	JS	M
Promising ideas and suggestions made by employees are implemented.	.293**	.529**	.453**	.449**	.533**
I am involved in decisions that affect my work.	.255**	.547**	.434**	.473**	.482**
I can make decisions about my work without first checking with my immediate supervisor.	.120**	.281**	.211**	.324**	.278**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

Whether by agency individually or all of the agencies collectively, state revenue employees perceive that the more they are empowered the higher the results. The correlation coefficients by each agency and for all agencies collectively indicate the strongest link with the perceived result measure “improvements in processes.” That empowerment has its strongest association with the result measure “improvements in processes” rather than “morale” or “job satisfaction” is not necessarily intuitive. One possible explanation is that employees tend to associate improvements in their division’s processes and procedures with their ability to have input into decisions about how work is carried out. The correlation may make more sense when we consider that the largest correlation among the survey items separately indicate that the more employees are involved in decision that affect their work, the higher they perceive improvements in processes that result in improved services. On the other hand, the second largest correlation among the survey items separately suggested that morale does improve when state revenue employees perceive that their better ideas are implemented.

Most of the studies cited in Chapter 2 found small to moderate relationships between empowerment and outcomes. (Miller and Monge, 1986; Lovrich (1986), Wagner and Gooding, 1987a and 1987b; Lovrich and Soden (1988); and, Spector, 1986) Of particular note, Wagner and Good (1987b) found that while objectives sources were relatively weak, a more moderate relationship existed between empowerment and satisfaction (i.e., work satisfaction and supervisor satisfaction). The finding from this study that job satisfaction has a relatively moderate relationship with empowerment (rho = .464) would be in line with the finding by Wagner and Good (1987b). However, in contrast to the findings of the studies cited in Chapter 2, this study does show relatively moderate relationships with other types of results than just job satisfaction or morale, at least in the minds of state revenue employees.

DOES THE PERCEIVED DEPLOYMENT OF TEAMWORK HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The sixth hypothesis says there will be a positive association between employees’ perception of teamwork and their perception of all five result measures.

Analysis by Agency

A visual inspection of all five scatter plots reveals that teamwork has modest associations with the five result measures. On the other hand, the correlations between teamwork and the five result measures for each agency were all positive (see Table 4-20). The result measure with the largest correlations for six of the eight agencies is “morale” (i.e., “1 Northwest,” “2 Southwest,” “3 South,” “4 Mid-Atlantic,” “5 Northwest” and “7 South”). Improvements in processes and job satisfaction were the largest correlations for the other two agencies (“8 Mid-West” and “6 Southwest” respectively). The largest agency, “3 South,” has the largest correlations between employee perceived teamwork and employee perceived improvements in processes, service delivery and morale. The other southern agency, “7 South,” has the largest correlation with taxpayer satisfaction and “4 Mid-Atlantic” with job satisfaction.

Table 4-20: Teamwork by Results

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.083	.368*	.305	.426**	.434**
“2 Southwest”	.264**	.344**	.333**	.352**	.372**
“3 South”	.299**	.511**	.480**	.463**	.546**
“4 Mid-Atlantic”	.253**	.414**	.387**	.524**	.527**
“5 Northwest”	.169**	.318**	.265**	.366**	.396**
“6 Southwest”	.045	.224**	.206**	.317**	.281**
“7 South”	.300**	.420**	.384**	.403**	.451**
“8 Mid-West”	.246**	.416**	.354**	.396**	.407**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

For all agencies collectively, although positive, correlations are relatively modest in strength. The result measure “morale” has the largest correlation coefficient as shown in Table 4-21. The next largest is job satisfaction, followed by improvements in processes, service delivery and then taxpayer satisfaction.

Table 4-21: Teamwork by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.243**	.407**	.376**	.414**	.446**

** Correlation is significant at the 0.01 level (2-tailed)

The largest correlation coefficient with each result measure is evenly split between two of the survey items (see Table 4-22). Taxpayer satisfaction, improvements in processes and service delivery have the largest correlations (rho = .219, .357 and .338, $p < .01$, respectively) with the item: “My co-workers and I work well with employees from other divisions or work units to accomplish goals and objectives.” Job satisfaction and morale have the largest correlations (rho = .350 and .355, $p < .01$) with the item: “My co-workers and I work well together to accomplish goals and objectives.”

Table 4-22: Teamwork Items by Result

Survey Item	TS	IP	SD	JS	M
My co-workers and I work well together to accomplish goals and objectives.	.163**	.280**	.266**	.350**	.355**
My co-workers and I work in groups to solve problems.	.189**	.325**	.285**	.316**	.344**
My co-workers and I work well with employees from other divisions or work units to accomplish goals and objectives.	.219**	.357**	.338**	.327**	.349**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

While the correlations between teamwork and the five result measures are positive, whether we consider responses by agency separately or collectively, the correlations are relatively modest in strength. The scatter plots tend to bear out this observation in that the associations between teamwork and the five result measures are relatively un-noteworthy. While we can say that the findings would indicate state revenue employees do see a relationship between more teamwork and higher results, their perceptions of a relationship may be halfhearted. In fact, perceived teamwork proves to have the least effect among all

the nine management practices on perceived results.

Among the survey items separately, the strongest correlation coefficient indicates that when co-workers work well together to accomplish goals and objectives, morale modestly improves. This is an intuitive finding. One could safely predict that employees who cooperate with one another in accomplishing tasks are happier than employees who do not display that behavior.

The two studies cited in Chapter 2 (Watson et al., 1991; and, Banker et al., 1996) indicated that teamwork has a positive effect on performance. Although modest, the findings from this study tend to support the findings of those two studies.

One of the main questions asked employees during the interviews was: Why does teamwork have the weakest effect? Some in upper management believe that it is the “movers and shakers” who are more likely to be involved in teams and that “teamwork is what management does.” One front-line supervisor claimed that non-supervisors do not understand teamwork because “they don’t see how their processing a check today gets the money in the correct account and keeps the taxpayer in compliance and not incorrectly penalized because of an employee’s mistake in sending it to the wrong account.”

Yet others interviewed at the management level indicated that the reason why teamwork was not perceived as effective is because it was not a management focus. According to a manager, “we’re very silo-ed in this department” and “very protective of what we do.” Because we are “isolated” and “very secretive,” claimed the manager, “we don’t know what other people do.” This opinion was echoed by another manager who said that his department is still “functionally organized” and their weakest area was “intra-departmental teamwork.”

A manager indicated that it had not yet become a cultural “focus” of his agency, even though his agency frequently organizes and rely on the use of formal teams. According to this manager, teamwork is not reinforced because they still are focused on individual achievement and give little attention to team results. Quite often, said the manager, employees are evaluated on their individual performance which does not encourage teamwork. A non-supervisor working in a call center indicated that teamwork was not important to her unit because of her individual goals. “We interact with our supervisor but not with the other call center personnel.” A non-supervisor and tax auditor said “we’re evaluated on the number of good audits which doesn’t breed teamwork.” However, “if several auditors worked together, we can knock out an audit in a couple of days when it may take a single auditor a month to do it.”

Some of the non-supervisor employees interviewed saw value in using teamwork in the process and complained when it was not present. For example, a non-supervisor complained that more teamwork in her process would allow for fewer errors and mistakes. A couple of non-supervisors from different departments who were tax auditors indicated teamwork is very important to what they do because, as one of them stated, we have to be consistent in how we process returns for taxpayers. One of the tax auditors

complained that while teamwork is emphasized in her work unit among co-workers, it is not emphasized across the tax return process. “They (upper management) don’t listen to us,” claimed the auditor, “we told them about payment problems (in the tax return process) but it took awhile for the top to acknowledge there was even a problem.”

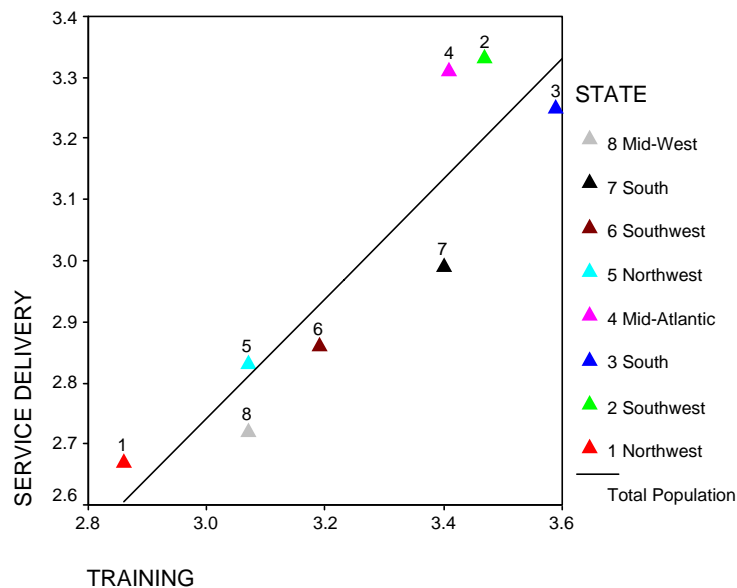
DOES THE PERCEIVED DEPLOYMENT OF TRAINING HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The seventh hypothesis maintains that there is a positive association between employees’ perception of training and their perception of the five result measures.

Analysis by Agency

The scatter plots reveal that training has its best association with the result measure “service delivery.” Figure 4-10 reveals a moderately strong and positive association between the independent and dependent variables.

Figure 4-10: Training and Service Delivery



In contrast, morale is the largest correlation coefficient for five of the eight agencies (i.e., “1 Northwest,” “2 Southwest,” “3 South,” “5 Northwest” and “7 South”) as reported in Table 4-23. Job

satisfaction is the largest correlation coefficient for “4 Mid-Atlantic,” service delivery for “6 Southwest” and improvements in processes for “8 Mid-West.” Without exception, taxpayer satisfaction has the weakest correlations with the management practice “training” among all eight agencies. Unlike previous comparisons, “3 South” does not have the largest correlation with any of the five result measures.

Table 4-23: Training by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.223	.590**	.551**	.410**	.626**
“2 Southwest”	.366**	.393**	.425**	.469**	.535**
“3 South”	.341**	.532**	.494**	.560**	.583**
“4 Mid-Atlantic”	.267**	.472**	.440**	.559**	.511**
“5 Northwest”	.254**	.456**	.463**	.456**	.514**
“6 Southwest”	.299**	.538**	.554**	.518**	.545**
“7 South”	.310**	.526**	.485**	.565**	.582**
“8 Mid-West”	.283**	.520**	.470**	.429**	.511**

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

Table 4-24: Training by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.324**	.515**	.500**	.526**	.565**

** Correlation is significant at the 0.01 level (2-tailed)

Morale clearly has the strongest correlation coefficient with training when considering all agencies collectively as shown in Table 4-24. The second strongest correlation coefficient is job satisfaction, followed by improvements in processes, service delivery and taxpayer satisfaction.

There were only two survey items that measured training. Morale has the strongest correlation ($\rho = .507, p > .01$) with the survey item: “Developing the skills of all employees is a priority for managers and supervisors.” Job satisfaction is the strongest correlation ($\rho = .473, p > .01$) with the item: “I am learning and developing skills that improve my work.”

Table 4-25: Training Items by Result

Survey Item	TS	IP	SD	JS	M
Developing the skills of all employees is a priority for managers and supervisors.	.290**	.427**	.428**	.434**	.507**
I am learning and developing skills that improve my work.	.249**	.450**	.422**	.473**	.423**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

The correlation coefficients by agency separately and then collectively do tell us that the more employees perceive training being deployed in the agency, the higher the results, with the correlations showing that the strongest is with morale.

The largest correlation among the two survey items indicates that when managers and supervisors make developing the skills of all employees a priority, morale among employees improves. Likewise, state revenue employees indicate that higher job satisfaction is obtained when they feel they are learning and developing skills that improve their work. Both conclusions seem to bear out Douglas McGregor's belief that employees have a higher order need to realize their full potential. The findings here appear to support the empirical evidence cited in Chapter 2 of a link between training and performance. (Russell et al., 1985; Bartel, 1994 and 1995; and, Koch and McGrath, 1996)

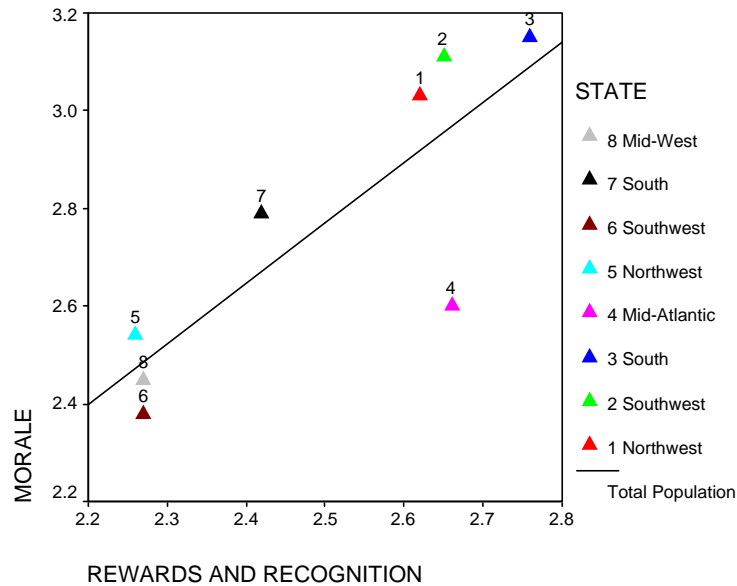
DOES THE PERCEIVED DEPLOYMENT OF REWARDS AND RECOGNITION HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The eighth hypothesis says that there is a positive association between employees' perceptions of rewards and recognition and their perception of the five result measures and job satisfaction.

Analysis by Agency

Among the five result measures, morale seems to have the strongest association with rewards and recognition as indicated by Figure 4-11.

Figure 4-11: Rewards and Recognition and Morale



The correlations for each of the eight agencies as indicated in Table 4-26, are all positive. Morale has the largest correlation coefficients with rewards and recognition for all eight agencies separately. The southern agency, “7 South,” has the largest correlations between employee perceptions of rewards and recognition and perceptions of results for the exception of perceived service delivery, where “6 Southwest” has the largest correlation.

Table 4-26: Rewards and Recognition by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.035	.344*	.466**	.432**	.531**
“2 Southwest”	.281**	.346**	.349**	.454**	.480**
“3 South”	.295**	.479**	.462**	.540**	.554**
“4 Mid-Atlantic”	.177**	.482**	.376**	.522**	.559**
“5 Northwest”	.232**	.368**	.320**	.405**	.440**
“6 Southwest”	.277**	.486**	.506**	.481**	.568**
“7 South”	.325**	.532**	.494**	.548**	.603**
“8 Mid-West”	.230**	.504**	.437**	.442**	.562**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

The largest correlation coefficient with rewards and recognition among all the agencies collectively is morale (see Table 4-27). The second largest correlation coefficient is with job satisfaction, followed by improvements in processes, service delivery and taxpayer satisfaction.

Table 4-27: Rewards and Recognition by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.286**	.484**	.460**	.509**	.566**

** Correlation is significant at the 0.01 level (2-tailed)

In Table 4-28 below, morale has the strongest correlations with three of the four survey items measuring rewards and recognition. “Improvements in processes” has the strongest correlation coefficient (rho = .401, $p > .01$) with the item: “Recognizing employees’ for their achievements are important activities for managers and supervisors.” However, morale (rho = .485, $p > .01$) and job satisfaction (rho = .524, $p > .01$) register the largest correlations among all the correlations reported in Table 4-28 with the survey item: “I receive enough recognition for the work that I do.” The item with the weakest correlation coefficients among all of the result measures is the item: “I can expect to receive a pay raise or bonus if I perform exceptionally well.”

Table 4-28: Rewards and Recognition by Items by Result

Survey Item	TS	IP	SD	JS	M
I can expect to receive rewards other than money if I perform exceptionally well.	.237**	.368**	.363**	.381**	.422**
I can expect to receive a pay raise or bonus if I perform exceptionally well.	.172**	.276**	.305**	.291**	.370**
Recognizing employees’ for their achievements are important activities for managers and supervisors.	.246**	.401**	.356**	.365**	.398**
I receive enough recognition for the work that I do.	.205**	.400**	.359**	.485**	.524**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

The correlation coefficients for each agency and for all the agencies collectively tell us that state revenue employees perceive a positive link between rewards and recognition and the five result measures. The correlation coefficients for each agency individually and for all agencies collectively also tell us that

the result measure “morale” has the largest correlation with rewards and recognition. This finding is also confirmed by the scatter plots which suggest morale has the strongest association.

The largest correlation coefficients among the survey items separately indicated that employee recognition contributed the most to improving results, especially job satisfaction and morale. This finding tends to further corroborate Douglas McGregor’s “Theory Y” form of management. McGregor believed that employees have a psychological need for status and appreciation. His belief is particularly attested by the finding that the largest correlations for job satisfaction and morale are with the survey item: “I receive enough recognition for the work that I do.” It is also noteworthy that expectation of non-monetary rewards for exceptional performance has its greatest association with morale.

Not surprisingly, prospects of a pay raise or bonus indicate the weakest correlations with all the result measures, although it registered its largest correlation with morale. During recessions and budgetary cutbacks, government employees do not expect cost-of-living raises much less pay raises or bonuses. Prior to this survey being taken, most state governments had experienced cutbacks and layoffs for at least two or three years. But even during periods of economic growth, pay-for-performance is often the exception rather than the norm in state government.

Even though the correlations are generally weak, they are in conflict to some degree to the findings by Pearce et al. (1985) and Perry et al. (1989) who found no real relationship between merit pay and organizational performance among federal employees. However, the findings are in some agreement with those of Selden and Brewer (2000). They found a significant relationship between contingent and non-contingent rewards and job satisfaction, and between contingent rewards and individual performance. In turn, job satisfaction was shown to be positively associated with positive organizational consequences.

DOES THE PERCEIVED DEPLOYMENT OF HUMAN RESOURCES HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

Sometimes relationships are clearer if we combine similar items together. Consequently, the ninth hypothesis predicted that employee’ perceptions of all human resource management practices combined, including performance feedback, empowerment, training, teamwork, and rewards and recognition, would have a positive association with their perception of all five result measures.

Analysis by Agency

The scatter plots reveal that human resource management practices has its strongest associations with job satisfaction and morale as shown respectively in Figures 4-12 and 4-13.

Figure 4-12: Human Resources and Job Satisfaction

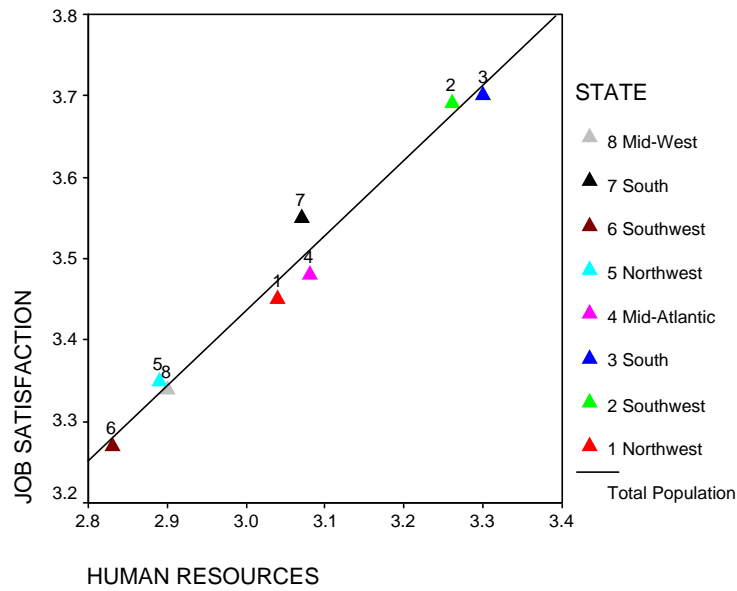
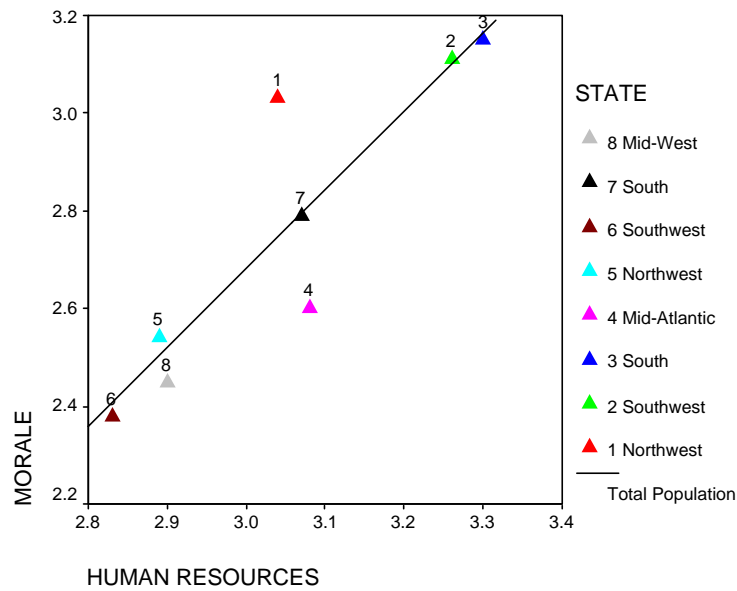


Figure 4-13: Human Resources and Morale



The correlations between human resources and each of the five result measures for each agency are all positive, as shown in Table 4-29. All eight agencies have their largest correlation coefficients with the result measure “morale” and their weakest with “taxpayer satisfaction.” The southern agency “7 South” has the largest correlations between employee perceptions of all human resource practices combined and their perceptions of improvements in processes and morale, while “3 South” has the largest

correlation with perceived taxpayer satisfaction and “4 Mid-Atlantic” with job satisfaction.

Table 4-29: Human Resources by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.256	.543**	.670**	.520**	.691**
“2 Southwest”	.355**	.504**	.491**	.567**	.601**
“3 South”	.392**	.653**	.607**	.660**	.705**
“4 Mid-Atlantic”	.266**	.595**	.506**	.675**	.692**
“5 Northwest”	.292**	.577**	.508**	.559**	.643**
“6 Southwest”	.315**	.629**	.603**	.614**	.697**
“7 South”	.384**	.690**	.595**	.667**	.738**
“8 Mid-West”	.293**	.616**	.532**	.582**	.658**

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

As for the agencies separately, morale is the largest correlation for all the agencies collectively as shown in Table 4-30. The second largest correlation is job satisfaction, followed by improvements in processes, service delivery, and taxpayer satisfaction.

Table 4-30: Human Resources by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.357**	.631**	.581**	.633**	.702**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

As expected, the combined effect of these practices is larger than the individual effect. The correlations for each agency separately and then for all agencies collectively suggest that state revenue employees perceive a positive relationship between the deployment of human resources and their perception of results. The correlation coefficients indicate morale has the strongest relationship with a combination of all the human resource practices.

DOES THE PERCEIVED DEPLOYMENT OF PROCESS IMPROVEMENT HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The tenth hypothesis predicts that employees' will perceive a positive association between process improvement and the five result measures.

Analysis by Agency

Process improvement appears to have the strongest relationship with service delivery as shown in Figure 4-14.

The correlation coefficients reported in Table 4-31 show a positive relationship for all eight agencies between process improvement and the five result measures. Six of the agencies have its largest correlations with the result measure "improvements in processes." As with the earlier practices, all of the agencies have their weakest correlations with taxpayer satisfaction. The two southern agencies have the strongest correlation coefficients between employee perceived process improvement and the result measures and job satisfaction.

Figure 4-14: Process Improvement and Service Delivery

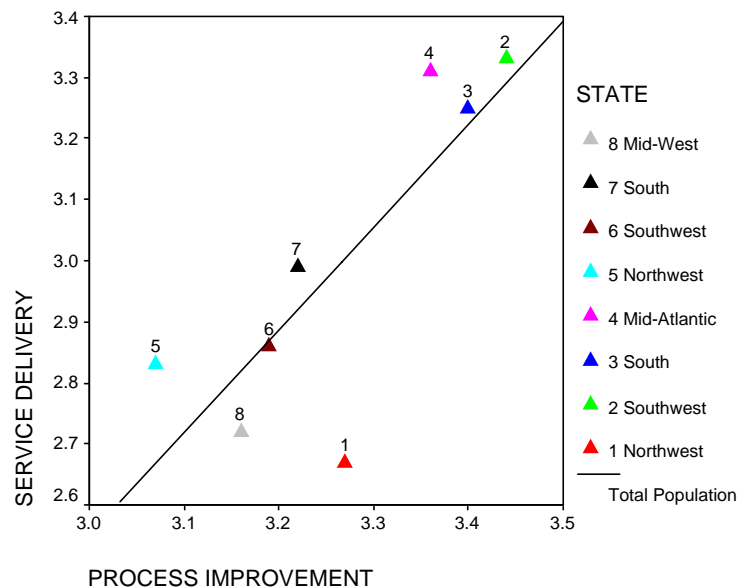


Table 4-31: Process Improvement by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.184	.540**	.544**	.541**	.480**
“2 Southwest”	.309**	.588**	.530**	.500**	.557**
“3 South”	.467**	.740**	.683**	.621**	.636**
“4 Mid-Atlantic”	.250**	.608**	.494**	.610**	.607**
“5 Northwest”	.347**	.601**	.585**	.490**	.582**
“6 Southwest”	.354**	.576**	.540**	.519**	.571**
“7 South”	.446**	.690**	.647**	.627**	.636**
“8 Mid-West”	.381**	.607**	.585**	.524**	.493**

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

All five result measures have positive correlations with the management practice “process improvement” among all the agencies collectively. The largest correlation with employee perceived process improvement is the result measure “improvements in processes.” The second largest correlation is service delivery, followed by morale, job satisfaction and taxpayer satisfaction.

Table 4-32: Process Improvement by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.408**	.668**	.620**	.578**	.602**

** Correlation is significant at the 0.01 level (2-tailed)

Table 4-33 shows the correlation coefficients between each of the seven survey items that measure process improvement with each of the five result measures. Six of the seven items have its largest correlation with improvements in processes. The other item has its largest correlation with morale.

Job satisfaction ($\rho = .495, p > .01$) and morale ($\rho = .524, p > .01$) as shown in Table 4-33, have its largest correlations with the survey item: “The process for accomplishing work permits my co-workers and I to achieve our best performance.” However, this item also registers large correlation coefficients with improvements in processes ($\rho = .522, p > .01$) and service delivery ($\rho = .505, p > .01$). Taxpayer satisfaction ($\rho = .378, p > .01$) and improvements in processes ($\rho = .547, p > .01$), and service delivery ($\rho = .511, p > .01$) has its largest correlation with the item: “The needs of our *taxpayers* are taken into consideration when we make improvements to our most important work processes *and/or*

procedures.” In addition, a large correlation coefficient is also shown between improvements in processes ($\rho = .522, p > .01$) and the survey item: “Managers and supervisors encourage employees to simplify and streamline their work processes *and/or* procedures.”

Table 4-33: Process Improvement Items by Result

Survey Item	TS	IP	SD	JS	M
Procedures necessary to do my job <i>do not</i> involve unnecessary steps.	.295**	.385**	.374**	.370**	.359**
I spend time thinking about how to improve my work processes <i>and/or</i> procedures.	.124**	.259**	.210**	.236**	.158**
The process for accomplishing work permits my co-workers and I to achieve our best performance.	.326**	.522**	.505**	.495**	.524**
My co-workers and I regularly look for ways to improve our work processes <i>and/or</i> procedures.	.180**	.351**	.315**	.328**	.302**
Managers and supervisors encourage employees to simplify and streamline their work processes <i>and/or</i> procedures.	.276**	.522**	.469**	.459**	.494**
The needs of employees in <i>other</i> divisions or work units are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	.294**	.495**	.454**	.396**	.451**
The needs of our <i>taxpayers</i> are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	.378**	.547**	.511**	.389**	.420**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

Whether by agency separately or collectively, the correlations reveal that the more employees perceive process improvement being deployed in the agency, the higher they perceive results and job satisfaction. The correlation coefficient between process improvement and the perceived result measure “improvements in processes” was the largest correlation reported for a result measure among the nine management practices separately. Furthermore the correlations reported between process improvement and the result measures “taxpayer satisfaction,” “service delivery” and “job satisfaction” are the largest reported for those result measures among the nine management practices as well. The same is also true for the agencies separately.

When considering the seven survey items separately that measure the management practice “process improvement,” the correlations demonstrate that revenue agency employees have higher job satisfaction and morale when the processes for accomplishing work allows them and their co-workers to achieve their best performance. The fact that morale and job satisfaction have larger correlations with this item than do the other result measures is perhaps intuitive but also tends to support McGregor’s concept

of Theory Y management because removing process obstacles creates opportunities for self-growth and self-improvement. Service delivery and improvements in processes leading to improved services is also perceived to improve under those circumstances.

State revenue employees also strongly perceive that when taxpayer needs are taken into consideration to improve work processes and procedures, improvements are made in taxpayer satisfaction, services and service delivery. This finding is consistent with earlier findings regarding customer service practices where the largest association is between improvements in processes and the survey item: We use taxpayer input to improve services.

These findings are consistent with the findings of Powell (1995) and Wilson and Collier (2000). Although it was not important in the manufacturing sector, Powell (1995) found that process improvement was significant in improving performance among service firms. His findings are particularly relevant to this study since service firms in the private sector have more similarities with public agencies than do manufacturing firms. Wilson and Collier (2000) demonstrated that the Baldrige categories, *process management* and *information and analysis*, has a significant impact on financial performance and customer satisfaction.

DOES THE PERCEIVED DEPLOYMENT OF ALL MANAGEMENT PRACTICES HAVE A POSITIVE ASSOCIATION WITH PERCEIVED RESULTS?

The eleventh hypothesis predicted that there would be a positive association between employee perceptions of all nine management practices combined as a single variable and their perceptions of each of the five result measures.

Analysis by Agency

Among the scatter plots, the combination of all management practices appears to have the strongest associations with improvements in processes and job satisfaction (see Figures 4-15 and 4-16).

In contrast, the correlations by agency between all management practices and the five result measures were all positive as shown in Table 4-34. Four of the agencies have their largest correlations with the result measure “morale,” while three have it with “improvements in processes.” The smallest agency, “1 Northwest” has its largest correlation with service delivery. Consistent with all the management practices separately, taxpayer satisfaction has the weakest correlations with all the management practices combined. As would be expected and excluding tiny “1 Northwest,” “3 South” and “7 South” have the largest correlations between all the management practices combined with three of the

result measures (i.e., taxpayer satisfaction, improvements in processes, and service delivery). However, “7 South” has the largest correlation with morale while “4 Mid-Atlantic” has the largest correlation with job satisfaction.

Figure 4-15: All Management Practices and Improvements in Processes

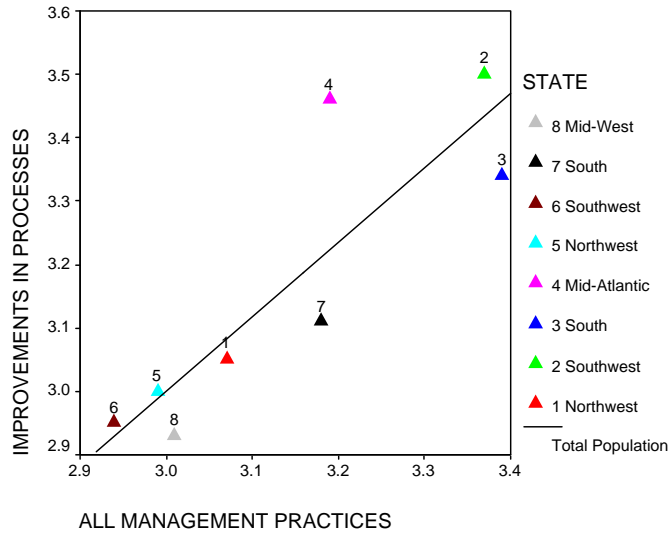


Figure 4-16: All Management Practices and Job Satisfaction

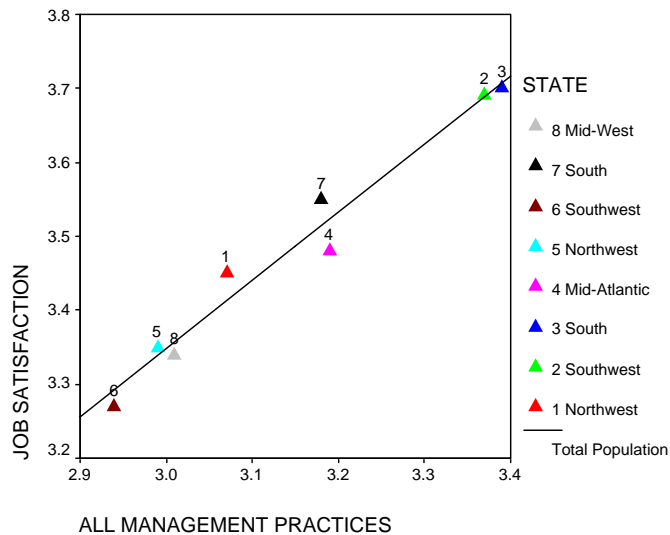


Table 4-34: All Management Practices by Result

Agency	Taxpayer Satisfaction	Improvements In Processes	Service Delivery	Job Satisfaction	Morale
“1 Northwest”	.342*	.624**	.753**	.490**	.746**
“2 Southwest”	.380**	.601**	.563**	.578**	.622**
“3 South”	.474**	.739**	.693**	.665**	.710**
“4 Mid-Atlantic”	.293**	.641**	.568**	.689**	.701**
“5 Northwest”	.341**	.631**	.593**	.570**	.670**
“6 Southwest”	.419**	.691**	.677**	.599**	.724**
“7 South”	.454**	.755**	.686**	.687**	.737**
“8 Mid-West”	.365**	.665**	.613**	.595**	.648**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

The correlations for all the agencies collectively reveal that morale has the largest correlation with all the management practices as a single variable as shown in Table 4-35. However, as revealed by the even split among the agencies separately, improvements in processes is a close second in the size of the correlation coefficient, followed by service delivery, job satisfaction and taxpayer satisfaction. The correlations for each of the five result measures reported in Table 4-35 are also larger than any of the correlation coefficients reported for any of the nine management practices separately with any of the five result measures.

Table 4-35: All Management Practices by Result

Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
.423**	.700**	.659**	.642**	.711**

** Correlation is significant at the 0.01 level (2-tailed)

Findings

All of the correlations, whether by agency or among the agencies collectively are positive indicating that the more these nine management practices are deployed, as perceived by state revenue employees, the higher they perceive the results and job satisfaction. Overall, morale has the largest

correlation coefficient but when the agencies are considered separately they are evenly divided between morale and improvements in processes having the largest relationships. Unsurprisingly, taxpayer satisfaction is the weakest. In contrast, the scatter plots appear to indicate the strongest association is with job satisfaction followed by improvements in processes.

Since the management practices separately have shown positive associations with the five result measures, it would be expected that the management practices combined as a single variable would have even larger associations. However, this does not diminish the conclusion that when these practices are deployed together, they have greater association with results, at least as perceived by employees, than they do independently.

