ABSTRACT

AYERS, REBECCA SUZANNE. Looking for Results: Implementing Federal Agency Strategic Plans through Performance Appraisal Programs.

The use of performance appraisal programs as a management control tool for implementing organizational goals is important for increasing organizational performance. The extent to which performance appraisals align with and employees understand how their work relates to the strategic plan goals of an organization can determine successful implementation. This research examines the extent to which Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment and to what extent and under what conditions performance appraisal goal alignment supports the successful implementation of strategic plans in a Federal agency.

Two aspects of goal alignment were explored: embedding strategic plan goals in performance plans and employee knowledge of how their work relates to the agency's goals and priorities. Successful goal alignment was measured through program performance. This research used the U.S. Office of Management and Budget's Program Assessment Rating Tool section four "Program Results" ratings as independent ratings of program performance. Data for this research also came from the U.S. Office of Personnel Management's Performance Appraisal Assessment Tool and the Federal Human Capital Survey, and independent ratings of Federal agency strategic plans.

Results of the analysis indicate first, when measuring performance appraisal plan alignment, leadership support of the program is a key determining factor. Communication of the organization's goals, the climate fit for achieving results, and if the strategic plan was written for the agency program are predicting factors to employee alignment. Second,

employee alignment is significantly related to program performance while performance appraisal plan alignment is not. When testing the modifying effects of an overall quality performance appraisal, there is a significant interaction between performance culture and performance appraisal plan alignment and employee alignment as it relates to program performance. The relationship between goal alignment and program performance is stronger under conditions of low performance culture.

The results reaffirmed the important role of goal alignment to program performance. This study also helps to unpack further the "black-box" that management capacity, especially human resources management, is important to organizational performance and effectiveness.

Looking for Results: Implementing Federal Agency Strategic Plans Through Performance Appraisal Programs

by
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DEDICATION

For my husband, Chris.

BIOGRAPHY

Rebecca Ayers received her bachelor's degree in Foreign Affairs from the University of Virginia in 2000 and her master's degree in Transatlantic Studies from the University of Bath, England in 2002. After completing her master's degree, she began her Federal career as a 2003 Presidential Management Fellow at U.S. Office of Personnel Management (OPM). During her two-year fellowship, Rebecca worked as a Human Resources Specialist with the OPM Central HR on strategic human capital planning and 45-day recruitment model projects for internal OPM initiatives. In 2004, Rebecca moved to Raleigh to work with OPM's Raleigh Services Branch (now Mid-Atlantic Services Branch) where she managed workforce and succession planning projects for other Federal agencies.

Rebecca began the Ph.D. program at North Carolina State University as a part-time student in Fall 2006. Her research interests and pursuits include public management, performance management, and strategic planning. Rebecca continued to work fulltime with OPM, transitioning into a new position as a Plans and Programs Management Analyst. In that role she served as the Performance Accountability Officer for Center for Talent Services (CTS) and coordinated all program evaluation and performance planning for CTS. Rebecca currently serves as a Supervisory Management Analyst for the Plans and Strategy Section in OPM's Human Resources Solutions (HRS) division. She is responsible for managing strategic and business planning, program evaluation, operational and strategic information technology and space planning for all of HRS. Rebecca is fortunate to benefit from OPM's workforce flexibilities as a fulltime teleworker in North Carolina. She and her husband, Chris, reside in Apex.

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CHAPTER 1: INTRODUCTION

Since the Government Performance and Results Act of 1993 (GPRA) legislated that Federal agencies should develop 3-to-5 year strategic plans, strategic planning has become commonplace in the Federal government. Every agency and most sub-agency components have polished, branded strategic plans. Agencies eloquently state their mission statements beside pictures of smiling employees. The formatting of each plan is branded according to culture and mission of the agency. The Environmental Protection Agency plan "charts its course" on a soothing green and purple background with beautiful scenes from nature while the Department of State plan presents its strategies for "security, democracy, and prosperity" on a clean blue background and world globe designs. Management academics and practitioners alike have analyzed and discussed the strategic planning process. Both within the private and public administration sectors, much has been written and analyzed regarding strategic planning, its benefits (Eadie, 1983; Bryson, 2003), limitations (Halachmi, 1986; Mintzberg, 1994), proper forms (Bryson, Freeman, & Roering, 1986; Bryson, 2003), adoption (Berry, 1994; Berry & Wechsler,1995), and impact on organizational performance (Poister & Streib, 2005; Shrader, Taylor, & Dalton, 1984; Ramanujam, Venkatraman, & Camillus, 1986; Miller, & Cardinal, 1994).

Little attention, if any, has been paid to one particular result of all this strategic planning: how can its goals and objectives be successfully implemented throughout an agency? For Federal agencies the tangible outcome of strategic planning is a written document; a strategic plan proudly posted on the agency's website, distributed to employees

and seldom reviewed by either line-level employees or the general public. These written plans, however, represent careful analysis of the agency and its future direction and ultimately a strategic roadmap for improving organizational performance.

Limited studies on the strategic planning process within Federal agencies have revealed that agencies approached the policy directive to develop a strategic plan differently. For some it was another management exercise to "check the box" while others saw it as an opportunity to think differently about the agency (Franklin, 2001). Long and Franklin (2004) discovered the actual use of the documents differs among agencies. While the agencies developed the documents, they did not all use them (strategic plans, performance plans and reports) for their intended use in management and budget planning. Some agencies used them to educate stakeholders, but most internalized the use of the strategic plan to meet organizational challenges. As Long and Franklin suggest, these limited findings support institutional theory's argument that organizations will conform to external mandates to gain legitimacy to appear efficient to external observers while internal activities remain separate from the external façade (Scott, 1987; Cavalluzzo & Ittner, 2004). As a result, organizations may implement the external mandates but follow through with little accountability on the part of employees.

Research Problem

The actual value of strategic planning and its ensuing goals and objectives are to help enhance organizational performance. The fundamental purpose of the GPRA was to reform Federal government management and to make agencies and their programs more accountable and results-oriented. Congress's focus on strategic planning as a results-oriented

management tool is simple. The planning-performance link is a relationship well-established among practitioners and academics (Shrader, Taylor, Dalton, 1984; Miller & Cardinal, 1994). While often couched in the realm of contingency modeling, the planning-performance model states that strategic planning positively affects performance. If agencies could begin to think and plan strategically, government program performance would improve. Now over ten years removed from the release of the first agency strategic plans, program improvement has been mixed. Since 2002, the U.S. Office of Management and Budget (OMB) has assessed Federal agency program performance through the Program Assessment Rating Tool (PART). Using a 5-point effectiveness scale, OMB found that only 19% of the 1,017 programs assessed were rated in the top tier of "Effective." If strategic plans are an important management tool for improving program effectiveness, evidence of its success in Federal agencies is clearly lacking.

Strategic plans are only valuable to an organization to the extent they are effectively implemented (Eadie, 1983; Bryson, 2003). Strategic plan goals, objectives, and action items can only become real outcomes through operationalization and implementation. Unfortunately, it has been this next step of implementation that Federal agencies (and the private sector) seem to struggle with the most. Long and Franklin (2004) found the problem to be that the GRPA legislation requires a top-down one-size-fits-all policy direction to mandate a bottom up implementation approach. In general, when trying to explain the strategy implementation problem, public and private executives have identified a variety of reasons, among which include lack of detail in implementation tasks and duties and clearly defined roles and responsibilities of key employees (Alexander, 1985). Several researchers

(Kaplan & Norton, 1992; Lynch & Cross, 1995; Atkinson, 2006) have suggested better control of the strategy implementation process through performance measures or a balanced scorecard approach. Others suggest strategic planning is ultimately a piece of an organization's overall strategic management and should incorporate management control tools for implementation (Noble, 1999; Jaworski & McInnis, 1989; Jaworski et al, 1993).

The Importance of Goal Alignment

This research hypothesizes that performance appraisal systems can be a management control tool for successfully implementing strategic plans and increasing organizational performance. The extent to which performance appraisals align with the strategic objectives of an organization can determine successful implementation. A U.S. Government Accountability Office (GAO) report recently suggested a key to improving government through performance information is to create a "clear line of sight linking individual performance with organizational results" (U.S. Government Accountability Office, 2008). A results-oriented government requires greater accountability to produce results and improve program performance. An agency must ultimately hold its employees accountable to achieve intended results, but those employees must know and agree to the standards and outcomes to which they are being held accountable.

Performance appraisal systems are a management control mechanism for both informing and holding individual employees accountable (Daft and Macintosh, 1984). If performance appraisal systems align with the agency strategic plan and ensure key goals and objectives are embedded in performance standards, then the more likely employees will understand and contribute to the effort of achieving the key goals and objectives. Goal

setting theorists hypothesize if employees can see how their work contributes to achieving organizational goals, they are more likely to see their work as meaningful and adjust their performance accordingly (Locke and Latham, 2002). It is through this knowledge of and accountability for the strategic plan goals that the strategic plan and its elements will be implemented. As this research demonstrates, goal alignment is significantly related to increasing program performance.

However, not all agencies are likely to implement performance appraisal alignment. Federal programs differ in the degree to which managers clearly link employee performance appraisals to strategic goals. This research also posits that organizational and strategic plan factors can increase the probability that an organization will have performance appraisal alignment. Implementation literature indicates multiple factors such as resources, leadership support, climate fit, management guidance, and communication can predict if an agency is able to implement performance appraisals that align with strategic plan goals as an innovative management tool. The characteristics of the strategic plan itself also influence performance appraisal alignment. To achieve performance appraisal alignment, the agency must develop its strategic plan in a way that objectives can be operationalized to meet the goals.

Moreover, simple goal alignment of strategic plan goals with performance appraisals is not enough to increase organizational performance. Not all agencies are on equal ground with performance appraisal programs. This research posits that the capacity and quality of the performance appraisal program elements can influence the relationship between alignment and program performance. For example, agencies must hold employees

accountable for achieving results in their performance plans and there must be rewards for action and consequences for non-action (Kellough, 2006). Other best practices in effective performance appraisals include employee involvement in the development of the performance standards, employee and supervisor training for the performance appraisal program, development of credible measures, frequent feedback on performance, and perceived fairness of the appraisal process. Whereas alignment with strategic plan goals can help to increase organizational performance, it is the quality of the performance appraisal system that can improve that performance.

Research Questions

This research examines how agencies can use performance appraisals as a management tool for implementing agency strategic plans. It begins by examining organizational and strategic plan factors that lead to performance appraisal alignment with strategic plan goals. Second, it examines how alignment of strategic plan goals with performance appraisals and the overall quality of the performance appraisal program can influence organizational performance. This research overall hypothesizes 1) agency performance appraisal systems are an important management tool for implementing strategic plan elements and 2) there is a positive relationship between the alignment of performance appraisals to organizational goals and increased program performance. More specifically, the ability of an agency's performance appraisal systems to align strategic plan goals makes a difference in effectively implementing strategic plans. This research asks: 1) To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? 2) To what extent and under what conditions does

performance appraisal goal alignment support the successful implementation of strategic plans in a Federal agency? (Table 1 introduces the hypotheses to support these research questions).

Out of the research questions and literature, several models for this research emerge (graphically presented in Figure 1). The first model evaluates the relationship between goal alignment and program performance, using two separate conceptualizations of goal alignment: performance appraisal plan alignment and employee knowledge alignment. The second model evaluates which organizational factors and strategic plan characteristics increase the probability that a program will align strategic plan goals within performance appraisals. The independent variable measures goal alignment in two ways: first as actual embedding of strategic plan goals into employee performance plans, and second, employee knowledge of how their work relates to the agency's goals and priorities. The second model tests the relationship between the independent variables of communication, leadership support, climate fit, management guidance, and strategic plan characteristics with the dependent variable of performance appraisal goal alignment and employee knowledge alignment while controlling for program size, regulatory status, and if the strategic plan was written directly for the agency program. Results of the analysis indicated first, that when measuring performance appraisal alignment, leadership support of the program is a key determining factor. When measuring employee alignment, communication of the organization's goals, the climate fit for achieving results and differences in performance are recognized, and if the strategic plan was written directly for the agency program are predictive factors.

The third model evaluates to what extent and under what conditions does the alignment of strategic plan goals with performance appraisals positively impact program performance. The third model anticipates that strategic plan goal alignment with performance appraisals positively influences program performance; however, the quality of the performance appraisal program can positively moderate the relationship. The dependent variable for the third model is program performance (same as the first model) and the independent variable, goal alignment, is again measured in two ways: performance appraisal alignment and employee alignment.

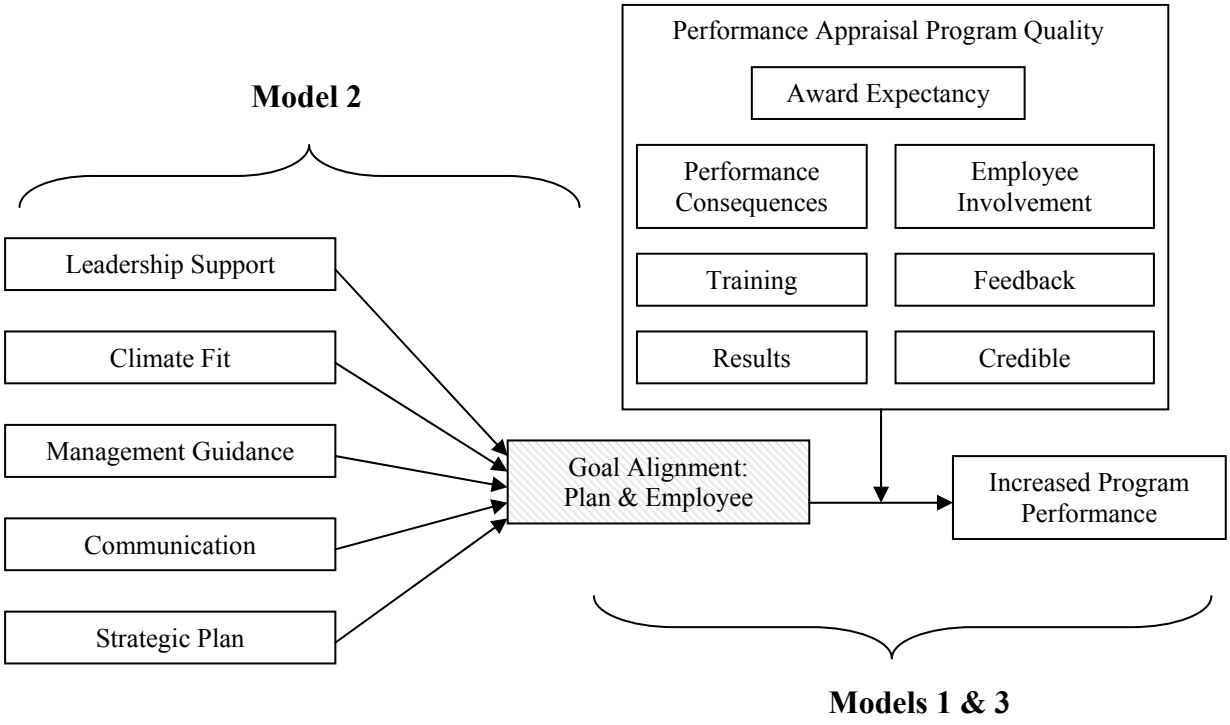


Figure 1: Overall Research Model

The results from the first model indicated that employee alignment is significantly related to program performance while performance appraisal alignment is not. When testing

the modifying effects of an overall quality performance appraisal, there is a significant interaction between performance culture and performance appraisal alignment and employee alignment as it relates to program performance. At low levels of performance culture, it significantly and positively moderates the relationship between performance appraisal and employee alignment and program performance. These results, further developed and presented in the following chapters, provide insight into the role of goal alignment and performance appraisal programs as a management control and implementation tool.

Table 1: Research Models and Associated Hypotheses

Model 1: Goal Alignment – Program Performance
Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.
Hypothesis 2: Employee knowledge of how their works relates to strategic plan goals will be positively related to program performance.
Model 2: Organizational Factors and Strategic Plan Characteristics – Goal Alignment
Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.
Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.
Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Model 3: Goal Alignment – Quality Appraisal Program – Program Performance
Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.
Hypothesis 9: Employee knowledge of how work their relates to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.

The models for these research questions are embedded in the literature of organizational performance, strategy implementation, strategic planning, and performance appraisal systems. Borrowing from implementation literature, successful implementation is usually measured by use of the innovation (conceptualizing alignment between strategic plans and performance appraisals as a management innovation) and effectiveness of the implementation (Alexander, 1985; Klein & Sorra, 1996). Looking specifically at strategic planning implementation, Bryson (2003) states that implementation's purpose is to transition from strategic planning to strategic management by incorporating adopted strategies throughout the relevant systems. Management control systems, such as performance appraisal systems, are one of the key factors in successful strategy implementation (Daft and Macintosh, 1984; Jaworski & McInnis, 1989; Jaworski et al, 1993).

Results-based management practitioners and academics tie the strategic plan to the overall performance management system as the first step in creating a results-based management system (Osborne & Gaebler, 1992; Peters & Waterman, 1983). Strategic planning helps organizations proactively plan and set goals and objectives to guide the organization's long-range direction. An organization's performance management system tracks the strategic plan's goals and objectives on a short-term basis (usually in one year increments compared to the three to five year strategic plans). Through the performance management system, divisions, units, offices, individuals, and the whole organization are held accountable for achieving results, or the intended outcomes of the goals and objectives. One of the major tools within the performance management system is the performance appraisal system. Through the performance appraisal systems, individuals are held

accountable for achieving organizational goals. When Bryson (2003) speaks of successful implementation through an organization's relevant systems, he is referencing those systems that promote accountability through action.

While practitioners and academics draw the link from the strategic plan down to the individual performance appraisal, the connection has not been thoroughly tested. For one, there are a variety of types of performance appraisal systems, from trait-based systems to behavior-based systems. Generally, results-based management proponents believe Management by Objective (MBO) or Assessment by Objective (ABO) to be the best systems for ensuring accountability and results-oriented outcomes by individuals. These types of systems directly link an individual's activities to the overall objectives of the organization. Usually the key components are measurable goals and activity objectives for individuals set through negotiation between the individuals and their bosses. This linkage, or direct alignment, between organizational goals and individual goals is the key component to successful implementation; however, that single key component alone cannot ensure successful outcomes.