This finding is consistent with findings from studies done on private firms but is somewhat in contradiction to findings found among public agencies. As the empirical evidence reported in Chapter 2 demonstrates, TQM does have an impact in the private sector (Powell, 1995; Hendricks and Singhal, 1997, 2001a, 2001b; Eaton and Jarrell, 1998; Samson and Terzioski, 1999; and Wilson and Collier, 2000). In contrast, Mani (1995) found no significant impact on productivity before and after implementation of TQM in the Internal Revenue Service. Likewise, Poister and Harris (1996) found “small to negligible” correlations between TQM actives and quality ratings and productivity with the Pennsylvania Department of Transportation. Of course, the difference between these studies and the present study is that Mani (1995) and Poister and Harris (1996) use objective data, while this study is based on employee perceptions. Still, at least in the minds of state revenue employees, there are positive associations between their perceptions of management practices and their perceptions of results.

MULTIPLE REGRESSION

Finally, the model was tested using multiple regression. As previously stated, the use of multiple regression for this study does violate some assumptions of the statistical technique. While it is permissible with non-random data, significant testing is not considered appropriate. Consequently, no claims regarding the generalization of the findings will be made.

Prior to testing the model, a correlation matrix was generated to determine if any of the variables had multicollinearity problems. Multicollinearity is suspected if the correlation coefficients for each pair of independent variables are equal or greater than .80. (O’Sullivan, Rassel, and Berner, pg. 444) The matrix in Table 4-36 reveals that no pair of independent variables exceeds that threshold.

Table 4-36: Correlation Matrix of Independent Variables (Pearson's r)

Practice	Planning	Measure	Feedback	Customer	Empower	Team	Train	Rewards	Process
Planning	1.00	.766**	.774**	.603**	.631**	.461**	.643**	.643**	.716**
Measure	.766**	1.00	.709**	.593**	.572**	.479**	.596**	.554**	.705**
Feedback	.774**	.709**	1.00	.561**	.629**	.444**	.632**	.661**	.657**
Customer	.603**	.593**	.561**	1.00	.506**	.432**	.511**	.442**	.636**
Empower	.631**	.572**	.629**	.506**	1.00	.485**	.570**	.563**	.661**
Team	.461**	.479**	.444**	.432**	.485**	1.00	.461**	.405**	.590**
Train	.643**	.596**	.632**	.511**	.570**	.461**	1.00	.605**	.642**
Rewards	.643**	.554**	.661**	.442**	.563**	.405**	.605**	1.00	.600**
Process	.716**	.705**	.657**	.636**	.661**	.590**	.642**	.600**	1.00

** Correlation is significant at the 0.01 level (2-tailed)

Each management practice was entered into a regression equation with the dependent variable “results” for all the survey responses collectively. The model produced an adjusted R square value of .716 which can be interpreted to mean that nearly 72% of the variation in results, as perceived by the employees of the eight state revenue agencies, is explained by the variation in management practices, again, as perceived by the employees of those eight agencies. The beta weights reported in Table 4-37 indicate that process improvement (.259) has the strongest relationship with results, followed by strategic planning (.203) and performance measurement (.127). The weakest relationships were performance feedback (.037) and teamwork (.030). All of the beta weights are significant with t values greater than 2.0. (The fact that the equation and the *t*-ratios are both statistically significant is another indication that multicollinearity may not be a problem.)

Table 4-37: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.272	.216		-5.889	.000
	PLANNING	1.044	.085	.203	12.334	.000
	MEASURE	.656	.075	.127	8.712	.000
	FEEDBACK	.168	.069	.037	2.443	.015
	CUST. SVC.	.526	.074	.083	7.086	.000
	EMPOWER	.466	.057	.102	8.185	.000
	TEAMWORK	.157	.056	.030	2.792	.005
	TRAINING	.453	.054	.105	8.401	.000
	REWARDS	.335	.056	.074	5.950	.000
	PROCESS	1.542	.091	.259	16.917	.000

Table 4-38: Adjusted R Square Values for Each State Revenue Agency

State Revenue Agency	Adjusted R Square	Sig.
1 Northwest	.574	.000
2 Southwest	.668	.000
3 South	.739	.000
4 Mid-Atlantic	.716	.000
5 Northwest	.648	.000
6 Southwest	.739	.000
7 South	.742	.000
8 Mid-West	.637	.000

A regression equation was also computed for each of the eight revenue agencies independently. The adjusted R square value for each agency is given above in Table 4-38. For the exception of tiny “1 Northwest,” the adjusted R square values for each state revenue agency appear to be roughly consistent, ranging from .637 to .742, with the adjusted R square value reported for all agencies collectively. The regression coefficients for each of the eight agencies are shown in Tables 4-39 through 4-46.

An analysis of each agency’s regression coefficients also reveal that process improvement has the strongest relationship with results for all the agencies but “1 Northwest.” Strategic planning was the second strongest relationship but not as consistently across agencies as process improvement. Performance feedback, teamwork and rewards and recognition were more likely to have the weakest relationships with results.

Table 4-39: “1 Northwest”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-5.948	4.146		-1.434	.162
PLANNING	.024	.156	.025	.151	.881
MEASURE	-.016	.179	-.013	-.091	.928
FEEDBACK	.151	.213	.117	.709	.484
CUST. SVC.	-.027	.216	-.017	-.125	.902
EMPOWER	.427	.243	.256	1.758	.089
TEAMWORK	.483	.236	.265	2.049	.050
TRAINING	.564	.416	.264	1.356	.185
REWARDS	-.033	.165	-.030	-.200	.843
PROCESS	.327	.127	.334	2.586	.015

Table 4-40: “2 Southwest”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.936	.651		1.438	.151
	PLANNING	.181	.039	.218	4.648	.000
	MEASURE	.140	.039	.139	3.575	.000
	FEEDBACK	.027	.044	.026	.617	.538
	CUST. SVC.	.023	.042	.018	.545	.586
	EMPOWER	.129	.050	.088	2.555	.011
	TEAMWORK	.011	.051	.007	.209	.835
	TRAINING	.368	.069	.188	5.306	.000
	REWARDS	.043	.037	.041	1.174	.241
	PROCESS	.209	.034	.262	6.113	.000

Table 4-41: “3 South”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-1.588	.394		-4.034	.000
	PLANNING	.110	.029	.121	3.847	.000
	MEASURE	.171	.029	.165	5.971	.000
	FEEDBACK	.044	.027	.036	1.590	.112
	CUST. SVC.	.154	.030	.121	5.159	.000
	EMPOWER	.201	.038	.125	5.335	.000
	TEAMWORK	.009	.038	.005	.235	.814
	TRAINING	.114	.055	.048	2.046	.041
	REWARDS	.063	.024	.057	2.579	.010
	PROCESS	.260	.027	.318	9.619	.000

Table 4-42: “4 Mid-Atlantic”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-.400	.736		-.544	.587
	PLANNING	.164	.045	.199	3.637	.000
	MEASURE	.044	.047	.044	.948	.344
	FEEDBACK	.065	.052	.063	1.241	.216
	CUST. SVC.	.088	.050	.069	1.769	.078
	EMPOWER	.277	.055	.202	5.051	.000
	TEAMWORK	.258	.060	.167	4.298	.000
	TRAINING	.169	.081	.085	2.094	.037
	REWARDS	.035	.043	.035	.806	.421
	PROCESS	.167	.042	.203	4.024	.000

Table 4-43: “5 Northwest”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-2.382	.953		-2.499	.013
	PLANNING	.144	.055	.160	2.600	.010
	MEASURE	.074	.057	.073	1.303	.194
	FEEDBACK	.047	.062	.043	.750	.454
	CUST. SVC.	.197	.057	.149	3.481	.001
	EMPOWER	.160	.071	.112	2.237	.026
	TEAMWORK	.156	.076	.088	2.055	.041
	TRAINING	.291	.099	.147	2.939	.004
	REWARDS	.030	.058	.024	.519	.604
	PROCESS	.222	.052	.259	4.280	.000

Table 4-44: “6 Southwest”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-.879	.629		-1.397	.163
	PLANNING	.181	.041	.216	4.390	.000
	MEASURE	.184	.042	.187	4.431	.000
	FEEDBACK	.129	.052	.117	2.470	.014
	CUST. SVC.	.109	.037	.092	2.914	.004
	EMPOWER	.114	.049	.079	2.319	.021
	TEAMWORK	-.015	.051	-.009	-.299	.765
	TRAINING	.238	.075	.117	3.170	.002
	REWARDS	.088	.039	.078	2.250	.025
	PROCESS	.163	.038	.180	4.276	.000

Table 4-45: “7 South”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-.875	.590		-1.482	.139
	PLANNING	.197	.044	.216	4.507	.000
	MEASURE	.111	.045	.105	2.476	.014
	FEEDBACK	.066	.052	.056	1.281	.201
	CUST. SVC.	.089	.043	.068	2.060	.040
	EMPOWER	.220	.052	.153	4.205	.000
	TEAMWORK	.030	.054	.017	.557	.578
	TRAINING	.132	.075	.061	1.751	.081
	REWARDS	.103	.043	.084	2.406	.017
	PROCESS	.202	.036	.252	5.671	.000

Table 4-46: “8 Mid-West”

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.603	.553		-2.900	.004
PLANNING	.193	.031	.221	6.193	.000
MEASURE	.069	.038	.066	1.811	.071
FEEDBACK	.008	.043	.007	.177	.860
CUST. SVC.	.079	.036	.064	2.213	.027
EMPOWER	.093	.051	.061	1.807	.071
TEAMWORK	.108	.046	.067	2.368	.018
TRAINING	.283	.067	.134	4.210	.000
REWARDS	.154	.041	.124	3.783	.000
PROCESS	.238	.032	.271	7.535	.000

Findings

Although no generalizations are made, nearly 72% of the variation in employee perceptions of results among the eight agencies in this nonrandom study is explained by employee perceptions of the nine management practices. This is a fairly large result. Moreover, the findings for each of the eight state revenue agencies separately are roughly equivalent to the findings for all the survey responses collectively. In all nine regression models, process improvement has the strongest relationship with results for the exception of one agency.

CONCLUSIONS: THE PERCEPTIONS OF MANAGEMENT PRACTICES AND RESULTS

Referencing the Malcolm Baldrige criteria, Samson and Terziovski (1999) defined the “hard components” of management as *strategic planning, information and analysis* and *process management*, while the “soft components” were *leadership, customer focus, and human resource focus*. Using their definitions for this study, strategic planning, performance measures, and process improvement are the hard components, while the soft components are customer service, performance feedback, empowerment, teamwork, training, and rewards and recognition.

A visual inspection of the scatter plots tend to indicate that the “hard components” of management, specifically strategic planning and performance measures, have stronger associations with results than do some of the “softer components” of management (i.e., customer service practices, teamwork, rewards and recognition) which tend to have weaker associations with the result measures. However, process improvement, which would be classified as a “hard component,” has its strongest

association with service delivery while its association with the other result measures appears modest at best.

Moreover, according to the scatter plots, the result measure that appears to have the strongest association with the management practices is job satisfaction followed by morale. More specifically, job satisfaction appears to have the strongest association with strategic planning, performance measures, performance feedback, and all human resources combined as a single variable. Morale seems to have the strongest association with empowerment and rewards and recognition. In contrast, the result measure “improvements in processes” appears to be the strongest association with all the management practices combined. Service delivery seems to have associations only with training and process improvement. The weakest associations appear to be between the management practices and the result measure “taxpayer satisfaction.”

Even stronger evidence for the hypotheses is provided by the Spearman rho correlations. The correlations between management practices and result measures by agency separately are all positive. However, the two southern agencies, “3 South” and “7 South,” generally have the largest correlation coefficients between the nine management practices and the five result measures. The largest agency, “3 South” has the largest correlations on 19 of 45 comparisons between the management practices and result measures, while “7 South” has the largest correlations on 16. Tiny “1 Northwest” has the weakest correlations on 21 of the 45 comparisons. The correlations by agency are also generally consistent with the correlations among all the agencies collectively. For the most part, the largest correlations between management practices and results among the agencies separately are the same as the largest correlations for all agencies collectively.

Most of the correlation coefficients, reported again in Table 4-47, between the management practices and the result measures for all of the agencies collectively, are probably best described as moderate in strength. The management practices have their weakest correlations with the result measure “taxpayer satisfaction.” In contrast, their strongest correlations are with the result measure “morale.”

For the most part, the hard components of management have stronger correlations with the five result measures than the soft components. Process improvement has the strongest correlation coefficients with taxpayer satisfaction ($\rho = .408, p < .01$), improvements in processes ($\rho = .668, p < .01$), service delivery ($\rho = .620, p < .01$) and job satisfaction ($\rho = .578, p < .01$). Strategic planning has the largest correlation with morale ($\rho = .652, p < .01$) and larger correlations than any of the “soft components” with improvements in processes ($\rho = .617, p < .01$), service delivery ($\rho = .592, p < .01$) and job satisfaction ($\rho = .560, p < .01$). Performance measures has stronger correlations than any of the “soft components” with taxpayer satisfaction ($\rho = .388, p < .01$), improvements in processes ($\rho = .618, p < .01$) and service delivery ($\rho = .585, p < .01$).

Table 4-47: Correlations between Management Practices and Results

Management Practice	Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
Strategic Planning	.386	.617	.592	.560	.652
Performance Measures	.388	.618	.585	.507	.559
Performance Feedback	.315	.542	.525	.552	.629
Customer service practices	.387	.507	.513	.422	.436
Empowerment	.286	.578	.467	.527	.551
Teamwork	.243	.407	.376	.414	.446
Training	.324	.515	.500	.526	.565
Rewards and Recognition	.286	.484	.460	.509	.566
Human Resources	.357	.631	.581	.633	.702
Process Improvement	.408	.668	.620	.578	.602
All Management Practices	.423	.700	.659	.642	.711

** Correlation is significant at the 0.01 level (2-tailed)

There are exceptions. For instance, customer service practices have a stronger correlation with taxpayer satisfaction ($\rho = .387, p < .01$) than strategic planning ($\rho = .386, p < .01$). Likewise, performance feedback has a stronger correlation with job satisfaction ($\rho = .552, p < .01$) than performance measures ($\rho = .507, p < .01$), and a stronger correlation with morale ($\rho = .629, p < .01$) than process improvement ($\rho = .602, p < .01$) and performance measures ($\rho = .559, p < .01$). However, the soft components generally have weaker correlations. Among the soft components, teamwork has the weakest correlation coefficients with almost all of the result measures.

The same conclusion regarding the hard versus the soft components of management practices can be derived from the findings of the multiple regression equation. The beta weights do tend to support the same findings as the scatter plots and correlations. Process improvement has the strongest relationship with results, followed by strategic planning and then performance measurement. In contrast, rewards and recognition, performance feedback, and teamwork have the weakest relationship. In fact, process improvement seems to have nearly two-and-a-half times the association as the closest “soft” components “training” and “empowerment,” three-and-a-half times the association as “rewards and recognition,” and roughly seven times the association as performance feedback and teamwork.

The only discrepancy between the correlation coefficients as shown in Table 4-47 and the regression coefficients is which of the soft components has the strongest association with results. While the regression coefficients indicate that training is the strongest management practice among the six soft

components, a reading of Table 4-47 would indicate it is performance feedback. As previously indicated, performance feedback has the second largest association with morale ($\rho = .629, > .01$), the third largest association with job satisfaction ($\rho = .552, > .01$), and the fourth largest association with service delivery ($\rho = .525, > .01$). This finding would be more logical given the importance of performance feedback to the goal-setting process which would include strategic planning and performance measures. Performance feedback is essential to the goal-setting process because it is the means by which behaviors and actions are calibrated in pursuit of accomplishing goals. Given the findings, performance feedback may be more of a hard component of management than a soft component given its importance to the goal-setting process.

In contrast to this study, Samson and Terzioski (1999) found that soft components of management were stronger predictors of performance. However, Wilson and Collier (2000) determined it was the hard components (i.e., information and analysis and process management); and the findings of this study support their conclusion. However, the soft components still have their value, according to the perceptions of state revenue employees. Generally, the soft components have larger relationships with improving morale than improving other results, although there are exceptions with the most notable being the strong relationship between empowerment and the result measure “improvements in processes.”

Moreover, the fact that all the management practices as a single variable have its largest relationship with morale is also noteworthy. Based on a review of the survey items separately, state revenue employees indicate they are happier when feedback is not a one-way street. The statistical evidence would indicate that they like having management seek their input into the agency’s vision for the future and on issues related to their jobs and work environments. Morale also appears to improve when state revenue employees perceive themselves learning and developing new skills; when they are recognized for their achievements; and, when work processes allow them and their co-workers to achieve their best performance.

INTERVIEWS: HARD VERSUS SOFT?

Based on the findings, employees with the different agencies were asked to give their opinions on six questions:

1. Why do the hard components have a stronger effect than do the soft components of management?
2. Why does process improvement have the largest effect of all the management practices?
3. Why does teamwork have the weakest effect of all the management practices?
4. Why is there a strong correlation between strategic planning and morale?

5. Why such a divergence of opinion between the top and bottom on deployment and results? Why does the top always have a more optimistic view than the bottom? What explains the difference of opinion?
6. What management approach or change do you think had the greatest impact and why?

Only five of the interview questions apply to Chapter 4. The findings from the interviews regarding question number five are addressed in Chapter 5.

Why Hard Components More Effective

According to one senior executive using a well-known cliché, “What gets measured gets done.” This aptly describes the sentiments of most of the employees interviewed. The reason that most employees perceive a stronger association between the hard components and results is because the hard components are more “tangible” to employees; it “demonstrates progress”; they can see the “cause and effect.” To paraphrase one front-line supervisor interviewed: if you process 50 widgets last year and 60 widgets this year, you can see the improvement. Many of the non-supervisors interviewed voluntarily indicated that they have individual performance goals. One non-supervisor stated that the hard components provide targets and if accomplished, give a feeling of satisfaction at having accomplished something worthwhile. Another non-supervisor complained that being involved in strategic planning took too much time away from her job, yet claimed that performance standards were absolutely necessary to keep employees “in line and on track.”

When asked why process improvement has the largest effect, many employees indicated that processes impact them directly and they can see the connection between how they perform their work and what results from it. A few of the employees interviewed discussed how process improvement has improved agency results and improved their jobs. A tax auditor and non-supervisor indicated that process improvement is very important to how work gets accomplished in her unit. When the process goes smoothly, claimed the auditor, it is more efficient, but when it doesn’t work, she warned, it causes us problems. A manager stated that you can have “great leadership, great human resource practices, but if you have lousy processes you’ll have lousy results.” Specific examples on how processes have improved results were offered by employees. For example, two agency managers talked about having to hire 1,200 temporary employees only three years ago to help process mailed tax returns. These managers indicated that handling paper returns was both a cumbersome process and froth with errors. However, using technology, more and more taxpayers are “e-filing” their tax returns. As a consequence, only 300 temporary employees were hired this year reducing their budget from roughly \$3.5 million to \$800,000,

and the number of tax forms they print annually has been reduced by half. Moreover, e-filing has drastically reduced errors and they are receiving fewer complaints from taxpayers.

Although not part of tax administration, another non-supervisor claimed that process improvement has dramatically improved her agency's collection of child support payments setting a new record this past year of dispersing \$1 billion. Before the process was reengineered she claimed, each case manager handled approximately "1,500 cases from cradle to grave and had to be an expert on everything." Now, they have what she called the "village effect" where the whole process of case management has been broken into sub-processes and a team of case managers handle only a specific piece of it. Reengineering the process, she claimed, removed steps and made the process go much faster and as a result, improved collections of child support payments.

Tangibility was not the only reason given for why the hard components were more effective than the soft components. Another explanation given by a manager and a front-line supervisor is that there is also more awareness, more visibility of strategic planning, performance measurement and process improvement in their respective agencies. One non-supervisor said it was "all we have heard; that everything comes from strategic planning." Another non-supervisor who claimed that employees feared performance measures because they believe that upper management is "trying to work them out of a job" and it is their means by which to identify "under-achievers."

On the flip side, management did not think that rank-and-file employees really understood the soft components. More often than not, management indicated that employees did not see the connection between these practices and results. According to the supervisor, rank-and-file employees "don't see down the road"; they "don't see the connection between what they do and what someone else does. They are focused on their jobs and don't see the big picture because they don't have any control over it." It was his opinion that the difference between top management and the rank-and-file is that top management sees the big picture and the rank-and-file doesn't." The supervisor went on to say that the non-supervisors "are here for the paycheck" and that as you assume more responsibility (become management) "you start to see the big picture."

What Works

Employees interviewed generally gave different answers to the question: What management approach or change do you think had the greatest impact and why? Effective communication, teamwork, empowerment, training, and performance feedback were the general answers to the question of what specific management approach was most effective in getting results.

Effective communication, especially from the top was the most common response. One senior

executive said that best management approach was listening to employees and treating them respectfully. A manager with another department said that effective management required upper management making a “sustained effort” to clearly communicate with employees. “You may think you are crystal clear,” said the manager, “but it isn’t crystal clear to the people you communicated the decision to.” In his opinion, it was much better when senior executives explained their “thought processes in how the decision was reached.” Yet another manager believed that “management-by-walking-around” is a very effective tool.

Effective communication to a front-line supervisor required upper management to communicate the vision in a way that the people “at the bottom could understand where the department is heading.” However, she counseled that this required upper management to constantly communicate through lots of different channels in order to reinforce the message. “Our mission, vision and values are ingrained into our culture,” stated the supervisor, especially “through the employee evaluation and development system.” A couple of non-supervisors from the same department as the aforementioned front-line supervisor believe that communications in their department worked well. One of these non-supervisors who is a tax auditor said that management had “broken down the silos” to allow them to go directly to the source when they have a question instead of passing a memo to their supervisor who then would “pass it up the chain of command.” The other non-supervisor mentioned that the agency’s top executive hold meetings with employees and fields questions directly from rank-and-file employees.

Teamwork, according to one front-line supervisor’s experience, is effective when upper management oversees the process and has constant interaction with the teams. This same sentiment was echoed by another supervisor with a different department. Teamwork was seen as especially effective when it involved employees from every stage of a process.

Another major theme that emerged in the interviews is empowerment and trust. A manager said that the “hardest thing for management to do is to empower subordinates.” The reason why managers are reluctant, explained the manager, is because they fear losing control. This manager believes that he has good morale in his unit because he empowers his subordinates to make decisions and then stands by them when they make a bad decision or a decision he would have handled differently. A front-line supervisor believes that it is her job to “get the right resources together to get the work done. If I have the right people and resources,” said the supervisor, “then I’m hands off.” She went on to say that “Once you establish trust, employees will do the right thing, they feel like they can step out a bit, be innovative; where there isn’t trust the work doesn’t get done very well.” Another supervisor from a different department also believes that developing trust with employees improves morale, cooperation and productivity.

THE RELATIONSHIP BETWEEN EMPLOYEES' PERCEPTION OF MANAGEMENT PRACTICES AND OBJECTIVE PERFORMANCE DATA

So far in this study, we have only looked at the statistical relationship between state revenue employees' perception of the deployment of the management practices within their respective agency and their perceptions of results. It only proves there is a relationship in their perceptions between deployment of the management practices and perceptions of results. Now we look at whether employee perceptions of the management practices have any relationship with objective performance data.

Which Agencies Collect Which FTA Measures

The list of Federation of Tax Administrators (FTA) measures reported in Chapter 3 was circulated to all the agencies in this nonrandom sample. All of the agencies responded for the exception of tiny "1 Northwest." Only one state revenue agency, "3 South," actually collects data on all the FTA measures, according to that agency's manager for performance management. Furthermore, the few agencies that participate in the FTA project only report data on a few measures. The project actually collected data for less than two years and is currently dormant due to budgetary constraints.

There were only five FTA measures most of the agencies (anywhere from four to seven) held in common. Those FTA measures include:

1. Length of time to issue refunds from date of claim receipt until date of mailing (time series).
2. Average call center queue time.
3. Call center abandon rate.
4. Percent dollars deposited on the same day as receipt in mail room.
5. Total revenue collected per total dollar spent.

It was conjectured in Chapter 3 that because state revenue agencies share the same processes, performance measures across agencies are more likely to be compatible for comparative purposes. Despite this conjecture, discussions with agency personnel revealed that while they may appear similar on the surface, measures are often non-comparable because each agency is fundamentally different in structure, rules, and administration.

The most significant factor to jeopardize comparison is the fact that each state may have different statutory requirements that make operational definitions for seemingly like measures in actuality quite different. For example, "7 South" is statutorily required to seek the approval of the state's Attorney General for any refund over a certain amount. Consequently, this can skew the processing time for refunds for this agency.

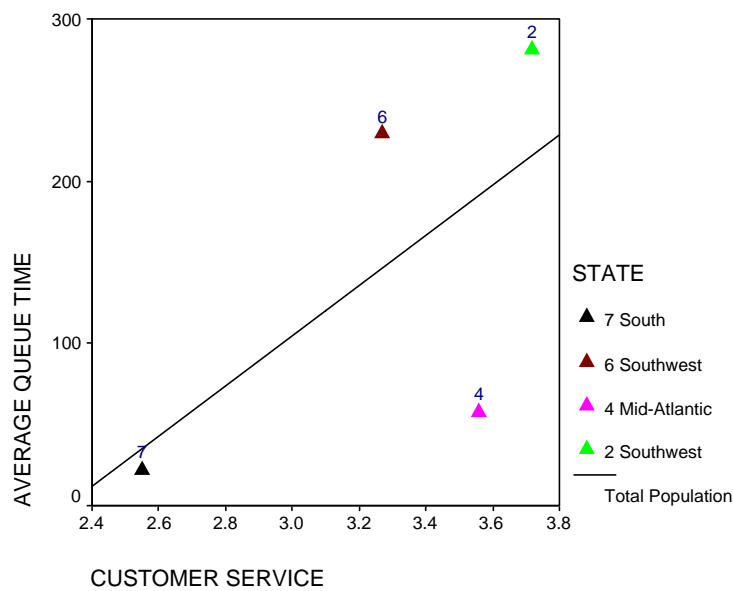
Differences in the types of taxes collected by state agencies will also have an impact on the compatibility of the measure. For example, an agency may capture data pertaining to refunds, but the measure is likely to be more important to an agency that collects individual income taxes as opposed to agencies that do not. Subsequently, length of time to issue refunds is pretty standard for agencies that collect income tax, as well as call center queue time and call center abandon rate.

Administrative differences also affect the operational definition of seemingly like measures. For instance, variance among state revenue agencies on “total revenue collected per total dollar spent” is a function of a state’s tax structure and administrative system. Even when agencies collect the same taxes, disparities still exist regarding tax rates. Another administrative limitation is that agencies have different methods of costing. Only one agency in this nonrandom sample has actually identified and “costed” common business processes.

Despite these limitations, scatter plots were generated comparing state employee perceptions of each management practice with all five objective measures. In all cases, only four agencies were able to provide data for any one of the result measures and job satisfaction. However, some of the scatter plots do show some semblance of a positive relationship between the management practices and three of the objective measures.

Average Call Center Queue Time

Figure 4-17: Customer Service Practices and Average Call Center Queue Time



Average call center queue time is measured in seconds which indicates the number of seconds a

caller has to wait before talking with a call center operator. The agencies providing data on this FTA measure are “2 Southwest,” “4 Mid-Atlantic,” “6 Southwest,” and “7 South.” Scatter plots with this measure indicates something of a relationship with employee perceptions of customer service practices, empowerment, teamwork, and process improvement. Among those four scatter plots, the relationship between average call center queue time and customer service practices appears to be the strongest (Figure 4-17).

According to Figure 4-17, “2 Southwest” has the strongest relationship, followed by “6 Southwest.” The agency “7 South” has the weakest relationship and “4 Mid-Atlantic” is an outlier. Nevertheless, there appears to be some inconsistencies between what is displayed in Figure 4-17 and the correlations between customer service practices and the result measures “taxpayer satisfaction,” “improvements in processes” and “service delivery” on page 19 above. According to the correlations, “2 Southwest” has weaker correlations between customer service and the three result measures than do “7 South,” “4 Mid-Atlantic” and “6 Southwest.” In contrast, “7 South” has the strongest correlations among the four state revenue agencies that are the subject of Figure 4-17.

Call Center Abandon Rate

Call center abandon rate is measured by the percentage of customers that hang up before a call center operator can answer. Agencies providing data on this measure included “2 Southwest,” “4 Mid-Atlantic,” “5 Northwest,” and “7 South.” Scatter plots generated between this measure and the management practices indicates something of a relationship with customer service practices, empowerment, teamwork, human resources, process improvement, and all management practices as a single variable. The strongest relationship appears to be with the management practice “empowerment” (Figure 4-18), but followed by customer service practices (Figure 4-19).

The inconsistency alluded to with average queue time remains when we look at Figure 4-19 below. While “2 Southwest” has the strongest relationship as shown in Figure 4-19, it has the weakest correlations between customer service and the three result measures “taxpayer satisfaction,” “improvements in processes,” and “service delivery.” In contrast, “7 South” has the strongest correlations.

Figure 4-18: Empowerment and Call Center Abandon Rate

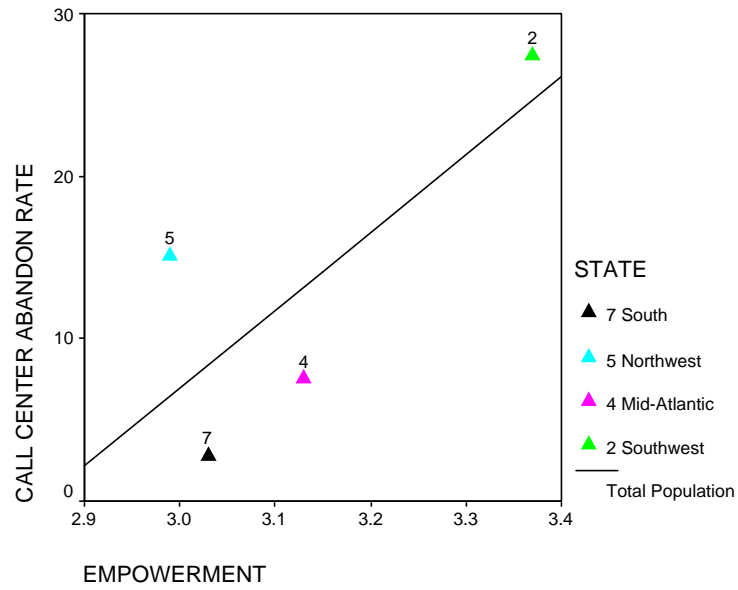
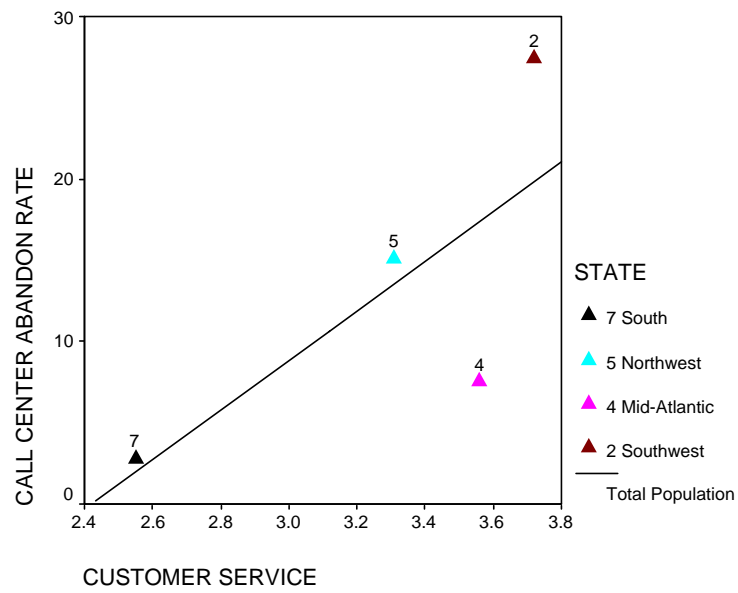
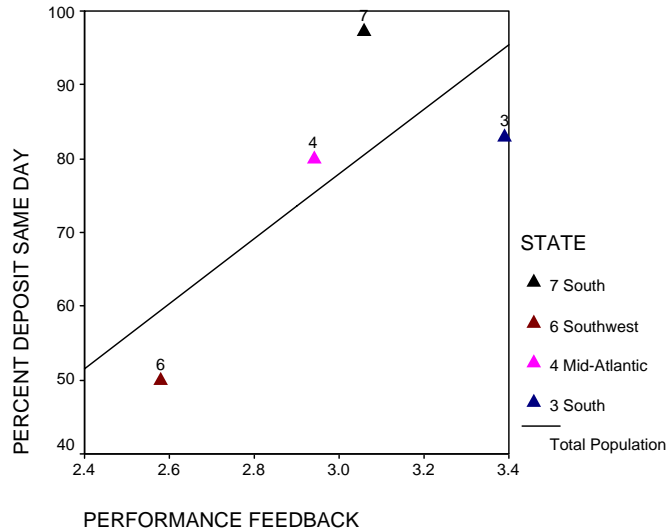


Figure 4-19: Customer Service Practices and Call Center Abandon Rate



Percent Dollars Deposited on the Same Day as Receipt

Figure 4-20: Performance Feedback and Percent Dollars Deposited Same Day Received



Again, four agencies provided data on this measure. Those agencies included “3 South,” “4 Mid-Atlantic,” “6 Southwest,” and “7 South.” Scatter plots generated for this measure with management practices indicate some relationship with strategic planning, performance measures, performance feedback, empowerment, teamwork, training, rewards and recognition, human resources, process improvement, and all management practices as a single variable.

A visual inspection of the scatter plots seems to indicate that performance feedback has the strongest association with this FTA measure (Figure 4-20). In addition, strategic planning (Figure 4-21) and process improvement (Figure 4-22) appear to have stronger relationships with the objective measure than the other management practices.

This time, there does appear to be more consistency with the findings of Figures 4-20 and 4-21 and the correlations. The southern agency “7 South” would appear to have the strongest relationship in Figures 4-20 and 4-21, followed by “3 South,” “4 Mid-Atlantic” and “6 Southwest.” This is consistent with the correlations between the management practice “performance feedback” and “improvements in processes” which indicate “7 South” having the largest correlation, followed by “3 South.” However, “6 Southwest” has a stronger correlation than does “4 Mid-Atlantic.” Also, in Figure 4-22, “3 South” appears to have the stronger relationship between employee perceptions of process improvement and the percent of dollars deposited on the same day received followed by the agencies “4 Mid-Atlantic” and then “6 Southwest.” The agency “7 South” appears to be an outlier. The correlations between employee perceptions of process improvement and the result measure “improvements in processes” shows “3

South” with the largest correlation, followed by “7 South,” “4 Mid-Atlantic” and “6 Southwest.” This appears to be somewhat consistent.

Figure 4-21: Strategic Planning and Percent Dollars Deposited Same Day Received

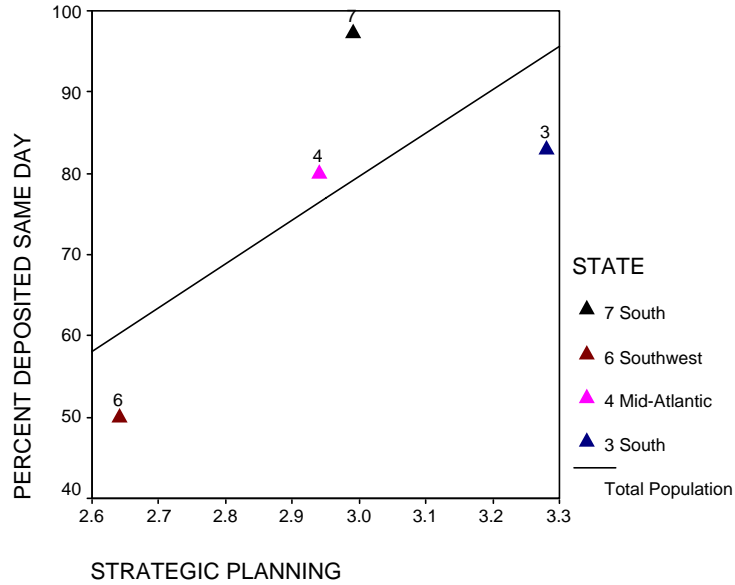
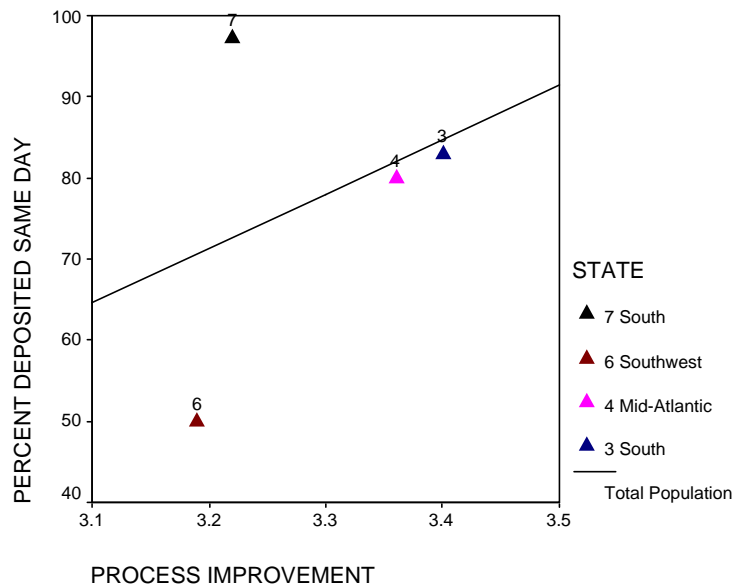


Figure 4-22: Process Improvement and Percent Dollars Deposited Same Day Received



Conclusions

Among the various comparisons reported above, a relationship between employee perceptions of customer service practices and “call center queue time” and “abandon rate” would be expected. Likewise, a relationship between “percent of dollars deposited” and both strategic planning and process improvement is another safe assumption. However, a relationship between the “call center abandon rate” and empowerment, or “percent of dollars deposited” and performance feedback are not assumptions that one might hypothesize. While a relationship between customer service and the “call center abandon rate” would be expected, a relationship with empowerment is not easily explained. Similarly, an association between “percent of dollars deposited” and performance feedback is difficult to rationalize. Nevertheless, the fact there is a relationship may be indicative of a comprehensive and synchronized approach to implementing a number of management practices.

In conclusion, while the data presented above does not offer conclusive proof that a positive relationship exists between the nine management practices and objective data, it does provide some tantalizing pieces of evidence that a positive relationship may very well be present. This is very reassuring and does tend to corroborate that employee perceptions of management practices have positive association with their perception of results. All in all, the weighing scale seems to tip toward confirming the hypothesis rather than its antithesis that there is no relationship.

Table 4-48: Median Scores for Each Agency

(1 = “1 Northwest,” 2 = “2 Southwest,” 3 = “3 South,” 4 = “4 Mid-Atlantic,” 5 = “5 Northwest,” 6 = “6 Southwest,” 7 = “7 South,” and 8 = “8 Mid-West”)

Management Practice and Results	1	2	3	4	5	6	7	8
Strategic Planning	2.83	3.33	3.33	3.00	2.83	2.67	3.00	2.83
Performance Measurement	2.80	3.40	3.40	3.20	3.00	3.00	3.20	3.00
Performance Feedback	3.00	3.25	3.50	3.00	2.75	2.50	3.25	3.00
Customer service practices	3.40	3.80	3.80	3.60	3.40	3.40	3.60	3.60
Empowerment	3.33	3.33	3.33	3.33	3.00	3.00	3.33	3.33
Teamwork	3.67	4.00	4.00	3.67	4.00	4.00	4.00	3.67
Training	3.00	3.50	4.00	3.50	3.00	3.00	3.50	3.00
Rewards and Recognition	2.75	2.75	2.75	2.75	2.25	2.125	2.50	2.25
Human Resources	3.00	3.31	3.37	3.19	2.94	2.81	3.12	2.94
Process Improvement	3.36	3.57	3.43	3.43	3.14	3.29	3.29	3.14
All Management Practices	2.92	3.38	3.44	3.21	2.97	2.90	3.21	3.03
Taxpayer Satisfaction	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Improvements in Processes	3.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00
Service Delivery	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Job Satisfaction	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00
Morale	3.50	3.00	3.00	2.00	2.00	2.00	3.00	2.00

Table 4-49: Standard Deviation Scores for Each Agency

(1 = “1 Northwest,” 2 = “2 Southwest,” 3 = “3 South,” 4 = “4 Mid-Atlantic,” 5 = “5 Northwest,” 6 = “6 Southwest,” 7 = “7 South,” and 8 = “8 Mid-West”)

Management Practice and Results	1	2	3	4	5	6	7	8
Strategic Planning	.67232	.69541	.77671	.72991	.68279	.83180	.78345	.76915
Performance Measurement	.63211	.68705	.81112	.72215	.72902	.85324	.81678	.76577
Performance Feedback	.74277	.81759	.83503	.87204	.85147	.95295	.89791	.88594
Customer service practices	.47359	.53238	.66191	.56436	.56982	.70736	.65027	.64780
Empowerment	.76541	.78621	.87057	.88145	.87078	.96887	.98925	.88142
Teamwork	.70781	.72117	.77143	.78685	.69628	.83129	.80661	.83636
Training	.87180	.88218	.89154	.90090	.92579	1.01624	.98808	.94805
Rewards and Recognition	.88085	.81985	.95399	.90511	.75211	.94714	.94805	.81423
Human Resources	.57817	.63621	.71615	.68924	.61799	.72271	.74248	.68977
Process Improvement	.57789	.62341	.73740	.62476	.62192	.66399	.76008	.65528
All Management Practices	.45076	.55751	.66624	.59399	.54296	.64537	.67677	.59957
Taxpayer Satisfaction	.693	.732	.860	.689	.826	.922	.758	.840
Improvements in Processes	.936	.807	.984	.836	.961	1.044	.999	1.018
Service Delivery	.898	.875	.999	.818	.978	1.054	.970	1.013
Job Satisfaction	.925	.871	.923	1.023	1.000	1.089	1.028	1.013
Morale	1.174	1.130	1.154	1.199	1.127	1.208	1.233	1.175

CHAPTER 5
ANALYSIS:
THE ASSOCIATION BETWEEN POSITION AND EMPLOYEE PERCEPTIONS OF
MANAGEMENT PRACTICES AND RESULTS

IMPORTANCE OF RESEARCH QUESTION

A common axiom of public administration is “where you stand depends upon where you sit.” (Miles, p.399) In other words, our position within an organization affects the way we think about issues. Does that also apply to internal management practices and the results they achieve? As discussed in Chapter 2, Asquith (1998) found that employee commitment to organizational change in eight local governments in England weakened going down the hierarchical chain of command. Likewise, Johnson (2000) found that supervisors in a large federal agency were more likely to see the implementation of quality principles further along, and were more positive regarding different dimensions of the quality culture than were non-supervisors. Additionally, Johnson’s (2000) research showed that higher level employees had higher levels of job satisfaction.

As discussed in Chapter 2, two questions remain to be answered. Does each hierarchical level of an organization have less favorable opinions regarding the deployment of the nine management practices than the level above? The second research question is the same as the first but looks at each hierarchical level’s perception of results and job satisfaction.

The original research question intended to address only three hierarchical levels (i.e., manager, front-line supervisor and non-supervisor). However, all surveys included four values, splitting senior manager into two different values (i.e., senior executive and manager). Defining “position” by these four values rather than the original three better isolates the top echelon. It is the senior executives who generally have the decision-making authority to implement organizational change. Differentiating senior executive from manager redefines manager as middle managers within the agency. Consequently, we will also try and answer the more difficult question of whether there is a negative relationship between employee perceptions of management practices and results and four levels of position (i.e., senior executive, manager, front-line supervisor, and non-supervisor).

The frequencies for three levels and four levels of position for all agencies collectively are shown in Table 5-1 and 5-2 respectively. The frequencies for four levels of position for each agency are shown in Table 5-3. Even collectively, senior executives make up less than two percent of the overall total of employees among all the agencies in this study. Senior executives by agency range from one-tenth of one percent of the total employees to less than six percent of total employees.

Table 5-1: Frequencies for 3 Levels of Position

Position	n=	%
Manager	415	9.8
Front-line Supervisor	432	10.2
Non-supervisor	3388	80.0

Table 5-2: Frequencies for 4 Levels of Position

Position	n=	%
Senior Executive	79	1.9
Manager	336	7.9
Front-line Supervisor	432	10.2
Non-supervisor	3388	80.0

Table 5-3: Frequencies for 4 Levels of Position for Each Agency

Agency	Senior Executive		Manager		Front-line Supervisor		Non-supervisor	
	n=	%	n=	%	n=	%	n=	%
“1 Northwest”	1	1.9	2	3.8	9	17.3	40	76.9
“2 Southwest”	17	3.2	58	10.8	54	10.1	407	75.9
“3 South”	1	.1	74	6.2	107	8.9	1015	84.8
“4 Mid-Atlantic”	24	5.8	67	16.2	67	16.2	255	61.7
“5 Northwest”	5	1.5	14	4.2	9	2.7	309	91.7
“6 Southwest”	10	2.1	41	8.6	66	13.9	357	75.3
“7 South”	14	2.7	30	5.8	55	10.6	421	81.0
“8 Mid-West”	7	1.0	50	7.1	65	9.2	584	82.7

RECAP OF DATA ANALYSIS PROCEDURES

Three methods are used in analyzing the data. Box plots were produced to compare each value of position with employee perceptions of the management practices and results and job satisfaction. Box plots were produced for each of the eight state revenue agencies and then for all the responses among the agencies collectively. The box plots show the median for each value with the “box” representing the middle 50 percent of the cases. The box is also referred to as the interquartile indicated by the 25th and

75th quartiles. 41

What we are looking for with the box plots are: (1) a decrease in the median response at each level of position; and, (2) a downward shift in the interquartile (25th and 75th quartiles) for each level of position. Either a decline in median response or a downward shift in the interquartile range for each value of “position” would support the hypotheses. Even stronger support is provided when both the median and the interquartile range decline at each level.

Although box plots were generated comparing the dependent variables (management practices and results) with three levels and then four levels of the dependent variable “position,” most of the box plots exhibited in this chapter show the comparison at four levels. In very few instances, did the comparison at three levels reveal a more dramatic difference of opinion than was revealed when comparing at four levels of position. Those rare instances where three levels of position are exhibited is generally where there is no perceptible difference of opinion between senior executives and managers.

The second method of analysis was to compute Spearman rho correlations comparing the independent variable “position” with the dependent variables. The dependent variables are the employee perceptions of the nine management practices separately, human resource practices and all management practices as single variables, and finally each of the result measures and job satisfaction. Spearman rho correlations were produced for each agency separately and then for all agencies collectively. Box plots and Spearman rho correlations were also produced for each of the 39 survey items.

Finally, cross-tabulations were computed comparing “position” with each of the 39 survey items and the five result measures only. The cross-tabulations help to further elucidate patterns when comparing two single variables. The same cannot be said for the management practices. The management practices are based on averages of two or more variables which convert ordinal data into essentially continuous data. Computing cross-tabulations for the management practices requires transforming this continuous data into the 5-point Likert scale that was used to originally measure survey response for each variable. To do so means creating parameters that would decide where any particular value of continuous data will fall on the 5-point Likert scale. However, transforming the data into ordinal values becomes a matter of interpreting continuous data which can be perceived as biasing the findings. For example, should a continuous value of “3.51” be transformed into an ordinal value of “3” or should it be re-interpreted as an ordinal value of “4”? One could interpret a value of “3.51” as being more “agreement” which equals a “4” than “neither agreeing nor disagreeing” which equals a “3,” but some may argue differently. Thus, cross-tabulating the management practices by the variable “position” would only threaten the validity of the

41 There is one caveat to interpreting the box plots. Theoretically, the median should be in the middle of the interquartile. However, quite often a large number of responses or cases cluster toward one end of the interquartile while the remaining responses or cases that make up the middle 50 percent are scattered toward the opposite end of the interquartile. In many instances, the box plots presented in this chapter reflect that caveat.

findings, especially when the use of cross-tabulations is not necessary. As will be shown, box plots provide ample evidence in support of the hypotheses.

DOES THE PERCEIVED DEPLOYMENT OF STRATEGIC PLANNING DIFFER BY THE LEVEL OF HIEARCHY?

The specific hypothesis being tested is that managers will have more favorable opinions regarding the deployment of strategic planning than front-line supervisors, and front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

The correlation coefficients for each agency reported in Table 5-4 reveal that there is a small, almost negligible difference comparing employee perceptions of the deployment of strategic planning at three levels or four levels of the variable “position.” The correlations are all in the expected direction for the exception of tiny “1 Northwest.” The agencies with the largest, negative correlation coefficients are “3 South,” “2 Southwest” and “7 South” and in that order. The correlation coefficients for the other agencies indicate relatively slight differences in opinion along the chain of command which would indicate the comparison between employee perceptions of strategic planning and positions for these agencies are not notable.

Table 5-4: Strategic Planning by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.070	.070
“2 Southwest”	-.157**	-.164**
“3 South”	-.247**	-.247**
“4 Mid-Atlantic”	-.041	-.047
“5 Northwest”	-.069	-.070
“6 Southwest”	-.024	-.026
“7 South”	-.122**	-.125**
“8 Mid-West”	-.060	-.062

** Correlation is significant at the 0.01 level (2-tailed)

A visual inspection of the box plots also indicates that some agencies separately provide better support for the hypothesis than others. While “3 South” and “2 Southwest” have negative and linear

relationships between employee perceptions of strategic planning and their position within the agencies, others have nuances that are more non-linear in nature. The largest agency, “3 South,” provides the most graphic support for the hypothesis as shown in Figures 5-1. The box plot for “3 South” shows both a decline in median response and interquartiles for each level of the hierarchy, as well as a widening in the minimum and maximum response (see Table 5-5).

Figure 5-1: Strategic Planning by Position at “3 South”

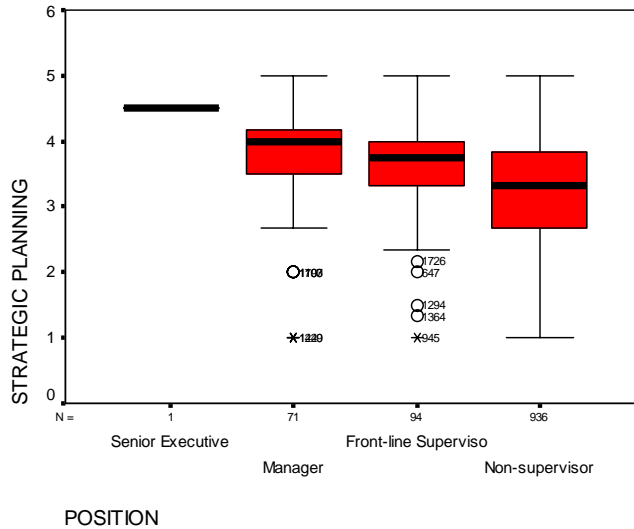


Table 5-5: Strategic Planning by Position at “3 South”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.50	4.00	3.67	3.33
25 th Percentile	4.50	3.42	3.29	2.67
75 th Percentile	4.50	4.17	4.00	3.83
Minimum	4.50	1.00	1.00	1.00
Maximum	4.50	5.00	5.00	5.00

In contrast, “6 Southwest” provides an example of a relationship that is something less than a direct linear relationship between employee perceptions and their place in the agency. As shown in Figure 5-2 and Table 5-6, median response for managers reveal a less than favorable opinion than that of front-line supervisors, even though the interquartiles tend to be more linear in nature. Likewise, “4 Mid-Atlantic” reveals the reverse than expected relationship between front-line supervisors and non-supervisors, while managers at “5 Northwest,” “7 South” and “8 Mid-West” have slightly less favorable

opinions than do front-line supervisors. The relationship does become more linear for “7 South” and “8 Mid-West” when employees perceptions are compared at only three levels of position.

Figure 5-2: Strategic Planning by Position at “6 Southwest”

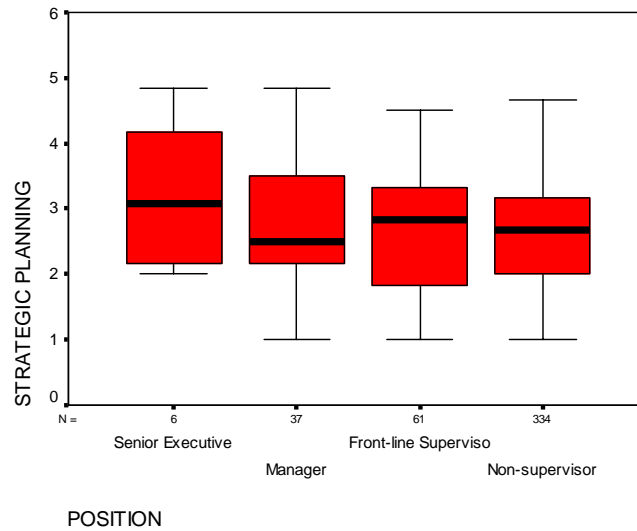


Table 5-6: Strategic Planning by Position at “6 Southwest”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.08	2.50	2.83	2.67
25 th Percentile	2.12	2.08	1.75	2.00
75 th Percentile	4.33	3.58	3.33	3.17
Minimum	2.00	1.00	1.00	1.00
Maximum	4.83	4.83	4.50	4.67

Analysis of All Agencies Collectively

The correlation coefficient for all the agencies collectively is in the expected direction, and there is little difference in the size of the correlation whether computed at three levels or four levels of the variable “position” as shown in Table 5-7.

Table 5-7: Strategic Planning by Level of Position

Three Levels	Four Levels
-.111**	-.113**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for both three levels and four levels of position for all the agencies collectively are shown in Figures 5-3 and 5-4. Both box plots do show movement in the hypothesized direction with changes in median response and interquartiles as reported in Tables 5-8 and 5-9. However, comparing employee perceptions of strategic planning with position is more dramatic when measured at four levels rather than three levels.

Figure 5-3: Strategic Planning by Three Levels of Position

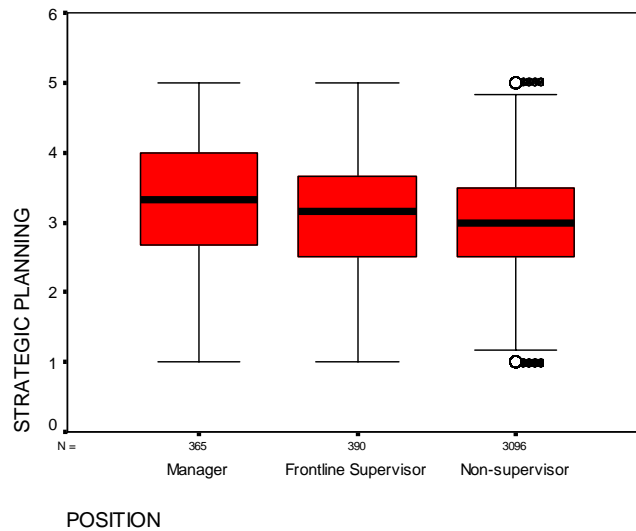


Table 5-8: Three Levels of Position

Measures of Central Tendency	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.33	3.17	3.00
25 th Percentile	2.67	2.50	2.50
75 th Percentile	4.00	3.71	3.50
Minimum	1.00	1.00	1.00
Maximum	5.00	5.00	5.00

Figure 5-4: Strategic Planning by Four Levels of Position

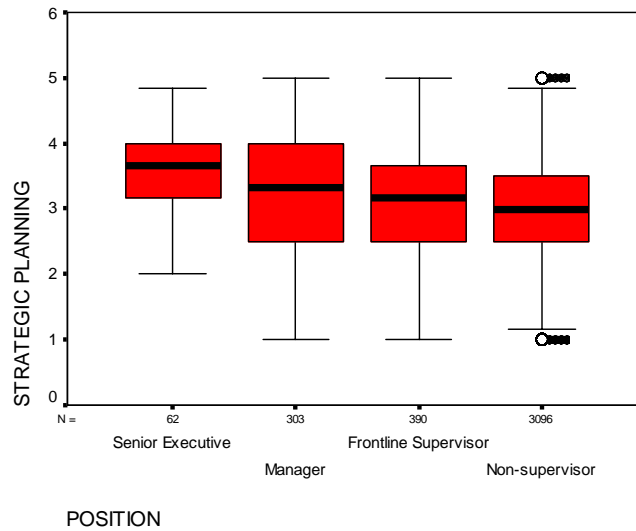


Table 5-9: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.67	3.33	3.17	3.00
25 th Percentile	3.17	2.50	2.50	2.50
75 th Percentile	4.00	4.00	3.71	3.50
Minimum	2.00	1.00	1.00	1.00
Maximum	4.83	5.00	5.00	5.00

The correlation coefficients for each of the six survey items measuring strategic planning is reported in Table 5-10 for both three levels and four levels of the variable “position” and all are in the expected direction. The correlations indicate relatively negligible difference whether measured at three levels or four levels of position. The survey item having the largest, negative correlation coefficient is: “The work that employees do is clearly tied to their division’s long-term goals and objectives.” However, the box plot does not reveal much difference between levels of position. Cross-tabulating this item by position does indicate a more negative and linear relationship. While 77.5% of senior executives agree or strongly agree, 67.2% of managers, 66.8% of front-line supervisors, and 53.4% of non-supervisors are of the same opinion (Chi-square = 108.329, $df = 12$, $p < .000$).

On the other hand, Figure 5-6 does show a dramatic difference of opinion for the survey item: “Management seeks the opinions of employees on the long-term direction of the department.” While the median response for senior executives is 4.0 (agree), it drops to 3.0 (neither agree nor disagree) for

managers and 2.0 (disagree) for both front-line supervisors and non-supervisors. Again, cross-tabulating the survey item with position does indicate a directly negative relationship. In this case, 58% of senior executives, 35% of managers, 29.6% of front-line supervisors, and 20.6% of non-supervisors either agree or strongly agree that management seeks the opinions of employees on the long-term direction of the agency (Chi-square = 123.704, $df = 12$, $p < .000$).

Table 5-10: Each Survey Item for Strategic Planning by Position

Survey Item	Three Level	Four Level
Senior executives have set a long-term direction for the department.	-.077**	-.078**
Management seeks the opinions of employees on the long-term direction of the department.	-.102**	-.104**
Each division in the department establishes goals and objectives that support the department's long-term direction.	-.116**	-.117**
All employees participate in developing their division's long-term goals and objectives.	-.022	-.023
The work that employees do is clearly tied to their division's long-term goals and objectives.	-.126**	-.127**
Immediate supervisors share the same goals and values as the senior executives.	-.063**	-.064**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-5: "The work that employees do is clearly tied to their division's long-term goals and objectives."

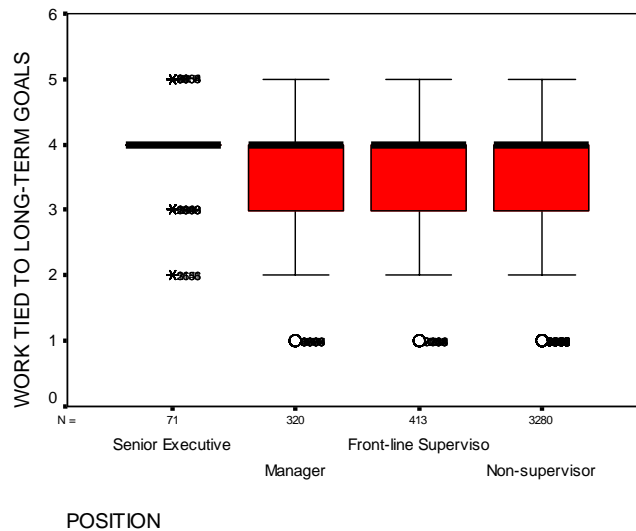
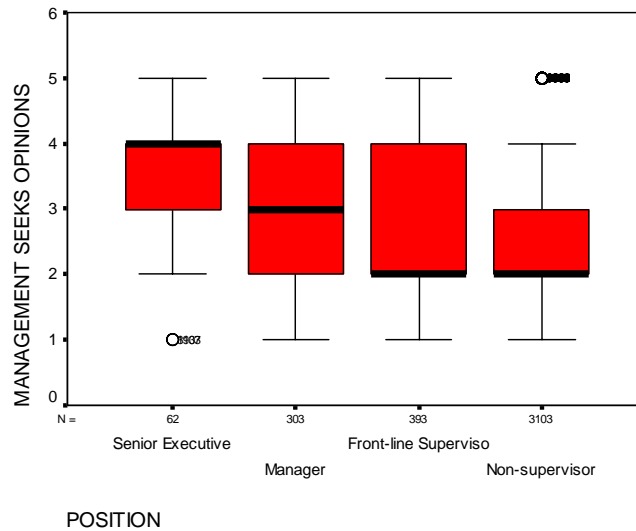


Figure 5-6: “Management seeks the opinions of employees on the long-term direction of the department.”



Findings

The box plots for each agency show that some agencies provide stronger support for the hypothesis than other agencies. That conclusion is also supported by the size of the correlation coefficients reported for each agency. Although the correlations for seven out of eight agencies were negative, only 3 agencies had notably negative correlations. The largest agency, “3 South,” reported the strongest correlation between the dependent and independent variables.

The box plots and the correlation coefficients for all agencies collectively also show support for the hypothesis that managers have more favorable opinions about strategic planning than front-line supervisors, and front-line supervisors have more favorable opinions than non-supervisors. However, the box plot comparing employee perceptions of strategic planning at four levels of position is a much more powerful statement regarding differences of opinion than comparing perceptions at three levels.

A qualification regarding the collective evidence is that “3 South” clearly has a large effect when analyzing all the responses among the agencies. Among the valid number of responses, “3 South” represented 29% of the total. It would be plausible to conclude that greater differences in opinion among levels of authority are more likely to be found in larger organizations than smaller organizations. Upper management in larger organizations is more likely to be more dependent upon their direct reports for information. Direct reports are not prone to pass along bad news to their superiors, or are likely to filter the information in ways that make it more palatable for their consumption. As a result, upper management in larger organizations is more likely to be out-of-touch with the opinions of employees on the lower

rungs of the organizational ladder.

Among the survey items separately, the most pronounced difference of opinion, based on a visual inspection of the box plots, is whether management seeks the opinions of employees on the long-term direction of the department.

DOES THE PERCEIVED DEPLOYMENT OF PERFORMANCE MEASURES DIFFER BY THE LEVEL OF HIEARCHY?

The hypothesis here is that managers will have more favorable opinions regarding the deployment of performance measures than front-line supervisors; in turn front-line supervisors will have more favorable opinions than non-supervisors.

Analysis By Agency

The correlation coefficients reported in Table 5-11 for each agency are in the expected direction. However, there are small differences in the correlations for each agency whether employee perceptions of performance measures are measured at three or four levels of the variable “position.” The correlations show that the largest negative relationships are found at “3 South” (rho = -.240, $p < .01$), followed by “7 South” and “2 Southwest.” The remaining agencies show weaker support for the hypothesis.

Table 5-11: Performance Measures by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.028	-.028
“2 Southwest”	-.149**	-.153**
“3 South”	-.240**	-.240**
“4 Mid-Atlantic”	-.036	-.037
“5 Northwest”	-.007	-.009
“6 Southwest”	-.103*	-.103*
“7 South”	-.169**	-.171**
“8 Mid-West”	-.070	-.072

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots for each of the eight revenue agencies separately also tend to show that some agencies have more pronounced differences of opinion among the levels of the agency than other

agencies. The two southern agencies, “3 South” and “7 South,” and “6 Southwest” have the hypothesized relationships between the dependent and independent variables.

Excluding tiny “1 Northwest,” the remaining agencies do show some unexpected differences. While the box plot for “2 Southwest,” measuring employee perceptions of performance measures at 3 levels, does disclose something of a linear pattern as seen in Figure 5-7, separating senior executives from managers, as shown in Figure 5-8, does show that managers have lower opinions regarding the deployment of performance measures than do front-line supervisors. Likewise, front-line supervisors at “4 Mid-Atlantic” have more unfavorable opinions than do non-supervisors. Moreover, senior executives and managers have the same median response and interquartiles. Also, “8 Mid-West” shows more divergence of opinion among managers as represented by the interquartiles, even though managers, front-line supervisors and non-supervisors have the same median response. The most unusual pattern among the eight agencies is provided by “5 Northwest.” Although senior executives clearly have the highest median response and interquartiles, non-supervisors have a higher median response than do managers and front-line supervisors.

Figure 5-7: Performance Measures by 3 Levels of Position at “2 Southwest”

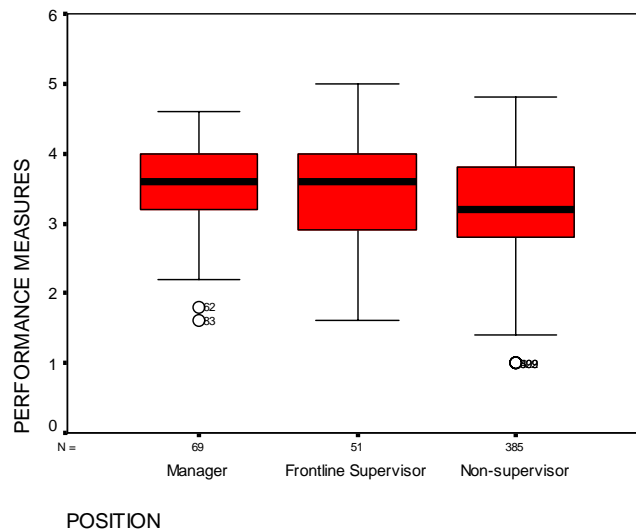


Table 5-12: Performance Measures by 3 Levels of Position at “2 Southwest”

Measures of Central Tendency	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.60	3.60	3.20
25 th Percentile	3.10	2.80	2.80
75 th Percentile	4.00	4.00	3.80
Minimum	1.60	1.60	1.00
Maximum	4.60	4.40	4.80

Figure 5-8: Performance Measures by 4 Levels of Position at “2 Southwest”

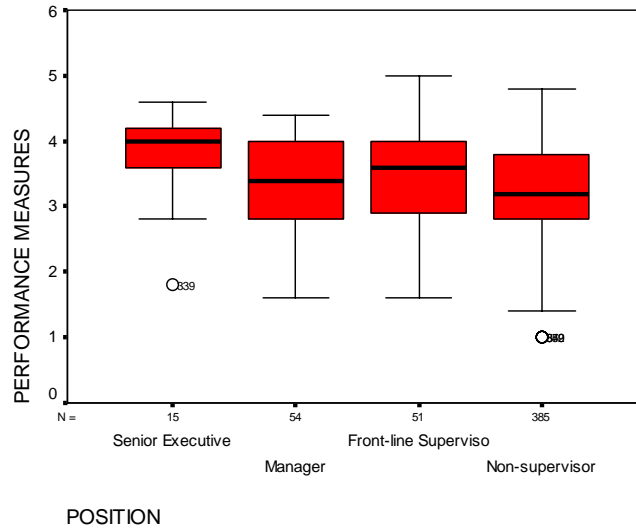


Table 5-13: Performance Measures by 4 Levels of Position at “2 Southwest”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.00	3.40	3.60	3.20
25 th Percentile	3.60	2.80	2.80	2.80
75 th Percentile	4.20	4.00	4.00	3.80
Minimum	1.80	1.60	1.60	1.00
Maximum	4.60	4.40	4.40	4.80

Analysis of All Agencies Collectively

Correlations between employee perceptions of performance measures and position indicate little

difference in the size of the correlation at three or four levels of the variable “position” as shown in Table 5-14. As expected, both correlations are in the expected direction.

Table 5-14: Performance Measures by Level of Position

Three Levels	Four Levels
-.126**	-.127**

** Correlation is significant at the 0.01 level (2-tailed)

Whether compared at three level or four levels of position, Figures 5-9 and 5-10 show a clear difference of opinions among managers, front-line supervisors and non-supervisors regarding the deployment of performance measures. However, Figure 5-10 discloses a more dramatic shift when considering the opinions of senior executives and managers separately. Table 5-16 shows the median response for senior executives as 3.60, the median response for managers as 3.40, and for front-line supervisors and non-supervisors it is 3.20. While the median response for front-line supervisors and non-supervisors is identical, the downward shift in the interquartiles does indicate there is a decline in favorable opinion with each step down the chain of command.

Figure 5-9: Performance Measures by Three Levels of Position

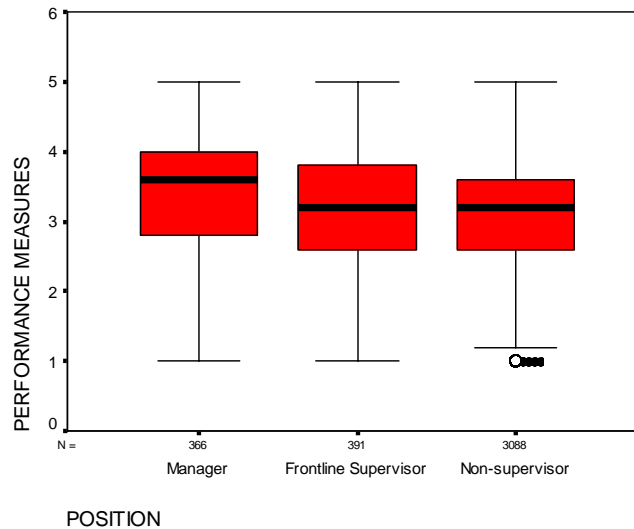


Table 5-15: Three Levels of Position

Measures of Central Tendency	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.60	3.20	3.20
25 th Percentile	2.80	2.60	2.60
75 th Percentile	4.00	3.80	3.60
Minimum	1.00	1.00	1.00
Maximum	5.00	5.00	5.00

Figure 5-10: Performance Measures by Four Levels of Position

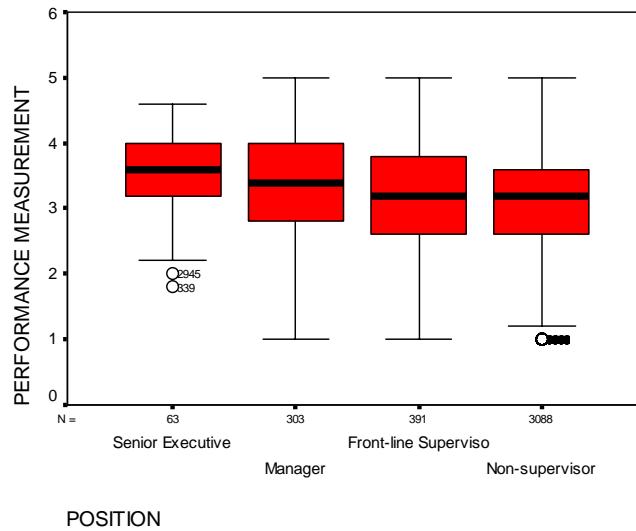


Table 5-16: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.60	3.40	3.20	3.20
25 th Percentile	3.20	2.80	2.60	2.60
75 th Percentile	4.00	4.00	3.80	3.60
Minimum	1.80	1.00	1.00	1.00
Maximum	4.60	5.00	5.00	5.00

Likewise, correlation coefficients by each survey item separately indicate little, if any difference whether reported for three levels or four levels of position. The correlations reported in Table 5-17 show

the strongest, negative correlation is with the survey item: “We use quantifiable measures to *routinely* track our performance.”