Many other factors influence the effectiveness of a performance appraisal program in addition to whether its measures are trait-based, behavior-based, or objective-based. In 2006, OPM identified ten dimensions they considered necessary for developing a results-oriented performance culture in any organization. The first three dimensions resemble MBO and ABO systems: performance appraisals should align with and support organizational goals, employees should be held accountable for achieving results, and performance appraisal plans should have credible measures that demonstrate expected results. In addition to these three

dimensions, distinctions in levels of performance, consequences, employee involvement, feedback and dialog, training, organizational assessment and guidance, and oversight and accountability are equally important dimensions in an effective performance appraisal program.

Legislative Requirements

Most Federal agencies are required by law (5 U.S.C § 430) to implement at least one appraisal program applicable to the agency appraisal system (government corporations, intelligence agencies, and GAO are excluded from 5 U.S.C § 430).[1] Agency appraisal system must be approved by OPM, but individual appraisal programs only need to meet the requirements in Title 5. Title 5 provides minimum instructions for agency on what should be included in the performance appraisal program. Title 5 requires agencies to have an appraisal period of at least 12 months, ensure each employee is covered by an appropriate written performance plan based on work assignments which includes at least one critical element, and establish performance levels with at least two levels one being "Fully Successful" or its equivalent and another level being "Unacceptable." Additionally, agencies must provide individual performance ratings soon after the end of the appraisal period. Title 5 does provide the types (or patterns) of summary levels an agency can incorporate in the performance plans (5 U.S.C § 430.208 (b)).

Table 2 presents the summary level patterns described in the U.S. Code and includes the current distribution of Federal agency programs that use a particular pattern. Agency

[1] Several other agencies (DHS, DOD, IRS, and financial agencies commonly referred to as FEIRREA agencies) may be excluded from Title 5 by their own performance appraisal enabling or authorizing legislation. DHS is not exercising those flexibilities for now.

programs have discretion to develop titles for summary levels 2, 4, and 5. Beyond these requirements, agencies have the discretion to implement a trait-based, behavioral-based, or objective-based program(s) and to what degree they implement the additional dimensions OPM identified as important for an effective performance appraisal program.

Table 2: Title 5 Summary Level Patterns and Current Agency Program Distribution

5 U.S.C § 430.208 (b) Pattern	Summary level					Current Agency Program Distribution*	
	1 Unacceptable	2	3 Fully Successful	4	5 Outstanding	Number	Cumulative Percent
A	X		X			4	3.4
B	X		X		X	9	11.1
C	X		X	X		4	14.5
D	X	X	X			2	16.2
E	X		X	X	X	15	29.1
F	X	X	X		X	6	34.2
G	X	X	X	X		2	35.9
H	X	X	X	X	X	75	100.0

Note: *Current Agency Program Distribution includes agency programs covered under the PAAT, excludes Senior Executive Service programs. Does not represent total Federal agency programs. Source: U.S. Office of Personnel Management.

Prior to 1993, only a handful of Federal agencies incorporated strategic planning as a management practice and produced agency-wide strategic plans. All Federal agencies are now required under the GPRA legislation (Public Law 103–62, 107 Statue 285) to produce a strategic plan. The central features of GPRA are simple: 1) agencies are required to prepare three to five year strategic plans and submit them to OMB; 2) agencies are required to prepare annual performance plans establishing specific performance goals; 3) agencies are required to submit an annual performance report to Congress. GPRA also requires OMB to submit an annual government-wide performance plan. Section 3 specifically outlines the key

tenets of the strategic plans: Agency strategic plans must have a mission statement, general outcome-related goals and objectives, a description of how the goals and objectives will be achieved, a description of how performance goals relate to the goals and objectives in the plan, an external analysis of factors impacting the achievement of goals and objectives, and a description of the program evaluation to establish or evaluate the goals and objectives. All agency performance plans must align with the strategic plan and agencies must consult Congress and other stakeholders in the development of the plan.

Since its debut, GPRA has generally received positive reviews for its foundational results-oriented agency planning, measuring and reporting. It has taken agency administrators over 10 years to incorporate the key tenets of planning and performance measurement into the organizational cultures of agencies. Agencies consistently collected performance data prior to GPRA, but almost never used the information to make strategic policy decisions concerning the whole agency (U.S. Government Accounting Office, 1992).

Research Data Sources

This quantitative study used data gathered by OPM on over 100 different Federal agency performance appraisal programs and by OMB on over 1000 different agency program outcomes. In 2006, OPM developed a tool, the Performance Appraisal Assessment Tool (PAAT), to help agencies assess their performance management programs' ability to be results-focused. The purpose of the tool is to help agencies created result-oriented performance culture. The tool rates programs across 10 different dimensions related to performance appraisal system capacity to support results-focused high-performance cultures. Key to this results-focused orientation is alignment, or embeddedness, of organizational

goals in employee performance plans. PAAT rates agency programs on a scale of 1 to 100. Agencies with a score of 80 or more are considered to have programs that are results-oriented. To date, only 34% of the 142 programs have scores of 80 or more. Similarly, as mentioned previously, OMB has been using a tool, Program Assessment Rating Tool (PART), to assess the performance of Federal programs to hold the programs accountable for improvement. The PART rates agency programs' effectiveness on the dimensions of program purpose and design, planning, management, and results. These two data sources (discussed in more detail in Chapter 3) were used to analyze factors for strategic plan implementation through performance appraisal plans and the relationship between strategic plan alignment in performance appraisal plans and program performance.

Why this Research Matters

The question "Does management matter" has riddled public management scholars in their attempt to empirically demonstrate the connection between management and organizational performance and effectiveness. Different scholars have approached this question in different ways. Robert Behn (1995) proposed three big questions for public management – 1) micromanagement: how can public managers break the micromanagement cycle of excessive rules?, 2) motivation: how can public managers motivate employees?, and 3) measurement: how can public managers measure the results of agency actions? In the same vein, this research provides answers to the questions of how public managers can improve agency performance through strategic planning. Performance appraisal systems are more than just a tool to appraise employee behavior and actions. They are a tool to implement actionable policy or administrative directives such as strategic plans. This

research can be generalizable to serve as a model for diffusion and implementation of other administrative plans for Federal agencies or public organizations such as strategic human capital plans, succession plans, and emergency/contingency plans.

This research also addresses the question of how agencies can use strategic plans, a management tool, to monitor and improve performance. If select organizational factors and strategic plan characteristics account for variance in successful implementation, the result can help explain a large part of strategic plan effectiveness in terms of actual implementation and usage of plan (not necessarily the quality of the plan). This research contributes to the growing literature in goal alignment, strategy implementation, and strategic planning.

Finally, this research contributes to understanding processes within public sector management. The "black box" theory of government argues that better specification of management capacity is needed to understand performance (Ingraham, Joyce, & Donahue, 2003). Capacity refers to the government's ability to maneuver, direct and control its human, capital and information resources to achieve its policy directives. Government management has been a "black box" for researchers trying to understand the relationship between resources (inputs) and performance results (outcomes) (Ingraham & Donahue, 2000). Human resources management is among the generic systems that compose management capacity that is identified for understanding performance. Use of performance appraisals as a human resources management tool can help bring some clarity to understanding the government's obscure processes.

Organization of Chapters

Chapter 1 served as a primer, introducing the research problem, questions, and highlighted the outcomes of the two research models. First, a brief overview of agency strategic planning, legislative support, and purpose of strategic planning were offered. Second, the use of performance appraisals as an implementation tool was briefly described as an introduction to the two research questions. Then the two models associated with the research questions and results of the models were presented. To support the overall research, the literature for understanding effective performance appraisal factors that can influence performance outcomes and factors that lead to alignment of strategic plan goals with performance appraisals was also outlined. The legislative requirements for performance appraisal systems and strategic plans were introduced. Finally, a brief discussion of why this research matters fitted the overall research questions into Public Administration literature and practice.

Chapter 2 provides the theoretical grounding for the research questions and models. First, the chapter offers an overview of strategic planning and strategic implementation literature. Second, the dependent variable, program performance, is introduced. The next two sections offer a literature review of the two models: how alignment serves as the linking pin, how organizational factors and strategic plan characteristics can predict alignment of strategic plan goals with performance appraisals, and how performance appraisal program quality influences the relationship between performance appraisal goal alignment and program performance. It concludes with a brief discussion of literature related to control variables and a recap of the hypotheses.

Chapter 3 outlines the research design and methodology used to test the research questions. The chapter primarily focuses on the data sources, sampling, secondary instrumentation, data screening, and variable operationalization. The chapter concludes with a discussion of the statistical methods used.

Chapter 4 details and discusses the results of the first model tested: Goal Alignment – Program Performance. The chapter reviews the first two hypotheses and the basis for the entire model (as presented on 9). Using regression analysis it tests the relationship between the two conceptualizations of goal alignment, plan and employee alignment, and program performance. The results of the two analyses are discussed separately and then jointly.

Chapter 5 details and discusses the results of the second model tested: Organizational Factors and Strategic Plan Characteristics – Goal Alignment. The chapter reviews how the model relationship was tested using multiple regression and logistic regression analysis and the key significant findings of the model. Additionally it includes evidence with use of the control variables. The results of the two analyses are discussed separately and then jointly.

Chapter 6 details and discusses the results of the third model tested: Goal Alignment – Quality Appraisal Program – Program Performance. The chapter reviews how the model relationship was tested using factor analysis and the two multiple regression analyses to examine the two conceptualizations of the predictor variable, goal alignment. It presents the key significant findings of the model. The results of the two analyses are discussed separately and then jointly.

Chapter 7 serves as the summary chapter. This chapter covers the discussion of the contribution of the results and the theoretical and practical implications. Included in the

discussion are the generalizations and limitations to the findings as a whole. Suggestions for future research are postured.

CHAPTER 2: REVIEW OF THE LITERATURE

The Government Performance and Results Act of 1993 (GPRA) has proven to be an enduring piece of legislative reform for the Federal Government. Over half a decade removed from GPRA, the U.S. Government Accountability Office (GAO) hailed GPRA as a success for its effort to link plans and budgets – that is, to link the responsibility of the executive to define strategies and approaches with the legislative "power of the purse" (U.S. Government Accountability Office, 1997). However, the success of legislating strategic planning remains to be seen (Franklin, 2001). The legislation has succeeded in producing multiple agency strategy plans. One can "Google" "Federal agency strategic plan" and see returns from Cabinet-level agency strategic plans to internal sub-agency, sub-department strategic plans. The plethora of strategic plans is only useful to Federal managers if the goals and objectives are properly implemented and diffused through the agency.

As outlined in Chapter 1, this research hypothesizes agency performance appraisal programs are an important management tool for implementing strategic plan elements and alignment of performance appraisals to organizational goals is positively related to increased program performance. More specifically, the ability of an agency's performance appraisal programs to align strategic plan goals makes a difference in effectively implementing strategic plans. As presented in Chapter 1 this research poses two questions: 1) To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? 2) To what extent and under what conditions does performance appraisal goal alignment support the successful implementation of

strategic plans in a Federal agency? This research uses the literature to support the hypotheses that performance appraisal systems are an effective tool for implementing strategic plans.

This chapter is organized into five major sections. The first section reviews relevant Federal agency strategic planning, strategic plan implementation, and strategy implementation to establish a background on this research topic and to discuss what is known about Federal agency strategic plan implementation. The second section discusses implementation effectiveness: program performance. This section reviews relevant literature surrounding program performance and measuring program performance. The third section outlines the overall underlying hypothesis that performance appraisal alignment with strategic plan goals is positively related to increased program performance. The fourth section focuses on organizational factors and innovation characteristics identified as important for implementing a management innovation within an organization. Alignment of strategic plan goals with performance appraisals is considered the management innovation. The last section introduces an index of performance appraisal quality using factors identified in effective performance appraisal programs. Remaining hypotheses are introduced as well as a literature review of control variables.

Strategic Planning and Strategic Plan Implementation

Strategic planning, both within the private and public sectors, is a well developed field. During the 1960s, the term "strategic planning" was coined and primarily private business and corporate leaders used it as a strategic management tool. The private sector strategic planning literature developed a dichotomy between "top down" and "bottom up"

approaches with each approach able to be prescribed to large or small organizations (McKiernan & Morris, 1994). Strategic planning stayed mainly in the confines of the for-profit sector until the early 1980s when its value became more evident within the public sector and it transitioned from only military organizations and statecraft to individual public organizations (Bryson, 2003). Scholars note changes in the market and policy environment (i.e. oil crisis, tax cuts, economic volatility, and reduction in federal grants and spending) during the 1970s led to the increased promotion and usefulness of strategic planning. As Eadie (1983) stated, until that time strategic planning had "barely penetrated the collective consciousness of the public sector" (p.447). Within the public sector, the basic methodology for strategic planning included comparing the desired or required outcomes with actual outcomes of current planning. The gap between current and desired outcomes identified where improvements and planning needed to occur. An agency's performance could then be based on successful accomplishment of closing the gap. Eadie provided one of the first practical guides for applying strategic planning in public organizations.

As strategic planning gained ground in business administration, public administrators began investigating its use in the public sector. Bryson, et al., (1986) analyzed the major schools or models of strategic planning for public sector organizational use. They found that while the private sector models are useful, these models do not tell users how to identify strategic issues or which strategies should be pursued. Researchers agree that the strategic planning steps for public organizations do not differ from private organizations; it is the outcomes and goals that differ (Bryson, 2003).

Introducing change through the planning process has been the greatest strength and weakness of strategic planning, especially for organizations accustomed to change occurring through disjointed incrementalism or "muddling through" (Bryson & Roering, 1988; Lindblom, 1979; Quinn, 1980). Strategic planning is a valuable tool for charting future directions, especially in changing environments (Poister & Streib, 1999). However, this management tool has not been without criticism. Mintzberg (1994) argued that strategic planning is a contradiction in terms because it is impossible to plan and be strategic simultaneously. Halachmi (1986) contended the goal formulation by public managers represents compromise and vague language while private managers can set goals free of compromising constraints. Hence, models or concepts that incorporate goals into the strategic planning are not as applicable to a public agency as a private organization.

Strategic planning found a home early on in state and local government administration. Diffusion and adoption of strategic planning has remained predominately at these levels (Bryson & Roering, 1988; Miesing & Anderson, 1991; Berry, 1994; Berry & Wechsler, 1995). Until GPRA, relatively no research examined the practice of strategic planning in Federal agencies. Likewise, once GPRA was legislated, it eliminated the need to examine adoption of strategic planning in Federal agencies. Research on Federal agencies has either centered on criticizing the fit and directive to have strategic plans (Roberts, 2000) or is coupled with research examining the application of GRPA as a whole (Radin, 2001). A few studies have actually investigated the process of strategic planning within Federal agencies, but these studies have focused on who participated in the strategic planning (Franklin, 2001) and stakeholder involvement and centralized versus decentralized

development (Long and Franklin, 2004). While Long's and Franklin's research comes closest to this research, they were primarily interested in how agencies went about the strategic planning, not necessarily what happened once the strategic plans were developed.

Strategic planning is also imbedded in discussions of strategic management (Poister & Streib, 1999) and strategic thinking (Mintzberg, 1994; Heracleous, 1998; Porter, 1991). Strategic management as an administrative function parallels and often intermingles with literature on strategic planning. To distinguish between strategic management and strategic planning, the general consensus is that strategic management constitutes the overall framework in which strategic planning takes place (Poister & Streib, 1999). The two are not identical processes, but strategic planning provides the strategies to be managed (Olsen & Eddie, 1982). This distinction is important for this research: implementation of strategic plans is generally viewed as a strategic management activity. That is, strategic management is more than just planning; it includes the execution and evaluation of the strategic plans.

Strategy Implementation

During the 1980s when strategic planning hit its stride, a few studies examined strategic planning implementation (Lorange, 1982), but most studies focused on strategy implementation in general (Alexander, 1985). Strategy implementation is a key component of strategic management. Strategy implementation is generally defined as "the communication, interpretation, adoption, and enactment of strategic plans" (p. 120, Noble, 1999). Following this vein of research, Nutt (1989) investigated the implementation of actual plans. Nutt identified conditions under which implementation tactics can be effective by examining four implementation tactics used by strategic managers: intervention,

participation, persuasion, and edict. He linked Lippitt and Mackenzie model tactics (six steps beginning with consultation and concluding with solving) to the four strategic implementation tactics to develop a decision tree framework for deciding which of the four tactics to use. Upon testing the framework for reliability and validity, Nutt found a 94 percent success rate when the implementation tactic recommended by the framework was used and a 29 percent success rate when another non-recommended tactic was applied. One of Nutt's four implementation tactics, participation, can also be linked to employee involvement in performance appraisal. Employee involvement in the performance appraisal process is cited as a critical perquisite to an effective performance appraisal (Longenecker & Fink, 1997).

While strategic formulation and planning caught on quickly as management tools, strategy implementation had a longer gestation period (Alexander, 1985; Noble, 1999). In fact, diverse perspectives regarding strategy implementation have resulted in a lack of cohesion in strategy implementation research (Noble, 1999). Strategy implementation has been seen as a process of monitoring and controlling organizational structure and key personnel actions (Hrebiniak & Joyce, 1984) converting strategy into an operating plan (Aaker, 1988), taking managerial actions to align organizational activities with strategies (Floyd & Woolridge, 1992), spelling policy decisions in operational detail and allocating resources (Laffan, 1983), to turning strategic plans into action assignments and ensuring actions are executed (Kotler, 1984).