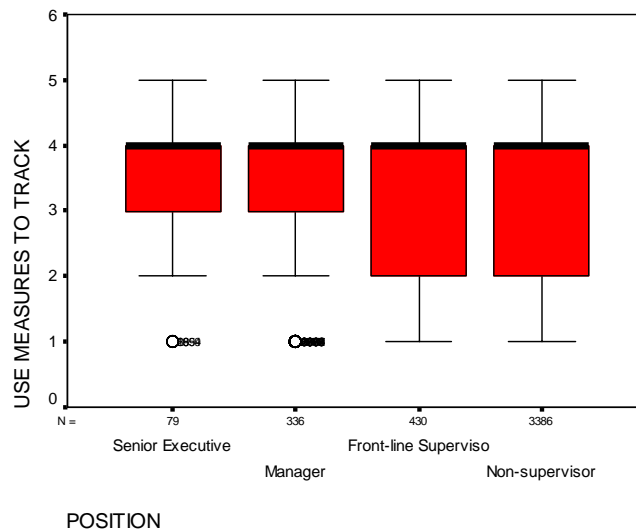
The box plot for that particular survey item is shown in Figure 5-11. While the median response is the same for all four levels, the interquartiles for front-line supervisors and non-supervisors indicate some disagreement with the upper levels of management. However, cross-tabulating this survey item by position shows that 72.2% of senior executives, 70.3% of managers, 61.4% of front-line supervisors, and 53.5% of non-supervisors agree or strongly agree that quantifiable measures are used to track performance (Chi-square = 111.910, $df = 12$, $p < .000$).

Table 5-17: Each Survey Item for Performance Measures by Position

Survey Item	Three Levels	Four Levels
We use quantifiable measures to <i>routinely</i> track our performance.	-.116**	-.116**
We use quantifiable measures to make decisions about our work.	-.106**	-.107**
Our use of quantifiable measures has improved cooperation and coordination with <i>other</i> divisions in the department.	-.080**	-.081**
Our use of quantifiable measures has improved communication with <i>other</i> divisions in the department.	-.065**	-.066**
The quantifiable measures we use have led to changes in <i>how</i> we achieve results.	-.106**	-.106**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-11: “We use quantifiable measures to *routinely* track our performance.”



Findings

When considering the eight agencies separately, the box plots for each agency provide a mix of findings with some showing the expected relationships while others are more non-linear in nature. The correlation coefficients for each agency also disclose that some agencies have stronger negative associations than other agencies when comparing employee perceptions of performance measures and their position within the agency. Overall, the box plots and correlation coefficients show that among all the agencies collectively, favorable opinion does decline regardless of whether the variable “position” is measured at three levels or four levels.

Again, the size of the correlation coefficient for “3 South” would indicate that the agency has a significant effect on the findings when the responses are considered among all the eight agencies collectively. The southern agencies and “2 Southwest” report the largest correlations. One likely explanation of that fact is that these three agencies have the largest mean scores for this particular management practice. The reason for this explanation may be that agencies with higher deployment of performance measures are more likely to have greater differences of opinion between hierarchical levels.

Among the individual survey items, only one item tended to show any real difference of opinion between the upper and bottom levels of the hierarchy as indicated by the box plots. That was on the issue of whether the agency used performance measures to track its performance.

DOES THE PERCEIVED DEPLOYMENT OF PERFORMANCE FEEDBACK DIFFER BY THE LEVEL OF HIEARCHY?

The hypothesis here is that managers will have more favorable opinions regarding the deployment of performance feedback than front-line supervisors; in turn front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

The correlation coefficients reported in Table 5-18 for three levels and four levels of the variable “position” show little difference in strength among the eight agencies. Again, “3 South” has the largest, negative association between the dependent and independent variables ($\rho = -.179, p < .01$). Other than “5 Northwest,” the remaining agencies do not have noteworthy correlations between employee perceptions of performance feedback and position.

Table 5-18: Performance Feedback by Levels of Position

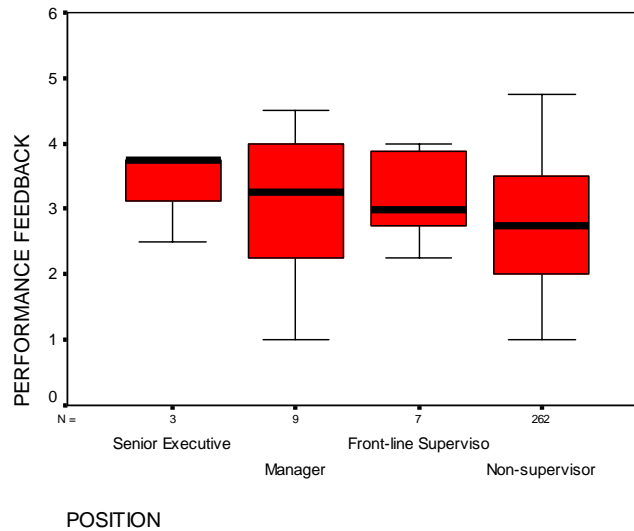
Agency	3 Levels	4 Levels
“1 Northwest”	.262	.262
“2 Southwest”	-.074	-.082
“3 South”	-.179**	-.179**
“4 Mid-Atlantic”	-.003	-.006
“5 Northwest”	-.129*	-.129*
“6 Southwest”	-.046	-.045
“7 South”	-.061	-.063
“8 Mid-West”	-.007	-.009

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots tend to confirm the correlation coefficients. Only “3 South” has a linear relationship in the expected direction.⁴² The southern agency has the expected associations for both median response and interquartiles. This analysis holds whether we compare employee perceptions of performance feedback with either three levels or four levels of position.

Figure 5-12: Performance Feedback by Position at “5 Northwest”



Among the rest of the agencies, “2 Southwest,” “4 Mid-Atlantic,” “7 South” and “8 Mid-West” show front-line supervisors with more favorable opinions than managers. The median response and

⁴² In fact, tiny “1 Northwest” has a distinctly positive relationship between the dependent and independent variables.

interquartiles for front-line supervisors and non-supervisors at “8 Mid-West” are also identical. Although the median response is linear in nature for “5 Northwest,” the interquartiles indicate that managers have more varied opinions than do front-line supervisors. The assumption is also reinforced by the minimum and maximum values for managers and front-line supervisors. Those values are much more concentrated for front-line supervisors than they are for managers as shown in Figure 5-12 and Table 5-19. In contrast, the senior executives at “6 Southwest” have less favorable opinions than do managers.

Table 5-19: Performance Feedback by Position at “5 Northwest”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.75	3.25	3.00	2.75
25 th Percentile	2.50	2.12	2.50	2.00
75 th Percentile	3.75	4.25	4.00	3.50
Minimum	2.50	1.00	2.25	1.00
Maximum	3.75	4.50	4.00	4.75

Analysis of All Agencies Collectively

The correlation coefficients are in the expected direction for all responses among the agencies collectively as reported in Table 5-20. The difference between the correlations for three levels or four levels of position is also very small. Although the correlations are negative, they are not as strong as we have seen for other associations between management practices and position.

Table 5-20: Performance Feedback by Level of Position

Three Levels	Four Levels
-.060**	-.062**

** Correlation is significant at the 0.01 level (2-tailed)

While the median response for each level is in the expected direction when comparing managers, front-line supervisors and non-supervisors only, the interquartiles for front-line supervisors and non-supervisors are the same. Although there is little difference in the correlation coefficients between three and four levels of position, Figure 5-13 and Table 5-21 show more revealing differences. Splitting senior executives from managers does somewhat change the analysis. While senior executives clearly have more favorable opinions than the lower three levels, managers have more varied opinions than do front-line supervisors and non-supervisors according to the interquartiles.

Figure 5-13: Performance Feedback by Four Levels of Position

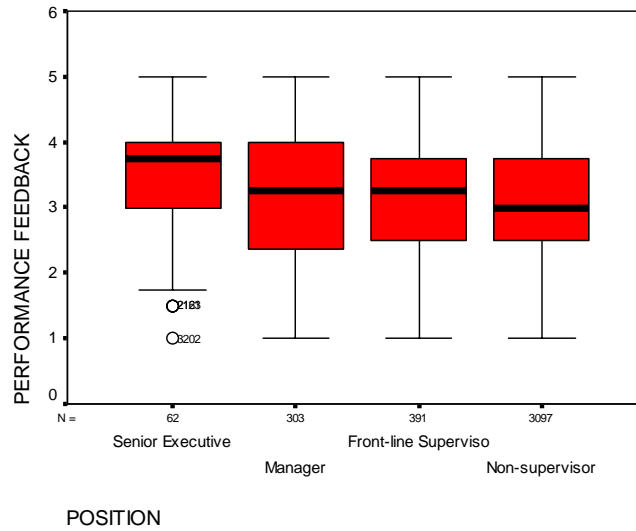


Table 5-21: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.75	3.25	3.25	3.00
25 th Percentile	2.94	2.25	2.50	2.50
75 th Percentile	4.00	4.00	3.75	3.75
Minimum	1.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

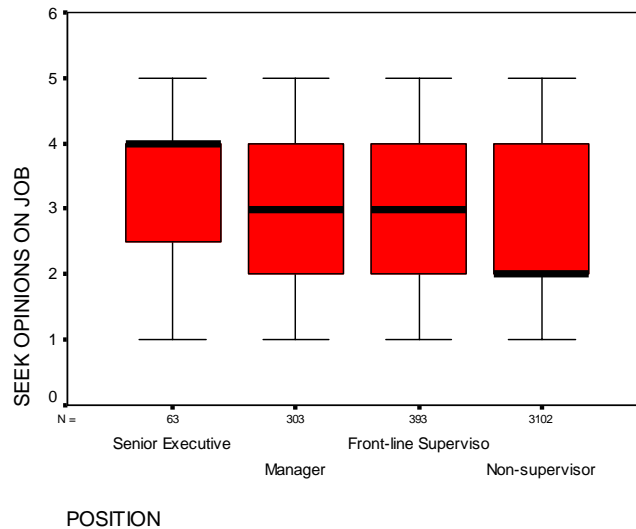
The correlation coefficients reported in Table 5-22 show the largest, negative correlation is with the survey item: “Management routinely seeks the opinions of employees on issues related to their job and their work environment.” It is also noteworthy that the other three survey items have negligible correlation coefficients. The box plot exhibited in Figure 5-14 does reveal something of a dramatic difference in state revenue employee perceptions on whether management seeks the opinion of employees on their job and work environment. The cross-tabulations between this survey item and position does show that there exists a directly negative relationship. While 55.6% of senior executives agree or strongly agree that management does seek the opinions of employees, 47.6% of managers, 40.8% of front-line supervisors, and 29.6% of non-supervisors hold the same opinion as senior executives (Chi-square = 122.437, $df = 12$, $p < .000$).

Table 5-22: Each Survey Item for Performance Feedback by Position

Survey Item	Three Levels	Four Levels
Senior executives routinely give feedback to employees on the performance of our department.	.000	.000
Performance expectations for my work have been clearly communicated to me.	-.021	-.021
I get regular feedback from my immediate supervisor that helps me to improve my work.	-.022	-.023
Management routinely seeks the opinions of employees on issues related to their job and their work environment.	-.119**	-.120**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-14: “Management routinely seeks the opinions of employees on issues related to their job and their work environment.”



Findings

Support for the hypothesis varies when considering the box plots for each agency separately. Some agencies, such as “3 South” provide stronger support than other agencies. Even where an agency provides stronger support, such as “5 Northwest,” the relationship is not necessarily a linear one. The box plots for all the agencies collectively do provide support for the hypothesis, indicating some negative relationship between position in the agency and opinions on performance feedback. However, the size of the negative correlation coefficients between the dependent variable “performance feedback” and the independent variable “position” is the weakest among all nine management practices.

Among the four survey items measuring performance feedback, only one of the survey items

showed a notably negative association. Managers and front-line supervisors disagree with senior executives about whether management seeks the opinions of employees on issues related to their job and their work environment, and non-supervisors disagree with managers and front-line supervisors.

DOES THE PERCEIVED DEPLOYMENT OF CUSTOMER SERVICE DIFFER BY THE LEVEL OF HIEARCHY?

The hypothesis being tested in this section is that managers will have more favorable opinions regarding the deployment of customer service than front-line supervisors, but that front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

The correlations between the variables “customer service” and “position” reported in Table 5-23 show that while some agencies provide stronger support for the hypothesis than other agencies, the correlations for customer service among the agencies are more consistent than associations for previous management practices. Although “3 South” clearly has the largest correlation coefficient ($\rho = -.314, p < .01$), the remaining six, excluding “1 Northwest,” have negative correlations that are noteworthy.

Table 5-23: Customer Service Practices by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.000	.000
“2 Southwest”	-.154**	-.158**
“3 South”	-.313**	-.314**
“4 Mid-Atlantic”	-.186**	-.191**
“5 Northwest”	-.139*	-.140*
“6 Southwest”	-.219**	-.219**
“7 South”	-.194**	-.197**
“8 Mid-West”	-.102**	-.103**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots for “2 Southwest,” “3 South,” “6 Southwest,” “7 South” and to a lesser degree “8 Mid-West” have linear relationships when the management practice “customer service” is compared to only three levels of “position.” This relationship somewhat breaks down when senior executives are

separated from managers for the agencies “2 Southwest” and “6 Southwest.” At “2 Southwest” the interquartiles for manager and front-line supervisor are identical, whereas senior executives have a lower median response than managers at “6 Southwest.” The largest agency, “3 South,” has the strongest, negative relationship between all four levels of “position.”

Among the remaining agencies, “4 Mid-Atlantic” continues to reveal that front-line supervisors have less favorable opinions than non-supervisor at either level of position. Likewise, “5 Northwest” has non-supervisors indicating more favorable opinions regarding the deployment of customer service practices than front-line supervisors.

Analysis of All Agencies Collectively

The correlation coefficients between the dependent variable “customer service” and the independent variable “position” at either three levels or four levels are in the hypothesized direction as shown in Table 5-24. Again, in terms of the size of the correlation coefficients, there is an insignificant difference between the two.

Table 5-24: Customer service practices by Level of Position

Three Levels	Four Levels
-.188**	-.189**

** Correlation is significant at the 0.01 level (2-tailed)

Employee opinion regarding customer service practices indicates a decline in favorable opinion for each level of “position” both by median response and by interquartile. The minimum and maximum response also appears to widen descending the chain of command. Splitting senior executives from managers, as shown in Figure 5-15 and Table 5-25, makes the differences in opinion even more dramatic.

Figure 5-15: Customer service practices by Four Levels Position

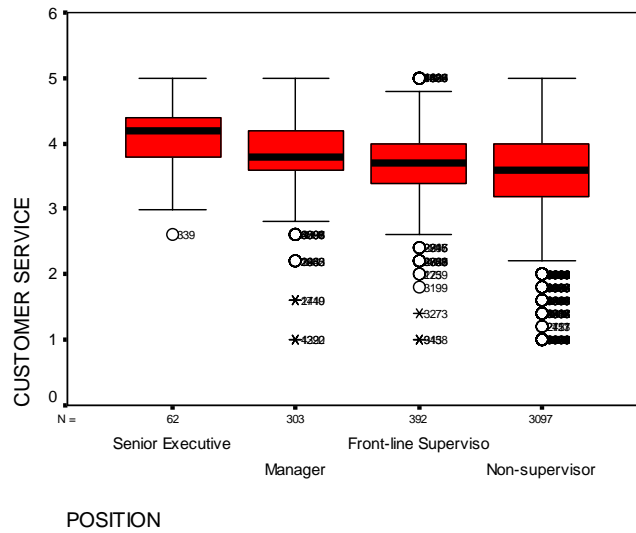


Table 5-25: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.20	3.80	3.70	3.60
25 th Percentile	3.75	3.60	3.40	3.20
75 th Percentile	4.40	4.20	4.00	4.00
Minimum	2.60	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

When considering the survey items measuring customer service separately, the item with the largest correlation coefficient in the expected direction is the item: “We take taxpayer complaints very seriously and we act to resolve them in a *timely* fashion.” The box plot in Figure 5-16 does reveal some difference in opinion in terms of the median response. However, for the most part, state revenue employees at any level of position either strongly agree or agree that complaints are taken seriously and are resolved in a timely fashion. This is corroborated by cross-tabulations between the survey item and position. Among senior executives, 90.2% agree or strongly agree that taxpayer complaints are taken seriously and resolved quickly, while 87.8% of managers, 86.9% of front-line supervisors, and 77.7% of non-supervisors also agree or strongly agree (Chi-square = 205.228, $df = 12$, $p < .000$). While there is a drop in favorable opinion going down the chain of command, there are also a relatively large percentage of employees at each level that are in agreement.

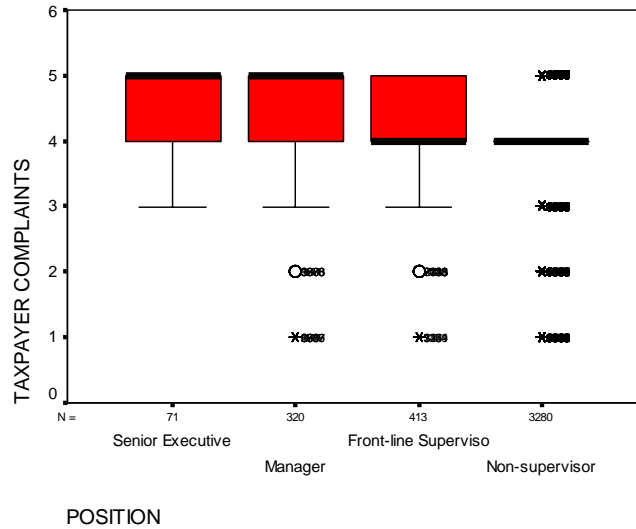
Table 5-26: Each Survey Item of Customer service practices by Position

Survey Item	Three Levels	Four Levels
We routinely seek input (e.g., surveys, focus groups, advisory groups) from taxpayers about our services.	-.060**	-.061**
Taxpayers can easily make complaints about our services.	-.120**	-.121**
We use taxpayer input to improve our services.	-.147**	-.147**
We take taxpayer complaints very seriously and we act to resolve them in a <i>timely</i> fashion.	-.197**	-.198**
Improving taxpayer access to our services is an important priority for our department.	-.130**	-.131**

** Correlation is significant at the 0.01 level (2-tailed)

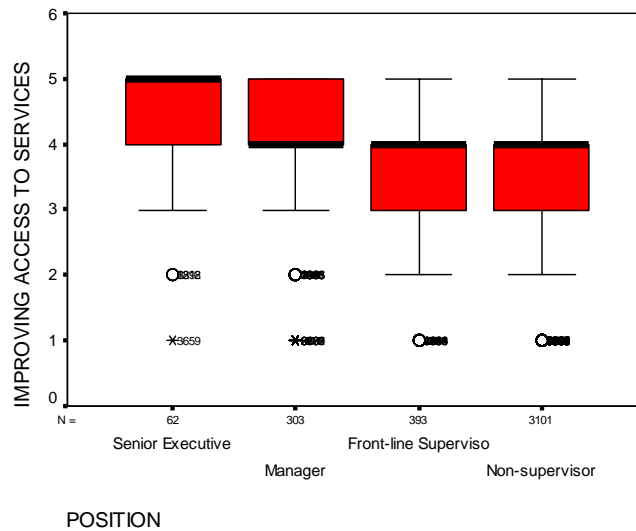
* Correlation is significant at the 0.05 level (2-tailed)

Figure 5-16: “We take taxpayer complaints very seriously and we act to resolve them in a *timely* fashion.”



However, the box plot in Figure 5-17 does seem to suggest a more dramatic difference of opinion on the issue of whether improving taxpayer access is an important priority for the agency. While median response at all four levels are in agreement (strongly agree and agree), the interquartiles and minimum and maximum values do indicate some disagreement between the upper two levels of management and front-line supervisors and non-supervisors. This too is corroborated by cross-tabulating the two variables. While 91.9% of senior executives agree or strongly agree that it is an important priority, 80.8% of managers, 74.0% of front-line supervisors, and 68.2% of non-supervisors hold the same opinion (Chi-square = 137.009, $df = 12$, $p < .000$). Again, there is a steady drop in opinion but most employees at any level agree that it is an important priority.

Figure 5-17: “Improving taxpayer access to our services is an important priority for our department.”



Findings

Among the agencies individually, while there are differing levels of support, most of the correlation coefficients for each agency provided more consistent support for this hypothesis than what has been provided for other hypotheses to this point. The largest agency (“3 South”) in the nonrandom sample provided the strongest support for the hypothesis that favorable opinion regarding the deployment of customer service practices declines with each level of authority in the agency. The correlation coefficients and box plots for all the agencies collectively provide good support for the hypothesis regardless of whether customer service is measured at three levels or four levels of position.

The correlation coefficients among the survey items separately show that state revenue employees disagree more on whether taxpayer complaints are taken seriously and resolved in a timely fashion. An even more dramatic difference is exhibited in the box plot comparing levels of position with the survey item: “Improving taxpayer access to our services is an important priority for our department.” Nevertheless, box plots for both survey items indicate that state revenue employees’ at all four levels generally agree that complaints and access to services are taken seriously by the agencies.

DOES THE PERCEIVED DEPLOYMENT OF EMPOWERMENT DIFFER BY THE LEVEL OF HIEARCHY?

The specific hypothesis being addressed here is that managers will have more favorable opinions regarding empowerment than frontline supervisors, while non-supervisors will have more unfavorable opinions than managers or front-line supervisors.

Analysis by Agency

The correlation coefficients for the relationship between empowerment and position for each agency are reported in Table 5-27. Among all nine management practices, empowerment has the strongest, negative association with the variable “position.” For one exception, all the agencies show noteworthy negative correlations. Although “3 South” has the largest correlation coefficient once again, “2 Southwest” and “6 Southwest” have correlations almost of equal size. Furthermore, the correlation coefficients for the remaining agencies are larger than correlations reported for other management practices.

Table 5-27: Empowerment by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.052	.052
“2 Southwest”	-.305**	-.309**
“3 South”	-.315**	-.315**
“4 Mid-Atlantic”	-.248**	-.259**
“5 Northwest”	-.173**	-.174**
“6 Southwest”	-.303**	-.303**
“7 South”	-.191**	-.195**
“8 Mid-West”	-.229**	-.231**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for each of the eight agencies separately, like the correlation coefficients, show a more consistent pattern among the agencies than for any other management practices. Five of the agencies clearly have a negative, linear pattern in their box plots, even when measured at four levels of position. One of the more striking examples is provided by “8 Mid-West” where you have a decline in median response and a downward shift in the interquartiles. Even “4 Mid-Atlantic” which has typically shown front-line supervisors having more unfavorable opinions than non-supervisors, has a negative and linear

association between empowerment and position.

Excluding tiny “1 Northwest,” while the box plot for “5 Northwest” shows something of a non-linear pattern that does not change at either level of position, “6 Southwest” clearly has a negative linear relationship when measured at three levels but less so when measured at four levels of position.

Analysis of All Agencies Collectively

As would be expected based on the size of the correlation coefficients for each agency, when considered collectively the correlation coefficients are negative and nearly of identical size whether measured at three levels or four levels of position as shown in Table 5-28. They are also the largest correlations among all the management practices separately.

Table 5-28: Empowerment by Level of Position

Three Levels	Four Levels
-.249**	-.250**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots provide even more dramatic evidence of a negative relationship between employee perceptions of empowerment and their level of authority within the agency. Even when senior executives are split from manager, differences of opinion are clearly illustrated with unfavorable opinion decreasing each step down the chain of command.

Table 5-29: Each Survey Item for Empowerment by Position

Survey Item	Three Levels	Four Levels
Promising ideas and suggestions made by employees are implemented.	-.213**	-.213**
I am involved in decisions that affect my work.	-.223**	-.224**
I can make decisions about my work without first checking with my immediate supervisor.	-.132**	-.133**

** Correlation is significant at the 0.01 level (2-tailed)

The correlation coefficients for each of the three survey items measuring empowerment shown in Table 5-29 above indicates that the largest coefficient is with the item: “I am involved in decisions that affect my work.” The box plot shown in Figure 5-18 does reveal a negative relationship between employee opinions on this item and their place in the pecking order. That a negative relationship exists is further supported by cross-tabulating the item with position. While 84.3% of senior executives agree or

strongly agree that they are involved in decisions that affect their work, 72.4% of managers, 65% of front-line supervisors, and 44.2% of non-supervisors also agree or strongly agree (Chi-square = 327.462, $df = 12$, $p < .000$).

Figure 5-18: “I am involved in decisions that affect my work.”

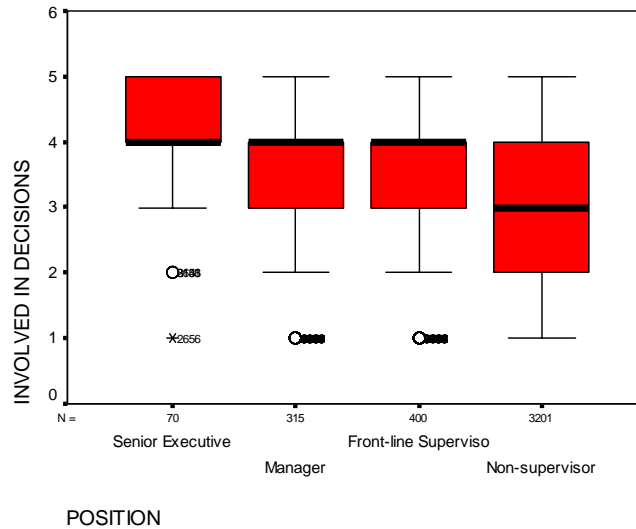
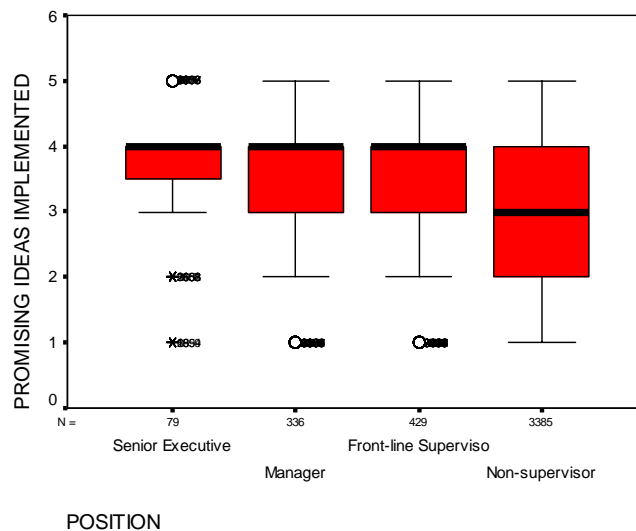


Figure 5-19: “Promising ideas and suggestions made by employees are implemented.”



A visual inspection of the box plots also show there is a negative relationship on the item: “Promising ideas and suggestions made by employees are implemented” (see Figure 5-19). The box plot

tells us that senior executives have more favorable opinions than do the lower three levels, while middle management (managers and front-line supervisors) have more favorable opinions than do non-supervisors. Cross-tabulating the survey item with position helps to further refine the difference in opinions at all four levels. While 74.7% of senior executives agree or strongly agree that promising ideas and suggestions made by employees are implemented, 64.3% of managers, 55.5% of front-line supervisors, and just a third (33.2%) of non-supervisors also agree or strongly agree that it is done (Chi-square = 256.047, $df = 12$, $p < .000$).

Findings

The negative relationship between employee perceptions of their empowerment within the agencies and their position in the hierarchy is the strongest evidence of a directly negative relationship among all the nine management practices. The consistency among the agencies separately also reinforces the hypothesis of a negative relationship between empowerment and position. Clearly, state revenue employees differ in opinion relative to their level of authority within the agency. According to opinion, senior executives feel more empowered than managers, managers feel more empowered than front-line supervisors, and non-supervisors feel less empowered than all their superiors.

Although “3 South” had the largest correlation coefficient, the consistency among the agencies tends to downplay the notion that greater differences in opinion regarding empowerment are more likely to be found in larger agencies. Two of the agencies with less than half the employees of “3 South” had correlation coefficients nearly as large as “3 South.”

Among the survey items measuring empowerment, revenue employees differ more on whether they are involved in decisions that affect their work. However, this item is in the first person and it would be intuitive to expect that the response would be negative descending the chain of command. In other words, the lower you are in the hierarchy the less you feel you’re involved in decisions that affect your work. The box plots also indicate there is a negative relationship among state revenue employees on whether promising ideas and suggestions made by them are implemented. On both items, management tends to agree that ideas and suggestions are put into practice, while the median response for non-supervisors leads one to conclude they are not certain. A safe assumption is that good ideas and suggestions made by employees may very well be implemented since the upper three levels of management agree, but that non-supervisors are simply not aware. It is also likely that the response among non-supervisors is more varied because there have been ideas and suggestions offered by them that have been rejected.

DOES THE PERCEIVED DEPLOYMENT OF TEAMWORK DIFFER BY THE LEVEL OF HIEARCHY?

The specific hypothesis is that managers will have more favorable opinions regarding the deployment of teamwork than front-line supervisors, and non-supervisors will have the least favorable opinions of all three levels.

Analysis by Agency

All of the correlation coefficients for each agency are in the expected direction, even for tiny “1 Northwest” as shown in Table 5-30. The difference in the size of the correlation coefficients, whether measured at three levels of four levels, is infinitesimal. Although “3 South” has the largest, negative relationship between teamwork and position ($\rho = -.284, p < .01$), all of the other agencies have noteworthy negative correlation coefficients for the exceptions of “1 Northwest” and “5 Northwest.”

Table 5-30: Teamwork by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.252	-.247
“2 Southwest”	-.225**	-.226**
“3 South”	-.284**	-.284**
“4 Mid-Atlantic”	-.190**	-.193**
“5 Northwest”	-.092	-.092
“6 Southwest”	-.205**	-.205**
“7 South”	-.141**	-.142**
“8 Mid-West”	-.228**	-.229**

** Correlation is significant at the 0.01 level (2-tailed)

However, the correlation coefficients do not tell the whole story when analyzed separately. In contrast to some previous relationships with management practices, “4 Mid-Atlantic” provides one of the better examples of a directly negative relationship. One other agency, “2 Southwest,” also has a negative and linear relationship between employee perceptions of teamwork and their place in the organizational hierarchy when measured at either level.

This time, however, even “3 South” has something resembling a non-linear relationship as shown in Figure 5-20 and Table 5-31. The remaining agencies have relationships between the two variables that are negative but not always linear. For example, while “7 South” has some negative, linear change in the

interquartiles, the median responses for all four levels are identical. Likewise, “8 Mid-West” shows the same median response for all three levels of management, yet managers have a slightly more negative view than front-line supervisors as indicated by the difference in the interquartiles.

Figure 5-20: Teamwork by 4 Levels of Position at “3 South”

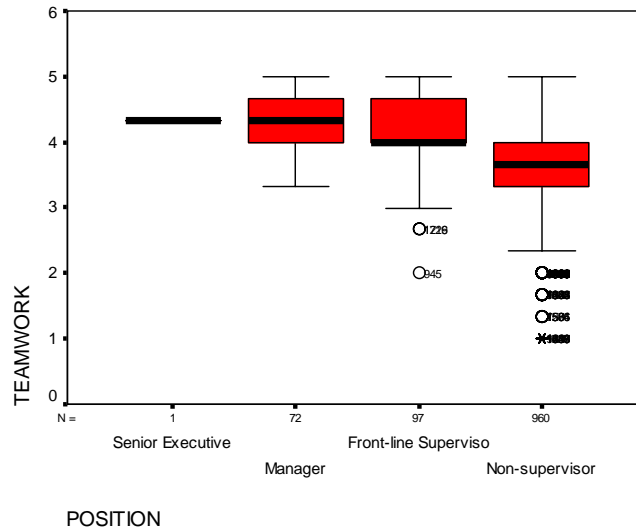


Table 5-31: Teamwork by 4 Levels of Position at “3 South”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.33	4.33	4.00	3.67
25 th Percentile	4.33	4.00	4.00	3.33
75 th Percentile	4.33	4.67	4.67	4.00
Minimum	4.33	3.33	2.00	1.00
Maximum	4.33	5.00	5.00	5.00

Analysis of All Agencies Collectively

The correlation coefficients for all responses among all the agencies collectively in Table 5-32 are negative but of equal strength whether employee perceptions of teamwork are compared at three levels or four levels of position.

Table 5-32: Teamwork by Level of Position

Three Levels	Four Levels
-.205**	-.205**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-21: Teamwork by Three Levels of Position

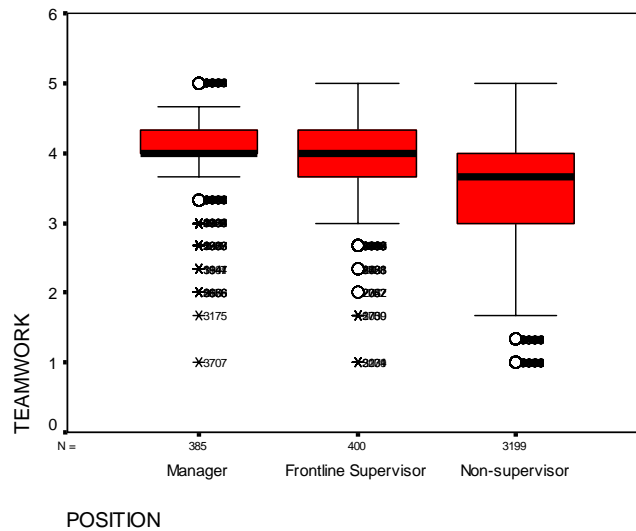


Table 5-33: Three Levels of Position

Measures of Central Tendency	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.00	4.00	3.67
25 th Percentile	4.00	3.67	3.00
75 th Percentile	4.33	4.33	4.00
Minimum	1.00	1.00	1.00
Maximum	5.00	5.00	5.00

While three levels of position (manager, front-line supervisor, and non-supervisor) do show a negative, linear relationship with employee perceptions of teamwork, four levels show that managers and front-line supervisors roughly share the same opinions. The median response and interquartiles for manager and front-line supervisors at four levels are identical. Consequently, teamwork by three levels of position is exhibited here as shown in Figure 5-21 and Table 5-33.

Table 5-34 below shows that the survey item with the largest, negative correlation coefficient with either three or four levels of position ($r = -.205, p < .01$) is the item: “My co-workers and I work in groups to solve problems.” Figure 5-22 demonstrates that the median response is the same (median = 4.0) for all four levels. Moreover, the interquartile for senior executives, managers and front-line supervisors is the median response because more than 50% of each management level said they “agreed” (72.2%, 62.8%, and 59.1% respectively). However, while non-supervisors tend to agree as indicated by the

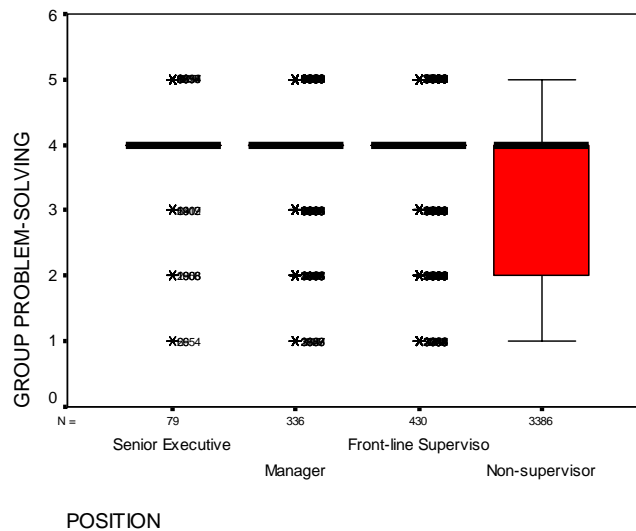
median response, the interquartile suggests that opinions among non-supervisors are less favorable on this item than management. The cross-tabulations tend to support conclusions drawn from the box plot, even though there is a negative relationship among all four levels. Among senior executives, 88.7% agree or strongly agree, while 83.6% of managers, 76.1% of front-line supervisors and 56.3% of non-supervisors also agree or strongly agree that they work with co-workers in groups to solve problems (Chi-square = 190.545, $df = 12$, $p < .000$).

Table 5-34: Survey Items for Teamwork by Position

Survey Item	Three Levels	Four Levels
My co-workers and I work well together to accomplish goals and objectives.	-.131**	-.130**
My co-workers and I work in groups to solve problems.	-.205**	-.205**
My co-workers and I work well with employees from other divisions or work units to accomplish goals and objectives.	-.135**	-.135**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-22: “My co-workers and I work in groups to solve problems.”



Findings

The correlation coefficients for each agency do show a negative relationship between employee perceptions regarding the deployment of teamwork and their level of authority within the agency. While “3 South” has the largest, negative relationship, other agencies also have notable relationships as well. Yet, the correlation coefficients only tell part of the story with the box plots illustrating that the

relationship between the two variables, as with other management practices, are not always of a linear nature among the agencies separately.

Among all the agencies collectively, while there is clearly a negative association between teamwork and three levels of position, in this case, splitting senior executives from managers does not show the dramatic difference in levels of position as it has with other management practices. Nevertheless, the correlation coefficients for both three levels and four levels confirm that a negative relationship exists between employee opinions of teamwork and their place in the pecking order.

Since the survey items are written in the first person, differences in opinion do not necessarily indicate disagreement but instead may show different practices at different levels. Among the three survey items measuring teamwork, the largest difference was whether employees felt they and their co-workers work in groups to solve problems. Perhaps a likely explanation is that management is more apt to experience group problem solving simply because consensus is more important at the top of the agency, than at the bottom. On the other hand, non-supervisors may have less opportunity to experience group problem solving because the issues likely to be tackled may be more mundane or problem solving is left to a single individual, such as a front-line supervisor.

DOES THE PERCEIVED DEPLOYMENT OF TRAINING DIFFER BY THE LEVEL OF HIEARCHY?

The hypothesis here is that managers will have more favorable opinions regarding the deployment of training than front-line supervisors; in turn front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

Table 5-35 shows that state revenue employee perceptions of training depend upon their level of authority within the agency. Whether compared at three levels or four levels of position, there is a negative relationship between the dependent and independent variables for each of the eight agencies. The largest agency, “3 South,” has the largest, negative correlation coefficient. However, “3 South” is not alone in having a notable correlation. The agencies “7 South,” “2 Southwest,” and “4 Mid-Atlantic” also have noteworthy negative correlations between the variables “teamwork” and “position.”

Table 5-35: Training by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.007	-.005
“2 Southwest”	-.205**	-.209**
“3 South”	-.313**	-.313**
“4 Mid-Atlantic”	-.208**	-.208**
“5 Northwest”	-.113*	-.114**
“6 Southwest”	-.214**	-.213**
“7 South”	-.243**	-.243**
“8 Mid-West”	-.175**	-.177**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots for at least four of the state revenue agencies (“2 Southwest,” “3 South,” “4 Mid-Atlantic” and “7 South”) do show the hypothesized relationship between employee perceptions of training and their position in the agency hierarchy.

Table 5-36: Training by 4 Levels of Position at “6 Southwest”

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.50	3.50	4.00	3.00
25 th Percentile	2.00	3.00	2.50	2.50
75 th Percentile	4.37	4.50	4.00	4.00
Minimum	1.00	2.00	1.50	1.00
Maximum	5.00	5.00	5.00	5.00

The remaining agencies on the other hand have negative but non-linear relationships between employee views of training deployment and their place in the pecking order. For example, “6 Southwest” has a nonlinear pattern as shown in Table 5-36 above. The interquartile for managers is higher (25th percentile = 3.00; 75th percentile = 4.50) than it is for senior executives (25th percentile = 2.00; 75th percentile = 4.37). The median response for managers is also lower than for front-line supervisors. Even when measured at three levels as opposed to four levels of position, median response for managers is still lower than for front-line supervisors.

Analysis of All Agencies Collectively

The correlation coefficients shown in Table 5-37 are equal in strength no matter if employee perceptions of training are compared to three levels or four levels of position for all responses among the eight revenue agencies collectively. In either case, the correlations indicate a negative association between the dependent and independent variables.

Table 5-37: Training by Level of Position

Three Levels	Four Levels
-.213**	-.213**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots show that the relationship between the variable “training” is clearly negative and linear at either level of the variable “position.” While median responses are the same for all levels of management at either three or four levels, there is a perceptible decline in the interquartiles going down the chain of command when measured at four levels as shown in Table 5-38.

Table 5-38: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	4.00	4.00	4.00	3.50
25 th Percentile	3.50	3.00	3.00	2.50
75 th Percentile	4.50	4.50	4.00	4.00
Minimum	1.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

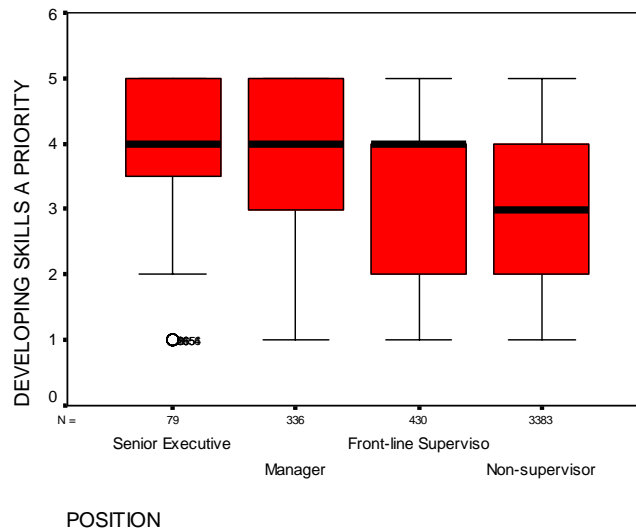
Among the two survey items measuring training, there is more disagreement with the item: “Developing the skills of all employees is a priority for managers and supervisors.” As shown in Figure 5-23, the median response for all three levels of management are the same (median = 4.0), dropping to 3.0 for non-supervisors. However, a definitively negative relationship is illustrated when you consider the median responses in combination with the interquartiles. The relationship is further confirmed when the survey item is cross-tabulated with position. While 74.7% of senior executives, 73.3% of managers and 67.9% of front-line supervisors agree or strongly agree that developing the skills of all employees is a priority among them, only 44% of non-supervisors hold the same opinion (Chi-square = 310.756, $df = 12$, $p < .000$).

Table 5-39: Each Survey Item for Training by Position

Survey Item	Three Levels	Four Levels
Developing the skills of all employees is a priority for managers and supervisors.	-.233**	-.233**
I am learning and developing skills that improve my work.	-.095**	-.096**

** Correlation is significant at the 0.01 level (2-tailed)

Figure 5-23: “Developing the skills of all employees is a priority for managers and supervisors.”



Findings

The hypothesis tends to be confirmed whether the comparison between the variables “training” and “position” is made at three levels or four levels of the agency hierarchy. What’s more, the hypothesis tends to be confirmed whether we look at the empirical evidence among the agencies separately or collectively. While “3 South” clearly has the largest, negative association between the two variables, other agencies also have negative relationships.

Among the two items measuring training, revenue agency employees have greater differences of opinion as to whether managers and supervisors make training a priority within the agencies. While management generally agrees, non-supervisors are less likely to agree. While these inconsistencies can be explained by perspective, it also suggests that good and accurate information has problems filtering to the top.

DOES THE PERCEIVED DEPLOYMENT OF REWARDS AND RECOGNITION DIFFER BY THE LEVEL OF HIEARCHY?

The specific hypothesis for this management practice is that managers will have more favorable opinions than front-line supervisors, and front-line supervisors will have more favorable opinions than do non-supervisors.

Analysis by Agency

The correlation coefficients for each agency are all negative for the exception of tiny “1 Northwest” as seen in Table 5-40. Again, the correlation coefficients are essentially the same whether measured at three levels or four levels of position. Of particular interest is the fact that for the first time, “3 South” does not have the largest, negative relationship between a management practices and the variable “position.” That distinction belongs to “6 Southwest.”

Table 5-40: Rewards and Recognition by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.084	.084
“2 Southwest”	-.148**	-.155**
“3 South”	-.163**	-.163**
“4 Mid-Atlantic”	-.149**	-.154**
“5 Northwest”	-.114	-.115
“6 Southwest”	-.195**	-.194**
“7 South”	-.115**	-.118**
“8 Mid-West”	-.117**	-.119**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for five of the agencies separately (excluding “1 Northwest”) reveal linear relationships between the management practice “rewards and recognition” and four levels of “position.” However, while two of the agencies, “5 Northwest” and “6 Southwest,” have patterns that are distinctly nonlinear when measured at four levels, the pattern becomes linear when measured at three levels. For example, senior executives at “6 Southwest” have more unfavorable opinions than do managers indicated by a lower median response. The 25th quartile for senior executive is also lower than for manager. When employee responses on rewards and recognition are compared at three levels of position the pattern is

clearly negative and linear as shown in Table 5-41.

Table 5-41: Rewards and Recognition by 3 Levels at “6 Southwest”

Measures of Central Tendency	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.00	2.50	2.00
25 th Percentile	1.75	1.50	1.25
75 th Percentile	3.50	3.25	2.75
Minimum	1.25	1.00	1.00
Maximum	4.25	4.25	4.75

Analysis of All Agencies Collectively

The correlation coefficients shown in Table 5-42 reveal that a negative relationship exists between employee perceptions of rewards and recognition and their place in the hierarchy at either measure level of position.

Table 5-42: Rewards and Recognition by Level of Position

Three Levels	Four Levels
-.145**	-.147**

** Correlation is significant at the 0.01 level (2-tailed)

Table 5-43: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.25	2.75	2.75	2.50
25 th Percentile	2.75	2.25	2.00	1.75
75 th Percentile	3.75	3.50	3.25	3.00
Minimum	1.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

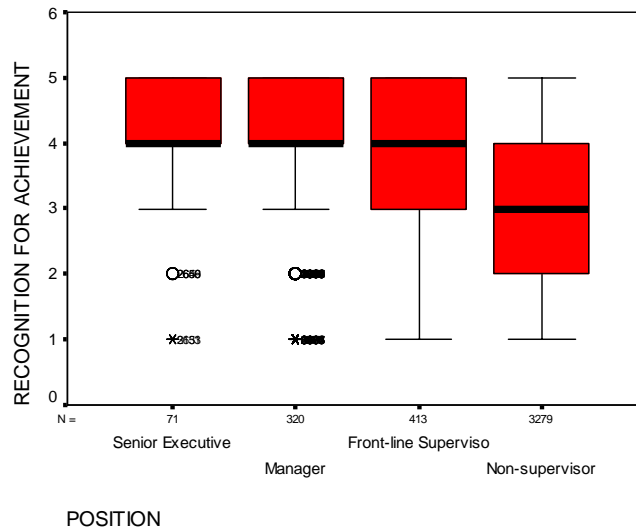
While the median response is the same for managers and front-line supervisor when comparing at either level of position, a more impressive difference of opinion is revealed when measured at four levels of position. Despite the median responses, the interquartiles, as shown in Table 5-43 above, does show a downward shift in the range of the 25th and 75th percentiles.

Table 5-44: Each Survey Item for Rewards and Recognition by Position

Survey Item	Three Levels	Four Levels
I can expect to receive rewards other than money if I perform exceptionally well.	-.098**	-.099**
I can expect to receive a pay raise or bonus if I perform exceptionally well.	-.004	-.004
Recognizing employees' for their achievements are important activities for managers and supervisors.	-.229**	-.230**
I receive enough recognition for the work that I do.	-.079**	-.081**

** Correlation is significant at the 0.01 level (2-tailed)

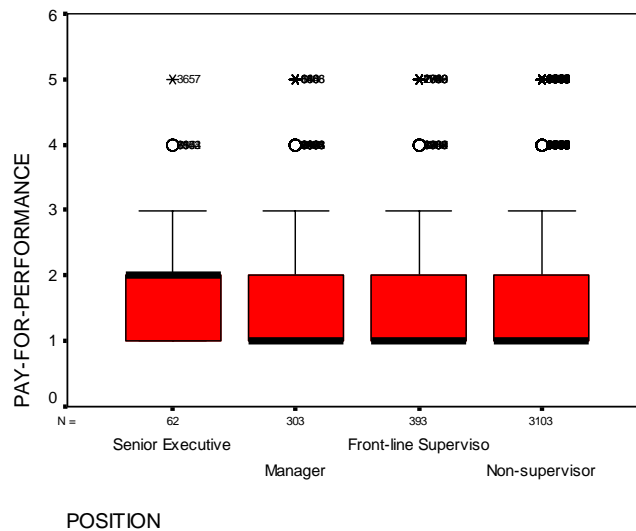
Figure 5-24: “Recognizing employees’ for their achievements are important activities for managers and supervisors.”



Among the four survey items measuring rewards and recognition the largest association with position, whether measured at three levels or four levels as shown in Table 5-44, is with the item: “Recognizing employees’ for their achievements are important activities for managers and supervisors.” In Figure 5-24, senior executives and managers generally appear to hold the same opinion, while the interquartiles for front-line supervisors and non-supervisors indicate increasingly unfavorable opinions. This finding is also confirmed by cross-tabulating the survey item by position. While 88.8%, 78.5% and 70.5% of senior executives and managers respectively agree or strongly agree that this is an important activity for them, only 47.3% of non-supervisors also agree or strongly agree with the statement (Chi-square = 255.754, $df = 12$, $p < .000$).

On the issue of pay-for-performance (see Figure 5-25), all four levels are in disagreement that they can expect a pay raise or bonus for exceptional performance. The correlation coefficient reported in Table 5-44 would indicate that no relationship exists between the two variables. However, while senior executives “disagree,” all other levels “strongly disagree” with the survey item. Cross-tabulating this item with position bears out this consistency in opinion among all four levels. More than three out of four senior executives (77.5%), managers (78.5%), front-line supervisors (83.5%) and non-supervisors (79.6%) disagree or strongly disagree that they can expect a pay raise or bonus for exceptional performance (Chi-square = 18.348, $df = 12$, $p < .000$).

Figure 5-25: “I can expect to receive a pay raise or bonus if I perform exceptionally well.”



Findings

The correlation coefficients for the agencies separately would indicate that there is a negative relationship between employee perceptions of rewards and recognition and their position within the agency. The box plots for most of the agencies also support that finding. When comparing all the agencies collectively, the empirical evidence indicates that favorable opinion declines whether we split senior executives from managers or not. However, the finding is much more dramatic when we do. Overall, whether we compare by agency or among all the agencies collectively, the empirical evidence does support the hypothesis.

In contrast to the above findings, no relationship exists between pay-for-performance and an employee’s position within the agencies. This is not a surprising finding given that pay-for-performance

is an uncommon practice among state governments. Employees at each level are more likely to have differences of opinion as to whether managers and supervisors make recognizing employees for their achievement an important activity. The differences in opinion may be attributable to an employee's perspective within the agency. Upper level management may generally agree that employees are recognized, while lower level employees are less likely to agree because some managers and supervisors are more apt to recognize achievement than others. The difference again may also be attributed to subordinates reluctance to pass along bad news to their superiors.

DOES THE PERCEIVED DEPLOYMENT OF HUMAN RESOURCES DIFFER BY THE LEVEL OF HIEARCHY?

The hypothesis here is that managers will have more favorable opinions when considering all the human resource practices (i.e., performance feedback, empowerment, teamwork, training, rewards and recognition) than front-line supervisors; in turn, front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

For the exception of tiny "1 Northwest," all the agencies in the nonrandom sample show a negative relationship between "human resources" as a single variable and the variable "position" (see Table 5-45). As with the human resource practices separately, no real difference in the strength of the correlation coefficients exist if "position" is measured at three levels or four levels. Even though "3 South" has the largest, negative correlation, other agencies also have correlations that are noteworthy, especially "6 Southwest" and "2 Southwest."

A visual inspection of the box plots for each agency reveals that "3 South," "5 Northwest," "7 South" and "8 Mid-West" have negative and linear relationship between employee perceptions of human resources and their position within the agency including senior executives. The largest agency, "3 South," best exhibits the expected relationship. The box plots for the remaining agencies tend to be somewhat non-linear.

Table 5-45: Human Resources by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.083	.083
“2 Southwest”	-.217**	-.224**
“3 South”	-.281**	-.281**
“4 Mid-Atlantic”	-.169**	-.174**
“5 Northwest”	-.163**	-.164**
“6 Southwest”	-.230**	-.229**
“7 South”	-.163**	-.167**
“8 Mid-West”	-.168**	-.170**

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

The correlation coefficients reported in Table 5-46 for all the agencies collectively, although negative, do not show much difference in strength whether the variable “position” is measured at three levels or four levels.

Table 5-46: Human Resources by Level of Position

Three Levels	Four Levels
-.194**	-.196**

** Correlation is significant at the 0.01 level (2-tailed)

Table 5-47: Four Levels of Position

Measures of Central Tendency	Senior Executive	Manager	Front-line Supervisor	Non-supervisor
Median Response	3.81	3.50	3.31	3.06
25 th Percentile	3.43	3.29	3.14	2.71
75 th Percentile	4.14	4.00	4.00	3.71
Minimum	2.14	1.00	1.00	1.00
Maximum	4.86	5.00	5.00	5.00

The box plots show that employee perceptions of human resource practices becomes less favorable descending the organizational ladder whether measured at three rungs (i.e., manager, front-line supervisor, non-supervisor) or four rungs (i.e., senior executive, manager, front-line supervisor, non-supervisor). In both cases, there is a perceptibly negative change in opinion at each level of position.

However, as with many other comparisons the difference in opinion is more dramatic at four levels where the median response declines from 3.81 for senior executives to 3.50 for managers, 3.31 for front-line supervisors and 3.06 for non-supervisors as shown in Table 5-47 above. There is also an observable downward shift in the interquartiles for each level of position.

Findings

Given the finding that each human resource practice separately (i.e., performance feedback, empowerment, teamwork, training, and rewards and recognition) has a negative relationship with the variable “position,” a negative relationship between “human resources” as a single variable and “position” would be expected. While the agencies separately do show a negative relationship, many are somewhat non-linear in nature. The most perceptibly negative relationship is offered by the largest agency “3 South,” which also has the largest, negative correlation coefficient between the two variables. The negative relationship also tends to be more dramatic when all human resources practices are compared at four levels of the variable “position.”

DOES THE PERCEIVED DEPLOYMENT OF PROCESS IMPROVEMENT DIFFER BY THE LEVEL OF HIEARCHY?

The specific hypothesis here is that managers will have more favorable opinions regarding the deployment of process improvement as a management practice than front-line supervisors, and front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

The correlation coefficients shown in Table 5-48 are all negative indicating that favorable opinion regarding the deployment of process improvement declines going down the chain of command for at least seven of the eight state revenue agencies. As for all before, the difference is small whether we are considering employee perceptions of a management practice at three levels or four levels of the variable “position.” Once again, “3 South” has the largest, negative correlation coefficient but this does not diminish the fact that other agencies also show negative correlations that are notable.

The box plots for each agency generally reveal a negative relationship between the variables “process improvement” and “position.” As indicated by the size of the correlation coefficient and supported by its box plot, “3 South” has the most dramatic representation in support of the hypothesis.

However, five of the agencies (i.e., “2 Southwest,” “4 Mid-Atlantic,” “5 Northwest,” “6 Southeast” and “8 Mid-West) have nonlinear relationships similar to ones found with previous management practices. While “2 Southwest,” “5 Northwest,” and “8 Mid-West” show a somewhat reverse than expected relationship between managers and front-line supervisors, “4 Mid-Atlantic” has an unexpected relationship between front-line supervisors and non-supervisors, while “6 Southwest” has the deviation between senior executives and managers.

Table 5-48: Process Improvement by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.026	-.021
“2 Southwest”	-.222**	-.228**
“3 South”	-.307**	-.307**
“4 Mid-Atlantic”	-.220**	-.223**
“5 Northwest”	-.157**	-.158**
“6 Southwest”	-.237**	-.236**
“7 South”	-.185**	-.186**
“8 Mid-West”	-.207**	-.208**

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of All Agencies Collectively

As would be expected after reviewing the correlation coefficients for each of the eight agencies, there is a negative relationship between an employee’s perception of process improvement and his or her place in the agency hierarchy for all agencies collectively as shown in Table 5-49.

Table 5-49: Process Improvement by Level of Position

Three Levels	Four Levels
-.230**	-.231**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots show that no matter how position is defined, there is an observable negative relationship between the dependent and independent variables descending the chain of command. Consistent with previous management practices, the negative relationship is even more striking when senior executives are separated from managers. The median response declines from 3.67 for senior executives to 3.33 for managers to 3.17 for front-line supervisors with non-supervisor having the lowest

median response of 3.00. There is also a noticeable drop in the interquartiles for all four levels of position.

Among the seven survey items that measure process improvement, the largest, negative association, as indicated in Table 5-50, is with the item: “Managers and supervisors encourage employees to simplify and streamline their work processes *and/or* procedures.” The upper three levels of management generally agree with the statement, although senior executives have a higher 75th quartile than the other two levels of management as shown in Figure 5-26. Non-supervisors have a more negative opinion on the subject as indicated by the median response and a lower 25th quartile. Cross-tabulating this survey item with position does show strong agreement among the management levels. Specifically, 73.3% of senior executives, 68.5% of managers, and 67.8% of front-line supervisors agree or strong agree that they do encourage employees to simplify and streamline their work processes, while only 40% of non-supervisors agree or strongly agree (Chi-square = 327.312, *df* = 12, *p* < .000).

Table 5-50: Survey Items for Process Improvement by Position

Survey Item	Three Levels	Four Levels
Procedures necessary to do my job <i>do not</i> involve unnecessary steps.	-.092**	-.092**
I spend time thinking about how to improve my work processes <i>and/or</i> procedures.	-.170**	-.171**
The process for accomplishing work permits my co-workers and I to achieve our best performance.	-.112**	-.112**
My co-workers and I regularly look for ways to improve our work processes <i>and/or</i> procedures.	-.186**	-.186**
Managers and supervisors encourage employees to simplify and streamline their work processes <i>and/or</i> procedures.	-.247**	-.248**
The needs of employees in <i>other</i> divisions or work units are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	-.153**	-.153**
The needs of our <i>taxpayers</i> are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	-.159**	-.160**

** Correlation is significant at the 0.01 level (2-tailed)

However, visual inspections of the box plots for each of the seven survey items reveal that the item with one of the more perceptible negative changes by position is the item: “The needs of employees in other divisions or work units are taken into consideration when we make improvements to our most important work processes *and/or* procedures.” (See Figure 5-27). Senior executives have more favorable views than do managers and front-line supervisors; in turn, managers and front-line supervisors have more favorable views than non-supervisors. That a negative relationship exists is further demonstrated by cross-tabulating the two variables. While 78.6% of senior executives agree or strongly that the needs of employees are taken into consideration, 67.6% of managers, 55.4% of front-line supervisors, and 41.8%

of non-supervisors also agree or strongly agree (Chi-square = 147.255, $df = 12$, $p < .000$).

Figure 5-26: “Managers and supervisors encourage employees to simplify and streamline their work processes *and/or* procedures.”

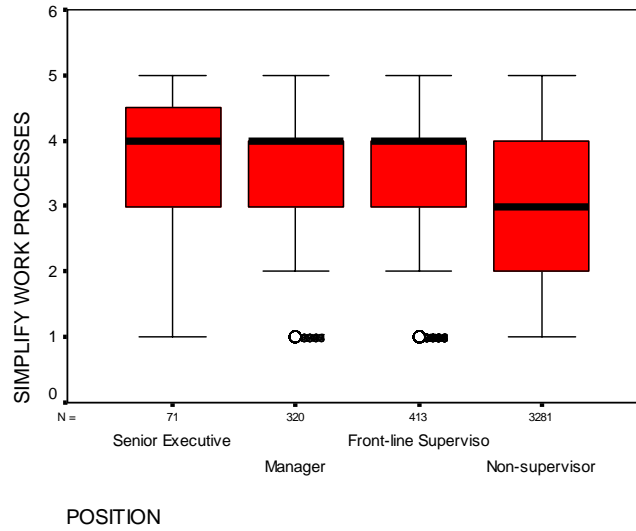
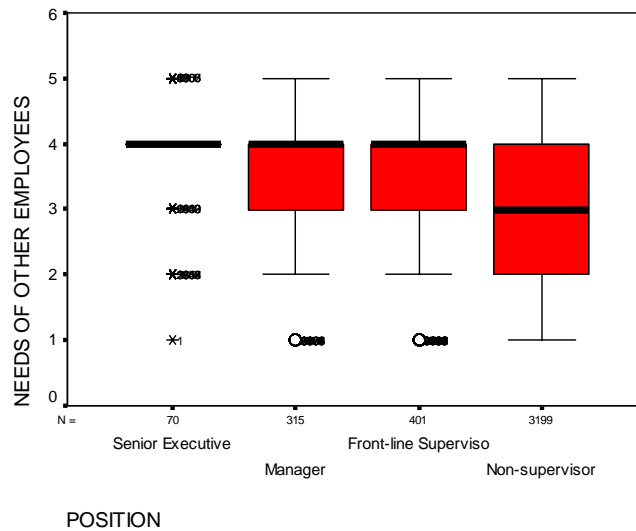


Figure 5-27: “The needs of employees in *other* divisions or work units are taken into consideration when we make improvements to our most important work processes *and/or* procedures.”



Findings

Even though the correlation coefficients for the agencies separately do show a negative relationship with levels of position, a visual inspection of the box plots show that the relationship is not always a direct one for most agencies. Nonetheless, the correlation coefficients and the box plots for all the agencies collectively do provide clear support that employee perceptions regarding the deployment of process improvement practices depend upon where you stand on the agency's hierarchical ladder. However the largest agency, "3 South," continues to provide something of a cautionary note in interpreting the collective findings given it has the largest, negative correlation coefficient and the more dramatic box plot supporting the hypothesis. Clearly, "3 South" does skew the findings for all the data collectively.

Among the survey items separately, the correlation coefficients indicate that opinions differ most on whether management encourage employees to simplify and streamline their work processes. Undoubtedly management believes that it does promote the behavior while non-management disagrees. This finding is somewhat noteworthy in that there is uniformity of opinion among senior executives, managers and front-line supervisors. Possibly, there is something of a communications problem where either management needs to do a better job communicating the message or the rank-and-file need to do a better job listening. On the other hand, using a popular phrase management may not be "walking the talk". In other words, while management encourages such behavior in subordinates, management may not provide employees the necessary support to implement improvements in work processes.

However, the box plots also indicate that state revenue employees differ in opinion as to whether the needs of employees in other divisions or units are taken into consideration when improvements are made to work processes. Perspective may have something to do with this difference of opinion. While upper management may believe that in general these things are being accomplished, they may not be done in all the units of the agency. Consequently, lower ranks are more likely to interpret that statement from their own vantage point. Another possible explanation is that information, especially bad news, has a tendency to be filtered or altered going up the chain of command. Direct reports not wanting to risk the displeasure of superiors may put a positive spin on information they pass along to their supervisor, or may not even pass along the information in the first place.

DOES THE PERCEIVED DEPLOYMENT OF ALL MANAGEMENT PRACTICES DIFFER BY THE LEVEL OF HIEARCHY?

Finally, it is conjectured that managers will have more favorable opinions than front-line supervisors, and front-line supervisors will have more favorable opinions than non-supervisors regarding the deployment of all the nine management practices.

Analysis by Agency

The correlation coefficients for each agency except “1 Northwest” are in the expected direction when comparing all the management practices as a single variable with the variable “position” as shown in Table 5-51. The difference in the size of the negative correlation coefficient is relatively minute when comparing management practices collectively with three levels or four levels of position. However, as with most of the management practices separately, “3 South” has the largest negative correlation coefficient.

Table 5-51: All Management Practices by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.025	.025
“2 Southwest”	-.213**	-.220**
“3 South”	-.307**	-.307**
“4 Mid-Atlantic”	-.144**	-.150**
“5 Northwest”	-.130**	-.131**
“6 Southwest”	-.181**	-.181**
“7 South”	-.186**	-.189**
“8 Mid-West”	-.157**	-.159**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for each agency generally support the hypothesis that there is a negative and linear relationship between state revenue employee perceptions of all nine management practices and their rung on the organizational ladder. At least four of the agencies have such a relationship (“2 Southwest,” “3 South,” “5 Northwest” and “7 South”) with “3 South” having the more pronounced difference. Three other agencies tend to have something of a non-linear relationship with “4 Mid-Atlantic” having its front-line supervisors with less favorable opinions than non-supervisors; “6 Southwest” having senior executives less favorable than managers; and, “8 Mid-West” showing managers more negative than front-

line supervisors. When cross-analyzing all management practices with three levels of position, the non-linear relationship between senior executives and managers at “6 Southwest” does disappear.

Analysis of All Agencies Collectively

The correlation coefficients reported in Table 5-52 show that there is a negative relationship between the dependent variable “all management practices” and the independent variable “position.” As with all the previous management practices independently, there is no real difference as to whether all the data is analyzed at three levels or four levels of position.

Table 5-52: All Management Practices by Level of Position

Three Levels	Four Levels
-.193**	-.195**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots also make known that it does not matter whether all management practices as a single variable is compared to three levels or four levels of position. There is clearly a negative relationship between the dependent variable and either independent variable as evidenced by the decline in median responses and the 25th and 75th percentiles.

Findings

Each level down the chain of command has a more negative opinion regarding the deployment of all nine management practices as a single variable than the level before it. However, given that negative relationships to various degrees have been established for each of the nine management practices separately, this is an expected finding. What may be a little more revealing is that when comparing all the management practices as a single variable, the hypothesis appears to hold more firmly among the agencies separately (for the exception of tiny “1 Northwest”) than it does for the management practices separately, even though three of the agencies have something of a non-linear relationship.

PERCIEVED RESULTS BY PERCEIVED LEVEL OF HIERARCHY

Up to this point, the focus has been whether employees at different levels perceive the deployment of the nine management practices more negatively with each step down agency hierarchy.

Now the focus shifts to the five result measures and job satisfaction, where we are again trying to determine if favorable opinions depend upon where employees sit in the agency, hypothesizing that fewer employees will hold such opinions descending the chain of agency authority.

DOES THE PERCEIVED LEVEL OF TAXPAYER SATISFACTION DIFFER BY THE LEVEL OF HIERARCHY?

The specific hypothesis here is that managers will have more favorable opinions that taxpayer satisfaction has improved from the previous year than front-line supervisors, and front-line supervisors will have more favorable opinions than non-supervisors.

Analysis by Agency

Correlation coefficients by agency between employee perceptions of taxpayer satisfaction and their place in the agency hierarchy, as shown in Table 5-53, are in the expected direction for one exception (“1 Northwest”). The correlation coefficients are also the same whether the comparison is made at three levels or four levels of the variable “position.” However, some agencies clearly have larger, negative correlation coefficients than others namely “2 Southwest,” “3 South,” “4 Mid-Atlantic” and “7 South.”

Table 5-53: Taxpayer Satisfaction by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.098	.098
“2 Southwest”	-.183**	-.184**
“3 South”	-.154**	-.154**
“4 Mid-Atlantic”	-.118*	-.124*
“5 Northwest”	-.073	-.074
“6 Southwest”	-.087	-.087
“7 South”	-.103*	-.104*
“8 Mid-West”	-.055	-.057

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots for each agency do show some negative relationship between an employee’s perception and his or her place in the pecking order, but none show a directly negative relationship

descending the hierarchical chain whether compared at three levels of four levels of position. For example, “3 South” shows that the top three levels agree that taxpayer satisfaction has improved since last year, while the median response for non-supervisors tend to indicate that they have no opinion. The agency “2 Southwest” has an identical box plot to “3 South.” On the other hand, senior executives tend to have less favorable opinions than managers at “6 Southwest.” The agencies “5 Northwest” and “7 South” show no difference in opinion at any level of position, while “4 Mid-Atlantic” revealed that senior executives and managers tend to agree while front-line supervisors and non-supervisors have no opinion. Finally, “8 Mid-West” shows that managers have arguably lower opinions than do the other three levels.

However, cross-tabulations between the variables do a better job of showing differences between the different levels of authority. As shown in Table 5-54, four of the agencies (“2 Southwest,” “3 South,” “4 Mid-Atlantic” and “8 Mid-West”) do show a decrease in the percentage that agree (i.e., agree and strongly agree) that taxpayer satisfaction has improved with each step down the chain of command. The other four agencies however, do not show the expected relationship. For instance, front-line supervisors at “5 Northwest” have higher agreement on taxpayer satisfaction than senior executives and managers. At “7 South,” managers have higher agreement than do senior executives. Likewise, a larger percentage of managers at “6 Southwest” agree than do senior executives.