In a review of the literature, Noble (1999) found strategy implementation research divides between structural views and interpersonal process views. Within the structural

view, research has focused on the effect of the formal organizational structure and control mechanisms on the implementation process and outcome. In addition to structure, interpersonal processes are likewise critical and can affect implementation. Interpersonal processes include research in strategic consensus, autonomous strategic behaviors, diffusionary processes, leadership styles and communication. These two overarching views and related subcomponents provide a basic organizing framework for understanding strategy implementation. The models proposed by this research lie predominately within the control mechanisms literature. Control mechanisms center on how to measure performance during and after implementation (Noble, 1999), and how the type of control mechanism strongly relates to organizational performance (Jaworski & McInnis, 1989; Jaworski et al, 1993). Daft and Macintosh (1984) reviewed the nature and use of management control systems in strategy implementation and defined organizational control cycle in three stages: 1) target setting, 2) measuring and monitoring, and 3) corrective action. The four most frequently used management control systems included budgets, statistical reports, policies and standard operating procedures, and performance appraisals, however, only performance appraisals appear in all three stages.

Additionally, Bryson (2003) stated that successful implementation represents the transition from strategic planning to strategic management by incorporating adopted strategies throughout the relevant performance management system. One of the relevant management systems for implementing strategic plans that has only been tangentially researched is performance appraisal systems. While the attributes of strategic planning have been debated, research on the result of strategic plan, and strategy implementation through

various management tools in empirical models is limited within public management literature.

Implementation Effectiveness: Program Performance

Innovation implementation effectiveness is usually demonstrated by a positive increase in organizational performance (Kline & Sorra, 1996; Bradford & Florin, 2003). Innovation effectiveness is described as the benefits an organization receives as a result of its implementation of a given innovation. Kline and Sorra (1996) outlined implementation results in three different outcomes: 1) effective implementation, enhances organization; 2) effective implementation, does not enhance the organization; or 3) implementation fails.

Organizational performance is a natural fit for examining the implementation effectiveness of strategic plans. The planning-performance link is well-established among practitioners and academics (Shrader, Taylor, Dalton, 1984; Miller & Cardinal, 1994). The planning-performance model demonstrates that strategic planning positively affects performance. However, organizational performance can be a complex variable to conceptualize. Frameworks for organizational performance can possibly use either a goal approach, a systems resource approach, or a constituency approach (Dess & Robinson, 1984). In the private sector, performance is traditionally conceptualized through revenue or sales growth. Public administrators often do not have this luxury and often struggle with how to conceptualize improved performance. Most agencies, regulatory agencies in particular, participate in preventative activities where it is difficult to measure performance outcomes. For example, how can agencies demonstrate if environmental disasters or terrorist's attacks were avoided (Brewer & Selden, 2000)? Research on performance differs

on what defines program success. Public stakeholders also disagree on performance outcomes such as whether program effectiveness is more important than efficiency or, which constructs most accurately demonstrate effective performance. Public agencies have many constituents and stakeholders that demand different performance conceptualizations (Boschken, 1994). Many public programs can only demonstrate improved performance through late outcomes which are often difficult to measure; it is also difficult to control for other influencing external factors.

Scholars have attempted to develop a model to explain organizational performance and generally agree that any model must be multidimensional (Wolf, 1993; Rainey & Steinbauer, 1999; Boyne & Dahya, 2002; Boyne, el al, 2002; Ingraham, Joyce, & Donahue, 2003). Brewer and Selden (2000) suggest a model of organizational performance in Federal agencies should include factors such as organizational culture, human capital performance and capacity, agency support for results-oriented programs, leadership and supervision, and red tape. Rainey and Steinbauer (1999) hypothesize that agency effectiveness is a construct of public service motivation, mission motivation, and task motivation. One of the first empirical frameworks presented for modeling government performance identified five clusters of variables that include resources, organization, markets, regulations, and management (Boyne, 2003). Typically scholars use dimensions of performance that are assumed to affect the subject in question. For example, when evaluating the Total Quality Management (TQM) – performance relationship, Boyne, el al (2002) focused on the TQM factors, such as quality of performance.

Attempts to develop multidimensional models usually focus on evaluating the organization's program effectiveness holistically; however, organizational performance also can be evaluated from the individual-level (Brewer & Selden, 2000). The individual-level evaluation focuses on using individual employee perceptions of organizational performance (Brewer & Selden, 2000; Chun & Rainey, 2005; Brewer, 2005; Moynihan & Pandey, 2005). Measuring individual perceptions of program performance and effectiveness is more straightforward. Employee perceptions of organizational performance, especially within public agencies, have dominated studies examining management activities on organizational effectiveness (Rainey & Steinbauer, 1999; Brewer & Selden, 2000; Brewer, 2005; Moynihan & Pandey, 2005; Donahue, Selden, & Ingraham, 2000; Cain, 2006; Kim, 2004). However, because individual ratings of organizational performance are generally biased to the organization, this research proposes using a more objective, program-level approach to measuring organizational effectiveness.

Program-Level Performance Rating

When experts and government officials attempt to evaluate organizational and program performance, they begin with an examination of measures and outcomes. One function of the GAO is to evaluate and report on agency and program performance. While the GAO covers topics from specific program results to application of Congressional mandates, performance reports are individualized and not comparable. The U.S. Office of Management and Budget's (OMB) Program Assessment Rating Tool (PART) is perhaps the only tool that has been consistently used for measuring Federal agency program effectiveness. Like Brewer and Selden (2000) suggest, PART measures agency program

performance on a variety of elements: program purposes and design, strategic planning, management, and results. Because each government program is unique, OMB measures the program against performance standards designed for measuring specific program outcomes. PART focuses more on outcomes than outputs and asks approximately 25 questions about a program's performance and management. For each question, a short answer is followed by a detailed explanation with supporting evidence. OMB officials claim that PART is designed to create "evidence-based dialog" between OMB officials and agency staff (Moynihan, 2008). Table 3 shows how OMB officials see PART prompting evidence-based dialog.

Table 3: PART Evidence-Based Dialog Rationale

1. Third-party program review with clear opinion.
2. Greater emphasis on performance.
3. The standard of proof is positive evidence of results, rather than an absence of obvious failure.
4. The burden of proof rests on agencies.
5. Entire programs are evaluated on a regular basis.
6. The routine nature of PART crease an incentive to engage.

Source: Moynihan, 2008.

The relatively recent design and implementation of PART by OMB has meant limited use by scholars as a measure of performance. PART was created to provide a consistent approach to evaluating program performance as part of the Federal budget formulation process. Since its inception in 2002, OMB conducts about 200 program assessments a year. Currently over one thousand Federal Government programs have been "PARTed." Most research using PART concentrates on its usefulness as a performance budgeting tool (Gilmour and Lewis, 2006a; Gilmour, 2007; Mullen, 2007; U.S. Government Accountability Office, 2005). Using PART weighted scores as the independent variable, (percent change in budget as dependent variable) Gilmour and Lewis (2006b) found PART ratings influenced

budget decisions in expected ways. However, the relationship between program performance ratings and program cuts is not strong (Moynihan, 2008). Another study used PART and the George W. Bush Administration's Presidential Management Agenda (PMA) Scorecard as the dependent variable for assessing e-government capacity impact on program performance (Kim & Kim, 2006).

Perceived inconsistencies, ambiguities, and subjectivities in its implementation have brought criticism to the usefulness of PART as a program assessment tool. Multiple programs have been rated "Results Not Demonstrated" by PART while GPRA reports evaluate the same programs as meeting or exceeding the program's goals and objectives (Gueorguieva et al, 2008). This disparity in ratings is a result of OMB's requirement of solid evidence of achieving program outcomes to support a positive rating. Procedural government programs that produce a number of outputs, such as the Health Care Fraud and Abuse Control Program, have been criticized by OMB for demonstrated anecdotal success for short-term outputs, but no long-term outcomes. Hence the nature and type of program can affect PART results. Others view these disparities as influenced by partisan preferences (Moynihan, 2008). The future of PART is to be determined. PART was the Bush Administration's response to GPRA and the Clinton Administration's National Performance Review. The future administrations will have their own program for performance measurement, extending the themes of "reinventing government" and "results-oriented government." Already the Barack Obama Administration has developed a Chief Performance Officer position.

It is important to clarify the relationship between PART and GPRA since it is GPRA that legislates all agencies develop a strategic plan and PART is an Executive tool for measuring performance. With its focus on performance measures, goals, objectives and results, PART was built on GPRA. PART takes GPRA to the next level and requires that agencies not just plan and establish credible measures, but also to use performance for decision-making. OMB established PART because they believed that GPRA did not provide sufficient evidence for budget justifications. OMB staff saw GPRA failing to produce outcomes while PART provided the mechanism:

> "PART is systematic. GPRA did not provide a systematic framework for how you do it. GPRA is nebulous. How you use the information is not clear. PART put a structure in place to use GPRA. PART is not inconsistent with GPRA, but builds on it" (p. 147, Moynihan, 2008).

Agency officials initially saw conflicts between PART and GPRA, but now use PART in shaping strategic plans (Posner & Fantone, 2007). Many agency strategic plans reference the agency's "PART'ed" programs in the program evaluation section. Several differences exist between the two. First, the focus of PART is on program performance, while GRPA focuses on office and organizational units. Second, while PART is built on GPRA, it has not been authorized by Congress and is subject to change or elimination with a new administration. Both the Executive and Legislative branches provide oversight to GPRA while PART is considered an Executive tool. Third, GPRA is considered a bottom-up approach beginning with the program units and PART is considered a top-down approach requiring OMB approval of performance measures. Finally, PART focuses on efficiency outcome measures

while GPRA focuses on multiple measures but highlights outcomes (Gueorguieva et al, 2008).

As outlined, the PART performance evaluation has its limitations as a measure of program performance. Many find it to be a subjective measure, perhaps driven by the political content of the programs (Gilmour and Lewis, 2006b) or partisan politics (Moynihan, 2008) and the "Results Not Demonstrated" measure to be a misnomer (Gueorguieva et al, 2008). However, it is currently the only mechanism available that provides a consistent approach to evaluating hundreds of Federal Government programs at the program level and more academic research is looking for useful ways to apply it. Because this research is concerned with program performance, the "Program Results" ratings for agency programs are used. According to OMB, the Program Results section assesses the extent to which a program is meeting its long-term goals and performance outcomes. To make an assessment of performance, OMB raters use the information from sections 2 "Strategic Planning" and 3 "Program Management" and compare the results to the actual targets. The OMB raters also compare the program performance to other similar programs' performance. Being able to adequately measure improved performance requires that the measures and targets in sections 2 and 3 are ambitious, but achievable targets and timeframes. Program Results accounts for 50% of an agency program's overall rating and specifically focuses on the intended results that a program is seeking to achieve.

The use of PART is also not the first time a government developed measure of organizational performance has been used in empirical research. Andrew, Walker, and Boyne (2006) use an index of performance, the Comprehensive Performance Assessment

(CPA), developed by the British Audit Commission to evaluate public organizational performance. They use the CPA to test the relationship between strategy content and public organizational performance. This research will build on the very limited literature and research to determine PART's usefulness as a measure of program performance.

Performance Appraisal System Capacity and Federal Agencies

Performance appraisal systems can be viewed as either an administrative tool or a developmental tool. Performance appraisal systems and performance appraisals serve as a management tool for making promotion, personnel, and pay decisions. Managers view performance appraisal systems as a powerful tool for monitoring and ensuring accountability and for achieving organizational missions. Good systems help employees understand their responsibilities as well as provide a mechanism for giving employees feedback on meeting performance expectations. *Performance appraisal systems* are the overarching system for managing employee performance in organizations. *Performance appraisals* refer to the individual performance plan or standard by which an individual employee's performance is rated. Uses of performance appraisals include identifying specific behavior or job performance to be reinforced or corrected, providing indicators of employee skill for promotion, serving as a coaching or developmental tool, and providing a basis for merit pay. Most performance appraisals use established performance dimensions or benchmarks with numerical ratings (Wiese & Buckley, 1998).

The majority of performance management and performance appraisal literature focuses on improving performance measurement. Because most modern performance appraisal systems require supervisor input, research has centered heavily on cognitive

process issues such as rater and ratee biases and relationships (Bernardin & Pence, 1980; Duarte, Goodson, & Klich, 1994), rating errors (Bernardin & Buckley, 1981; Ilgen et al., 1993), use of Behaviorally Anchored Rating Scales (Smith and Kendall, 1963) and elements of effective performance appraisal systems (Lee, 1985; Murphy & Cleveland, 1995). Upon review of performance appraisal research up to 1990, Bretz et al (1992) found the majority of research centered around information processing, rater-ratee characteristics, errors and accuracy, feedback, and rater/appraisal sources. The focus on improving and understanding different components of the performance appraisal process means little focus has been given to other aspects of performance appraisal, such as its use as a management implementation tool. For example, Wiese & Buckley (1998), in a historical review of performance appraisals, found that several areas have been neglected in performance appraisal research: lack of interest in what the performance tools are actually observing, political aspects of the performance appraisal, and use of a single tool for diverse positions.

Pay-for-performance as a type of performance appraisal system also has dominated the literature. The pay-for-performance concept suggests organizations link compensation to employee performance for both organizational control and for motivating employee performance. The benefits of pay-for-performance are the ability to control employee behavior and output (Oliver and Anderson, 1995). However, a downside to this control is too much pay-for-performance may de-motivate employees from engaging in activities not linked to monetary awards (George & Jones, 1997; Deckop, Mangel, & Cirka, 1999). With the widespread acceptance of pay-for-performance, the Civil Service Reform Act of 1978 created pay-for-performance systems for the Senior Executive Service (SES) and established

merit pay for GS-13 to 15 grade supervisors and managers. In the era of results-oriented government, pay-for-performance systems have expanded to government employees beyond the executive, management, and supervisor levels. However, empirical evidence has demonstrated that pay-for-performance and merit pay actually have not enhanced employee motivation or productivity as much as predicted (Kellough & Lu, 1993; Kellough & Selden, 1997; Taylor & Pierce, 1999; Kellough & Nigro, 2002).

While the pay-for-performance concept supports results-oriented outcomes, its focus on motivation and control offers limited insight into this research's focus on performance appraisal system quality and alignment with strategic goals. However, aspects of pay-for-performance systems support goal alignment, if employees are held accountable (and are rewarded) for achieving organizational goals. GAO has held alignment as an important aspect of pay-for-performance programs: "As a precondition to effective pay reform, individual expectations must be clearly aligned with organizational results, communication on individual contributions to annual goals must be ongoing and two-way, meaningful distinctions in employee performance must be made, and cultural changes must be undertaken" (p. 13, U.S. Government Accountability Office, 2008). Future research could examine the specific relationship between pay-for-performance programs, strategic plan goal alignment, goal setting, and program performance.

One government performance appraisal system well reviewed among researchers is the Job Training Partnership Act (Public Law 97-300) (JTPA) program performance system. JTPA's popularity arises from being a model for inducing efficiency in government organizations. Researchers have examined the long-term and short-term impact of the

system (Heckman, Heinrich, & Smith, 2002), organizational unit performance with JTPA (Barnow, 2000), performance incentives (Cragg, 1997; Courty &Marschke, 2003), and evaluation (Hotz, 1992). Heinrich (1999) found the JTPA program has not lived up to its projected effectiveness, primarily because the performance standards are not strongly correlated with the program's goals. While these findings do not relate to strategic plan goal implementation, they do indicate the importance of performance appraisal alignment with program goals for improving program effectiveness.

Federal agency performance appraisal systems have not typically been the go-to tool for improving management practices. Although more heavily scrutinized than private performance appraisal systems, the Federal systems have been cited for hyperinflation in performance ratings which has not bode well for viewing them as a serious tool for management reform (Light, 1999). Most reviews of Federal agency performance appraisal systems have been internal through the GAO. Over the years multiple GAO reports have commented on and reviewed agency performance appraisal systems. In recent years the GAO reports have focused on individual agency pay-for-performance systems (U.S. Government Accountability Office, 2007; 2004), alignment of systems with agency goals (U.S. Government Accountability Office, 2002), senior executive bonuses (U.S. Government Accountability Office, 2007), and poor performers (U.S. Government Accountability Office, 2005). Consistent in almost all GAO reports is the promotion of linking agency performance appraisal systems with the agency strategic plan, related goals, and desired outcomes in order to improve performance. This is the central relationship studied here – does alignment of strategic plan goals with performance appraisals lead to improved program performance?

Goal Alignment: The Linking Pin

Results-based management scholars agree that goal displacement is caused by the absence of goal alignment with the performance management system. Results-based management (also occasionally called strategic management, performance-based management, outcome management, New Public Management) begins with strategic planning and aligning organizational goals with organizational activities (Osborne & Gaebler, 1992; Peters & Waterman, 1983). The solution to goal displacement is implementing a results-based management system which links the organizational goals to the performance management system and to the performance appraisal system. Employee goal alignment, also called goal congruence, has been positively associated with work attitudes, employee retention, performance outcomes (Kristof-Brown & Stevens, 2001). Goal alignment helps ensure employees direct their efforts towards organizational and management goals (Jauch, Osborn, and Terpening, 1980).

Actual alignment is a key variable between performance appraisals, strategic plan characteristics and improved performance. The GAO recommends one of the first key practices for effective performance management is to align individual performance expectations with organizational goals (U.S. Government Accountability Office, 2007). OPM has been a proponent of performance appraisal alignment with organizational goals. As a precursor to the Performance Appraisal Assessment Tool (PAAT), OPM designed a handbook for Federal supervisors and employees that presented an eight-step process for developing employee performance plans that are aligned with and support organizational goals (U.S. Office of Personnel Management, 2001). The purpose was to show agencies how

they could design elements and standards that measure employee and work unit accomplishments rather than using elements and standards that measure behaviors or competencies.

Alignment's key to increasing performance versus other performance appraisal attributes is the result of alignment's two-fold impact. First it communicates to employees the importance of the organization's strategic goals. Effective performance appraisal programs help employees understand how their day-to-day activities support the strategic goals of the agency. Second, alignment ensures employee-level activities promote the objectives of the strategic goals and indicators link to the desired outcomes of the strategic goals. For example, if an organization's goal is to "Improve the quality of customer service and increase customer satisfaction," we would expect to see individual performance appraisal measures to include "soliciting customer feedback" or "conducting X number of customer care visits per quarter" or "achieving a customer satisfaction score of X." Even without credible measures such as these, we would at least expect evaluation on some dimension of customer service. Other components of a performance appraisal program, such as training or employee involvement may contribute to the effectiveness of the appraisal program but not necessarily to the effectiveness of the organization. Goal setting theory has firmly established the impact between aligning individuals' tasks with organizational goals for achieving increased performance (Locke & Latham, 2002; Roberts & Pavlak, 1996). For example, goal specificity can lead to higher performance than standards that encourage employees to "just do your best":

> Goal specificity in itself does not necessarily lead to high performance because specific goals vary in difficulty. However, insofar as performance is fully controllable, goal specificity does reduce variation in performance by reducing the ambiguity about what is to be attained (p. 706, Locke & Latham, 2002).

Lack of understanding organizational goals and how it links to individual work may adversely affect performance as employees focus work on low-priority goals (Witt, 1998). Goal alignment keeps an employee focused and efforts contributing towards the goals and objectives of the organization.

The PAAT specifically measures if agencies have implemented OPM's suggested alignment. *Goal Alignment* is conceptualized in two ways, first as the extent to which employee performance plans align with and are designed to support organizational goals, that is performance requirements and outcomes are linked to specific outcomes identified in the agency's strategic plan. Many agencies have designed a row or box on the performance plan form designated to show the link to a specific organizational goal. Other agencies include the wording in the body of the element. Second, alignment is conceptualized as the extent to which individual employees know how their work relates to the agency's goals and priorities. Knowledge of organizational goals has been linked to goal alignment (Enriquez, McBride, & Paxton, 2001). This duel conceptualization of alignment allows for it to be tested both as a process and an outcome, providing for a more robust analysis goal alignment (see Figure 2).

> Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.

Hypothesis 2: Employee knowledge of how their works relates to strategic plan goals will be positively related to program performance.

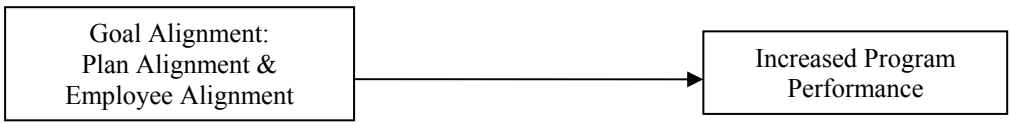


Figure 2: Model 1 Goal Alignment – Program Performance

Capacity for Performance Appraisal Alignment

Not all Federal agencies align their performance appraisal programs with the agency's strategic goals. Performance appraisal programs differ in the degree to which managers clearly link employee performance appraisals to strategic goals. For example, a recent GAO report (2008) found that only 62% of Federal managers reported using performance information to set individual job expectations for the government employees they supervise or manage. Much of the difference appears to be related to organizational factors and strategic plan characteristics that can increase the probability of an agency's program to align its performance appraisal program with its strategic plan. When conceptualizing performance appraisal alignment as a management system innovation, multiple factors influence implementation. As Day and Wensley (1983) found,

> Many of the models of strategic management . . . tend to assume too simple a link between the development of strategic direction and its actual implementation via the allocation of resources. In practice . . . the actual process of resource allocation often incorporates a number of implicit but critical strategic moves (p. 86).

Multiple factors have been identified that lead to successful implementing an innovation within an organization. For example, successful factors include an innovation champion (Rogers, 2003, Alder et al., 2003) stakeholder support (Franklin, 2001), slack resources (Damanpour, 1991; Berry, 1994; Greenhalgh et al, 2004), leadership support and advocacy (Berry and Wechsler, 1995), organizational capacity (Greenhalgh et al, 2004; Fitzgerald et al, 2002), compatibility with organizational norms and values (Rogers, 2003; Ghoshal & Bartlett, 1988), communication (Nilakanta & Scamell, 1990), climate fit (Klein & Sorra, 1996) and organizational interconnectedness (Wejnert, 2002; Strang & Soule, 1998; Frank, et al., 2004).

Agency capacity for performance appraisal alignment is addressed with the first research question: To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? While not completely inclusive, this research suggests communication, leadership support, climate fit, management guidance, and strategic characteristics to be among the most important factors that support performance appraisal alignment in Federal agencies. The justification for each of these factors is detailed in the following pages.

Communication

As Yogi Berra once said, "If you don't know where you are going, you will wind up somewhere else." If you do not communicate where you are going, chances are your organization will not follow. Successful implementation requires communication of the item to be implemented (Rogers, 2003; Damanpour, 1991; Ghoshal & Bartlett, 1988; Nilakanta & Scamell, 1990). A survey of private sector managers has repeatedly shown that management

must communicate the strategic direction of the organization for successful implementation (Alexander, 1985). Several activities that could demonstrate how well managers are communicating include the frequency that the strategic plan goals and objectives to are communicated to Federal employees throughout the agency, or rollout of the new agency strategic plan included a comprehensive communication plan that ensured all employees knew the new strategic direction of the agency. Agency management must value communication.

Most research has centered on the vertical and horizontal flows of information, but the outcomes are usually the same. Outcomes include the extent to which employees are knowledgeable of the item (how the it works, its purpose, how it affects the organization, and how it affects the individual employee), the location of the item (where does it physically reside in the organization both in terms of accessibility by all employees and responsibility for it), and knowledge of management support for plan can impact implementation. Agencies that regularly communicate the goals and objectives of the strategic plan are more likely to have a "line of sight" between individual activities and organizational goals. These agencies are also more likely to use performance appraisals as another communication tool to transmit the importance of an employee's activities to the strategic mission and goals of the agency. *Communication* is conceptualized as the extent to which managers communicate the goals and priorities of the organization.

Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.

Leadership Support

In addition to communication, any management system requires leadership support and approval (Wejnert, 2002; Damanpour, 1991; Greenhalgh et al., 2004; Berry and Wechsler, 1995; Alder, et al., 2003). One of the first steps in implementing performance management programs is securing the support of top leaders. "Real performance management requires an active strategy. It requires energetic leadership. It requires a leader, or a team of leaders, to make a conscious effort to change the behavior of the individuals who work for the organization and its collaborators" (p. 19, Behn, 2002). Agency leaders (usually those considered to be in Senior Executive Service (SES) positions or higher) who are focused on results and achieving agency goals should be interested in and supportive of management tools that promote and achieve the agency goals. Leadership should not only communicate management goals and objectives, but they must also approve of management systems that support those objectives. *Leadership support* is conceptualized as whether or not the program was approved by the agency head or designee before it was implemented and if there is an agency official who has oversight of the results and awards under the program.

Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.

Climate Fit

Kline and Sorra (1996) find an organization's climate fit of the innovation to be a key factor in implementation. Climate refers to employees' shared perceptions regarding the innovation and the extent to which different behaviors towards the innovation are rewarded,

supported or expected. Fit of an innovation refers to if employees' perceive the innovation will foster the organizational values. How likely an agency is to successfully align performance appraisal elements with strategic plan goals depends on the results-oriented climate of agency employees. Management within the agency must first value accountability and results. If employees feel that they are held accountable for achieving results and differences in performance are recognized in a meaningful way by their managers, chances are the employees are more likely to accept performance appraisals that hold them accountable for achieving program goals. *Climate fit* is conceptualized as employees' perceptions that they are held accountable for achieving results and differences in performance are recognized in a meaningful way.

> Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.

Management Guidance

A performance appraisal system cannot link performance appraisal elements to achieving program outcomes without understanding first how the program assessments are made. The tools and goals of a performance appraisal process should be congruent with organizational goals to achieve effective organizational functioning (Barrett, 1967). Alexander (1985) found that one of the top 10 most frequent strategy implementation problems was inadequate leadership and direction provided by departmental managers. The chain of command is very important for conveying guidance on organizational assessment processes. Top departmental managers, usually through the human resources function, are

responsible for providing guidance to the rating officials (usually line-level managers) on organizational and individual assessments. OPM advises agencies that rating officials need to understand the how organizational assessments are made so organizational performance is incorporated into the assessment process (U.S. Office of Personnel Management, 2008). *Management guidance* is conceptualized as guidance from the head of the agency or designee on how to incorporate organizational performance into the assessment process, especially regarding the appraisal of managerial and supervisory employees.

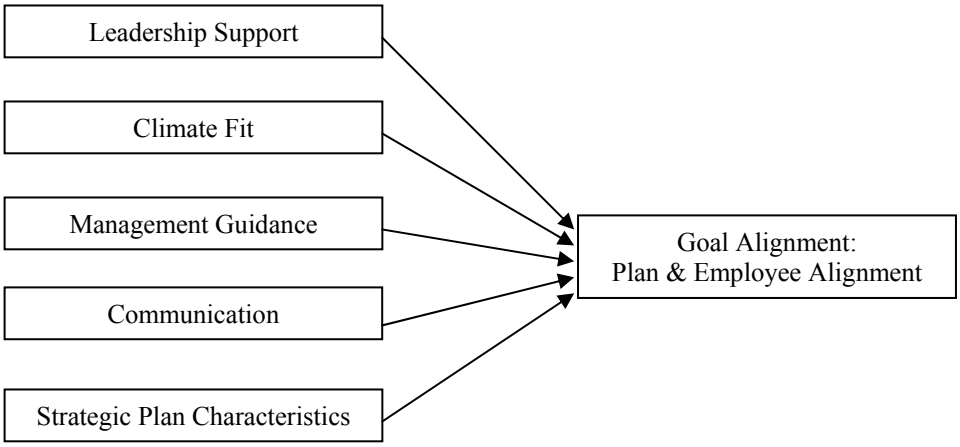
> Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.

Strategic Plan Characteristics

An innovation's characteristics are an important influence in facilitation of its implementation (Wejnert, 2002; Damanpour, 1991). Innovation characteristics have been conceptualized as technical capability and business process reengineering (Bradford & Florin, 2003) and visibility (Huge et al., 1998). Innovations that are too complex fail both inside and outside of organizations (Rogers, 2003). A compilation of knowledge of the innovation and capacity, complexity refers to the extent to which innovation key elements are easily understood and able to be operationalized. For strategic plans, this means plan goals and objectives are easy to understand and the plan does not require additional knowledge from implementers. In this case, the strategic plan is not the innovation, but the strategic plan characteristics are important because they influence the ability to align strategic plan elements with performance appraisals. Agencies whose strategic plans are easy to

understand and are actionable are more likely able to be aligned with agency performance appraisals. Agencies that delineate action steps and identify individuals or positions accountable for action step implementation are more likely to extend that accountability tracking to the individual's performance appraisal. *Characteristics* are conceptualized as the extent to which the action plans, steps, or objectives for meeting each overarching organizational goal are delineated within the strategic plan.

Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.



Control Variables: Size, Regulatory Status, and Strategic Plan Direct

Figure 3: Model 2 Organizational Factors and Strategic Plan Characteristics – Goal Alignment Model

Other Important Factors

Naturally, multiple other factors are influencing alignment of performance appraisals with strategic plan elements. Two, in particular, are worth mentioning given their importance across the literature. First, the most frequently cited factor influencing successful

implementation is slack resources (Damanpour, 1991; Ghoshal & Bartlett, 1988; Fitzgerald et al, 2002; Berry, 1994; Greenhalgh et al, 2004; de Lancer Julnes & Holzer, 2001). The extent to which resources are available to implement innovation elements dictates successful implementation. Resources can be anything from funding to capacity (Alexander, 1985; Greenhalgh et al, 2004; Fitzgerald et al, 2002). The extent to which an organization has the capacity, such as innovation experts or the human resources to implement an innovation, impacts its success. For this research model, the factor of slack resources was more difficult to conceptualize. For example, it is difficult to determine from agency and program budgets if program funds were specifically designated to enhancing or supporting a performance appraisal system. Future research could, however, assess how human resource experts were used in developing the performance appraisals or if programs obligated funds for the performance appraisal system.

Second, the role of an innovation champion is a key factor for successful innovation implementation (Rogers, 2003, Alder et al., 2003). Champions promote the positive aspects of the innovation and know the key linking positions in an organization for adoption. A champion for performance appraisal alignment may come from an agency's program performance and evaluation office. Similar to communication and leadership, an innovation must have an advocate who champions and pursues the innovation through implementation. While this research looks at both communication of agency goals and leadership support for the performance appraisal program, the data does not specifically address a champion role. Again, future research could benefit from assessing the success of performance appraisal

programs that have advocates for "line of sight" to the strategic plan versus programs that do not.

Performance Appraisal Program Quality

While this research hypothesizes that performance appraisal alignment will lead to increased performance, the overall quality of the performance appraisal program may also positively moderate the relationship. The second model tests the second research question: To what extent and under what conditions does performance appraisal goal alignment support the successful implementation of strategic plans in a Federal agency? Quality performance appraisal programs are multifaceted with a number of success factors identified as contributing to a performance appraisal's effectiveness (Roberts, 1996; Roberts & Pavlak, 1996; Longenecker & Fink, 1997). The literature identifies several success factors for an effective performance appraisal program that range from providing feedback (Daley, 2001) to ensuring managers and employees are trained on the performance appraisal system (Boice & Kleiner, 1997).

The frequent appearance of similar performance appraisal success factors suggests a performance appraisal program quality index can be developed to evaluate the impact of overall performance appraisal program quality on the appraisal goal alignment and program performance relationship. Based on a review of the literature, the index includes factors such as results-focused, credible measures, award expectancy, performance consequences, feedback, employee involvement, and training. Performance appraisal goal alignment interacts with these index factors in a reinforcing way to strengthen the overall relationship between goal alignment and increased performance. The contribution of each of these

factors to performance appraisal program quality and how it interacts with goal alignment is outlined below.

Results-Focused

Proponents of results-based accountability suggest focus on results helps minimize investment in activities not contributing to improved results, enhances an agency's capacity to judge effectiveness of employees' efforts, and helps clarifies the allocation of resources (Schorr, 1994). Results-based reporting can be conceived as a two-dimensional process of rendering and extracting accounts (Aucoin & Jarvis, 2004). While results-based literature focuses on the performance management system, these concepts are applicable down to the individual level. Effective performance appraisals are results-focused (Kellough, 2006). Results-focused appraisals focus on achieving program outcomes. Using the previous example of increasing customer service as an organizational goal, the performance appraisal would direct individual activities to increase customer service. Performance appraisals can be aligned with strategic plans goals, but in order to be fully successful, the appraisal must hold the employees accountable for achieving those strategic plan goals. *Results-focused* is conceptualized as the extent to which employees believe they are held accountable for achieving results.

Credible Measures

Effective performance appraisals provide valid, reliable, and controllable measures appropriate for the position (Lee, 1985; Murphy & Cleveland, 1995). A reliable measure produces consistent results while a controllable measure is one where the individual has

substantial influence over the results. Additionally, measures should provide for different desirable outcomes. Hall et al (1989) suggest managers should establish explicit performance goals and measures during the performance appraisal process. Credible measures include achievable, measurable outcomes, such as "number of patients served" or "percent of satisfaction achieved." Proponents of Management by Objective (MBO) or Assessment by Objectives (ABO) claim that using credible measures such as these increases goal congruence and allows organizations to focus on results (Rogers & Hunter, 1991). Federal regulations do not require credible measures, but instruct agencies to have at least one critical element and non critical element to measure employee performance using pass/fail or other 3+ level scales (unsatisfactory, fully, exceeds fully, outstanding, etc.). While only a small percent of agencies still use a pass/fail system, pass/fail systems have been criticized for not being able to precisely differentiate employee performance (Light, 1999). Credible measures allow for the "line of sight" by actually measuring activities aligned to a strategic plan's goals and objectives. *Credible measures* is conceptualized as the extent to which performance plans include appropriate measures, such as quality, quantity, timeliness, and/or cost-effectiveness, indicators of competencies, and customer perspective.

Award Expectancy

Performance appraisal programs are considered effective if the employees perceive the system as being fair and if they perceive they can affect the measures for which they are rewarded or penalized. With accountability, employees should be motivated to achieve good performance. Expectancy theory argues that linking performance and awards is an important motivational step (Porter & Lawler, 1968). Employees should be able to see a link between

their actions and activities and the results of their performance as it relates to awards. Moreover, awards should be linked to future behavior (Hall et al, 1989). Longenecker and Fink (1997) say an effective performance appraisal system should link appraisal outcomes to performance ratings. Awards should be proportional to performance and organizational contributions. Even if the performance appraisal is results focused and has credible measures, employees must believe that they will be rewarded for achieving outcomes related to the strategic plan goals. *Award Expectancy* is conceptualized as the extent to which employees perceive that awards depend on how well employees perform their jobs.

Performance Consequences

An effective performance appraisal program should have *consequences* for action and non-action. Accountability requires that employees must perceive that there are consequences for non-performance and great performance alike. Just as award expectancy is expected to motivate employees, employees must also see there are consequences for non-action. A substantial section of performance appraisal research has concentrated on rater biases, and for good reason: the norm is to rate employees toward the top end of the scale (Bretz et al, 1992b; Jawahar & Williams, 1997). In theory, an effective performance appraisal system is able to differentiate between levels of performance. Performance levels are important for making determinations regarding personnel, promotion, and pay decisions. For this particular research, levels of performance demonstrate if results are being achieved and the degree to which those results are affecting performance. It is safe to assume the more employees achieving high or outstanding performance the higher correlation there is with meeting program goals and objectives. *Performance Consequences* is conceptualized as the

extent to which the performance appraisal is used for recognizing top performers in a meaningful way and employees perceive their performance appraisal as a fair reflection of their performance.

Feedback

An effective performance appraisal system should support a *feedback* mechanism. Past research has demonstrated a link between performance appraisal feedback and increased productivity and enhanced employee motivation (Daley, 2001; Roberts & Pavlak, 1996; Hall et al, 1989). Frequent feedback is the key. Frequent feedback allows for performance problems to remain small and employees to be more effective, less stressed, and more capable of achieving the intended results (Longenecker & Fink, 1997; Daley; 1998). Feedback is also useful for enhancing the performance appraisal skills of managers (Nemeroff & Cosentino, 1979). Through frequent feedback, employees are able to adjust their performance if their performance is not leading to meeting strategic plan goals and objectives. Feedback ensures employees remain on task for meeting the standards established in their performance appraisals. Because agency performance appraisal programs are required to provide feedback to employees at least once a year, *Feedback* is conceptualized as the extent to which employees perceive that discussions with their supervisor or team leader about their performance are worthwhile. More than simply providing feedback is the dialogue between supervisors, managers, and employees meaningful.