Table 5-54: Percent Agreement (Agree and Strongly Agree) on Improved Taxpayer Satisfaction by Agency

Agency	Senior Executive	Manager	Front-line Supervisor	Non-Supervisor
“1 Northwest”	0	0	22.2	35.0
“2 Southwest”	82.4	68.9	63.5	44.9
“3 South”	100.0	60.8	58.5	37.7
“4 Mid-Atlantic”	79.1	59.7	49.3	48.6
“5 Northwest”	40.0	35.7	44.4	28.5
“6 Southwest”	50.0	51.2	32.3	28.3
“7 South”	42.9	43.4	40.0	29.2
“8 Mid-West”	85.7	34.0	35.2	28.7

Note “1 Northwest”: chi-square = 3.650, $df = 12$, $p < .989$
 Note “2 Southwest”: chi-square = 43.289, $df = 12$, $p < .000$
 Note “3 South”: chi-square = 38.743, $df = 12$, $p < .000$
 Note “4 Mid-Atlantic”: chi-square = 18.907, $df = 12$, $p < .091$
 Note “5 Northwest”: chi-square = 6.529, $df = 12$, $p < .887$
 Note “6 Southwest”: chi-square = 33.059, $df = 12$, $p < .001$
 Note “7 South”: chi-square = 39.719, $df = 12$, $p < .000$
 Note “8 Mid-West”: chi-square = 32.054, $df = 12$, $p < .001$

Analysis of All Agencies Collectively

The correlation coefficients exhibited in Table 5-55 show the relationship between employee perceptions of improvements in taxpayer satisfaction and their place within the agency is in the hypothesized direction at either level of position.

Table 5-55: Taxpayer Satisfaction by Level of Position

Three Levels	Four Levels
-.132**	-.133**

** Correlation is significant at the 0.01 level (2-tailed)

There is no real difference in the box plots for either three levels or four levels of position and perceived taxpayer satisfaction. Even when senior executives are separated from managers, the median response and interquartiles remain the same. In essence, while senior executives and managers agree that taxpayer satisfaction has improved; front-line supervisors and non-supervisors have no opinion (neither agree nor disagree).

However, a cross-tabulation shows there is some distinction between the four levels of position. While senior executives “agree” or “strongly agree” (67.1%) that taxpayer satisfaction has improved, as shown in Table 5-56, a decreasing percentage of managers (53.8%), frontline supervisors (46.7%), and non-supervisors (34.9%) hold the same opinion as senior executives.

Table 5-56: Taxpayer Satisfaction by Four Levels of Position

			POSITION				Total
			Senior Executive	Manager	Frontline Supervisor	Nonsuper visor	
TAXPAYER SATIS.	Strongly Disagree	Count	3	11	22	168	204
		% within POSITION	3.8%	3.3%	5.1%	5.0%	4.8%
	Disagree	Count	2	25	56	486	569
		% within POSITION	2.5%	7.4%	13.1%	14.4%	13.5%
	Neither Agree or Disagree	Count	21	119	150	1547	1837
		% within POSITION	26.6%	35.4%	35.0%	45.7%	43.5%
	Agree	Count	44	158	179	1073	1454
		% within POSITION	55.7%	47.0%	41.8%	31.7%	34.4%
	Strongly Agree	Count	9	23	21	109	162
		% within POSITION	11.4%	6.8%	4.9%	3.2%	3.8%
Total	Count	79	336	428	3383	4226	
	% within POSITION	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: chi-square = 105.600, *df* = 12, *p* < .000

Findings

Half of the agencies in the nonrandom sample have notably negative correlation coefficients between employee perceptions regarding improvements in taxpayer satisfaction over the previous year and their position within the agency. In contrast, box plots for each agency reveal that none of the agencies have a negative and linear relationship between the dependent and independent variables. However, cross-tabulations between the variables for each agency do reveal that favorable opinion declines with each rung down the hierarchical ladder. A negative relationship also exists when all the agencies are analyzed collectively. While the box plots do not show the negative and direct relationship hypothesized, the cross-tabulations do reveal that senior executives have more favorable opinions than do managers, managers have more favorable opinions than do front-line supervisors, and non-supervisors have the least favorable opinions of all.

On the other hand, the box plots for all the agencies collectively suggests that while upper management is in agreement that taxpayer satisfaction has improved, front-line supervisors and non-supervisors generally have no opinion on the subject (median = 3). The cross-tabulations also indicate that a plurality (45.7%) of non-supervisors “neither agree nor disagree.” A possible explanation is that senior executives and managers have access to information that would inform their opinion regarding improvements in taxpayer satisfaction while rank-and-file employees do not. In contrast, a case could also be made that rank-and-file employees who are more likely to have direct and day-to-day contact with taxpayers may have more anecdotal information to base their conclusions. While upper level management may see aggregated taxpayer satisfaction data, lower level employees may base their knowledge on actual contact. If aggregated data drawn from surveys or other means of collection are the basis for the opinions of upper level management, lower level employees may be more likely to hear from taxpayers who are dissatisfied or have complaints and thus are more likely to be uncertain that taxpayer satisfaction has actually improved.

DOES THE PERCEIVED LEVEL OF IMPROVEMENTS IN PROCESSES DIFFER BY THE LEVEL OF HIERARCHY?

The specific hypothesis being addressed in this section is that managers will have more favorable opinions than front-line supervisors that improvements in processes have led to improved services, and front-line supervisors will have more favorable opinions on the subject than non-supervisors.

Analysis by Agency

The correlation coefficients reported in Table 5-57 are all in the expected direction for the exception of tiny “1 Northwest.” The coefficients are also somewhat larger than the correlation coefficients reported for taxpayer satisfaction. Six of the agencies have noteworthy negative correlation coefficients. Again, there is little difference whether the dependent variable is compared at three levels or four levels of “position.”

Table 5-57: Improvements in Processes by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.007	-.006
“2 Southwest”	-.260**	-.264**
“3 South”	-.263**	-.263**
“4 Mid-Atlantic”	-.217**	-.227**
“5 Northwest”	-.097	-.099
“6 Southwest”	-.184**	-.185**
“7 South”	-.181**	-.184**
“8 Mid-West”	-.180**	-.181**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for each agency generally show a downward trend in opinion as well, for the exception of “1 Northwest.” For example, even though the box plot for the largest agency, “3 South,” shows that all four levels are in agreement that improvements in processes have led to improved services (median = 4), there is a downward trend as indicated by the interquartiles.

Cross-tabulating taxpayer satisfaction by position for each agency, as shown in Table 5-58, does show that the percentage of employee agreement declines with each level for four of the agencies (“4 Mid-Atlantic,” “5 Northwest,” “7 South,” and “8 Mid-West”). Although the box plot for “3 South” seems to indicate a general downward trend for each level, cross-tabulating employee opinion by position does show that front-line supervisors are more in agreement that improvements in processes have led to improved services than managers. The same is true for “2 Southwest,” while “6 Southwest” continues to show that senior executives are more skeptical than managers.

Table 5-58: Percent Agreement (Agree and Strongly Agree) on Improvements in Processes by Agency

Agency	Senior Executive	Manager	Front-line Supervisor	Non-Supervisor
“1 Northwest”	0	0	50.0	33.3
“2 Southwest”	86.7	76.4	82.7	54.1
“3 South”	100.0	84.7	85.7	50.7
“4 Mid-Atlantic”	90.0	74.2	54.5	49.3
“5 Northwest”	75.0	45.5	42.9	35.0
“6 Southwest”	50.0	61.6	47.6	33.4
“7 South”	92.8	63.3	50.0	39.7
“8 Mid-West”	100.0	60.4	50.0	32.8

Note “1 Northwest”: chi-square = 10.567, $df = 12$, $p < .566$
 Note “2 Southwest”: chi-square = 67.557, $df = 12$, $p < .000$
 Note “3 South”: chi-square = 100.319, $df = 12$, $p < .000$
 Note “4 Mid-Atlantic”: chi-square = 44.040, $df = 12$, $p < .000$
 Note “5 Northwest”: chi-square = 12.903, $df = 12$, $p < .376$
 Note “6 Southwest”: chi-square = 34.236, $df = 12$, $p < .001$
 Note “7 South”: chi-square = 40.744, $df = 12$, $p < .000$
 Note “8 Mid-West”: chi-square = 58.975, $df = 12$, $p < .000$

Analysis of All Agencies Collectively

The correlation coefficients for all the agencies collectively show a negative relationship between employee perceptions of improved processes leading to improved services and their level of position. There is also little difference whether “position” is measured at three levels or four levels.

Table 5-59: Improvements in Processes by Level of Position

Three Levels	Four Levels
-.212**	-.214**

** Correlation is significant at the 0.01 level (2-tailed)

A more dramatic and negative difference of opinion is revealed when “position” is measured at four levels rather than three. When the opinions of senior executives are separated from managers, senior executives are shown to have the more favorable opinion. Even though the median response for the top three levels is the same (median = 4), there is an observable shift in the interquartiles in the expected direction. The interquartile for non-supervisor is twice as large as for the other three levels which indicate more diversity of opinion regarding improvements in processes.

Cross-tabulating employee perceptions by four levels of position shows a negative decline in the

percent of state revenue employees who agree on the subject of improved work processes as indicated in Table 5-60. While 84.3% of senior executives agree that improvements in processes have led to improved services, 70.8% of managers, 63.1% of front-line supervisors, and 43.1% of non-supervisors hold the same opinion.

Table 5-60: Improvements in Processes by Four Levels of Position

			POSITION				Total
			Senior Executive	Manager	Front-line Supervisor	Non-supervisor	
IMPROVEMENTS IN PROCESSES	Strongly Disagree	Count	0	15	21	289	325
		% within POSITION	.0%	4.8%	5.2%	9.0%	8.2%
	Disagree	Count	2	30	50	613	695
		% within POSITION	2.9%	9.5%	12.5%	19.2%	17.4%
	Neither Agree or Disagree	Count	9	47	77	921	1054
		% within POSITION	12.9%	14.9%	19.2%	28.8%	26.4%
	Agree	Count	37	181	213	1254	1685
		% within POSITION	52.9%	57.5%	53.1%	39.2%	42.3%
	Strongly Agree	Count	22	42	40	124	228
		% within POSITION	31.4%	13.3%	10.0%	3.9%	5.7%
Total	Count	70	315	401	3201	3987	
	% within POSITION	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: chi-square = 265.574, $df = 12$, $p < .000$

Findings

Six of the state revenue agencies have noteworthy negative correlation coefficients between the dependent variable “improvements in processes” and the variable “position.” However, only four of the agencies show a consistent drop in favorable opinion going down the chain of command as indicated by the cross-tabulations. As expected, there is also a negative correlation between the variables when all the agencies are considered collectively. The expected relationship is best illustrated when “position” is measured at four levels rather than three. Cross-tabulating all the responses from all agencies more clearly reveals that favorable opinion declines each step down the hierarchical ladder.

The differences in opinion continue to be explained by both perspective and problems passing good information up the chain of command. While upper management has perspectives that are agency-wide, lower level personnel have smaller perspectives that take in only their immediate work environment. Upper management may base their opinion on the larger perspective, perhaps judging that the most important processes leading to services have improved within the agency. On the other hand, opinion may be more varied or less sure among lower level employees because they are more likely to base their opinion on their own particular work process. While some may see their work processes improving, others may not. Under those circumstances, neither the opinions of upper management nor

that of rank-and-file employees would necessarily be incorrect.

In addition to perspective, information going up the chain of command can be distorted, even in medium and smaller organizations like “4 Mid-Atlantic,” “5 Northwest,” “7 South,” and “8 Mid-West.” Direct reports can “sugarcoat” bad news to make it more palatable for higher ups, or simply not pass along bad news at all.

DOES THE PERCEIVED LEVEL OF SERVICE DELIVERY DIFFER BY THE LEVEL OF HIERARCHY?

The specific hypothesis being tested is that managers will have more favorable opinions regarding improvements in service delivery over the past year than front-line supervisors; in turn, front-line supervisors will have more favorable opinions on the subject than non-supervisors.

Analysis by Agency

The correlation coefficients for each agency are in the expected direction as reported in Table 5-61. The exception is tiny “1 Northwest” which actually indicates something of a positive relationship according to the direction of its correlation coefficients. The largest agency, “3 South,” has the largest, negative correlation, but “2 Southwest,” “4 Mid-Atlantic,” “6 Southwest,” “7 South” and “8 Mid-West” also have notably negative correlations.

Table 5-61: Service Delivery by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	.195	.195
“2 Southwest”	-.165**	-.167**
“3 South”	-.199**	-.200**
“4 Mid-Atlantic”	-.124*	-.129*
“5 Northwest”	-.111	-.112
“6 Southwest”	-.122**	-.123**
“7 South”	-.156**	-.159**
“8 Mid-West”	-.131**	-.132**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The box plots for seven of the eight state revenue agencies do denote a negative relationship

between employee perceptions of improvements to service delivery and their place in the agencies. A good example of that negative relationship is exhibited by “8 Mid-West.” However, when employee perceptions at “8 Mid-West” are compared at three levels there is a more dramatic illustration of the hypothesized relationship. While managers and front-line supervisors appear to be in general agreement, all managers, including senior executives, do have a higher median response than front-line supervisors, even though the interquartiles are identical.

The cross-tabulations shown in Table 5-62, reveal that the expected relationship between all four levels of “position” is evident for only three agencies which include “3 South,” “7 South” and “8 Mid-West.” The remaining agencies show something less than expected. For example, managers at “2 Southwest” have lower opinions regarding service delivery than do front-line supervisors, while front-line supervisors at “4 Mid-Atlantic” and “5 Northwest” have lower opinions on the subject than do non-supervisors. Again, senior executives at “6 Southwest” have lower opinions regarding improvements to service delivery over the past year than do managers.

Table 5-62: Percent Agreement (Agree and Strongly Agree) on Service Delivery by Agency

Agency	Senior Executive	Manager	Front-line Supervisor	Non-Supervisor
“1 Northwest”	0	0	50.0	72.4
“2 Southwest”	80.0	63.0	66.7	44.3
“3 South”	100.0	73.2	72.6	46.2
“4 Mid-Atlantic”	75.1	56.6	37.1	44.0
“5 Northwest”	100.0	44.4	14.3	26.7
“6 Southwest”	50.0	54.0	40.3	29.0
“7 South”	78.5	46.7	41.5	31.7
“8 Mid-West”	85.7	47.0	26.9	24.5

Note “1 Northwest”: chi-square = 13.247, $df = 6$, $p < .039$
 Note “2 Southwest”: chi-square = 25.877, $df = 12$, $p < .011$
 Note “3 South”: chi-square = 61.379, $df = 12$, $p < .000$
 Note “4 Mid-Atlantic”: chi-square = 15.101, $df = 12$, $p < .236$
 Note “5 Northwest”: chi-square = 17.304, $df = 12$, $p < .139$
 Note “6 Southwest”: chi-square = 27.313, $df = 12$, $p < .007$
 Note “7 South”: chi-square = 20.294, $df = 12$, $p < .062$
 Note “8 Mid-West”: chi-square = 47.278, $df = 12$, $p < .000$

Analysis of All Agencies Collectively

The correlation coefficients for all the data collectively at either level of position are negative as reported in Table 5-63. There is also little difference in the size of the correlation coefficients whether “position” is measured at three levels or four levels.

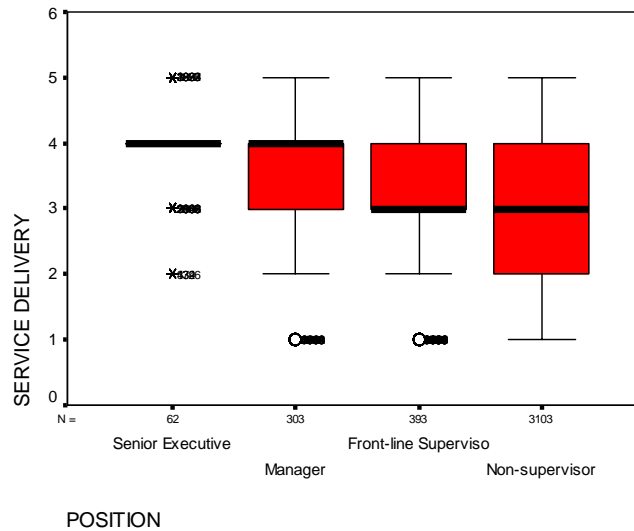
Table 5-63: Service Delivery by Level of Position

Three Levels	Four Levels
-.155**	-.156**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots distinctly show a negative relationship between employee perceptions of service delivery and their position within the agency whether measured at three levels or four levels. When compared at four levels of position, there is an observable drop in opinion at each level as indicated by both the median response and the interquartiles as shown in Figure 5-28.

Figure 5-28: Service Delivery by Four Levels of Position



The cross-tabulations as shown in Table 5-64 better illustrate the box plot in Figure 5-28. While 77.4% of senior executives agree or strongly agree, 58.1% of managers, 48.1% of front-line supervisors, and 36.3% of non-supervisors hold the same opinion that service delivery has improved over the past year.

Table 5-64: Service Delivery by Four Levels of Position

			POSITION				Total
			Senior Executive	Manager	Front-line Supervisor	Non-supervisor	
SERVICE DELIVERY	Strongly Disagree	Count	0	17	30	341	388
		% within POSITION	.0%	5.6%	7.6%	11.0%	10.0%
	Disagree	Count	3	39	66	616	724
		% within POSITION	4.8%	12.9%	16.8%	19.9%	18.8%
	Neither Agree or Disagree	Count	11	71	108	1019	1209
		% within POSITION	17.7%	23.4%	27.5%	32.8%	31.3%
	Agree	Count	41	146	158	1013	1358
		% within POSITION	66.1%	48.2%	40.2%	32.6%	35.2%
	Strongly Agree	Count	7	30	31	114	182
		% within POSITION	11.3%	9.9%	7.9%	3.7%	4.7%
Total	Count	62	303	393	3103	3861	
	% within POSITION	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: chi-square = 124.226, $df = 12$, $p < .000$

Findings

For the exception of tiny “1 Northwest,” the correlation coefficients and box plots for each agency do reveal something of a negative relationship between employee perceptions of improvements to service delivery and their position within the agencies. However, some agencies have non-linear relationships as indicated by the cross-tabulations in which favorability does not always decline at the next lowest level of the hierarchy. In other words, there are some non-linear relationships. When all the data for all agencies is considered, there is a notably negative relationship between the two variables as indicated by the correlation coefficients and the box plots. The negative relationship is brought sharper into focus by the cross-tabulation between employee perceptions of service delivery and their station in the chain of command.

Again, differences of opinion are best explained by either perspective or communications, or a combination of both. The difference in opinion may be due to the size of the employee’s particular agency perspective. Rank-and-file employees may be more varied in their response because perspective is local, while the perspective of upper management is more global. Also, information rising from the bottom of the agency may undergo a filtering effect where bad news has a tendency to be “watered down” for consumption by higher level managers. The motives of direct reports are probably varied but may have something to do with not wanting to be the bearer of bad news, or thinking that what higher-ups don’t know won’t hurt them.

DOES JOB SATISFACTION DIFFER BY THE LEVEL OF HIERARCHY?

Unlike all previous management practices and result measures, job satisfaction is not measured by perception but based on an employee's own contentment. In other words, only an individual employee can tell us how satisfied she or he is with their particular job. Consequently, differences between levels are not disagreements.

The hypothesis in this section is that managers will have higher job satisfaction than front-line supervisors, and front-line supervisors will have higher job satisfaction than non-supervisors.

Analysis by Agency

The correlation coefficients reported in Table 5-65 are in the expected direction for the exception of "1 Northwest" but only three of the agencies have notable coefficients (i.e., "2 Southwest," "3 South" and "6 Southwest"). Although negative, the remaining agencies have relatively small correlation coefficients.

Table 5-65: Job Satisfaction by Levels of Position

Agency	3 Levels	4 Levels
"1 Northwest"	-.005	-.003
"2 Southwest"	-.174**	-.179**
"3 South"	-.168**	-.168**
"4 Mid-Atlantic"	-.110*	-.113*
"5 Northwest"	-.051	-.052
"6 Southwest"	-.166**	-.166**
"7 South"	-.085	-.087
"8 Mid-West"	.006	.004

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The agency with the largest, negative correlation coefficient is "2 Southwest" and this time the expected relationship is better illustrated when employee job satisfaction is compared at three levels of position. Although median response for all three levels is the same at "2 Southwest," there is an observable downward shift in the interquartiles. However, cross-tabulating at three levels of position for "2 Southwest" does not show a decreasing percentage of favorable opinion. While 79.2% of managers are satisfied with their jobs, and even higher percentage of front-line supervisors (90.4%) are satisfied and

67.5% of non-supervisors. Likewise, “6 Southwest” better exhibits the expected relationship at three levels rather than four levels. However, unlike “2 Southwest,” cross-tabulating the data for “6 Southwest” does show the expected relationship in terms of the percent who are satisfied with their jobs (76.6% of managers, 63.5% of front-line supervisors, and 49.9% of non-supervisors).

Cross-tabulating employees job satisfaction and four levels of position shows that four agencies (“3 South,” “4 Mid-Atlantic,” “5 Northwest” and “7 South”) do have the expected relationship where senior executives have higher job satisfaction than managers, managers have higher job satisfaction than front-line supervisors and front-line supervisors have higher job satisfaction than non-supervisors. As already indicated, front-line supervisors at “2 Southwest” have higher job satisfaction than managers. Likewise, managers at “6 Southwest” have higher job satisfaction than senior executives, and non-supervisors at “8 Mid-West” have higher job satisfaction than front-line supervisors.

Table 5-66: Percent Agreement (Agree and Strongly Agree) on Job Satisfaction by Agency

Agency	Senior Executive	Manager	Front-line Supervisor	Non-Supervisor
“1 Northwest”	0	50.0	66.6	62.2
“2 Southwest”	87.6	76.8	90.4	67.5
“3 South”	100.0	91.8	84.0	69.3
“4 Mid-Atlantic”	80.0	77.9	65.0	61.3
“5 Northwest”	75.0	66.7	62.5	57.2
“6 Southwest”	75.0	76.9	63.5	49.9
“7 South”	85.7	76.7	67.3	66.1
“8 Mid-West”	100.0	57.1	53.9	58.4

Note “1 Northwest”: chi-square = 10.696, $df = 12$, $p < .555$
 Note “2 Southwest”: chi-square = 42.204, $df = 12$, $p < .000$
 Note “3 South”: chi-square = 48.490, $df = 12$, $p < .000$
 Note “4 Mid-Atlantic”: chi-square = 21.996, $df = 12$, $p < .038$
 Note “5 Northwest”: chi-square = 12.083, $df = 12$, $p < .439$
 Note “6 Southwest”: chi-square = 21.323, $df = 12$, $p < .046$
 Note “7 South”: chi-square = 15.106, $df = 12$, $p < .236$
 Note “8 Mid-West”: chi-square = 27.042, $df = 12$, $p < .008$

Analysis of All Agencies Collectively

The correlation coefficients for all the agencies collectively, as shown in Table 5-67, are negative and there is little difference in the size of the coefficients whether job satisfaction is measured at three levels or four levels of position.

Table 5-67: Job Satisfaction by Level of Position

Three Levels	Four Levels
-.109**	-.110**

** Correlation is significant at the 0.01 level (2-tailed)

The box plot for four levels better demonstrates the expected relationship than does the box plot for three levels. Even though the median response for all four levels of position are the same (median = 4), changes in interquartiles does indicate something of a negative relationship between an employee’s job satisfaction and his or her position in the agency.

Cross-tabulating the variables “job satisfaction” with “position” shows that job satisfaction consistently declines with each step down the chain of command as exhibited in Table 5-68. While 83.1% of senior executives are satisfied with their jobs, 76.9% of managers, 71.1% of front-line supervisors, and 63.0% of non-supervisors are also satisfied.

Table 5-68: Job Satisfaction by Four Levels of Position

			POSITION				Total
			Senior Executive	Manager	Front-line Supervisor	Non-supervisor	
JOB SATISFACTION	Strongly Disagree	Count	0	24	17	231	272
		% within POSITION	.0%	7.5%	4.1%	7.0%	6.7%
	Disagree	Count	5	30	59	452	546
		% within POSITION	7.0%	9.4%	14.3%	13.8%	13.4%
	Neither Agree or Disagree	Count	7	20	43	530	600
		% within POSITION	9.9%	6.3%	10.4%	16.2%	14.7%
	Agree	Count	32	176	236	1675	2119
		% within POSITION	45.1%	55.0%	57.3%	51.1%	51.9%
	Strongly Agree	Count	27	70	57	390	544
		% within POSITION	38.0%	21.9%	13.8%	11.9%	13.3%
Total	Count	71	320	412	3278	4081	
	% within POSITION	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: chi-square = 102.069, *df* = 12, *p* < .000

Findings

Among the agencies separately, there is a negative relationship between employees’ job satisfaction and their place in the hierarchy. While four agencies clearly exhibit the expected relationship as indicated by the cross-tabulations, other agencies show negative, but non-linear relationships where a lower level sometimes has higher job satisfaction than the level above. When all the agencies are considered collectively, a consistently negative relationship is demonstrated.

These finding supports Johnson’s (2000) research that showed higher level employees had higher

levels of job satisfaction.

DOES THE PERCEIVED LEVEL OF MORALE DIFFER BY THE LEVEL OF HIERARCHY?

The final hypothesis is that managers will have higher morale than front-line supervisors, and front-line supervisors will have higher morale than non-supervisors.

Analysis by Agency

The correlation coefficients for each agency are reported in Table 5-69. While all the coefficients are negative for each agency, only four agencies have correlation coefficients that are noteworthy, including “2 Southwest,” “3 South,” “4 Mid-Atlantic” and “7 South.” For the most part, the difference in the correlation coefficients when “position” is measured at three levels or four levels for each agency are relatively small, for the exceptions of “2 Southwest” and “4 Mid-Atlantic” where the correlation coefficients are larger when morale is compared at four levels of position.

Table 5-69: Morale by Levels of Position

Agency	3 Levels	4 Levels
“1 Northwest”	-.134	-.134
“2 Southwest”	-.148**	-.154**
“3 South”	-.196**	-.197**
“4 Mid-Atlantic”	-.124*	-.134*
“5 Northwest”	-.086	-.088
“6 Southwest”	-.064	-.063
“7 South”	-.102*	-.105*
“8 Mid-West”	-.038	-.040

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

A visual review of the box plots for each agency indicates that most exhibit something of a non-linear relationship. For example, front-line supervisors at “4 Mid-Atlantic” have lower morale than non-supervisors, considering the 75th quartile for front-line supervisors is ”3” while the 75th quartile for non-supervisors is “4.” Given that front-line supervisors at “4 Mid-Atlantic” have lower opinions than do non-supervisors on many of the management practices, this isn’t exactly a great revelation. However, the largest agency in the nonrandom sample, “3 South,” which also had the largest, negative correlation

coefficients, has a distinctly negative and linear pattern according to its box plot.

Cross-tabulations for each agency in Table 5-70 reveal that only three agencies have the expected relationship between each level of position which include “3 South,” “5 Northwest” and “7 South.” In other words, senior executives observe higher morale than do managers, managers observe higher morale than front-line supervisors, and front-line supervisors observe higher morale than non-supervisors. The remaining agencies have unexpected relationships. For instance, front-line supervisors observe higher morale than managers at “2 Southwest,” while non-supervisors observe higher morale than front-line supervisors at “4 Mid-Atlantic” and to a very small degree, “8 Mid-West.” On the other hand, managers observe higher morale than senior executives at “6 Southwest.”

Table 5-70: Percent Agreement (Agree and Strongly Agree) on Improved Taxpayer Satisfaction by Agency

Agency	Senior Executive	Manager	Front-line Supervisor	Non-Supervisor
“1 Northwest”	0	50.0	75.0	44.8
“2 Southwest”	93.4	55.6	62.7	46.4
“3 South”	100.0	80.3	66.3	49.7
“4 Mid-Atlantic”	81.3	45.2	24.1	32.8
“5 Northwest”	100.0	44.4	42.9	28.2
“6 Southwest”	33.4	40.5	30.6	26.8
“7 South”	85.7	46.6	43.4	40.4
“8 Mid-West”	71.4	38.3	27.0	27.2

Note “1 Northwest”: chi-square = 6.897, $df = 8$, $p < .551$
 Note “2 Southwest”: chi-square = 25.293, $df = 12$, $p < .013$
 Note “3 South”: chi-square = 57.522, $df = 12$, $p < .000$
 Note “4 Mid-Atlantic”: chi-square = 31.158, $df = 12$, $p < .002$
 Note “5 Northwest”: chi-square = 17.663, $df = 12$, $p < .126$
 Note “6 Southwest”: chi-square = 18.487, $df = 12$, $p < .102$
 Note “7 South”: chi-square = 21.520, $df = 12$, $p < .043$
 Note “8 Mid-West”: chi-square = 18.619, $df = 12$, $p < .098$

Analysis of All Agencies Collectively

Correlation coefficients in Table 5-1 for both measurement levels of the independent variable “position” are negative and there is negligible difference between the two in the size of the coefficients when all the survey responses are considered collectively.

Table 5-71: Morale by Level of Position

Three Levels	Four Levels
-.106**	-.108**

** Correlation is significant at the 0.01 level (2-tailed)

The box plots for both levels show something of a negative relationship between employee perceptions of morale and their place in the agency. However, a better illustration of the expected relationship is exhibited when employee perceptions of morale are compared at four rather than three levels of position because it demonstrates clear differences between senior executives and other agency managers. The interquartile for senior executives “agree” that morale is good, while the interquartile for managers ranged from “disagree” (25th quartile) to “agree” (75th quartile).

The cross-tabulation provided in Table 5-72 shows that employee perceptions that morale is good diminish with each step down the chain of command. Most senior executives agree or strongly agree (80.6%), while a little over half of managers (53.8%), less than half of front-line supervisors (44.8%), and better than a third of non-supervisors (38.6%) would also agree or strongly agree that morale is good in their division or work unit.

Table 5-72: Morale by Four Levels of Position

			POSITION				Total
			Senior Executive	Manager	Front-line Supervisor	Non-supervisor	
MORALE	Strongly Disagree	Count	3	47	85	714	849
		% within POSITION	4.8%	15.5%	21.6%	23.0%	22.0%
	Disagree	Count	3	60	89	762	914
		% within POSITION	4.8%	19.8%	22.6%	24.5%	23.7%
	Neither Agree or Disagree	Count	6	33	43	429	511
		% within POSITION	9.7%	10.9%	10.9%	13.8%	13.2%
	Agree	Count	39	133	149	1056	1377
		% within POSITION	62.9%	43.9%	37.9%	34.0%	35.7%
	Strongly Agree	Count	11	30	27	143	211
		% within POSITION	17.7%	9.9%	6.9%	4.6%	5.5%
Total	Count	62	303	393	3104	3862	
	% within POSITION	100.0%	100.0%	100.0%	100.0%	100.0%	

Findings

While the correlation coefficients for each agency were negative, a visual inspection of the box plots and the cross-tabulations do reveal that most of the agencies have a non-linear relationship between the independent and dependent variables. However, when the survey responses are considered for all

eight agencies collectively, senior executives have more favorable opinions regarding morale than do managers, managers have more favorable opinions than do front-line supervisors, and front-line supervisors have more favorable opinions than do non-supervisors. The cross-tabulation, more so than the correlation coefficients and box plots, clearly provides support for the hypothesis.

However, given the size of the correlation coefficient, “3 South” does have a disproportional effect on the findings for all the agencies collectively. This is clearly demonstrated by the box plot and percent at each descending level of position that agrees or strongly agrees that morale is good. But it is also noteworthy that non-supervisors at “3 South” have the highest morale among all the eight agencies. It is intriguing why the largest agency in the nonrandom sample (based on number of employees), has higher morale than the other seven agencies. It would be assumed that larger organizations have lower morale than smaller organizations. On the other hand, the second largest agency, “8 Mid-West,” had the second worst morale on average. (See Table 5-73.) Consequently, any explanation lies somewhere other than the number of employees in the organization. Another striking fact is that less than half of managers, front-line supervisors and non-supervisors perceive morale is good at five of the state revenue agencies.

Table 5-73: Mean Scores Analysis by Agency

State Revenue Agencies	Mean Score
“3 South”	3.15
“2 Southwest”	3.11
“1 Northwest”	3.03
“7 South”	2.79
“4 Mid-Atlantic”	2.60
“5 Northwest”	2.54
“8 Mid-West”	2.45
“6 Southwest”	2.38

What reasons lay behind the differences in morale among the eight agencies are probably varied; and why morale would be lower than job satisfaction is an intriguing question. Many factors can contribute to low morale. In some cases it may lay with uncertainty or fear among lower level employees with changes in gubernatorial administration and the direction and changes a new administration may bring. Five of the eight agencies in the nonrandom sample had such changes in 2003 (“1 Northwest,” “2 Southwest,” “6 Southwest,” “7 South,” and “8 Mid-West”). In all five cases, the change in gubernatorial administration was also a change in political party. An even more likely explanation for low morale is the budget deficits experienced by most state governments in the last few years. Budget deficits normally result in budget reductions, even loss of positions, and the threat of losing one’s job can lower morale.

Even when there are reductions in force, those who remain often have to pick up the slack by assuming more job responsibility which can also lower morale. State legislatures also have a tendency to forego cost of living pay increases for state employees during bad budget times.

CONCLUSIONS: THE PERCEPTIONS OF MANAGEMENT PRACTICES AND POSITION

The findings for management practices do support the hypothesis that favorable opinion regarding deployment diminishes with each step down the chain of command. The same can be said when considering state revenue employee perceptions of the result measures and job satisfaction. Tables 5-74, 5-75 and 5-76 illustrate the point when considered collectively. Another point that can be made in reviewing the tables is that there is not a single instance where non-supervisors have more favorable opinions than any level of management, especially the top rung of senior executives.

These findings are consistent with the findings of Asquith (1998) and Johnson (2000). Asquith (1998) found that commitment to organizational change among employees of eight local governments in England were weaker among “street-level subordinates” than middle managers. While middle managers had a “moderate commitment” to the local government’s aims and objectives, “street-level subordinates” had low commitment. Johnson (2000) also found differences in perception between supervisors and non-supervisors in a large federal agency regarding the successful implementation of quality management principles. Supervisors were more likely to see more deployment of these principles and were more positive regarding different dimensions of the quality culture than were non-supervisors.

However, this finding loses some of its traction when considering each agency separately. While most of the relationships between employee perceptions of a management practice or a result and their place in the agency are negative, a number are non-linear in that an unexpected relationship was found at some level of the hierarchy. In fact, non-linear patterns are more often the norm than the exception. This fact seldom changed even when the relationship was considered at three levels rather than four levels of position.