Employee Involvement

Multiple studies demonstrate the value of employee involvement both in the designing of a performance appraisal system (Longenecker & Fink, 1997) and in the identifying of performance standards for the appraisals. Employee participation has been linked with higher appraisal system satisfaction, fairness, acceptance and trust (Roberts & Pavlak, 1996). Systems like Total Quality Management (TQM), laud employee involvement and demonstrate a link between employee involvement and performance appraisal effectiveness (Bowman, 1994). Research recommends employee involvement from the goal-setting to the participation in the development of the appraisal program and self-assessments (Hall et al, 1989). If employees are involved in designing and developing performance standards, the more likely the employees have buy-in in achieving the strategic plan's goals and objectives. *Employee Involvement* is conceptualized as the extent to which employees are involved in the design of the appraisal program and in the development of their performance plans.

Training

Agencies cannot expect managers and employees to understand a performance appraisal system without educating them on how the process works and their respective roles and responsibilities in the process (Longenecker & Fink, 1997; Boice & Kleiner, 1997). Like other management tools, managers and employees need to be trained on its proper use. Longenecker and Fink (1997) suggest training is imperative for managers to develop skills in

> "[P]erformance planning, participative goal-setting, coaching, providing writing effective performance reviews, effective interviewing skills, conflict resolution, and

problem-solving" and for employees to develop skills in "developing realistic job descriptions, goal setting, monitoring personal performance, writing self-appraisals, and career planning and development" (p. 33).

A common error in performance appraisal systems is not training the rater or ratee (Roberts & Pavlak, 1996). Training is also important for improving rater accuracy (Woehr & Huffcuff, 1994). As managers and employees better understand the performance appraisal process, they are better able to ensure successful outcomes for the process. *Training* is conceptualized as the extent to which the appraisal program requires that executives, managers, supervisors, and employees receive adequate training and retraining on the performance appraisal program.

Theses seven factors contribute to performance appraisal program effectiveness and are useful for measuring overall performance appraisal program quality. Increased agency program performance is not only linked to appraisal goal alignment, but also can be strengthened by the overall quality of the performance appraisal program (see Figure 1). While each factor may positively contribute to the relationship, the additive relationship of all the factors should produce a more powerful influence.

Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.

Hypothesis 9: Employee knowledge of how their works relate to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.

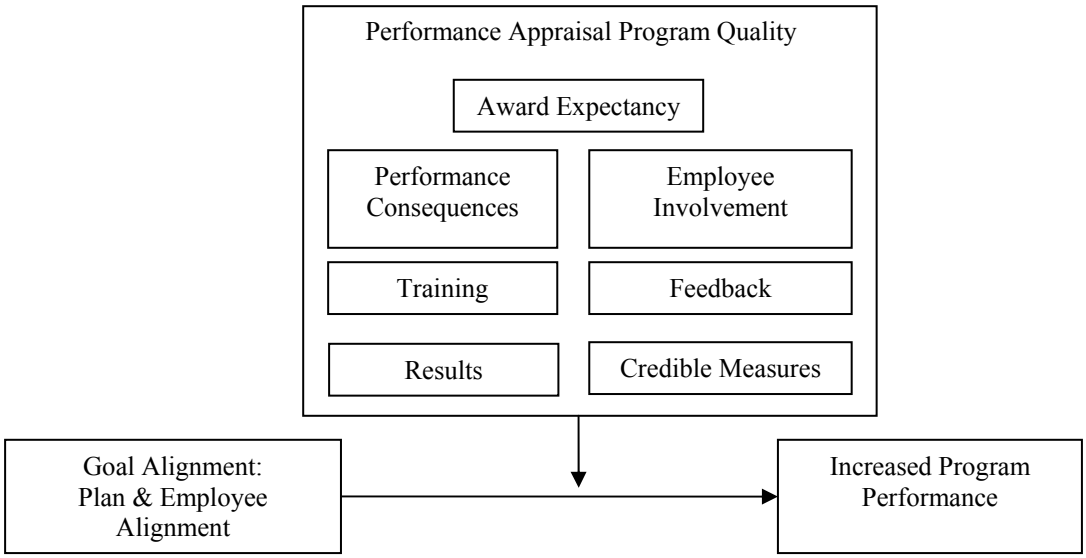


Figure 4: Model 3 Goal Alignment – Quality Appraisal Program – Program Performance Model

Control Variables

Because not all agency programs are alike or pursue strategic planning similarly, it is important to control for other influencing variables. The first control variable is size. Within the Federal government, agencies range in size (in terms of number of employees) from several hundred to over half a million employees. Size is significantly related to goal ambiguity (Chun & Rainey, 2005). Size also appears to impact if agency's approach to strategic planning is either a bottom-up or top down approach (Long and Franklin, 2004). For this research, the inclusion of size is to ask if performance appraisal program size has a significant effect on the program's capacity to align organizational goals with performance appraisals. This research anticipates that size negatively affects the probability that a program will have performance appraisal goal alignment.

The second is regulatory status. Regulatory agencies struggle to clearly define results and goals as regulatory agencies have "notoriously vague and idealized mandates and face major disadvantages in trying to clarify their goals" (Chun & Rainey, 2005, p. 549). Reviews and audits serve as great output measures, but defining the outcomes and results of these reviews and audits can be more difficult. Because regulatory agencies have highly idealized goals, it is difficult to demonstrate real results. The PART data already divides agencies according to regulatory status: Direct Federal, Credit, Research and Development, Block/Formula Grant, Competitive Grant, and Regulatory. The inclusion of regulatory status is to determine if it has a significant impact on performance appraisal goal alignment. This research anticipates that regulatory status negatively affects the probability that a program will have performance appraisal goal alignment.

Additionally agency subcomponents are required by GPRA to develop a strategic plan. However, many agencies subcomponents have chosen to develop their own strategic plans that may cascade from an agency plan. Programs that have specifically related strategic plans (versus using the overarching agency's strategic plan) are more likely to goals, objectives, steps and milestone that can be translated into program level performance plans because they are written at a narrower level. With agency-wide strategic plans it is more difficult to assign linkage or accountability from broad organizational goal to individuals at the subprogram levels and the linkage is less meaningful. Having (or developing) a sub-unit or program strategic plan allows for better cascading of goals and objectives to individuals and more meaningful linkage. The third control variable is Strategic Plan Direct. Its purpose is to control for the effects a strategic plan document has on the program depending if it was

written by the program or by the overarching agency. This research anticipates that whether the plan was developed specifically for the program it can affect the probability that a program will have performance appraisal goal alignment.

Summary

This chapter developed the theoretical background for examining performance appraisal alignment with strategic plan goals, proposing first that strategic goal alignment with performance appraisals is positively related to organizational performance. Second, there are several factors can predict the probability of a Federal agency using strategic goal alignment with performance appraisals to implement its strategic plan. Finally, the overall quality of the performance appraisal program moderates the relationship. Overall, nine specific hypotheses were presented for evaluation. Table 4 outlines the nine hypotheses.

Table 4: Research Models and Associated Hypotheses

Model 1: Goal Alignment – Program Performance
Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.
Hypothesis 2: Employee knowledge of how their works relates to strategic plan goals will be positively related to program performance.
Model 2: Organizational Factors and Strategic Plan Characteristics – Goal Alignment
Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.
Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.
Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.
Model 3: Goal Alignment – Quality Appraisal Program – Program Performance
Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.
Hypothesis 9: Employee knowledge of how their work relates to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Chapter Three is organized into three sections. The first section discusses the overall research design and the research model. The second section describes the Performance Appraisal Assessment Tool (PAAT) and Program Assessment Rating Tool (PART), the two primary sources of data for this research, strategic planning ratings, and the related validity and reliability concerns. The third section presents the major hypotheses again and links the hypotheses to the models. Additionally it introduces the statistical method and discusses the related assumptions.

Research Design

This research employs a quasi-experimental design to test the relationships in two separate models. It uses statistical analysis to determine the significance and strength of the hypothesized relationships. As outlined in chapters one and two, this research asks: 1) To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? 2) To what extent, and under what conditions, does performance appraisal goal alignment support the successful implementation of strategic plans in a Federal agency? In answering these questions, this research propose three models: the first model evaluates the relationship between goal alignment and program performance, using two separate conceptualizations of goal alignment: performance appraisal plan alignment and employee knowledge alignment. The second model evaluates which factors increase the probability that a program will align strategic plan goals within performance appraisals. As the research suggests, there are

several factors, such as communication, leadership support, climate fit, management guidance, and strategic plan characteristics that impact the probability that a program will have performance appraisal plan alignment and employee knowledge alignment. The third model evaluates under what conditions does the alignment of strategic plan goals with performance appraisals positively impact program performance? The third model anticipates that strategic plan goal alignment with performance appraisals positively influences program performance; however, the quality of the performance appraisal program can moderate that relationship. The third model, therefore, tests the relationship between performance appraisal plan alignment, employee alignment, and increased performance and the moderating effect of overall performance appraisal program quality. The models were graphically represented in Figures 1, 2, and 3 in Chapters 1 and 2.

The unit of analysis for the models is the agency performance appraisal program. Three sources of data are used for this research: 1) data gathered by the U.S. Office of Personnel Management (OPM) to evaluate agency appraisal programs using the PAAT (including responses to select Federal Human Capital Survey questions); 2) program performance ratings as evaluated by U.S. Office of Management and Budget (OMB) through the PART; and 3) a separate analysis of Federal agency strategic plan characteristics. Additional discussion of the variables, hypotheses, and related measures are introduced in the following sections.

Data Source and Sampling

The data for this research comes from two secondary sources, OPM's PAAT and OMB's PART. Data on strategic plan characteristics is the only primary data.

PAAT

In an effort to help Federal agencies develop a results-oriented performance culture, OPM developed an assessment tool to evaluate agencies' performance appraisal systems. OPM asserts performance appraisal programs "provide a formal process for communicating organizational goals and individual performance expectations, ensuring accountability for achieving those goals, identifying developmental needs, assessing performance using appropriate measures, improving individual and organizational performance, and using the results of the appraisal as a basis for appropriate personnel action" (U.S. Office of Personnel Management, 2008). The PAAT evaluates agency appraisal programs on ten dimensions that Federal human resources practitioners identify as important for effective, results-oriented programs. The tool is unique because through its scoring mechanism it helps agencies identify weaknesses in their appraisal systems and actions for improving the appraisal system. Agencies can opt to be reevaluated by the PAAT to determine if they have made improvements in their appraisal systems based on OPM's recommended best practices. Several of the programs have been evaluated two or three times in an effort to determine if changes were effective. Second, the tool provides a wealth of information regarding performance appraisal systems across the Federal Government that had previously not been available. This information helps OPM and human resources managers better understand performance appraisal activities and scholars identify descriptive and predictive factors in performance evaluation and appraisals at the Federal Government level. The specific questions used from the PAAT will be discussed under the "Instrumentation" section in this chapter.

Since 2006, OPM has collected data through the PAAT from over 150 agency performance appraisal programs. It is important to reiterate that there is a difference between an *appraisal program* and an *appraisal system*. Every agency has a performance appraisal system which must be approved by OPM before implementation. A performance appraisal system is a broad umbrella of agency-specific criteria under which its appraisal programs can operate. For example, the Department of Transportation has one appraisal system approved by OPM, but it operates twelve different appraisal programs under that system. The PAAT is designed to evaluate an appraisal program, not a system. Additionally, OPM allows the PAAT to be applied to a group of employees covered by an appraisal program that covers a whole organization, such as the programs used by the Securities and Exchange Commission or the Smithsonian Institute. The PAAT is specifically interested in how programs are implemented and operate for particular employee groups.

Sampling for this source of data is not random because the PAAT "sample" includes data from almost all performance appraisal programs from the major Federal agencies (it excludes appraisal programs for employees in the Senior Executive Service). As part of the George W. Bush Administration's Presidential Management Agenda (PMA), all 26 major Federal agencies (see Table 5) have had at least one part of their appraisal programs evaluated by the PAAT. Additionally, OPM has used the PAAT to evaluate the programs of 16 small agencies. Most research of Federal agency programs and activities focus on either the cabinet-level agencies (Franklin, 2001) or the top 24 agencies (McTigue, Wray, & Ellig, 2008). With data from all the major agencies and some smaller agencies, the data represents more than a cross-sampling of agency programs. OPM has estimated that almost 18% of the

Federal civilian employee population is covered by appraisal systems that scored at least 80 or more (the optimal score for a results-oriented program) on the PAAT. Given the coverage of the PAAT, this research is confident that while the data sample is not random, it is representative of almost all the appraisal program population for drawing valuable inferences. When only using data associated with the PAAT, the total number of cases is 151.

Table 5: 26 Presidential Management Agenda Agencies Covered by PAAT

Department of Agriculture	Department of Interior	General Services Administration
Department of Commerce	Department of Justice	National Aeronautics and Space Administration
Department of Defense	Department of Labor	National Science Foundation
Department of Education	Department of State	Office of Management and Budget
Department of Energy	Department of Transportation	Office of Personnel Management
Environmental Protection Agency	Department of Treasury	Small Business Administration
Health and Human Services	Department of Veteran's Affairs	Smithsonian
Department of Homeland Security	Agency for International Development	Social Security Administration
Housing and Urban Development	Peace Corps	

Note. See Appendix B for the complete list of agencies included in this research.

PART

To hold agency programs more accountable for results, OMB developed PART to assess agency program effectiveness. The tool was first implemented in FY 2003 with the goal of evaluating all Federal programs over a five-year period. Since its induction in 2003, OMB has used the tool to rate 1,017 Federal programs (about 98% of all Federal programs). OMB updates results quarterly and publishes them on its OMB's "Expect More" website

(www.ExpectMore.gov). PART ratings for this research come from the FY 2009 Budget, Spring Update, published by OMB on September 12, 2008. All PAAT data used in this research was gathered by OPM prior to the OMB Spring Update ratings release. As explained in Chapter 2, PART has some limitations as a tool for evaluating program performance; however, it is still the most comprehensive tool currently available for assessing program performance. For this research, only PART "Program Results" ratings for Federal programs also directly covered by PAAT are used. This reduces the total number of cases to 110 (not all appraisal programs evaluated by PAAT are associated with a Federal program – some programs evaluate internal agency services such as administrative offices). The same nonrandom sampling issues apply because the programs evaluated by PART must also be evaluated by the PAAT.

In some particular cases, multiple Federal programs (those with PART scores) are nested in one performance appraisal program (those with PAAT scores). For example, the U.S. Department of Agriculture Animal and Plant Health Inspection Service has one appraisal program, but according to OMB PART ratings, has five different Federal programs (Plant and Animal Health Monitoring Programs, Animal Welfare, Emergency Pest and Disease Management Programs, On-going Pest and Disease Management Program, and Pest and Disease Exclusion). In these instances, the average "Program Results" PART rating for these programs is used. This average rating shows the overall performance of Federal programs covered by that performance appraisal program. For cases where there is not a clear coverage of PART and PAAT, those programs are dropped.

Strategic Plans

While GPRA requires all agencies to have a strategic plan, not all agency subcomponents have individual strategic plans. In keeping with the appraisal program unit of analysis, this research identified strategic plans clearly associated with an appraisal program. In a few cases, a strategic plan was identified more than once to cover a performance appraisal program. For example, the Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives has three different performance appraisal programs but only one strategic plan while the U.S. Patent and Trademark Office has one appraisal program and one strategic plan. Extensive Internet searches were conducted to locate agency and sub-agency strategic plans. Every effort was made to identify and collect program strategic plans; however, not all Federal programs publish their strategic plans (unlike the overall agency). For this research, 94 (62%) performance appraisal programs covered by PAAT have a strategic plan directly associated with them. The remaining 38% of performance appraisal programs have the overall agency strategic plan associated with it. The analysis will control for whether or not a strategic plan is directly associated with a performance appraisal program. Only three programs (small independent agencies) did not have a strategic plan identified, making the total number of cases 148.

Agency strategic plans vary in fiscal year coverage, depending on when the strategic plans were published. Because agency strategic plans are mandated to cover a five-year period, strategic plans used for this research ranged from FY 2003 to FY 2012. Strategic plans used for this research included FY 2008 in the five-year period to ensure that activities

in the strategic plan could be reflected in the PAAT and PART ratings. Again, the sample is not completely random as it only includes programs with a PAAT score and a strategic plan.

Instrumentation

PAAT

Federal Human Resource Specialists designed the PAAT to help agencies evaluate their performance appraisal programs. Practitioners designed the questions to identify characteristics of an effective performance appraisal program. OPM performed its own independent study of dimensions identified for effective performance appraisals. Because their research drew from public and private practice and academic research, OPM believes the tool could be used to evaluate non-Title 5 programs. The PAAT includes 73 qualitative and quantitative questions, including questions that request the program's Federal Human Capital Survey (FHCS) results. This research utilizes 13 of the questions as they apply to the research model (see Table 6; see Tables 13-14 for hypotheses and measures in the next section). Of the 73 questions in the PAAT, these 13 questions were identified as measuring the required constructs for the two models.

Because the PAAT is designed to be a rating tool, OPM solicits the information and materials from individual agency programs and independently evaluates the program against a standard scoring key (see Appendix A for a copy of the PAAT and scoring sheet). Programs receive a PAAT score between 1 and 100. OPM employs consensus rating when making scoring decisions. Each PAAT is evaluated by four raters representing different perspectives (OPM policy representative, agency human capital officer, OPM agency contact for human capital, and OPM PAAT staff representative), but all use the same scoring criteria.

After independently rating a program, the four raters meet to discuss their ratings. The raters must come to consensus on their ratings within one point. Agency programs that score 80 or higher using the PAAT methodology are deemed by OPM to have results-oriented programs. As of July 2008, only 34% of the 142 programs evaluated score 80 or higher. Several programs have been evaluated by the PAAT more than once, but this research only uses results from PAAT evaluations prior to the end of FY 2008.

Table 6: PAAT Question Descriptive Statistics

Question	N	Minimum	Maximum	Mean	Std. Deviation
Performance plans align with Organizational goals?	151	0	1.00	.7285	.44623
Performance plans include one critical element?	151	0	1.00	.6755	.46975
Program requires credible measures of performance?	151	0	1.00	.7086	.45592
Program designed with input from employees?	151	0	2.00	1.2252	.84200
Program requires employee involvement?	151	0	2.00	1.3709	.79679
Employees are actually involved in development?	151	0	4.00	2.4768	1.33084
Program requires supervisors receive training?	151	0	1.00	.3642	.48282
Agency has conducted training for 50% supervisors?	151	0	1.00	.4967	.50165
Program requires employees receive training?	151	0	1.00	.3179	.46720
Agency has conducted training for 50% employees?	151	0	1.00	.3311	.47218
Agency official provide guidance to rating officials?	151	0	2.00	.8013	.40033
Was program approved by agency head or designee?	151	0	2.00	1.8411	.51759
Is there a high-level agency official who has oversight?	151	0	2.00	1.7748	.59073

Source: U.S. Office of Personnel Management.

This research does not use the PAAT numerical scores because different point values are given to different questions, but translates the numeric scores to identify responses. For example, many of the questions require yes/no responses (e.g. Does the appraisal program require that elements and standards include credible measures of performance that are observable, measurable, and/or demonstrable?). All of the variables that use the PAAT questions, with the exception of Employee Involvement, use questions are coded into dichotomous variables (1 or 2 = Yes; 0 = No). For Employee Involvement, the three questions that compose the Employee Involvement additive index score, have score ranges from 0 to 4 (see Table 7). Table 6 provides the descriptive statistics for all PAAT questions used in this research.

Table 7: Employee Involvement Variable Questions Ratings

Question	Rating
1. Program designed with input from employees?	0 = No Employee Involvement 1 = Minimal Employee Involvement 2 = Complete Employee Involvement
2. Program requires employee involvement?	0 = No Employee Involvement 1 = Employee Involvement Encouraged 2 = Employee Involvement Required
3. Employees are actually involved in development?	0 = No Employee Involvement 2 = Limited Employee Involvement 3 = Minimal Employee Involvement 4 = Complete Employee Involvement

The FHCS is administered by OPM to all full-time, permanent employees of the major agencies represented on the President's Management Council (PMC) and the small/independent agencies that accepted an invitation to participate in the survey. The purpose of the bi-annual FHCS is to measure employees' perceptions of whether, and to what extent, conditions characterizing successful organizations are present in their agencies.

There are 73 survey items and participants respond to the items using the following scale: Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree, Do Not Know. The survey is administered online during odd-numbered years and agency results are released during the even-numbered years. While individual agency results vary, overall, the FY 2006 FHCS had a 57% response rate. Five of the performance appraisal programs do not have FHCS results. Either the independent agency did not participate in the survey in FY 2006 or data for the program level could not be obtained (small N or not adequately coded).

Table 8: FHCS Questions Descriptive Statistics (Percent Agree)

Questions	N	Minimum	Maximum	Mean	Std. Deviation
19: I know how my work relates to the agency's goals and priorities.	147	62.00	100.00	84.1776	5.55561
28: Awards in my work unit depend on how well employees perform their jobs.	146	15.00	71.55	46.3571	9.48274
29: In my work unit, differences in performance are recognized in a meaningful way.	146	10.00	99.20	34.3060	10.39552
30: My performance appraisal is a fair reflection of my performance.	146	33.60	95.00	66.5817	8.91830
31: Discussions with my supervisor/team leader about my performance are worthwhile.	146	35.00	80.00	59.3422	7.08792
32: I am held accountable for achieving results.	146	31.00	100.00	80.6822	7.92392
39: Managers communicate the goals and priorities of the organization.	146	26.00	87.00	60.1308	10.40749

Source: U.S. Office of Personnel Management.

The PAAT incorporates relevant items from the FHCS. Each of the ten dimensions includes anywhere from one to three FHCS items. OPM requests agencies provide the most recent FHCS results only for those employees covered by the appraisal program. This research uses percent positive responses ("Strongly Agree" and "Agree") for seven items from the FHCS included in the PAAT (items # 19, 28, 29, 30, 31, 32, and 39). Table 8 shows the descriptive statistics for the seven FHCS questions. For these items from the FHCS, OPM performed its own validation study of the measures and found the measures to be generally valid, reliable, and acceptable (U.S. Office of Personnel Management, 2004).

PART

The PART measures agency program performance elements on program purposes and design, strategic planning, management, and results. Because each government program is unique, OMB measures the program against performance standards designed for measuring specific program outcomes. The tool focuses more on outcomes than outputs. The PART asks approximately 25 questions about a program's performance and management (see Table 9). For each question, there is a short answer and a detailed explanation with supporting evidence. The questions are divided into four categories:

1. Program Purpose and Design (20 percent) assess whether the program design and purpose are clear and defensible
2. Strategic Planning (10 percent) assesses whether the agency sets valid annual and long-term goals for the program
3. Program Management (20 percent) rates agency management of the program, including financial oversight and program improvement efforts

4. Program Results (50 percent) rates program performance on goals reviewed in the strategic planning section and through other evaluations

Table 9: PART Section 4 Questions

	Section 4: Program Results/Accountability
Weight = 50 percent	4.1 Has the program demonstrated adequate progress in achieving its long-term outcome performance goals?
	4.2 Does the program (including program partners) achieve its annual performance goals?
	4.3 Does the program demonstrate improved efficiencies or cost effectiveness in achieving program performance goals each year?
	4.4 Does the performance of this program compare favorably to other programs, including government, private, etc., that have similar purpose and goals?
	4.5 Do independent and quality evaluations of this program indicate that the program is effective and achieving results?

Source: www.ExpectMore.gov.

OMB program examiners work with agency representatives to identify acceptable performance measures and program improvement plans. For example, the Department of Justice United States Trustees program has long-term measures such as "Number of civil enforcement adversary actions filed" and "Percent of assets paid to creditors in chapter 13 cases." Specific improvement plans and status are also identified and tracked. OMB provides guidance on appropriate measures and agency programs must provide justification and rationale for why certain measures are appropriate. These performance measures and program improvement plans are separate from the four categories, but are used in responding to the questions for the four categories. The answers to questions in each of the four categories result in a numerical score for each section from 0 to 100 (100 being the best score). Ratings in these four categories culminate in an overall performance rating of "Effective" to "Results Not Demonstrated."

Because agencies work with OMB program examiners to rate performance, OMB releases specific instructions for completing the PART questions. The last guidance from OMB on PART was released in January 2008: "Program Assessment Rating Tool Guidance No. 2008-01." Rating criteria for the twenty-five questions in each of the four categories is clearly outlined. For the five questions for the "Program Results" section, question ratings are either "yes," "large extent," "small extent," or "no." For example, under question 4.1 OMB provides specific criteria for a "yes" rating. Agency programs have to clearly explain and provide evidence for each of the following criteria to receive a "yes" rating:

> "The program must be on track to meet all the long-term performance goals – including ambitious targets and timeframes – evaluated in Questions 2.1 and 2.2. A program would not receive a *Yes* answer by simply meeting any one of its long-term targets, or by having performance measures but no ambitious targets and timeframes.
>
> "Where applicable, partners commit to long-term outcome targets and achieve them as well.
>
> "Where relevant, the program should have addressed appropriately any predefined end targets" (p. 56, U.S. Office of Management and Budget, 2008).

Ratings for "large extent" or "small extent" are given where there is partial, but noticeable accomplishment of meeting long-term targets. Ratings rely heavily on outcomes to the performance information in sections 2 and 3. Meeting the performance targets in sections 2 and 3 is the starting point to receiving a "yes" rating. The process for finalizing ratings usually takes about a couple months with collaboration between the OMB Resource Management Office (RMO) and an agency program. OMB assigns program examiners to

each agency and those program examiners work with the agency officials asking clarifying questions regarding the programs and helping the agencies identify suitable responses. The RMO ensures that the agency program has provided sufficient evidence and explanation to meet the elements in a "yes" or otherwise rating. The OMB program examiners use criteria, like that outlined above, to determine the program's ratings. These rating responses are translated into a numerical rating for each category (each question is assigned a percent score for a category rating, the percent scores total to 100% for each section). Ratings for each program's PART are published annually on ExpectMore.gov. Agency programs are able to appeal an RMO decision before the ratings are finalized.

This research only uses the numerical ratings for the fourth category "Program Results" since this category is focused on reporting of actual performance compared to targets (identified in sections 2 and 3). The mean for all "Program Results" ratings is 50%, while, the mean is 59% for programs that also have a PAAT score (see Table 10 for descriptive statistics). Where a performance appraisal program covers more than one PART program, the average rating for all the PART programs is used.

Table 10: PART Program Results Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PART Program Results	1016	.00	1.00	.5010	.25964
PAAT-PART Program Results	110*	.08	.93	.5886	.18225

Note. *Number of PAAT Program with PART ratings, number of PART programs is much higher. Source: www.ExpectMore.gov.

Strategic Plans

Strategic plans are only useful to the extent to which goals and strategies are implemented by an organization. Developing an implementation plan and effective action plan are necessary for ensuring that the strategic plan brings value to the organization (Bryson & Alston, 2005). In order to meet desired planning outcomes, there should be a clear understanding of the what, who, when, where, and how for the strategic plan. Second, a formal evaluation process is necessary to determine if outcomes are being achieved. Using the best practices and successful factors identified by Bryson and Alston and Poister and Streib (2005) for an effective implementation process, Federal agency strategic plans were rated using a three-part criteria: 1) Does the strategic plan clearly outline organizational goals? 2) Does the strategic plan include action plans or steps for achieving organizational goals? 3) Does the strategic plan identify action officers (employees or positions) responsible for achieving organizational goals? To create the six specific criteria, draft criteria was developed based on Bryson and others suggestions about implementation factors. About half of the strategic plans were rated using the draft criteria. After the initial ratings, the criteria were refined to the final six criteria (see Table 11 for specific criteria).

Content analysis of each strategic plan was applied to determine if the plans delineate action plans, steps, or objectives for meeting each overarching organizational goal. Strategic plans that met the criteria in questions 1 and 3 received 1 point each and for question 2, received 1 point for each sub-rating criteria (A-D), for a total of 6 possible points. Two raters independently performed the content analysis using the criteria in Table 11. The majority of strategic plans received 3 points because they included at least 3-year

organizational goals, strategies, steps, or objectives to meet the organizational goals, and performance measures or indicators for achieving each organizational goal. Of the 88 strategic plans reviewed, less than 10% referred to a separate appendix or document that outlines an implementation plan or action plan.

Table 11: Strategic Plan Rating Criteria

Question	Criteria
1. Does the strategic plan clearly outline organizational goals?	- Organizational goals are for three or more years. - Organizational goals may be called strategic goals, strategic priorities, objectives, mission goals, priorities, objectives.
2. Does the strategic plan include measures, action plans, or steps for achieving organizational goals?	- (A) Strategies/steps/objectives to meet organizational goals; "means and strategies for accomplishing goals."
	- (B) Performance measures/indicators for achieving each organizational goal.
	- (C) A separate appendix or document that outlines implementation plan or action plan (plan indicates there is a separate implementation plan).
	- (D) Outline or reference to cascading of the goals/strategies/objectives through a performance management/appraisal system.
3. Does the strategic plan identify action officers (employees or positions) responsible for achieving organizational goals?	- Specific employees or positions or offices/departments are assigned to action plans/steps/performance measures/objectives.

However, almost all of the strategic plans referred to the agency annual Performance and Accountability Report (PAR) and linked to budget requests. About 20% of the strategic plans specifically referenced cascading organizational goals through the performance appraisals or specifically identified employees, positions, offices, or departments assigned to an organizational goal. For rating reliability the raters discussed cases where their scores differed by more than one point and came to consensus on a rating for a strategic plan. After

the initial independent ratings the 35% of the two ratings differed by one point or more. Only a handful of the strategic plans had ratings different by more than one point. The raters discussed each strategic plan and identified that 99% of the time the difference in ratings was a result of disinformation, one rater had overlooked a characteristic.

Table 12: Strategic Plan Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Program Strategic Plans	148*	2.00	5.00	3.2399	.79426

Note. *Some program strategic plans cover more than one performance appraisal program.

Threats to Validity

Measurement of a concept is difficult within the social sciences. Researchers take care to develop constructs that measure the concepts they wish to test as realistically as possible. Validity is does the measurement construct actually measure what it is designed to measure. Measurement validity is vital to producing meaningful results; therefore, researchers must seriously consider any threats to the validity of their measurements or the overall study. Two types of validity are important for this research: content validity and internal validity.

Content validity examines the extent to which the items actually measure what they claim to measure. Almost all of the measures (with the exception of the strategic plan rating criteria) used in this study were not originally developed for this study, but are secondary source data. The data has been adapted to meet the parameters of the research question. Typically concerns of content validity are addressed through using subject matter experts or representative experts who can judge the validity of the measures (Garson, N.D.). Human

Resource Specialists and Psychologists with OPM developed and performed validation studies for the PAAT and FHCS measures. Foremost, the construct of Quality Performance Appraisal Program uses seven of the ten dimensions identified by OPM in rating an agency performance appraisal program using the PAAT. The specific questions have been refined by OPM since the PAAT's inception. Ratings for each question are determined by a panel of OPM subject matter experts who examine samplings of agency performance appraisal program materials and performance plans and reach consensus on their ratings. The questions and information gathered by the OPM subject matter experts meet the constructs of several variables in the two models. For the Plan Alignment variable, more than just determining if the program requires goal alignment, the OPM raters review actual performance plans to determine if the plans align with organizational goals. As one OPM rater said, "We require alignment of plans to be clear and transparent, which means somewhere on the form we expect to see some kind of mention of specific organizational goals. It is not adequate merely to say 'In support of organizational goals, achieves the following'" (personnel communication, October 2008). Similarly for the other variables (Leadership Support, Management Guidance, Credible Measures, Employee Involvement, and Training) the questions are very straightforward and OPM raters verify all results.

Similarly for the FHCS questions, OPM performed its own validation study of the measures and found the measures to be generally valid, reliable, and acceptable (U.S. Office of Personnel Management, 2004). The FHCS data has been used in numerous studies dealing with Federal employees. Again, the FHCS questions in this research were identified for their link to measuring employees' perceptions of performance. Six of the seven

questions come from the performance culture section of the FHCS. The non-performance culture question measures the key variable in this research: employee goal alignment. Knowledge of an organization's goals and objectives is considered to represent a construct of goal alignment (Enriquez, McBride, & Paxton, 2001). Specifically the FHCS question measures the extent to which employees know how their work relates to the agency's goals and priorities.

Like the PAAT, the PART measures were developed by performance management experts in OMB. While some have questioned the subjectivity of the PART ratings, OMB experts identified the PART items as essential for measuring program performance (Moynihan, 2008). Studies using PART scores have previously evaluated the overarching PART ratings of "Effective," "Moderately Effective," "Adequate," "Ineffective," and "Results not Demonstrated" (Gilmour & Lewis, 2006b). The "Program Results" section ratings are considered a better assessment of program performance because the ratings are based on the performance results of the measures and targets identified in the previous PART sections (Gilmour & Lewis, 2006a). Ideally the percentage scores agency programs receive for the "Program Results" section are preferable as a measure of overall program performance versus the widely published PART ratings. Under this methodology, OMB believes individual programs can receive a universal performance rating without using universal performance measures.

Internal validity examines whether a causal relationship exists. Internal validity addresses whether the cause and effect relationship is temporal precedence or has covariation and the causal relationship is non-spurious. Generally the first check of internal validity is

the logical relationship between measures and the intended results. Internal validity was assessed first through reviewing literature and past research that demonstrates the cause and effect relationship between planning and performance and goal setting and performance. Second, interviews with OPM and OMB officials confirmed the reasonable conclusion of the cause and effect relationship between the independent variables and the dependent variables.

Measures

Dependent Variables

Three dependent variables are used for the different research models. The first and third models use the dependent variable of Program Performance. Program Performance is evaluated using the PART "Program Results" rating. Each program is rated low to high performance on a scale of 0 to 100. The second model uses two dependent variables of goal alignment: Plan Alignment and Employee Alignment. The PAAT asks if agency appraisal programs require that employee performance plans align with organizational goals and how many employees have performance plans that align with organizational goals. Organizational goals are the agency goals outlined in the agency's strategic plan. In some cases these organizational goals cascade from or are linked with agency strategic plan goals. The importance is agency strategic plan goals are translated into employee performance appraisal plans. OPM raters evaluate a sampling of employee appraisal plans to make a determination if the appraisal program requires employee performance plan alignment. Employee Alignment is conceptualized as employee knowledge of how their work relates to the agency's goals and priorities.

Independent Variables

Based on the review of the literature, a number of factors will be used to test the relationships in the models. Model 1 simply tests the relationship between goal alignment (using the Plan Alignment and Employee Alignment conceptualizations) and program performance. For Model 2, five factors were identified as important for determining if an appraisal program would have employee appraisal plans or employee knowledge that were aligned with strategic plan goals. For Model 3, the seven performance appraisal variables (Results, Credible Measures, Award Expectancy, Performance Consequences, Feedback, Employee Involvement, and Training) are used to develop a factor score of Quality Performance Appraisal Program. Again, two measures of goal alignment are used: Plan Alignment and Employee Alignment. The factor score is used as the moderating variable between the predictors of Plan Alignment and Employee Alignment and dependent variable Program Performance. Tables 13-15 highlight the nine hypotheses and the variables and measurement questions that address the hypotheses for each model. Descriptive statistics for the variables are presented in the following chapters.