For example, front-line supervisors at “4 Mid-Atlantic” have less favorable opinions than non-supervisors on the deployment of strategic planning, performance measures, customer service practices, and process improvement. Front-line supervisors at “4 Mid-Atlantic” also have less favorable opinions that service delivery has improved at their agency and observe lower morale in their division or work unit. Likewise, senior executives at “6 Southwest” have less favorable opinions than managers on performance feedback, customer service practices, training, rewards and recognition, process improvement and on all of the five result measures. However, the level that seemed to be the most disaffected in this survey is managers. Managers frequently have less favorable opinions regarding the management practices than do

front-line supervisors at six of the eight agencies. The practices that managers have the most disaffection with are strategic planning and process improvement.

What would explain these variations from the expected among the eight state revenue agencies? A possible explanation is that problems exist with certain levels that are specific to the agency. This is a very likely explanation given that among some agencies, certain levels were consistently less approving regarding management practices and results. For example, managers at “2 Southwest” and “8 Mid-West” are frequently less approving than front-line supervisors, front-line supervisors at “4 Mid-Atlantic” are frequently less approving than non-supervisors, and senior executives at “6 Southwest” frequently have lower opinions than their direct reports.

However, it needs to be noted that five of the states saw changes in gubernatorial administration within a few months of this survey being administered. Some of the unexpected relationships between levels may be attributed to uncertainty. For instance, some may have less favorable views because they are not as knowledgeable about the practices themselves or the implementation of those practices within the agency. For example, newly appointed senior executives may be pre-disposed to have a negative opinion because they are replacing senior executives from a previous administration. This may especially be the case if the previous administration represented a different political party. On the other hand, less favorable opinions among some may be a manifestation of their concern about the future of those management practices being implemented or implemented correctly.

Nevertheless, one agency consistently exhibited a negative and linear relationship more often than any other and that agency was “3 South.” In fact, only on the management practice “teamwork” and the result measure “improvements in processes” did the agency display anything resembling an unexpected relationship at some level of the hierarchy. As previously mentioned, “3 South” represents 29% of the total responses among the eight agencies. As consequence, it undoubtedly has a large impact on the overall findings for all the agencies collectively and may indicate that differences of opinion among different levels are more acute with larger organizations. Yet, “7 South” was almost as consistent as “3 South” in having linear relationships between management practices and position as well as results and position and “7 South” is less than half the size of “3 South.”

Among the management practices individually, empowerment has the strongest, negative correlation coefficient with position. The same can be said of the agencies separately and collectively. The box plot separately and for all the agencies collectively tend to support the strength of the correlation coefficients. This is probably a very intuitive finding in that employees at each lower level of the hierarchy are more likely to feel they have less control over their own job responsibilities. Other management practices reporting larger, negative relationships were process improvement, training and teamwork.

Another possible explanation is that the higher the position the more global the perspective. While senior executives' perspective is agency-wide, managers' perspective may be limited to a specific division, while front-line supervisors' perspective is even more limited to a specific work unit. Finally, non-supervisors' perspective may be the most limited of all encompassing only their immediate work environment and responsibilities. While a senior executive would be inclined to give a global response indicating that for the most part these practices are being deployed throughout the agency, each lower level in the hierarchy provides a more specific but limited perspective.

The difference of opinion regarding the result measures may be explained by the amount of information relative to the organization each level has access to. Senior executives and managers should have more information than do front-line supervisors and non-supervisors. Moreover, while senior executives and managers are more likely to have access to data, lower level employees may base their viewpoint less on fact and more on anecdotal information and even rumors. This viewpoint is somewhat corroborated by empirical evidence that shows there is strong, positive correlations between perceptual and objective measures of organizational performance among senior-level employees [Gregory Dess and Richard Robinson (1984); Dess (1987); Venkatraman and Ramanujam (1987); and, Powell (1992) and (1995)]. These correlations ranged between 0.58 and 0.694.

However, a strong argument can be made that there is a communications problem as suggested by Asquith (1998) in that communications weakens the further an employee is from the "strategic centre." (pp. 265-266) The communications problem is also probably a two-way problem in that bad news does not rise well in organizations primarily because subordinates are inclined either to "sugarcoat" the information or keep it to themselves. If information coming up the chain of command goes through a filtering-like process, then the assessments of higher-ups in the agency could be overly optimistic.

INTERVIEWS: WHAT EXPLAINS THE DIVERGENCE OF OPINION BETWEEN THE TOP AND THE BOTTOM?

Only one of the six questions asked during the interviews pertains to the focus of this chapter: Why such a divergence of opinion between the top and bottom? The overwhelming explanation among all levels centered on communications being the root of the problem. However, there were variations to the "communications are a problem" theme. Specifically, a few employees complained that the management practices are driven from the top-down, while a number of employees complained of the "Ivory Tower," "Mushroom" and "Ostrich" syndromes among top management. Another major variation on the theme is that management usually is very ineffective at communicating with the rank-and-file. Yet others said that the difference of opinion is really a difference of perspective between the top and bottom.

The “Ivory Tower,” “Mushroom” and “Ostrich” Syndromes

By far the largest complaint is that upper management is so far removed from where the real work of the agency takes place that they have not a clue as to “what is going on in the trenches.” As information “bubbles up,” indicated a manager, it becomes “aggregated,” while the rank-and-file deal with reality. The front-line employee, stated the manager, hear the “taxpayer complaints,” deals with the un-reputable and “sometimes heartbreaking situations.” This opinion was repeated by a non-supervisor who believes that “management doesn’t know what’s behind the numbers; they aren’t able to connect the numbers with a human face.” Yet another non-supervisor complained that “ideas aren’t implemented” because upper management does not follow up or “stay in touch with the person digging the trench. How do you relate,” said the non-supervisor, “if you’re sitting in an air-conditioned office while someone’s digging a ditch in hot weather with cars are going by you at 90 miles an hour?”

One manager indicated that the problem is sometimes caused by subordinates. “We tend to sugarcoat it a little bit for appearances sake,” said the manager. According to this manager, senior management is less likely to hear the “bad things” because most of the time the problem is handled at lower-levels. The same theme was echoed by a non-supervisor who claimed that as bad news rises up the chain of command, the emotion of “angry taxpayers” is diluted and consequently, there is less urgency that it has to be fixed. Another manager from a different agency admitted that “managers (do) insulate the seniors from the rest of the staff.” However, a non-supervisor believes that managers are promoted because they are “yes men” to the administration and “go whichever way the wind blows.” This rank-and-file employee complained that “upper management surrounds themselves with sycophants.”

A particularly angry tax auditor and non-supervisor said that management does not understand the “complexities of reality.” Because upper management has no experience in doing the work, complained the auditor, “they don’t get it.” Even the managers in her office who do have experience as auditors do not understand because “things have changed since they were doing audits.” The auditor indicated that a recent employee survey to gauge opinion about how well a new program was being implemented in her agency, showed a big difference of opinion between the top and bottom. The top, claimed the auditor, is “very positive” and believes everything is “going well,” while the bottom said “they were not getting anything done and it was taking too long.”

Others interviewed indicated management was overly optimistic, even deluded. One manager said that senior executives are “compelled to look at the brighter side because they are the ones responsible. “If it doesn’t work,” said the manager, “then their to blame.” A front-line supervisor asserted that “seniors are too much in the corner of the management practices” because “it is where it comes

from.” Even if it is not working, senior executives are not going to give an unfavorable opinion she believed. “That is what they hope is happening.”

Along the same lines, some employees complained that management is not open to hearing from employees about problems. In one particular case, a career senior executive alleged that “politically-appointed” senior executives have different agendas and “what looks good is all that matters” which “inhabits their willingness to listen.” A manager with the same department expressed frustration with new administrations because “they do business differently,” implying that incoming political appointees automatically assume that the previous administration was “doing it wrong” and they are going to do it right.

Ineffective Communicators

Another variation of the “communications is a problem” theme is that management, especially upper management, tends to be ineffective communicators in explaining why strategic planning and other management practices are important to the agency and to the work that employees do. Some employees complained that communications from the top-down is not very effective. Even when managers think they communicate “crystal clear,” believed a “politically-appointed” senior executive, “the rank-and-file see conflicting and inconsistent messages.”

It was also pointed out that communication problems are exacerbated when the agency has field offices and field personnel. Field personnel feel particularly disconnected from the rest of the agency. According to one senior executive, “We have to work to get field personnel to give us information.” Yet a field employee and non-supervisor said she “would love to get some of the managers who thought up procedures to come out and see the problems” she experienced in the field. She complained that “procedures” may work in one place, but not in others.

Difference in Perspectives

Some employees, including front-line supervisors and non-supervisors, believe the difference of opinion between the top and the bottom is partly explained by differences in perspectives. According to one manager, senior executives can see where we are going, “while the front-line employees have to deal with today’s problems trying to get someone’s tax bill right.” Another manager said that it is harder for the rank-and-file to see the “cause and effect.” While the rank-and-file see their “piece of the world,” explained the manager, as you go up the chain of command, “the cause and effect becomes obvious.”

A front-line supervisor and a non-supervisor repeated the same observation. The front-line

supervisor indicated that upper management has the “big picture,” while the non-supervisor said that rank-and-file employees “don’t see the whole picture, just their own jobs.” According to this non-supervisor, rank-and-file employees “don’t see the end-results, so to speak.” The non-supervisor also felt that lower echelon employees do not necessarily have foresight and “don’t look down the road on the things that are needed to be accomplished.”

A few employees commented that the difference of opinion between the top and bottom regarding the management practices and results is due more to indifference than concern among rank-and-file employees. As more than one employee commented, rank-and-file employees just want to come to work, do their jobs and then go home. One manager said that employees really “don’t care about the rest” and are “not interested in moving up.” On the other hand, it was a non-supervisor who commented that “employees won’t go the extra mile to do more; they just do what is expected and no more.”

What the Interviews Tell Us

The interviews point to two problems for management to overcome. The first is that upper-management often is disconnected from the real work of the department, perhaps relying too much on information flowing up the chain of command. The second problem is that upper management is not always effective listeners and communicators. Both problems only become greater the larger the organization.

Both issues require upper management to become more engaged with the rank-and-file. The top senior executive in one of the participating agencies does what he terms “summer visits” for at least the last two years. These visits are with all of the agency’s managers and supervisors. This year, the top senior executive is stressing two-way communication between management and employees and asking for input up the chain of command. He is directing supervisors to conduct a brainstorming session with their employees to identify problems and concerns. Through multi-voting, participants in the brainstorming sessions decide on the top three which are then sent up to the next level of management. Ultimately, this list of problems and concerns will reach the desk of the top executive and agency teams will be organized to deal with the issues that emerge.

This same agency also has an employee suggestion program entitled “Listening to You.” Employees that have suggestions for improvement complete a card which is forwarded to a central location and then the cards are assigned to a manager. The manager assigned the suggestion is usually someone outside the employee’s process in order that the suggestion can receive a “fresh look” without any preconceived notions. The manager researches the idea and then informs the employee whether the suggestion can be implemented. Most employees hear back within 60 days of having made the

recommendation.

These examples serve to illustrate the importance of developing different kinds of “listening posts” in order for employees and their ideas to have access to management. However, “listening” requires more than making a suggestion system available to employees or conducting periodical employee surveys. Rank-and-file employees need to see upper management and all managers need to engage in the practice of “Management-By-Walking-Around” (MBWA). Many of the non-supervisors interviewed complained that management was “out-of-touch” with what is happening in the “trenches.” One way for management to become “in-touch” is to spend time with rank-and-file employees as they do their jobs. For example, senior executives can spend some time sitting with an employee at their work station observing how the employee performs his job, or going into the field with an employee on a service call.

However, senior executives also need to do a better job communicating with employees. Communications should not be limited to sending messages down the chain of command through direct reports. As with listening, senior executives also need to develop other means of communicating with employees at all levels which includes talking with employees face-to-face and answering their questions. But more importantly than developing different channels of communication, there is the need for senior executives and the entire management team to be consistent in the messages they do send. In other words, senior management needs to make sure that the entire management structure sings from the same songbook to reduce confusion among the rank-and-file.

Table 5-74: Median Response for Management Practice and Result by Position

Variables	Senior Executive	Manager	Frontline Supervisor	Non-supervisor
Strategic Planning	3.67	3.33	3.17	3.00
Performance Measurement	3.60	3.40	3.20	3.20
Performance Feedback	3.75	3.25	3.25	3.00
Customer service practices	4.20	3.80	3.70	3.60
Empowerment	4.17	4.00	3.67	3.33
Teamwork	4.00	4.00	4.00	3.67
Training	4.00	4.00	4.00	3.50
Rewards and Recognition	3.25	2.75	2.75	2.50
Human Resources	3.81	3.50	3.31	3.06
Process Improvement	3.86	3.71	3.57	3.29
All Management Practices	3.83	3.56	3.38	3.15
Taxpayer Satisfaction	4.00	4.00	3.00	3.00
Improvements in Processes	4.00	4.00	4.00	3.00
Service Delivery	4.00	4.00	3.00	3.00
Job Satisfaction	4.00	4.00	4.00	4.00
Morale	4.00	4.00	3.00	3.00

Table 5-75: Interquartile Response (First and Third Quartiles) for Management Practices and Results by Position

Variables	Senior Executive		Manager		Frontline Supervisor		Non-Supervisor	
	25	75	25	75	25	75	25	75
Strategic Planning	3.17	4.00	2.50	4.00	2.50	3.71	2.50	3.50
Performance Measure	3.20	4.00	2.80	4.00	2.60	3.80	2.60	3.60
Performance Feedback	2.94	4.00	2.25	4.00	2.50	3.75	2.50	3.75
Customer service practices	3.75	4.40	3.60	4.20	3.40	4.00	3.20	4.00
Empowerment	3.92	4.67	3.33	4.33	3.00	4.00	2.67	3.67
Teamwork	4.00	4.33	3.67	4.33	3.67	4.33	3.00	4.00
Training	3.50	4.50	3.00	4.50	3.00	4.00	2.50	4.00
Rewards and Recognition	2.75	3.75	2.25	3.50	2.00	3.25	1.75	3.00
Human Resources	3.43	4.14	3.29	4.00	3.14	4.00	2.71	3.71
Process Improvement	3.37	4.12	2.87	3.94	2.81	3.75	2.56	3.56
All Management Practices	3.36	4.11	3.02	3.95	2.95	3.79	2.72	3.56
Taxpayer Satisfaction	3.00	4.00	3.00	4.00	3.00	4.00	3.00	4.00
Improvements in Processes	4.00	5.00	3.00	4.00	3.00	4.00	2.00	4.00
Service Delivery	4.00	4.00	3.00	4.00	3.00	4.00	2.00	4.00
Job Satisfaction	4.00	5.00	4.00	4.00	3.00	4.00	3.00	4.00
Morale	4.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00

Table 5-76: Minimum and Maximum Response for Management Practices and Results by Position

Variables	Senior Executive		Manager		Frontline Supervisor		Non-Supervisor	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Strategic Planning	2.00	4.83	1.00	5.00	1.00	5.00	1.00	5.00
Performance Measure	1.80	4.60	1.00	5.00	1.00	5.00	1.00	5.00
Performance Feedback	1.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Customer service practices	2.60	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Empowerment	1.33	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Teamwork	2.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Training	1.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Rewards and Recognition	1.00	5.00	1.00	5.00	1.00	5.00	1.00	5.00
Human Resources	2.14	4.86	1.00	5.00	1.00	5.00	1.00	5.00
Process Improvement	1.56	4.88	1.00	5.00	1.00	5.00	1.25	5.00
All Management Practices	2.03	4.79	1.00	4.97	1.10	5.00	1.36	5.00
Taxpayer Satisfaction	1	5	1	5	1	5	1	5
Improvements in Processes	2	5	1	5	1	5	1	5
Service Delivery	2	5	1	5	1	5	1	5
Job Satisfaction	2	5	1	5	1	5	1	5
Morale	1	5	1	5	1	5	1	5

CHAPTER 6

SUMMARY OF FINDINGS, PRACTICAL APPLICATIONS AND FUTURE RESEARCH

SUMMARY OF FINDINGS

The research questions explored were twofold. First, does the practice of the nine management practices, as perceived by employees of state agencies, lead to improved results? The nine management practices in question include: strategic planning, performance measures, performance feedback, customer service, empowerment, teamwork, training, rewards and recognition and process improvement. Perceived results include taxpayer satisfaction, improvements in processes, service delivery, job satisfaction and morale. Second, do employees at different levels of authority with state agencies have different perceptions of these management practices and results?

The Association between Management Practices and Results, Both Perceived and Objective

There were 12 hypotheses articulated for purposes of analysis. Nine of the hypotheses suggested that the more agency employees perceived each management practice being deployed the higher they would perceive results and job satisfaction. Two other hypotheses suggested that all human resource practices and all management practices combined as single variables would also lead to higher levels of results and job satisfaction as perceived by agency employees. The twelfth hypothesis speculated that the more each management practice and combined practices as perceived by agency employees were deployed, the higher the level of results based on objective performance data. The analysis confirmed all 12 of the hypotheses although not to the same degree.

A major finding from this study is that the “hard components” of management (i.e., strategic planning, performance measures and process improvement) have a stronger association with improved results and job satisfaction, as perceived by employees, than the soft components (i.e., performance feedback, customer service, empowerment, teamwork, training and rewards and recognition).

As shown in Tables 6-1 and 6-2, the most potent management practice in the eyes of state revenue employees is process improvement. Process improvement has the strongest association with each result measure and job satisfaction for the exception of morale. The largest correlation coefficient among the nine management practices and result measures independently is registered between process improvement and improvements in processes leading to improved services ($\rho = .668, p > .01$).

Table 6-1: Ranking of Management Practices by Regression Coefficients

Management Practice	Beta	<i>t</i>	Sig.
Process Improvement	.259	16.917	.000
Strategic Planning	.203	12.334	.000
Performance Measures	.127	8.712	.000
Training	.105	8.401	.000
Empowerment	.102	8.185	.000
Customer Service Practices	.083	7.086	.000
Rewards and Recognition	.074	5.950	.000
Performance Feedback	.037	2.443	.000
Teamwork	.030	2.792	.000

Table 6-2: Management Practices Ranked by Table 6-1; Spearman Correlations between Management Practices and Results and Ranked According to Size of Correlation Coefficient

Management Practice	Taxpayer Satisfaction	Improvements in Processes	Service Delivery	Job Satisfaction	Morale
Process Improvement	.408/1	.668/1	.620/1	.578/1	.602/3
Strategic Planning	.386/4	.617/3	.592/2	.560/2	.652/1
Performance Measures	.388/2	.618/2	.585/3	.507/7	.559/6
Training	.324/5	.515/6	.500/6	.526/5	.565/5
Empowerment	.286/7	.578/4	.467/7	.527/4	.551/7
Customer service practices	.387/3	.507/7	.513/5	.422/8	.436/9
Rewards and Recognition	.286/7	.484/8	.460/8	.509/6	.566/4
Performance Feedback	.315/6	.542/5	.525/4	.552/3	.629/2
Teamwork	.243/9	.407/9	.376/9	.414/9	.446/8

** Correlation is significant at the 0.01 level (2-tailed)

State revenue employees among the eight agencies also perceive a strong relationship between strategic planning and results and job satisfaction. One of the more unusual findings from this study is that morale has its largest correlation with strategic planning ($\rho = .652, p > .01$). Strategic planning also had larger correlations with improvements in processes, service delivery and job satisfaction than any of the soft components.

The third most potent management practice, as perceived by state revenue employees, is performance measures. The practice has the second largest correlation with improvements in processes ($\rho = .618, > .01$) and taxpayer satisfaction ($\rho = .388, > .01$), and the third largest correlation with service delivery ($\rho = .585, > .01$).

Among the soft components of management, according to the regression coefficients, employees perceived training as having the most potent association with results. However, an inspection of the correlation coefficients in Table 6-2 would indicate that performance feedback has the second largest association with morale ($\rho = .629, > .01$), the third largest association with job satisfaction ($\rho = .552, > .01$), and the fourth largest association with service delivery ($\rho = .525, > .01$). Performance feedback also has the fifth largest association with improvements in processes ($\rho = .542, > .01$) and the sixth largest association with taxpayer satisfaction ($\rho = .315, > .01$). However, there is no discrepancy as to which of the management practices has the weakest association with all the result measures: teamwork.

Finally, it was found that seven of the eight state revenue agencies had comparative performance data for only five of the FTA measures. However, scatter plots do reveal a relationship between employee perceptions of customer service practices and objective data for “call center queue time” and “call center abandon rate.” Moreover, there were relationships revealed between employee perceptions of strategic planning and process improvement and “percent of dollars deposited.” Nevertheless, the evidence found with the objective data does support conclusions drawn from comparisons based on employee perceptions of the management practices and results.

The Association between Position and Employee Perceptions of Management Practices and Results

The final two hypotheses speculated a negative association between employee perceptions of the management practices and results and their position within the agency. An analysis of each management practice independently, human resources and all management practices as single variables, and each result measure confirmed the final two hypotheses, although again to various degrees.

The findings among the eight state revenue agencies collectively show that there is a negative relationship between employees’ favorable perception and the rung on which they stand on the organizational ladder. However, the strength of that negative relationship does somewhat dissipate when the data is analyzed independently for each state revenue agency. While for the most part the relationship between employee perceptions and their position are negative among the agencies separately, a number of nonlinear relationships were found. These unexpected relationships are where a position-level has a more unfavorable opinion than the next position-level below it. For example, front-line supervisors at “4 Mid-Atlantic” usually have more unfavorable opinions than “non-supervisors.” Despite these unexpected relationships, there was not one instance where non-supervisors had more favorable opinions than any level of management, especially senior executives.

The Findings Relative to the Literature

The literature review in Chapter 2 shows us that there is little empirical evidence that the management practices that are the focus of this study have any relationship with improved performance in government agencies. Most of the empirical evidence presented in Chapter 2 is studies conducted among private sector organizations. The exceptions are literature related to goal-setting (Selden and Brewer, 2000), management-by-objective (Rodgers and Hunter, 1991 and 1992), performance feedback (Selden and Brewer, 2000), financial incentives (Pearce et al., 1985; Perry et al., 1989; and, Selden and Brewer, 2000), and TQM (Mani, 1995; and, Poister and Harris, 1996). For the most part, what empirical findings are available from public sector studies tend to support findings from private sector studies.

However, there are at least two differences. First, while two of three private sector studies confirm a positive relationship between financial incentives and organizational performance, (Jenkins et al., 1998; and, Shaw et al., 2002), two of three public sector studies found no relationship between merit pay and organizational performance (Pearce et al., 1985; and, Perry et al., 1989). The second difference is found with studies that explore the link between TQM and organizational performance. Private sector studies (Powell, 1995; Hendricks and Singhal, 1997, 2001a, 2001b; Eaton and Jarrell, 1998; Samson and Terzioski, 1999; and Wilson and Collier, 2000) provide strong evidence that the practice of TQM does positively impact organizational results. Yet public sector studies show either no real relationship (Mani, 1995) or “small to negligible” correlations between TQM activities and quality ratings and productivity (Poister and Harris, 1996).

This study tends to support the findings of Pearce et al. (1985) and Perry et al. (1989). Prospects of a bonus correlated relatively weak with perceived result measures. On the other hand, findings from this study tend to support the findings of Poister and Harris (1996) but contradict the findings of Mani (1995). The independent variables for the Poister and Harris (1996) study are employees hours involved in TQM training and quality circles or quality breakthrough teams. Similar to the findings of Poister and Harris, the findings from this study show that teamwork has the weakest association with perceived results among the nine management practices. However, the Mani (1995) study analyzed the effect of TQM deployment in the Internal Revenue Service by comparing input and output productivity data in pre-TQM and post-TQM periods. The implementation of TQM in the federal agency encompassed many of the management practices that are the focus of this study and she found no significant difference in productivity between the two periods of time. The findings from this study would appear to contradict Mani’s findings because the perceived management practices combined is shown to have a large effect on perceived results.

The findings from this study do advance the knowledge because there is little literature that

provides empirical evidence that the implementation of these management practices (separately or collectively) have positive associations with results, at least as perceived by the employees that put these practices into operation.

PRATICAL APPLICATIONS AND IMPLICATIONS OF THE FINDINGS

Hard Components versus Soft Components

While all of the management practices have positive correlations with results and job satisfaction, state revenue employees suggest that it is the hard components (process improvement, strategic planning, performance measures, and yes, performance feedback) that have the greatest perceived effect. This tends to confirm the effectiveness of focusing on results but not at the expense of losing sight of how those results are achieved. Organizational results are usually achieved through work processes. This has been the crux of the debate between the followers of W. Edwards Deming who argue that if you take care of the processes the results will follow, and the government “reinventors” who reply it is the results that count. However, according to the perceptions of state revenue employees, it takes both to achieve higher organizational results. A focus on one and not the other will not necessarily lead to achieving better results. Given the fact that employee’s perceive process improvement having the largest effect, a focus on improving work processes would appear to be the most important and the first step on the road to higher performance.

These findings do suggest that public managers should place their emphasis on the hard components first. However, this is not to say that the soft components (customer service and human resource practices) are to be ignored. The findings tell us that all the human resource practices combined have a larger effect than each practice separately. Likewise, when all the management practices are deployed together, they collectively have a greater association with results and job satisfaction, than they do independently. To paraphrase a quote from Chapter 1, effective administration isn’t the management of the practices separately, but the management of the *interactions* of the practices. (Patton 1990, pp. 79-80)

The findings from this study suggest that managing for improved organizational results requires interweaving these management practices into a systems tapestry. What's more, it suggests that each management practice separately is enhanced when the practices are managed as a system. For example, strategic planning does not work without the ability to establish measurable targets (i.e., performance measures), and targets cannot be achieved without feedback to adjust performance in the strategic direction. Furthermore, it is often the processes that determine what results are achieved. Processes that

are well-designed and well-managed can lead to improved performance.

The reason why the soft components are not as effective is that the hard components are the core practices for making a public agency effective in achieving higher results and more efficient in the use of public resources, while the soft components boost the effectiveness of the hard components. As one of the senior executives interviewed put it, “the soft only works when there is a hard framework.” Every organization has its processes for accomplishing work, and must set a direction and define success if it wants to be proactive about its future.

Yet the importance of managing culture may be evidenced by the fact that generally the soft components have larger effects with job satisfaction and morale, while the hard components have larger effect improving organizational results (i.e., taxpayer satisfaction, improved processes leading to improved services, and service delivery). For example, training enables organizational members to better perform their job responsibilities, while recognition helps to identify the types of behavior that lead to improved performance. Similarly, teamwork contributes to improving performance because groups tend to develop better solutions than the best individual team member. (Watson et al., 1991)

Perhaps the toughest challenge for public managers is to determine how best these practices fit together as a comprehensive management system for their agencies and then manage these practices in a synchronized fashion. The difficulty is not in knowing what to do as much as it is in knowing how to do it successfully. In the end, while the science of management can point us in the right direction, successfully managing, motivating, and inspiring employees along the correct path to higher performance is something of an art.

Specific Implications: What Improves Results

In addition to the basic findings discussed above, there are several specific findings from this study which provide clear guidance as to what improves results at least in the perception of state revenue employees.

For example, employees perceive that performance measures improve communications across divisions within agencies, and as a result, improvements in processes lead to improved services ($\rho = .546, p < .01$) and improved service delivery ($\rho = .524, p < .01$). In the same vein, employees perceive that performance measures improve inter-divisional cooperation and coordination which also lead to improvements in services ($\rho = .519, p < .01$) and service delivery ($\rho = .518, p < .01$). These findings would indicate that measures that track the performance of key processes help improve the streamlining of those processes across divisional and work unit boundaries. In addition, employees perceive that the use of performance measures lead to changes in how results are achieved, which means that performance

measures help to calibrate processes resulting in improved services ($\rho = .534, p < .01$).

Other findings point to the importance of considering taxpayer needs in improving work processes and procedures. State revenue employees perceive that when taxpayer needs are considered, improvements are made in taxpayer satisfaction ($\rho = .378, p < .01$), services ($\rho = .547, p < .01$) and service delivery ($\rho = .511, p < .01$). This is consistent with the finding that using taxpayer input improves services ($\rho = .464, p < .01$).

Some of the findings from this study tend to corroborate McGregor's "Theory Y" form of management. Specifically, state revenue employees indicate that they have higher job satisfaction ($\rho = .495, p < .01$) and morale ($\rho = .524, p < .01$) when the processes for accomplishing work allows them and their co-workers to achieve their best performance. Similarly, when managers and supervisors make developing the skills of all employees a priority, morale is perceived as improving ($.507, p < .01$). Along the same lines, employees perceive higher job satisfaction ($\rho = .485, p < .01$) and morale ($\rho = .524, p < .01$) when they receive recognition for the work that they do. These findings bear out McGregor's belief that employees have a higher order need to realize their full potential and a psychological need for status and appreciation.

One of the more interesting findings is that employees perceive morale having its strongest association with strategic planning ($\rho = .652, p < .01$). Although this is not an intuitive finding the employee interviews did help to shed light on this unique result. The best explanation is that strategic planning provides employees a sense of direction and employees are happier when they know what is expected of them and where the agency is headed. This explanation appears to be supported by the fact that employee perception of morale improves when each division in the agency develops goals and objectives that support the agency's long-term direction ($\rho = .519, p < .01$).

However, findings among the individual survey items tell us that morale among rank-and-file employees is very much associated with having input into decisions made by management. Specifically, morale improves when employees agreed that management sought their opinions on the long-term direction of the department ($\rho = .587, p < .01$). Likewise, morale registered its largest association when management sought their opinions on issues related to their job and work environment ($\rho = .609, p < .01$). In a similar vein, rank and file employees register higher morale when their promising ideas and suggestions are implemented ($\rho = .533, p < .01$).

These findings clearly tell us that rank-and-file employees want to be heard and want to have input into how the agency is managed. The findings and the interviews also tell us that employees have a need for management to explain their decisions and why it is necessary to implement them. If rank-and-file employees do not understand and do not have "buy-in" then implementation of new management practices is less likely to be successful. What this suggests is that effectively deploying the management

practices requires public managers to be more engaged with rank-and-file employees and to develop multiple “listening posts” so that employees and their ideas, opinions and suggestions can have access to management. On the other hand, public managers also need to be better communicators. Effectively deploying the management practices requires them to develop different channels of communication and not rely exclusively on communicating with rank-and-file employees through the chain of command.

FUTURE DIRECTIONS IN RESEARCH

Refining Perceived Result Measures

The result measures used in this study were purposely designed to be generic so that any employee within the revenue agencies could respond. However, an improvement to this study would be to consider further refining the result measures. One way to refine the result measures would be to develop survey statements that are more specific to a process, product or service. Some examples of more specific survey statements measuring perceived results include:

1. We have done a better job this year of educating and assisting taxpayers than we did last year.
2. Our tax forms this year are more taxpayer friendly than they have been in past years.
3. Taxpayers have made fewer errors on tax returns this year than last year.
4. It now takes us fewer days to process tax returns than it has in prior years.
5. We now use our resources (e.g., money, manpower, time) more efficiently than we have ever used them.
6. Taxpayers who were owed tax refunds received them in fewer days this year than last year.

Developing more specific measures of organizational results can provide better answers as to which types of management practices better leverage which types of results.

Of course, all of this assumes that the employees responding to these survey statements have enough knowledge of their processes’ performance to render a competent response. A percept-percept study is a long way from substantiating a causal link between the deployment of these practices and objective performance data. One assumes that employees have some clue as to whether taxpayer satisfaction or service delivery is better this year than last, or that improvements in processes have led to improved services. The empirical evidence in Chapter 2 suggests that a strong and positive correlation exists between perceptual and objectives measures of performance [Gregory Dess and Richard Robinson (1984); Dess (1987); Venkatraman and Ramanujam (1987); and, Powell (1992) and (1995)]. However, that evidence is based on the perceptions of senior-level employees. There is no evidence that the perceptions of all employees, including the rank-and-file, are highly correlated with objective

performance data.

A possible improvement to this study could be to try and determine whether there is a strong correlation between all employees' perception of results and actual performance data. Attempting to establish a strong correlation would require more specific measures of perceived performance and the identification of actual performance data that is comparative to the perceived measures. However, an even better suggestion would be to identify agencies that use the same measures and then compare employee perceptions of management practices to actual performance data.

Using Objective Performance Data

It was first assumed that because state revenue agencies share the same processes, performance measures across agencies are more likely to be compatible for comparative purposes. Although the assumption seemed valid, it was discovered that measures used by these agencies are often different because of differences in statutory requirements, structure, rules and administration. Any hope of establishing causal links between the implementation of management practices and agency performance requires the measurement of objective performance data. Future research efforts should try to identify similar agencies that have performance measures in common and have collected data for a number of years. Such studies should try and establish dates when practices were first introduced and then determine whether these practices over time have led to higher performance.

Local government agencies might be a better source for comparison than either state or federal government agencies simply because there are many more local governments than there are state or federal agencies. Police and fire services might be the best candidate for comparisons since a 1997 survey of municipalities with 25,000 or more people found that these services are more likely to use performance measures than any other municipal service. (Poister and Streib, p. 329).

Perhaps an even better source of agencies with like measures is any agency, including state and local agencies that are subject to the Government Performance and Results Act of 1993. For example, although a federal program, 26 states and territories administer their own occupational safety and health programs and are required to develop strategic plans that conform to the federal agency's strategic plan. Although each state-administered program has its own initiatives, they are still required to track certain performance measures for the federal Occupational Safety and Health Administration. Likewise, state and local workforce development agencies that are funded by the federal Workforce Investment Act of 1998 are also required to track a number of core performance indicators for the U.S Department of Labor's Employment and Training Administration.

Third Party Assessment and Objective Performance Data

Of course, deployment of management practices can be measured by other means than employee perceptions. One possible means is third party assessment much like that provided by the Malcolm Baldrige National Quality Award and state quality organizations which use teams of trained examiners. In a Baldrige assessment, examiners score each of the items and then each of the seven categories for a possible total score of 1,000. Ideally, a researcher should compare several agencies using a time series method of evaluation. In other words, agencies will have completed an earlier Baldrige-based assessment to provide a benchmark and then a later assessment to establish whether there have been improvements made in the deployment of quality practices. Then these agencies could be compared to determine if the agencies with the most improvements in deployment, as measured by their assessment scores, yielded higher results. Unfortunately, finding a group of like agencies that have completed a third-party assessment twice at roughly an equal distance of time is highly unlikely. Barring third party assessments, self-assessments conducted by the agencies themselves could also be considered although the researcher would have to find a means by which to verify the self-assessments.

What Motivates Employees Within A “Hard Framework”?

However, an even more important research issue concerns the best methods for motivating employees to produce better results through a “hard framework” of management practices. The interviews suggest that the soft components are needed to leverage the effectiveness of the hard components of management. But which cultural practices facilitate the hard components of management practices to achieve higher results? Is there a particular combination of cultural practices that are more effective and how should they be aligned with the hard components? Survey statements measuring cultural practices can be developed to determine which practices best mediate the deployment of the hard components and improved results.

IN CONCLUSION

This study set out to determine if the deployment of certain management practices in public agencies have a positive effect on both perceived and objective measures of performance and whether employees at different levels of authority perceive them differently. An analysis of the research findings clearly indicates there is a positive effect on performance and that employees’ favorable opinion of these practices depends on which rung of the organizational ladder they stand. Moreover, it was discovered that

the hard components of management have larger perceived effects on performance than the soft components of management. While any generalizations of these findings are somewhat limited, the findings do contribute to begin formulating answers to Behn's three "big questions" that asked how management can break the cycle of micro-management, motivate employees, and measure achievements all for the purpose of improving results. The findings from this study will provide some practical guidance to public managers in how best to organize, manage and sustain high performance agencies.

LIST OF REFERENCES

- Arnold, Peri E. (1995). "Reform's Changing Role." *Public Administration Review*, 55, 5, pp. 407-417.
- Asquith, Andy (1998). "Non-elite Employees' Perceptions of Organizational Change in English Local Government." *International Journal of Public Sector Management*, 11, 4, pp. 262-280.
- Banker, Rajiv D., Field, Joy M., Schroeder, Roger G., and Sinha, Kingshuk K. (1996) "Impact of Work Teams on Manufacturing Performance: A Longitudinal Field Study." *The Academy of Management Journal*, 39, 4, pp. 867-890.
- Bartel, Ann P. (1994) "Productivity Gains from the Implementation of Employee Training Programs." *Industrial Relations*, 33, 4, pp. 411-425.
- Bartel, Ann P. (1995) "Training, Wage Growth, and Job Performance: Evidence from a Company Database." *Journal of Labor Economics*, 13, 3, pp. 401-425.
- Behn, Robert D. (1995). "The Big Questions of Public Management." *Public Administration Review*, 55, 6, pp. 313-323.
- Berry, Frances Stokes and Barton, Wechsler (1995). "State Agencies' Experience with Strategic Planning: Findings for a National Survey." *Public Administration Review*, 55, 2, pp. 159-168.
- Black, Stewart J. and Gregersen, Hal B. (1997). "Participative Decision-Making: An Integration of Multiple Dimensions." *Human Relations*, 50, 7, pp. 859-878.
- Boyd, Brian K. (1991). "Strategic Planning and Financial Performance: A Meta-Analysis Review." *Journal of Management Studies*, 28, 4, pp. 353-374.
- Boyne, George (2001). "Planning, Performance and Public Services." *Public Administration*, 79, 1, pp. 73-88.
- Brewer, Gene A. and Selden, Sally Coleman (2000). "Why Elephants Gallop: Assessing and Predicting Organizational Performance in Federal Agencies." *Journal of Public Administration Research and Theory*, 10, 4, pp. 685-711.
- Brudney, Jeffery L., Herbert, F. Ted, and Wright, Deil S. (1999). "Reinventing Government in the American States: Measuring and Explaining Administrative Reform." *Public Administration Review*, 59, 1, pp. 19-30.
- Capon, Noel, Farley, John U. and Hulbert, James M. (1987) *Corporate Strategic Planning*. New York: Columbia University Press. - (1994). "Strategic Planning and Performance: More Evidence." *Journal of Management Studies*, 31, 1, pp. 105-110.
- Cho, Hyunyi and LaRose, Robert (1999). "Privacy Issues in Internet Surveys." *Social Science Computer Review*, 17, 4, pp. 421-434.
- Connor, Patrick E. (1997). "Total Quality Management: A Selective Commentary on Its Human Dimensions." *Public Administration Review*, 57, 6, pp. 501-509.

Cook, Thomas D. and Campbell, Donald T. (1979). Quasi-Experimentation: Design and Analysis Issues of Field Settings. Chicago, ILL: Rand McNally College Publishing Company.

Cotton, John L., Vollrath, David A., Froggatt, Kirk L., Lengnick-Hall, Mark L., and Jennings, Kenneth R. (1988). "Employee Participation: Diverse Forms and Different Outcomes." *The Academy of Management Review*, 13, 1, pp. 8-22.

Delaney, John T. and Huselid, Mark A. (1996). "The Impact of Human Resource Management Practices on Perceptions of Organizational Performance." *The Academy of Management Journal*, 39, 4, pp. 949-969.

Deming, W.E. (1982). Out of the Crisis. Cambridge, MA: MIT Center for Advanced Engineering Study.

Dess, G. Gregory (1987). "Consensus on Strategy Formulation and Organizational Performance: Competitors in a Fragmented Industry." *Strategic Management Journal*, 8, 3, pp. 259-277.

Dess, G. Gregory and Robinson, R. (1984). "Measuring Organizational Performance in the Absence of Objective Measures: The Case of the Privately Held Firm and Conglomerate Business Units." *Strategic Management Journal*, 5, pp. 265-273.

Down, Anthony (1967). Inside Bureaucracy. Boston. Little, Brown Company.

Earley, P. Christopher, Northcraft, Gregory B., Lee, C., and Lituchy, Terri R. (1990). "Impact of Process and Outcome Feedback on the Relation of Goal Setting To Task Performance." *The Academy of Management Journal*, 33, pp. 87-105.

Easton, George S. and Jarrell, Sherry L. (1998). "The Effects of Total Quality Management on Corporate Performance: An Empirical Investigation." *Journal of Business*, 71, 2, pp. 253-307.

Evans, James R. (1997). "Critical Linkages in the Baldrige Award Criteria: Research Models and Educational Challenges." *Quality Management Journal*, 5, 1.

Federation of Tax Administrators (2001). "FTA Performance Measures Project." http://www.taxexchange.org/member/projects/perf_meas/cover.html

Frederickson, H. George (1996). "Comparing the Reinventing Government Movement with the New Public Administration." *Public Administration Review*, 56, 3, pp. 263-270.

GAO (General Accounting Office). (1990). Case Study Evaluations. Washington, DC: Program Evaluation and Methodology Division.

GAPA/NAPA (1997). "Performance Measurement at the State and Local Levels: A Summary of Survey Results – First Questionnaire Results." (September 30, 1997) Available: <http://accounting.rutgers.edu/raw/seagov/pmg/index.html>

Garson, David. <http://www2.chass.ncsu.edu/garson/pa765/regress.htm>.

Garson, David. <http://www2.chass.ncsu.edu/garson/pa765/reliab.htm>.

- Guzzo, Richard A., Jette, Richard D., and Katzell, Raymond A. (1985). "The Effects of Psychologically Based Intervention Programs on Worker Productivity: A Meta-Analysis." *Personnel Psychology*, 38, pp. 275-291.
- Hendricks, Kevin B. and Singhal, Vinod R. (2001a) "The Long-Run Stock Price Performance of Firms with Effective TQM Programs." *Management Science*, 47, 3, pp. 359-368.
- Hendricks, Kevin B. and Singhal, Vinod R. (2001b) "Firm Characteristics, Total Quality Management, and Financial Performance." *Journal of Operations Management*, 19, pp. 269-285.
- Hendricks, Kevin B. and Singhal, Vinod R. (1997) "Does Implementing an Effective TQM Program Actually Improve Operating Performance?" *Management Science*, 43, 9, pp. 1258-1274.
- Huselid, Mark A. (1995). "The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance." *The Academy of Management Journal*, 38, 3, pp. 635-672.
- Jenkins, G. Douglas Jr., Gupta, Nina, Mitra, Atul, and Shaw, Jason D. (1998). "Are Financial Incentives Related to Performance? A Meta-Analytic Review of Empirical Research." *Journal of Applied Psychology*, 83, 5, pp. 777-787.
- Johnson, Jeff W. (1996) "Linking Employee Perceptions of Service Climate to Customer Satisfaction." *Personnel Psychology*, 49, p. 831-851.
- Johnson, Jocelyn J. (2000). "Differences in Supervisor and Non-supervisor Perceptions of Quality Culture and Organizational Climate." *Public Personnel Management*, 29, 1, pp. 119-128.
- Kamensky, John M. (1996). "Role of the Reinventing Government Movement in Federal Management Reform." *Public Administration Review*, 56, 3, pp. 247-255.
- Koch, Marianne J. and McGrath, Rita Gunther (1996). "Improving Labor Productivity: Human Resource Management Policies Do Matter." *Strategic Management Journal*, 17, 5, pp. 335-354.
- Kravchuk, Robert S. and Schack, Ronald W. (1996). "Designing Effective Performance Measurement Systems Under the Government Performance and Results Act of 1993." *Public Administration Review*, pp. 348-358, July/August.
- Latham, Gary P., Winters, Dawn C. and Locke, Edwin A. (1994). "Cognitive and Motivational Effects of Participation: A Mediator Study." *Journal of Organizational Behavior*, 15, 1, pp. 49-63.
- Leana, Carrie R., Locke, Edwin A. and Schweiger, David M. (1990). "Fact and Fiction in Analyzing Research on Participative Decision Making: A Critique of Cotton, Vollrath, Froggatt, Lengnick-Hall, and Jennings." *The Academy of Management Review*, 15, 1, pp. 137-146.
- Lovrich, Jr., Nicholas P. (1986). "Participative Management Interventions Among Employees in 'Enriched' and 'Noneriched' Jobs: A Research Note From A Panel Study of State Employees." *Public Administration Quarterly*, Fall, pp. 257-277.
- MBQNA (2002). Criteria for Performance Excellence. Gaithersburg, MD: National Institute of Standards and Technology.

- Macduffie, John Paul (1995). "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto industry." *Industrial and Labor Relations Review*, 48, 2, pp. 197-221.
- Mani, Bonnie G. (1995). "Old Wine in New Bottles Tastes Better: A Case Study of TQM Implementation in the IRS." *Public Administration Review*, 55, 2, pp. 147-158.
- Mento, Anthony J., Steel, Robert P. and Karren, Ronald J. (1987). "A Meta-Analytic Study of the Effects of Goal Setting on Task Performance: 1966 – 1984." *Organizational Behavior and Human Decision Processes*, 39, pp. 52-83.
- Miles, Rufus, (1978). "The Origin and Meaning of Miles' Law." *Public Administration Review*, 38, 5, pp. 399-403.
- Miller, Chet C. and Cardinal, Laura A. (1994). "Strategic Planning and Firm Performance: A Synthesis of More Than Two Decades of Research." *The Academy of Management Journal*, 37, 6, pp. 1649-1665.
- Miller, Katherine I. And Monge, Peter R. (1986). "Participation, Satisfaction, and Productivity: A Meta-Analytic Review." *The Academy of Management Journal*, 29, 4, pp. 727-753.
- Neubert, Mitchell J. (1998). "The Value of Feedback and Goal Setting Over Goal Setting Alone and Potential Moderators of this Effect: A Meta-Analysis." *Human Performance*, 11, 4, pp. 321-335.
- O'Leary-Kelly, Anne M., Martocchio, Joseph J., and Frink, Dwight D. (1994). "A Review of the Influence of Group Goals on Group Performance." *The Academy of Management Journal*, 37, 5, pp. 1285-1301.
- O'Sullivan, Elizabethann, Rassel, Gary R., and Berner, Maureen (2003). Research Methods for Public Administrators, 4th ed."
- Odom, Randall Y. and Boxx, W. Randy (1988). "Environment, Planning Processes, and Organizational Performance of Churches." *Strategic Management Journal*, 9, pp. 197-205.
- Osborne, David and Gaebler, Ted (1992). Reinventing Government. Reading, MA: Addison-Wesley Publishing Company.
- Patton, Michael Quinn (1990). Qualitative Evaluation and Research Methods. Newbury Park, CA: Sage Publications Inc.
- Pearce, Jone L. Stevenson, William B. and Perry, James L. (1985). "Managerial Compensation Based on Organizational Performance: A Time Series Analysis of the Effects of Merit Pay." *The Academy of Management Journal*, 28, 2, pp. 261-278.
- Perry, James L., Petrakis, Beth Ann, and Miller, Theodore K. (1989) "Federal Merit Pay, Round II: An Analysis of the Performance Management and Recognition System." *Public Administration Review*, 49, 1, pp. 29-37.
- Poister, Theodore H. and Harris, Richard H. (1996). "Service Delivery Impacts of TQM" *Public Productivity and Management Review*, 520, 1, pp. 84-100.

- Powell, Thomas C. (1995). "Total Quality Management as Competitive Advantage: A Review and Empirical Study." *Strategic Management Journal*, 16, 1, pp. 15-37.
- Powell, Thomas C. (1992). "Organizational Alignment as Competitive Advantage." *Strategic Management Journal*, 13, 2, pp. 119-134.
- Rainey, Hal G. (1997). Understanding and Managing Public Organizations: Second Edition. San Francisco, CA: Jossey-Bass.
- Rodgers, Robert and Hunter, John E. (1991). "Impact of Management by Objectives on Organizational Productivity." *Journal of Applied Psychology*, 76, 2, pp. 322-336.
- Rodgers, Robert and Hunter, John E. (1992). "A Foundation of Good Management Practice in Government: Management by Objectives." *Public Administration Review*, 52, 1, pp. 27-39.
- Russell, James S., Terborg, James R. and Powers, Mary L. (1985) "Organizational Performance and Organizational Level Training and Support." *Personnel Psychology*, 38, pp. 849-863.
- Sagie, Abraham (1994). "Participative Decision Making and Performance: A Moderator Analysis." *Journal of Applied Behavioral Science*, 30, 2, pp. 227-246.
- Samson, Danny and Terziowski, Mile (1999). "The Relationship Between Total Quality Management Practices and Operational Performance." *Journal of Operations Management*, 17, pp. 393-409.
- Schneider, Benjamin, White, Susan S., and Paul, Michelle C. (1998). "Linking Service Climate and Customer Perceptions of Service Quality: Test of a Causal Model." *Journal of Applied Psychology*, 83, 2, pp. 150-163.
- Schwenk, Charles R. and Shrader, Charles B. (1993). "Effects of Formal Strategic Planning on Financial Performance in Small Firms: A Meta-Analysis." *Entrepreneurship: Theory and Practice*, 17, 3, pp. 53-64.
- Selden, Sally Coleman and Brewer, Gene A. (2000). "Work Motivation in the Senior Executive Service: Testing the High Performance Cycle Theory." *Journal of Public Administration Research and Theory*, 10, 3, pp. 531-550.
- Shafritz, Jay M. and Ott, J. Steven (1996). Classics of Organization Theory. Orlando, FL: Harcourt Brace & Company.
- Shaw, Jason D., Gupta, Nina, and Delery, John E. (2002). "Pay Dispersion and Workforce Performance: Moderating Effects of Incentives and Interdependence." *Strategic Management Journal*, 23, pp. 491-512.
- Simsek, Zeki and Veiga, John F. (2001). "A Primer on Internet Organizational Surveys." *Organizational Research Methods*, 4, 3, pp. 218-235.
- Simsek, Zeki and Veiga, John F. (2000). "The Electronic Survey Technique: An Integration and Assessment." *Organizational Research Methods*, 3, 1, pp. 92-114.
- Snively, Keith (1988). "Innovations in State Tax Administration." *Public Administration Review*, pp. 903-910, September-October.

- Soden, Dennis L. and Lovrich, Nicholas P. (1988). "Motivating the Unmotivated State Employee Through Workplace Participation: Research Note for a Pre- and Post-Intervention Panel Study." *International Journal of Public Administration*, 11, 1, pp. 91-115.
- Spector, Paul E. (1986). "Perceived Control by Employees: A Meta-Analysis of Studies Concerning Autonomy and Participation at Work." *Human Relations*, 39, 11, pp. 1005-1016.
- Spencer, Michael S. and Loomba, Arvinder P.S. (1995). "Uncovering Implementation Problems Keeps TQM on Track at Iowa's Department of Employment Services." *National Productivity Review*, 14, 2, pp. 37-46, Spring.
- Swindell, David and Kelly, Janet M. (2000). "Linking Citizen Satisfaction Data to Performance Measures." *Public Performance & Management Review*, 24, 1, pp. 30-52.
- Swiss, James E. (1998). *Results-Based Management in Government*. Unpublished.
- Tubbs, Mark E. (1986) "Goal Setting: A Meta-Analysis Examination of the Empirical Evidence." *Journal of Applied Psychology*, 71, 3, pp. 474-483.
- Vandenberg, Robert J., Richardson, Hettie A., and Eastman, Lorrina J. (1999). "The Impact of High Involvement Work Processes on Organizational Effectiveness." *Group & Organization Management*, 24, 3, pp. 300-339.
- Venkatraman, N. and Ramanujam, V. (1987). "Measurement of Business Economic Performance: An Examination of Method Convergence." *Journal of Management*, 13, pp. 109-122.
- Wagner, John A. III (1994). "Participation's Effects on Performance and Satisfaction: A Reconsideration of Research Evidence." *The Academy of Management Review*, 19, 2, pp. 312-330.
- Wagner, John A. III and Gooding, Richard Z. (1987a). "Effects of Societal Trends on Participation Research." *Administrative Science Quarterly*, 32, 2, pp. 241-262.
- Wagner, John A. III and Gooding, Richard Z. (1987b). "Shared Influence and Organizational Behavior: A Meta-Analysis of Situational Variables Expected to Moderate Participation-Outcome Relationships." *The Academy of Management Journal*, 30, 3, pp. 524-541.
- Watson, Warren, Michaelson, Larry K. and Sharp, Walt (1991). "Member Competence, Group Interaction, and Group Decision Making: A Longitudinal Study." *Journal of Applied Psychology*, 76, 6, pp. 803-809.
- Wilson, Daryl D and Collier, David A. (2000). "An Empirical Investigation of the Malcolm Baldrige National Quality Award Causal Model." *Decision Sciences*, 31, 2, pp. 361-390.
- Wolf, Patrick J. (1997). "Why Must We Reinvent the Federal Government? Putting Historical Development Claims to the Test." *Journal of Public Administration Research and Theory*, 7, 3, pp. 353-388.

APPENDICES

PRELIMINARY SURVEY

The purpose of this short survey is to determine what management practices are currently being implemented by state Departments of Revenue.

Confidentiality – The survey is anonymous. Your response will be combined with those of other state Revenue Departments and the results reported in the aggregate.

Please complete the following survey and return in the enclosed postage-paid, self-addressed envelope. If the envelope is misplaced, please return to: Andy Frazier, 7805 Audubon Drive, Raleigh, NC 27615. Any questions can be directed to Andy Frazier at 919-807-2788 or by electronic mail at afrazier1@nc.rr.com.

1. Does your department have a strategic plan (e.g., mission and vision statements, long-range goals)?
 Yes No Don't Know

2. IF YOU ANSWERED "YES" TO #1, when was the last time your department reviewed and modified its strategic plan? (Please check only one box.)
 We have *never* reviewed and modified our current strategic plan
 It has been *more than* 3 years since we have reviewed and modified our current strategic plan
 It has been *less than* 3 years since we have reviewed and modified our current strategic plan
 It has been *less than* 2 years since we have reviewed and modified our current strategic plan
 It has been *less than* 1 year since we have reviewed and modified our current strategic plan
 Don't Know

3. Has your department developed quantifiable performance measures to track key work processes and results?
 Yes No Don't Know

4. IF YOU ANSWERED "YES" TO #3, how *often* do your senior managers review quantifiable measures to track the department's performance? (Please check only one box.)
 Never Quarterly Don't Know
 More than once a month Bi-annually Other, please specify:
 Monthly Annually _____

5. IF YOU ANSWERED "YES" TO #3, how *often* does your senior management review of quantifiable performance measures lead to changes in how results are achieved? (Please check only one box)
 Never Seldom Sometimes Frequently Don't Know

6. *How often do you seek feedback (e.g. surveys, focus groups, improvement teams) from citizens to determine their satisfaction with your department's services? (Please check only one box.)*

- We have *never* sought feedback from citizens
- We have sought feedback from citizens, but *not* with any regularity
- We regularly seek feedback from citizens *at least once every two years*
- We regularly seek feedback from citizens *at least once a year*
- Don't Know

7. How often do you seek feedback (e.g., surveys, focus groups, improvement teams) from your employees regarding their satisfaction with their work environment and other work-related issues?

- We have *never* sought feedback from employees
- We have sought feedback from employees, but *not* with any regularity
- We regularly seek feedback from employees *at least once every two years*
- We regularly seek feedback from employees *at least once a year*
- Don't Know

8. How *satisfied* are you that the key work processes within your department allow your employees to achieve their best performance? (Please *circle* only one number from 1 to 7.)

Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neither Satisfied or Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied
1	2	3	4	5	6	7

9. Has your department ever completed a department-wide organizational assessment using the Malcolm Baldrige National Quality Award criteria *or* something similar?

- Yes
- No
- Don't Know

10. IF YOU ANSWERED "YES" TO #9, when was the last time you conducted a department-wide organizational assessment? (Please check only one box.)

- More than 4 years ago*
- Less than 3 years ago*
- Less than 1 year ago*
- Less than 4 years ago*
- Less than 2 years ago*
- Don't Know

11. Has your department ever *applied* for a quality award (national, state, local)?

- Yes
- No
- Don't Know

12. IF YOU ANSWERED "YES" TO #11, in what *year* did you make the application? (Give year in the space provided below.)

13. Has your department ever *won* a quality award?

- Yes
- No
- Don't Know

14. IF YOU ANSWERED "YES" TO #13, please list the award(s) and the year it was received in the space provided below.(Please print.)

Award(s)	Year Received
_____	_____
_____	_____
_____	_____

If your department would be interested in participating in the employee survey to seek their opinions regarding management practices, please provide the following information:

Contact Name: _____
Phone Number: _____
Email Address: _____

COVER LETTER

Dear Department Head:

I am a PhD. candidate in public administration at North Carolina State University. My dissertation focuses on public management practices in state Departments of Revenue. **Enclosed is a short survey that I would like for you to complete and return in the enclosed postage paid, self-addressed envelope.** As a senior manager for the North Carolina Department of Labor, I understand the insistent demands on your time. I have accordingly kept the survey very short, and I would be grateful if you would find the time to fill it out.

One purpose of the enclosed survey is to determine if certain management practices are currently being implemented in state Departments of Revenue. Be assured that anonymity will be maintained. All the data from this short survey will be reported only in the aggregate. No state Department of Revenue will ever be specifically identified in my dissertation or in any other publication of the research findings.

The other purpose of this short survey is to identify state Departments of Revenue that would be interested in participating in a survey of their employees. The purpose of the employee survey is to measure their perceptions of certain management practices and organizational outcomes. The employee survey is based on the Malcolm Baldrige National Quality Award criteria.

Each state Department of Revenue that participates in the employee survey will receive immediate feedback in the form of a written report analyzing the results of their employee survey. The report will also compare each participating department's scores with the mean scores for all the departments participating in the employee survey. I hope this information will be useful in helping departments to determine whether their employees understand and support ongoing management practices. Like the short survey, all data from the employee survey will remain anonymous with no participating state Department of Revenue ever specifically identified in any form.

If you would like more information about participating in the employee survey, just complete the requested information at the end of the short survey form, or you can contact me at 919-807-2788 or by email at afrazier1@nc.rr.com.

Thank you for your cooperation.

Sincerely,

Andy Frazier

Enclosures

Preliminary Survey Results

When was the last time your department reviewed and updated its strategic plan?	Frequency	Percent
More than 3 years	4	10.3%
Less than 3 years	4	10.3%
Less than 2 years	5	12.8%
Less than 1 year	25	64.1%
Other	1	2.6%

How often do your senior managers review quantifiable measures to track the department's performance?	Frequency	Percent
Never	1	2.8%
More than once a month	2	5.6%
Monthly	9	25.0%
Quarterly	9	25.0%
Bi-annually	5	13.9%
Annually	8	22.2%
Other	2	5.6%

How often does your senior management review of quantifiable performance measures lead to changes in how results are achieved?	Frequency	Percent
Seldom	1	2.4%
Sometimes	20	47.6%
Frequently	11	26.2%
Don't Know	4	9.5%

How often do you seek feedback (e.g. surveys, focus groups) from citizens to determine their satisfaction with your department's services?	Frequency	Percent
Never sought feedback	2	4.8%
We have but not with any regularity	17	40.5%
At least once every two years	10	23.8%
At least once a year	13	31.0%

How often do you seek feedback (e.g., surveys, focus groups) from your employees regarding their satisfaction with their work environment and other work-related issues?	Frequency	Percent
Never sought feedback	1	2.4%
We have but not with any regularity	18	38.1%
At least once every two years	9	21.4%
At least once a year	14	33.3%
Don't Know	2	4.8%

How satisfied are you that the key work processes within your department permit your employees to achieve their best performance?	Frequency	Percent
Very Dissatisfied	1	2.4%
Somewhat Dissatisfied	5	11.9%
Neither	3	7.1%
Somewhat Satisfied	13	31.0%
Satisfied	19	45.2%
Very Satisfied	1	2.4%

When was the last time you conducted an organizational quality assessment?	Frequency	Percent
More than 4 years ago	5	29.4%
Less than 4 years ago	1	5.9%
Less than 3 years ago	3	17.6%
Less than 2 years ago	2	11.8%
Less than 1 year ago	5	29.4%
Don't Know	1	5.9%

Comparison of Preliminary Results between Self-Selected Agencies and All Revenue Agencies

Does your department have a strategic plan?	All Revenue Agencies	Self-Selected Agencies
Yes	92.9%	100%
No	7.1%	0
Don't Know	0	0

When was the last time your department reviewed and updated its strategic plan?	All Revenue Agencies	Self-Selected Agencies
More than 3 years	10.3%	14.3%
Less than 3 years	10.3%	0
Less than 2 years	12.8%	28.6%
Less than 1 year	64.1%	57.1%
Other	2.6%	0

Has your department developed quantifiable performance measures to track key work processes and results?	All Revenue Agencies	Self-Selected Agencies
Yes	85.7%	100%
No	11.9%	0
Don't Know	2.4%	0

How often do your senior managers review quantifiable measures to track the department's performance?	All Revenue Agencies	Self-Selected Agencies
Never	2.8%	0
More than once a month	5.6%	0
Monthly	25.0%	14.3%
Quarterly	25.0%	42.8%
Bi-annually	13.9%	0
Annually	22.2%	42.9%
Don't Know	5.6%	0
Other	2.8%	0

How often does your senior management review of measures lead to changes in how results are achieved?	All Revenue Agencies	Self-Selected Agencies
Never	0	0
Seldom	2.8%	0
Sometimes	55.6%	71.4%
Frequently	30.6%	14.3%
Don't Know	11.1%	14.3%

How often seek feedback from citizens to determine their satisfaction with department's services?	All Revenue Agencies	Self-Selected Agencies
Never	4.8%	0
Irregularly	40.5%	42.9%
At least once every two years	23.8%	14.3%
At least once every year	31.0%	42.9%
Don't Know	0	0

How often seek feedback from employees regarding their satisfaction with work environment and other work-related issues?	All Revenue Agencies	Self-Selected Agencies
Never	2.4%	0
Irregularly	38.1%	42.9%
At least once every two years	21.4%	0
At least once every year	33.3%	57.1%
Don't Know	4.8%	0

How satisfied are you that key work processes within your department allow employees to achieve best performance?	All Revenue Agencies	Self-Selected Agencies
Very Dissatisfied	2.4%	0
Dissatisfied	0	0
Somewhat Dissatisfied	11.9%	14.3%
Neither	7.1%	0
Somewhat Satisfied	31.0%	42.9%
Satisfied	45.2%	28.6%
Very Satisfied	2.4%	14.3%

Completed a department-wide organizational assessment using Baldrige criteria or something similar?	All Revenue Agencies	Self-Selected Agencies
Yes	40.5%	42.9%
No	47.6%	57.1%
Don't Know	11.9%	0

If you have completed assessment, when was the last time it was conducted?	All Revenue Agencies	Self-Selected Agencies
More than 4 years ago	11.9%	14.3%
Less than 4 years ago	2.4%	0
Less than 3 years ago	7.1%	14.3%
Less than 2 years ago	4.8%	0
Less than 1 year ago	11.9%	14.3%
Don't Know	2.4%	0

Has your department ever applied for a quality award?	All Revenue Agencies	Self-Selected Agencies
Yes	35.7%	28.6%
No	54.8%	57.1%
Don't Know	9.5%	14.3%

Has your department ever won a quality award?	All Revenue Agencies	Self-Selected Agencies
Yes	42.1%	66.7%
No	44.7%	16.%
Don't Know	13.2%	16.7%

Draft Advance Notice Memo

One week from today, an electronic survey will be emailed to all employees in the department.

Andy Frazier, a doctoral candidate in public administration at North Carolina State University, developed the survey for his dissertation. The purpose of this survey is to get the opinions of employees working with state revenue departments about their department's management practices.

Our survey results will be shared with us, so I encourage each of you to take the time to complete it. We have agreed to participate in Andy's study because we believe the results will be helpful in identifying opportunities where we can make improvements, and your participation will help make the results more accurate.

The electronic survey will be sent to you by email on (day and date) and you will access the survey by simply clicking a URL-embedded address. You will answer questions by clicking a response and once you have completed the questions, you'll click the "Submit" button at the end of the survey. The survey should take you no more than 20 minutes to complete.

Be assured that the survey is entirely anonymous. A third party outside the department collects your responses to the survey. Consequently, no one in the department will see your individual responses. However, if you still have concerns, a copy of the survey will be made available to you to print out on hard copy, complete and mail to the address indicated on the survey form.

If you have any questions, you can contact

MANAGEMENT PRACTICES SURVEY

Survey Instructions

The purpose of this survey is to get your opinions about your department's management practices and its impact on your department's effectiveness. There are 47 questions in this survey that require a response. For each of the 44 statements listed under "survey items" please tell us whether you: 1=*Strongly Disagree*, 2=*Disagree*, 3=*Neither Disagree or Agree*, 4 =*Agree*, or 5=*Strongly Agree*.

Confidentiality – The survey is anonymous. No one in your department will see your responses to the survey. Also, your responses will be combined with others in your department and the results reported in the aggregate.

Definitions – please use the following definitions when responding to the items in the survey:

Division: refers to a sub-unit of the department.

Goals and Objectives: goals refer to a future condition or performance level that an organization and its people plan to achieve. Objectives refer to intermediate points that allow an organization and its people to determine whether they are on track to accomplish their goals.

Immediate Supervisor: refers to the person who you report to and who is responsible for your performance evaluation.

Long-term Direction: refers to the department establishing a few broad goals that tell it and its people the general direction they are moving toward over a multi-year period.

Quantifiable Measures: refers to numerical information that quantifies input, output, and performance dimensions of processes, products, services and the overall organization (outcomes).

Senior Executive: refers to the department's senior management group or team. Typically, this includes the head of the department (e.g., Secretary, director) and his or her direct reports.

General

1. Position: Senior Executive
 Manager
 Front-line Supervisor
 Non-supervisor
 Other _____

2. Work Unit: Executive Administration (senior executives and staff)
 Support Administration (i.e., Budget, Information Technology, Human Resources, Communications)
 Tax Administration
 Other _____

3. Location: Headquarters
 Regional or District Office
 Other _____

Survey Items

Please circle a number for each statement below.		1 = Strongly Disagree 2 = Disagree 3 = Neither Agree or Disagree 4 = Agree 5 = Strongly Agree				
1.	Taxpayers are more pleased with our services this year <i>than</i> last year.	1	2	3	4	5
2.	Procedures necessary to do my job <i>do not</i> involve unnecessary steps.	1	2	3	4	5
3.	I can expect to receive rewards other than money if I perform exceptionally well.	1	2	3	4	5
4.	Developing the skills of all employees is a priority for managers and supervisors.	1	2	3	4	5
5.	My co-workers and I work well together to accomplish goals and objectives.	1	2	3	4	5
6.	Promising ideas and suggestions made by employees are implemented.	1	2	3	4	5
7.	We routinely seek input (e.g., surveys, focus groups, advisory groups) from taxpayers about our services.	1	2	3	4	5
8.	Senior executives routinely give feedback to employees on the performance of our department.	1	2	3	4	5
9.	We use quantifiable measures to <i>routinely</i> track our performance.	1	2	3	4	5
10.	My co-workers and I work in groups to solve problems.	1	2	3	4	5
11.	Senior executives have set a long-term direction for the department.	1	2	3	4	5
12.	We use quantifiable measures to make decisions about our work.	1	2	3	4	5
13.	Our use of quantifiable measures has improved cooperation and coordination with <i>other</i> divisions in the department.	1	2	3	4	5
14.	I spend time thinking about how to improve my work processes and/or procedures.	1	2	3	4	5
15.	Performance expectations for my work have been clearly communicated to me.	1	2	3	4	5
16.	We take taxpayer complaints very seriously and we act to resolve them in a <i>timely</i> fashion.	1	2	3	4	5
17.	Recognizing employees' for their achievements are important activities for managers and supervisors.	1	2	3	4	5
18.	Managers and supervisors encourage employees to simplify and streamline their work processes <i>and/or</i> procedures.	1	2	3	4	5
19.	In general, I am satisfied with my job.	1	2	3	4	5
20.	The work that employees do is clearly tied to their division's long-term goals and objectives.	1	2	3	4	5
21.	We use taxpayer input to improve our services.	1	2	3	4	5
22.	My co-workers and I regularly look for ways to improve our work processes <i>and/or</i> procedures.	1	2	3	4	5
23.	The needs of employees in <i>other</i> divisions or work units are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	1	2	3	4	5
24.	All employees participate in developing their division's long-term goals and objectives.	1	2	3	4	5
25.	Our use of quantifiable measures has improved communication with <i>other</i> divisions in the department.	1	2	3	4	5
26.	I am involved in decisions that affect my work.	1	2	3	4	5
27.	Improvements in my division's processes <i>and/or</i> procedures have resulted in improved services.	1	2	3	4	5

Please circle a number for each statement below.		1 = Strongly Disagree 2 = Disagree 3 = Neither Agree or Disagree 4 = Agree 5 = Strongly Agree				
28.	I am learning and developing skills that improve my work.	1	2	3	4	5
29.	The needs of our <i>taxpayers</i> are taken into consideration when we make improvements to our most important work processes <i>and/or</i> procedures.	1	2	3	4	5
30.	Immediate supervisors share the same goals and values as the senior executives.	1	2	3	4	5
31.	My co-workers and I work well with employees from <i>other</i> divisions or work units to accomplish goals and objectives.	1	2	3	4	5
32.	The process for accomplishing work permits my co-workers and I to achieve our best performance.	1	2	3	4	5
33.	I receive enough recognition for the work that I do.	1	2	3	4	5
34.	The quantifiable measures we use have led to changes in <i>how</i> we achieve results.	1	2	3	4	5
35.	Taxpayers can easily make complaints about our services.	1	2	3	4	5
36.	Management routinely seeks the opinions of employees on issues related to their job and their work environment.	1	2	3	4	5
37.	The morale in my division or work unit is generally good.	1	2	3	4	5
38.	Each division in the department establishes goals and objectives that support the department's long-term direction.	1	2	3	4	5
39.	I can expect to receive a pay raise or bonus if I perform exceptionally well.	1	2	3	4	5
40.	I get regular feedback from my immediate supervisor that helps me to improve my work.	1	2	3	4	5
41.	Over the last year, there has been measurable improvement in the way we deliver services.	1	2	3	4	5
42.	Improving taxpayer access to our services is an important priority for our department.	1	2	3	4	5
43.	Management seeks the opinions of employees on the long-term direction of the department.	1	2	3	4	5
44.	I can make decisions about my work without first checking with my immediate supervisor.	1	2	3	4	5

Thank you for completing the survey!