Table 13: Model 1 Hypothesis and Measures

Variable	Questions:	Response	N
Dependent Variable			
Program Performance	PART "Program Results" Ratings	% Score	110
Independent Variables			
Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.			
Plan Alignment	PAAT 6 a. Does the program description require that employee performance plans align with organizational goals, such as the specific goals identified in the organization's annual performance plan?	Y/N	151
Hypothesis 2: Employee knowledge of how works relates to strategic plan goals will be positively related to program performance.			
Employee Alignment	FHCS Item #19: I know how my work relates to the agency's goals and priorities.	% Agreed	147

Table 14: Model 2 Hypotheses and Measures

Variable	Questions:	Response	N
Dependent Variables			
Plan Alignment	PAAT 6 a. Does the program description require that employee performance plans align with organizational goals, such as the specific goals identified in the organization's annual performance plan?	Y/N	151
Employee Alignment	FHCS Item #19: I know how my work relates to the agency's goals and priorities.	% Agreed	147

Table 14: Model 2 Hypotheses and Measures, Continued

Variable	Questions:	Response	N
Independent Variables			
Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.			
Communication	FHCS Item #39: Managers communicate the goals and priorities of the organization.	% Agreed	147
Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.			
Leadership Support (Index of two Questions)	PAAT 15 b. Was this program approved by the agency head or designee before it was implemented?	Y/N	151
	PAAT 15 c. Is there a high-level agency official who has oversight of the results of appraisals and awards under this program?	Y/N	151
Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.			
Climate Fit (Index of two Questions)	FHCS Item #32: I am held accountable for achieving results.	% Agreed	146
	FHCS Item #29: In my work unit, differences in performance are recognized in a meaningful way.	% Agreed	146
Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.			
Management Guidance	PAAT 14 b. Did an agency official provide guidance to rating officials about how unit performance should be considered when deciding ratings and awards?	Y/N	151
Hypothesis 7: Programs that have a clearly actionable strategic plan will be more likely to have employee performance appraisal plans that align with strategic plan goals.			
Strategic Plan Characteristics	Does the strategic plan delineate action plans, steps, or objectives for meeting each overarching organizational goal?	1-6 rating	148

Table 15: Model 3 Hypotheses and Measures

Variable	Questions:	Response	N
Dependent Variable			
Program Performance	PART "Program Results" Ratings	% Score	110
Independent Variables			
Plan Alignment	PAAT 6 a. Does the program description require that employee performance plans align with organizational goals, such as the specific goals identified in the organization's annual performance plan?	Y/N	151
Employee Alignment	FHCS Item #19: I know how my work relates to the agency's goals and priorities.	% Agreed	147
Independent Modifying Variable: Performance Appraisal Program Quality Index			
Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.			
Hypothesis 9: Employee knowledge of how work relates to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.			
Results	FHCS Item #32: I am held accountable for achieving results.	% Agreed	146
Credible Measures	PAAT 8 a. Does the *appraisal program* require that elements and standards (performance expectations) include credible measures of performance that are observable, measurable, and/or demonstrable?	Y/N	151
Award Expectancy	FHCS Item #28: Awards in my work unit depend on how well employees perform their jobs.	% Agreed	146
Performance Consequences (Index of two Questions)	FHCS Item #29: In my work unit, differences in performance are recognized in a meaningful way.	% Agreed	146
	FHCS Item #30: My performance appraisal is a fair reflection of my performance.	% Agreed	146
Feedback	FHCS Item #31: Discussions with my supervisor/team leader about my performance are worthwhile.	% Agreed	146

Table 15: Model 3 Hypotheses and Measures, Continued

Variable	Questions:	Response	N
Independent Modifying Variable: Performance Appraisal Program Quality Index			
Employee Involvement (Index of three Questions)	PAAT 11 a. Was the appraisal program designed with input from employees and their representatives, if applicable?	0-2 rating	151
	PAAT 11 b. Does the appraisal program require employee involvement in the development of the employee's performance plan?	0-2 rating	151
	PAAT 11 c. Are employees actually involved in the development of their performance plans?	0-4 rating	151
Training (Index of four Questions)	PAAT 13 a. Does the appraisal program description require that supervisors receive training and retraining on the requirements and operation of the performance appraisal program?	Y/N	151
	PAAT 13 b. Has the agency conducted training for at least 50 percent of its supervisors on the performance appraisal program sometime during the last two years?	Y/N	151
	PAAT 13 c. Does the *appraisal program* description require that employees receive training and retraining on the requirements and operation of the performance appraisal program?	Y/N	151
	PAAT 13 d. Has the agency conducted training for at least 50 percent of employees on the performance appraisal program sometime during the last two years?	Y/N	151

Control Variables

Three control variables were identified in the literature review to be included in the analysis for Model 1: Strategic Plan Direct, Regulatory Status, and Program Size. Strategic Plan Direct was identified with the operationalization of the Strategic Plan Characteristics variable. Strategic Plans that were directly associated with a performance appraisal program

(e.g. U.S. Forest Service has a performance appraisal program and a strategic plan directly associated with it) or if the agency strategic plan was used instead (e.g. the Transportation Security Administration does not have its own strategic plan, so the Department of Homeland Security strategic plan was used instead) (n = 148). Regulatory Status was identified using the program type assessments made by OMB for the PART. Programs identified by OMB as regulatory were coded as such with all other programs coded as non regulatory (n = 151). Program Size was determined by number of employees covered by a performance appraisal program. Data for Program Size was obtained from the PAAT questionnaire, question 1.c: How many total employees are covered by this appraisal program (including supervisors)? (n = 149).

Data Screening

Several data screening techniques were employed to examine frequency distribution, skewed data, and multicollinearity. Examining frequency distribution allows the research to determine if the data is normally distributed. By definition, dichotomous data is not normally distributed and the dichotomous data used in this research was not examined for normal distribution. Only the Results variable was slightly skewed to the right. All other variables had normal distribution. The kurtosis values were also examined to determine the peakedness of a distribution. A leptokurtosis distribution is where there is a peaked distribution with "fat tails" while a platykurtosis distribution is where there is a less peaked distribution with "thin tails" (Garson, N.D).

The data was also screened for multicollinearity. Multicollinearity helps the researcher determine if there is excessive correlation between variables meaning two

variables are highly related to one another. Generally correlations (r) above the .8 threshold are considered to be highly correlated. Additionally, the tolerance value can be examined to test for multicollinearity. Tolerance looks at the independent variable in relation to all other independents and thus takes interaction effects into account versus merely a simple correlation. Generally variables with a tolerance value of .2 should be dropped from the analysis. A bivariate correlation analysis was used to test the correlation of the variables for each model (see Tables 16 and 17). For Models 1 and 2, none of the variables were significantly correlated above the threshold level nor did the variables meet the tolerance threshold. For Model 3, two of the variables, Award Expectancy and Performance Consequences were highly correlated right below the threshold level ($r = .78$). Since these two variables will be factored together, they remain in the model.

Table 16: Model 2 Correlations

Variables		Plan Alignment	Employee Alignment	Management Guidance	Communication	Leadership Support	Strategic Plan Characteristics	Strategic Plan Direct	Regulatory Status	Program Size	Climate Fit
Plan Alignment	Pearson	1	.035	.218	-.003	.273	.127	-.114	-.065	.116	.043
	Sig.		.673	.007	.973	.001	.125	.169	.429	.160	.612
	N	151	147	151	146	151	148	148	151	149	144
Employee Alignment	Pearson	.035	1	.003	.607	.002	-.133	.220	.016	.015	.358
	Sig.	.673		.969	.000	.982	.111	.008	.846	.857	.000
	N	147	147	147	146	147	145	145	147	145	144
Management Guidance	Pearson	.218	.003	1	.073	.408	.150	-.127	.102	.102	-.016
	Sig.	.007	.969		.380	.000	.070	.125	.211	.216	.849
	N	151	147	151	146	151	148	148	151	149	144
Communication	Pearson	-.003	.607	.073	1	.007	-.170	.052	.066	-.037	.304
	Sig.	.973	.000	.380		.936	.041	.534	.431	.660	.000
	N	146	146	146	146	146	144	144	146	144	143
Leadership Support	Pearson	.273)	.002	.408)	.007	1	.022	-.069	.041	.020	.058
	Sig.	.001	.982	.000	.936		.792	.406	.616	.811	.488
	N	151	147	151	146	151	148	148	151	149	144
Strategic Plan Characteristics	Pearson	.127	-.133	.150	-.170	.022	1	-.462	-.044	.157	-.314
	Sig.	.125	.111	.070	.041	.792		.000	.598	.058	.000
	N	148	145	148	144	148	148	148	148	146	142
Strategic Plan Direct	Pearson	-.114	.220	-.127	.052	-.069	-.462	1	-.042	.083	.266
	Sig.	.169	.008	.125	.534	.406	.000		.614	.317	.001
	N	148	145	148	144	148	148	148	148	146	142

Note. *Significance is 2-tailed.

Table 16: Model 2 Correlations, Continued

Variables		Plan Alignment	Employee Alignment	Management Guidance	Communication	Leadership Support	Strategic Plan Characteristics	Strategic Plan Direct	Regulatory Status	Program Size	Climate Fit
Regulatory Status	Pearson	-.065	.016	.102	.066	.041	-.044	-.042	1	-.075	-.050
	Sig.	.429	.846	.211	.431	.616	.598	.614		.361	.554
	N	151	147	151	146	151	148	148	151	149	144
Program Size	Pearson	.116	.015	.102	-.037	.020	.157	.083	-.075	1	-.002
	Sig.	.160	.857	.216	.660	.811	.058	.317	.361		.977
	N	149	145	149	144	149	146	146	149	149	142
Climate Fit	Pearson	.043	.358	-.016	.304	.058	-.314	.266	-.050	-.002	1
	Sig.	.612	.000	.849	.000	.488	.000	.001	.554	.977	
	N	144	144	144	143	144	142	142	144	142	144

Note. *Significance is 2-tailed.

Table 17: Model 1 and 3 Correlations

Variables		Plan Alignment	Employee Alignment	Results	Credible Measures	Award Expectancy	Performance Consequences	Feedback	Employee Involvement	Training	Program Performance
Plan Alignment	Pearson	1	.035	.056	.493	-.018	-.026	-.016	.395	.330	.030
	Sig.		.673	.505	.000	.826	.754	.852	.000	.000	.755
	N	151	147	146	151	146	144	146	151	151	110

Note. *Significance is 2-tailed.

Table 17: Model 1 and 3 Correlations, Continued

Variable		Plan Alignment	Employee Alignment	Results	Credible Measures	Award Expectancy	Performance Consequences	Feedback	Employee Involvement	Training	Program Performance
Employee	Pearson	.035	1	.305	.156	.301	.329	.432	.053	.041	.221
Alignment	*Sig.*	.673		.000	.059	.000	.000	.000	.522	.623	.021
	N	147	147	146	147	146	144	146	147	147	109
Results	Pearson	.056	.305	1	.067	.229	.182	.290	.039	-.072	.064
	Sig.	.505	.000		.422	.005	.029	.000	.641	.390	.509
	N	146	146	146	146	146	144	146	146	146	109
Credible Measures	Pearson	.493	.156	.067	1	-.020	.035	.047	.331	.328	-.010
	Sig.	.000	.059	.422		.807	.676	.573	.000	.000	.917
	N	151	147	146	151	146	144	146	151	151	110
Award Expectancy	Pearson	-.018	.301	.229	-.020	1	.782	.672	.142	-.055	.125
	Sig.	.826	.000	.005	.807		.000	.000	.088	.509	.196
	N	146	146	146	146	146	144	146	146	146	109
Performance	Pearson	-.026	.329	.182	.035	.782	1	.699	.176	.008	.191
Consequences	*Sig.*	.754	.000	.029	.676	.000		.000	.035	.922	.047
	N	144	144	144	144	144	144	144	144	144	108
Feedback	Pearson	-.016	.432	.290	.047	.672	.699	1	.135	-.008	.147
	Sig.	.852	.000	.000	.573	.000	.000		.104	.921	.128
	N	146	146	146	146	146	144	146	146	146	109
Employee	Pearson	.395	.053	.039	.331	.142	.176	.135	1	.453	-.011
Involvement	*Sig.*	.000	.522	.641	.000	.088	.035	.104		.000	.906
	N	151	147	146	151	146	144	146	151	151	110

Note. *Significance is 2-tailed.

Table 17: Model 1 and 3 Correlations, Continued

Variable		Plan Alignment	Employee Alignment	Results	Credible Measures	Award Expectancy	Performance Consequences	Feedback	Employee Involvement	Training	Program Performance
Training	Pearson	.330	.041	-.072	.328	-.055	.008	-.008	.453	1	.002
	Sig.	.000	.623	.390	.000	.509	.922	.921	.000		.981
	N	151	147	146	151	146	144	146	151	151	110
Program	Pearson	.030	.221	.064	-.010	.125	.191	.147	-.011	.002	1
Performance	*Sig.*	.755	.021	.509	.917	.196	.047	.128	.906	.981	
	N	110	109	109	110	109	108	109	110	110	110

Note. *Significance is 2-tailed.

Missing Data

From the three sources of data, only two sources had missing data per se. Results from the 2006 FHCS are missing for two independent agencies. These agencies did not participate in the government-wide survey that year. Additionally, strategic plans were identified for all but three independent agencies. Other sources of missing data are the result of the different samples. For Models 1 and 3, only performance appraisal programs that also have PART scores associated with the program are used. As explained under the data source and sampling section for PART, not all appraisal programs evaluated by PAAT are associated with a Federal program; some programs evaluate internal agency services such as administrative offices. Given the limited number of missing data, no missing values analysis was performed.

Statistical Methods

Both models use multivariate regression analysis to test the relationship between the independent variables and the dependent variables. Regression analysis is used to test the fit of a predictive model to predict the values of the dependent variable from one or more independent variables. Multiple regression seeks to predict the outcome of a dependent variable using multiple predictive variables. Model 2 also uses Logistic regression. Logistic regression is used when the dependent variable is a categorical dichotomy and the predictor variables are continuous or categorical. In the case of Model 2, the Plan Alignment variable is dichotomous (Yes/No). Factor analysis is used to develop the index of overall quality performance appraisal programs. Factor analysis allows the researcher to confirm if the

number of factors and the loadings of measured variables are expected on the basis of prior theory.

Both ordinary least squares (OLS) and logistic regression analyses are conducted to determine the relationship among goal alignment, performance appraisal elements and program performance. The logistic regression analysis tests the probability of which organizational factors lead to the alignment of strategic plan goals with performance appraisals. The OLS regression analysis tests first if alignment of strategic plan goals with performance appraisals is related to improved program performance, and second, whether the overall quality of the performance appraisal program positively modifies that relationship. Logistic regression is chosen for its predictive ability to estimate the relationship between two dichotomous outcomes; linear regression is chosen for it ability to predict multiple relationships. Factor analysis will determine the factor loadings of the eleven items that measure different dimensions of overall performance appraisal quality. The purpose is to test the relationship of performance appraisal dimensions to a factor structure.

Summary

The purpose of Chapter 3 was to provide an overview of the research design and methodology to test the relationships in the research models. Preliminary analysis and screening of the data sources demonstrated the PART and PAAT data's usefulness to this research and how it operationalized the research variables to test the hypotheses. Based on the limited analysis the data does meet the assumptions of statistical analyses (further analysis of assumptions is discussed in the following chapters). Chapters 4, 5, and 6 will present the results of the statistical analyses for models respectively.

CHAPTER 4: GOAL ALIGNMENT AND PROGRAM PERFORMANCE

Central to the research questions and to the ensuing models is the relationship between goal alignment and program performance. The purpose of Chapter 4 is to examine and test this relationship using the two constructs of goal alignment. Plan Alignment is constructed to measure whether or not strategic plan goals are actually embedded in performance appraisal plans and are aligned with plan elements and standards. This construct is concerned with goal alignment as an organizational process and whether goal alignment as a function of a performance appraisal program matters. Employee Alignment is constructed to measure the extent to which employees perceive goal alignment. Specifically, Employee Alignment measures the extent to which employees report knowing how their work relates to the organization's goals and priorities. This construct focuses on the human element of goal alignment and if employee goal alignment (measured by knowledge) matters. Using these two constructs, the first models examine how Plan Alignment and Employee Alignment can predict program performance. This chapter tests the first two hypotheses:

Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.

Hypothesis 2: Employee knowledge of how their works relates to strategic plan goals will be positively related to program performance.

Because the two variables measure completely separate constructs of goal alignment, each are tested separately with program performance.

This chapter is organized into three sections. The first and second sections test the relationship between Plan Alignment (Model 1a) and Employee Alignment (Model 1b) and program performance, respectively. The last section discusses the findings.

Before running the regression analysis, the variables were analyzed for multicollinearity (see Table 18). Using the Pearson Correlation analysis to test whether the variables differ, results show that none of the variables are above the .8 threshold for high correlation (Garson, n.d.). Plan Alignment and Employee Alignment as two different conceptualizations of goal alignment do not correlate highly or significantly with each other. The limited correlation reinforces the distinctly separate measures of goal alignment, one a measure of an organizational process, and one a measure of human perceptions. Only Employee Alignment correlated significantly with Program Performance.

Table 18: Model 1 Correlations

Variables		Plan Alignment	Employee Alignment	Program Performance
Plan Alignment	Pearson	1	.035	.030
	Sig.		.673	.755
	N	151	147	110
Employee Alignment	Pearson	.035	1	.221
	Sig.	.673		.021
	N	147	147	109
Program Performance	Pearson	.030	.221	1
	Sig.	.755	.021	
	N	110	109	110

Note. *Significance is 2-tailed.

Plan Alignment Regression Analysis

The Model 1a regression analysis tested the relationship between Plan Alignment and Program Performance (see Table 19 for the regression results) to determine if Plan Alignment alone is a predictor of program performance. As indicated by the results, performance appraisal alignment, embedding organizational goals within performance plans, is positively related to, but is not a significant predictor of program performance. The relative strength of the effect size is very small according to Cohen's d (d = .06; r = .03) (Rosenthal & Rosnow, 1991; Cohen, 1988).[2] The null hypothesis that alignment of strategic goals with employee performance plans is not related to program performance cannot be rejected. It appears that the actual "paper" process of aligning strategic plan goals with performance standards does not matter. Even though goal setting theory has firmly established the impact between aligning individuals' tasks with organizational goals for achieving increased performance, as this analysis indicates, the process of linking goals to performance standards is not a significant predictor of performance.

Table 19: Plan Alignment Regression Results (N = 109)

Predictors	*B*	*SE*	*β*	*P*
Plan Alignment	.01	.035	.03	.755
R^2		.00		

Note. Dependent Variable is Program Performance

Employee Alignment Regression Analysis

The Model 1b regression analysis tested the relationship between Employee Alignment and Program Performance (see Table 20 for the regression results) to determine if

[2] Cohen's d and the effect size correlation r were calculated using Rosenthal and Rosnow (1991) t test differences between two groups $d = 2t / \sqrt{(df)}$ and $r = \sqrt{[\, t^2 / (t^2 + df)]}$.

Plan Alignment alone is a predictor of program performance. As previewed with the correlation table, the regression results indicated that there is a positive and significant relationship between employee knowledge of how their work relates to the agency's goals and priorities and agency program performance. Unlike the small effect size of Plan Alignment, the relative strength of the effect size of the Employee Alignment coefficient is medium according to Cohen's d (*d*= .45; *r* = .22) (Rosenthal & Rosnow, 1991; Cohen, 1988). The hypothesis that employee knowledge of how their works relates to strategic plan goals is related to program performance can be accepted.

Table 20: Employee Alignment Regression Results (N = 108)

Predictors	*B*	*SE*	*β*	*P*
Plan Alignment	.008	.003	. 221	.021
R^2		.05		

Note. Dependent Variable is Program Performance

Discussion

The relatively simple analyses of Model 1a and 1b were to test the foundational relationship between goal alignment and program performance. Using two conceptualizations of goal alignment, the models began to answer the research question to what extent and under what conditions performance appraisal goal alignment supports the successful implementation of strategic plans in a Federal agency. The moderating effect of quality performance appraisals is tested with Models 3a and 3b. Foremost, the null finding that alignment of strategic goals with employee performance plans is not related to program performance is counter to what goal alignment literature would suggest. As these results indicated, the paper process of goal alignment is not a predictor of program performance, especially when program performance is conceptualized as program results ratings based on

whether an agency program is meeting its short- and long-term performance measures. Several of the intervening factors that might explain this outcome are tested with the moderation model: performance appraisal goal alignment does not matter unless the program actually measures employee performance related to the organizational goals and holds employees accountable for that performance.

Performance appraisal programs are one of many management tools for monitoring (Daft and Macintosh, 1984) and ensuring performance within an organization and the process of linking performance standards to organizational strategic goals is one small function within the program. Obviously, the influence on program performance that such an activity would have is limited. This is further suggested by the very small effect size of the coefficient found in all analyses of the model as well as the overall variance explained by the model. Even in the full moderation model where Plan Alignment trended toward significant using a one-tailed significance test, the relative strength of the coefficient is small (refer to Table 32). Moreover, given the measures of Plan Alignment and Program Performance (OMB ratings of agency program results) the relation would be tenuous at best.

While the process of goal alignment though performance appraisal programs are not a predictor of program performance, employee knowledge of how their work relates with the goals and priorities of the agency appears to be a significant predictor. These two different outcomes reveal an interesting difference between what is considered a predictor of organizational performance. Based on these results, bureaucratic processes appear to have limited influence, while the human factor and human knowledge are more important to increased program performance. Goal alignment literature has focused on aligning

organizational processes with organizational goals through a performance management system, not necessarily though employee knowledge (although processes may lead to increased knowledge as well). Future research should continue to test these two outcomes, but as this research's results suggest, goal alignment must also occur at the individual employee level and how well each employee perceives the connection between their work and the organization's goals and priorities.

CHAPTER 5: ORGANIZATIONAL FACTORS AND STRATEGIC PLAN CHARACTERISTICS RESULTS

As was outlined in Chapter 3, two statistical methods are employed: logistic regression and multiple regression. Logistic regression is used to test the model with the dichotomous dependent variable: Plan Alignment. Multiple regression is used to test the model with the continuous dependent variable: Employee Alignment. Model 2 tests the first research question: To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? Five hypotheses consider possible outcomes of this research question and are tested in this chapter:

Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.

Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.

Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.

Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.

Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.

Chapter 5 is organized into three sections. The first section presents the results of the logistic regression analysis (Model 2a) and the second section presents the results of the multiple regression analysis (Model 2b). The final section discusses the overall results.

Models 2a and 2b uses five predictive variables (operationalization described in Chapter 3): Communication, Leadership Support, Climate Fit, Management Guidance, and Strategic Plan Characteristics, while Model 2a uses the Plan Alignment dependent variable and Model 2b uses the Employee Alignment dependent variable. Both models use three control variables: Strategic Plan Direct to Program, Regulatory Status, and Program Size. Three of the variables are dichotomous, including two of the control variables. Table 21 provides the descriptive statistics.

Table 21: Model 1 Variable Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Plan Alignment	151	1.00	.00	1.00	.7285	.44623
Employee Alignment	147	38.00	62.00	100.00	84.1776	5.55561
Communication	146	61.00	26.00	87.00	60.1308	10.40749
Leadership Support	151	1.00	.00	1.00	.8278	.37880
Climate Fit	144	62.80	24.35	87.15	57.4947	7.05294
Management Guidance	151	1.00	.00	1.00	.8013	.40033
Strategic Plan Characteristics	148	3.00	2.00	5.00	3.2399	.79426
Strategic Plan Direct to Program	148	1.00	.00	1.00	.6351	.48303
Regulatory Status	151	1.00	.00	1.00	.1788	.38447
Program Size	149	283475	16.00	283491.00	9848.550	30998.006

Logistic Regression Analysis Results

Logistic regression analysis was used to determine the extent to which the eight independent variables predict the probability of performance appraisal plan alignment (extent to which employee performance plans align with and are designed to support organizational goals). In this analysis of Model 2a, the dependent variable, Plan Alignment, is dichotomous (Does the program description require that employee performance plans align with organizational goals, such as the specific goals identified in the organization's annual performance plan? Yes = 1; No = 0). Four of the variables in the model are binary and were identified as categorical independent variables in logistic analysis (Leadership Support, Management Guidance, Strategic Plan Direct, Regulatory Status). The reference category for these variables is 1 = Yes (Indicator selection in SPSS). The remaining independent variables were considered interval covariates.

Testing Assumptions

Logistic regression does not make any assumptions of normality, linearity, and homogeneity of variance for the independent variables. However, because the same variables are used for multivariate regression in the second analysis, the data meets these assumptions. Under the Data Screening section in Chapter 3, the entire Model 2a and 2b correlations are presented. In a bivariate correlation analysis, Communication, Regulatory Status, and Strategic Plan Direct are negatively related to the dependent variable, Plan Alignment. Only Leadership Support and Management Guidance are significantly correlated with Plan Alignment (see Table 22).

Table 22: Groupwise and Bivariate Comparison of Dependent Variable

	Plan Alignment					
	No		Yes		*Corre-*	
Variable	*Mean*	*SD*	*Mean*	*SD*	*Lation*	*p*
Communication	60.179	11.251	60.113	10.491	-0.003	0.973
Leadership Support	0.659	0.480	0.891	0.355	0.274	0.001
Climate Fit	56.985	8.075	57.671	6.524	0.043	0.612
Management Guidance	0.659	0.480	0.855	0.382	0.218	0.007
Strategic Plan Characteristics	3.075	0.789	3.301	0.808	0.127	0.125
Regulatory Status	0.220	0.419	0.164	0.355	-0.065	0.429
Strategic Plan Direct	0.707	0.461	0.591	0.406	-0.114	0.169
Program Size	3954	8493	12012	51743	0.116	0.160

The model tests of goodness of fit and significance revealed the model is a good fit and overall significant. The Hosmer and Lemeshow chi-square test of goodness of fit non-significant finding indicates the model adequately fits the data. The Hosmer and Lemeshow is the recommended test for overall fit of a binary logistic regression model with small sample size and interval data. Additionally, the significant Omnibus test of model coefficients indicates that model with the predictors is significantly different from a model with only the intercept (χ^2 (8, N = 138) = 19.138, p <.05). This indicates, as confirmed in the variables in the equation table, that at least one of the predictors is significantly related to the dependent variable and there is an adequate fit of the data to the model. The Nagelkerke R Square can be loosely interpreted as the model explains 19% of the variance in whether or not a program has employee performance appraisal plans that align with strategic plan goals (see Table 23).

Table 23: Logistic Regression Results Predicting Plan Alignment (N = 138)

Predictors	*B*	*OR*	*p*
Communication	.005	1.005	.825
Leadership Support	1.251	3.493	.015
Climate Fit	.042	1.043	.200
Management Guidance	.797	2.220	.104
Strategic Plan Characteristics	.341	1.406	.291
Strategic Plan Direct	-.329	.720	.534
Regulatory Status	-.404	.667	.434
Program Size	.000	1.000	.207
Hosmer and Lemeshow chi-square test of goodness of fit: 4.222; $p >$ .05; Nagelkerke R Square: .19.			

Note. Dependent variable: Plan Alignment (Y/N)

Of the predictor variables entered into the model, only one predictor variable, Leadership Support, met the Wald statistic for significance using a two-tailed test ($p = .015$). Programs that have leadership support are 2.5 times more likely to have employee performance appraisal plans that align with strategic plan goals. This finding supports Hypothesis 3: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals. The remaining variables were not found to be significant. If applying a one-tail significance test, the Climate Fit, Management Guidance, and Program Size variables trend toward significance, which would support Hypotheses 3 and 5. However, other than Leadership Support, none of the other variables are uniquely significant and they fail to predict performance appraisal plan alignment.

Results from the classification table (Table 24) indicate that only 25% of the programs that do not have Plan Alignment were correctly classified. Almost 95% of programs that have Plan Alignment were correctly classified. Overall, over three-fourths of the respondents were correctly assigned. The proportional by chance accuracy rate was

computed by calculating the proportion of cases for each group based on the number of cases in each group in the classification table at Step 0, and then squaring and summing the proportion of cases in each group ($0.259^2 + 0.741^2 = 0.616$). The accuracy rate computed by SPSS was 77%, which was greater than or equal to the proportional by chance accuracy criteria of 77% (1.25 x .616 = 77%). While adequate, the criteria for classification accuracy were satisfied (Field, 2005).

Table 24: Logistic Regression Classification Table

Observed		**Predicted**		
		No	Yes	Percentage Correct
Plan Alignment	No	9	27	25.0
	Yes	5	98	95.1
Overall Percentage				77.0

Discussion

The results provide insight into goal alignment as a process and whether or not certain factors within an agency will predict the probability that an agency will embed strategic goals within its performance plans. As suggested by the implementation literature, leadership support remains the largest predictor of innovation implementation within an organization. Agency programs that have high level leadership support and oversight will be more likely to have employee performance appraisal plans that align with agency strategic plan goals. In this analysis, leadership support was conceptualized as whether or not the program was approved by the agency head or designee before it was implemented and if there is an agency official who has oversight of the results and awards under the program. Given the procedural nature of embedding strategic plan goals within employee performance plans, the relationship between it and leadership approval and oversight, also procedural functions,

makes sense. High-level leadership are often involved in the development of and held accountable for agency strategic goals. OMB and the Congress hold the agency heads responsible for achieving and demonstrating agency performance outcomes related to their strategic plans (particularly for the PART measures and outcomes for budget appropriation purposes). These same high-level agency leadership would be supportive of a mechanism that would ensure mid-level and front line supervisors are accountable for achieving the performance results.

Interestingly, when breaking down the levels of leadership with in an agency for both performance appraisal program approval and oversight, agency leadership implementation approval usually comes from the highest level within an agency or sub-agency (see Table 25 for the percent of positions that are responsible for approving implementation of a performance appraisal program). Executive leadership, like agency heads, deputy agency heads, and sub-agency heads, are also responsible for determining the strategic direction of the organization. It is reasonable to assume they would likewise approve programs that would promulgate and support accountability for organizational strategic goals. However, oversight and implementation of the program drops a level or two in the hierarchy, leaving the program in the authority of either deputy directors, associate or assistant directors, or agency human resources directors and officials (see Table 26). Nonetheless, support from the high-levels of leadership dramatically increases the probability that a program will have performance plan goal alignment.

Table 25: Agency Leadership Implementation Approval

Position Title	Percent
Agency Head (Administrator, Secretary, Commissioner, Director)	22%
Agency Deputy/Associate/Assistant Head	19%
Sub-Agency Head (Director, Under Secretary)	33%
Director/Officer of Human Resources	16%
Chief Human Capital Officer	8%
Executive Committee	2%
Total	100%

Source: U.S. Office of Personnel Management.

Table 26: Agency Leadership Oversight

Position Title	Percent
Agency Head (Administrator, Secretary, Commissioner, Director)	9%
Agency Deputy/Associate/Assistant Head	7%
Sub-Agency Head (Director, Under Secretary)	11%
Sub-Agency Deputy/Associate/Assistant Head	27 %
Director/Officer of Human Resources	21%
Deputy, Assistant Director of Human Resources	3%
Director, Officer of Resources, Operations, Administration	8%
Chief Human Capital Officer	13%
Committee	1%
Total	100%

Source: U.S. Office of Personnel Management.

While the remaining variables in the logistic regression analysis were not found to be uniquely significant using the Wald statistic for significance, three trend toward significance: Climate Fit, Management Guidance, and Program Size. Given the operationalization of the dependent variable as an organizational process, these three are slightly more influencing on processes than the remaining variables. Management Guidance significantly correlated with Plan Alignment in the bivariate correlation, but failed to meet the one or two-tail significance test in the model. As conceptualized, guidance from the head of the agency or designee on how to incorporate organizational performance into the assessment process, this positive

relationship is to be expected, but in the given model it is not a significant predictor of Plan Alignment.

The results-oriented climate and culture of an organization was hypothesized to influence goal alignment, and as a process, the conceptualization of Climate Fit could have fit the model. However, the results indicate that agencies where employees feel that 1) they are held accountable for achieving results and 2) differences in performance are recognized in a meaningful way was not a predictor of Plan Alignment. The climate of an agency is not influencing to the process of goal alignment. Program Size apparently has no directional effect on whether or not an agency program has Plan Alignment, but from a simple means comparison, on average, larger programs tend to have strategic plan goals embedded in their performance appraisal plans. Likewise the small number of agency regulatory programs included in the sample does not appear to impact Plan Alignment.

It was anticipated that if an agency strategic plan delineated action steps and identified individuals or positions accountable for action step implementation, those programs would be more likely to extend that accountability tracking to the individual's performance appraisal. The non-significant results for both Strategic Plan Characteristics and Strategic Plan Direct are curious given innovation implementation literature's affirmation that successful implementation is predicted by the extent to which innovation key elements are easily understood and able to be operationalized (Rogers, 2003). The non-significant finding may be the result of the Plan Alignment ratings. OPM officials rated performance appraisal plans based on whether the performance plans align with organizational goals, not necessarily if action steps or other organizational objectives or

measures were in the performance plans. This would exclude performance plans, especially those at the Senior Executive Service level that would include such alignment, but not specifically list strategic plan goals.

The specific conceptualization of the communication variable as "Managers communicate the goals and priorities of the organization" is telling for the non-significant coefficient. This particular variable is measured by employee perceptions. The extent to which managers communicate the goals and priorities of the organization does not directly influence to the process of embedding strategic plan goals in performance appraisal plans. Future evaluations of this model should include a communication variable conceptualized as manager communication to the supervisors or HR officials or the like.

Multiple Regression Analysis Results

For the analysis of Model 2b, multivariate regression analysis was used to test the fit of a predictive model to predict the values of the dependent variable, Employee Alignment, from the five independent variables. The same eight predictive variables from Model 2a were entered into a regression model with the dependent variable: Employee Alignment (employees know how their work relates to the agency's goals and priorities).

Table 27: Model 2b Regression Correlations

Variable		Employee Alignment	Management Guidance	Communication	Leadership Support	Strategic Plan Characteristics	Strategic Plan Direct	Regulatory Status	Program Size	Climate Fit
Employee Alignment	Pearson	1	.003	.607	.002	-.133	.220	.016	.015	.358
	Sig.		.969	.000	.982	.111	.008	.846	.857	.000
	N	147	147	146	147	145	145	147	145	144
Management Guidance	Pearson	.003	1	.073	.408	.150	-.127	.102	.102	-.016
	Sig.	.969		.380	.000	.070	.125	.211	.216	.849
	N	147	151	146	151	148	148	151	149	144
Communication	Pearson	.607	.073	1	.007	-.170	.052	.066	-.037	.304
	Sig.	.000	.380		.936	.041	.534	.431	.660	.000
	N	146	146	146	146	144	144	146	144	143
Leadership Support	Pearson	.002	.408	.007	1	.022	-.069	.041	.020	.058
	Sig.	.982	.000	.936		.792	.406	.616	.811	.488
	N	147	151	146	151	148	148	151	149	144
Strategic Plan Characteristics	Pearson	-.133	.150	-.170	.022	1	-.462	-.044	.157	-.314
	Sig.	.111	.070	.041	.792		.000	.598	.058	.000
	N	145	148	144	148	148	148	148	146	142
Strategic Plan Direct	Pearson	.220	-.127	.052	-.069	-.462	1	-.042	.083	.266
	Sig.	.008	.125	.534	.406	.000		.614	.317	.001
	N	145	148	144	148	148	148	148	146	142

Note. Significance is 2-tailed.

Table 27: Model 2b Regression Correlations, Continued

Variable		Employee Alignment	Management Guidance	Communication	Leadership Support	Strategic Plan Characteristics	Strategic Plan Direct	Regulatory Status	Program Size	Climate Fit
Regulatory Status	Pearson	.016	.102	.066	.041	-.044	-.042	1	-.075	-.050
	Sig.	.846	.211	.431	.616	.598	.614		.361	.554
	N	147	151	146	151	148	148	151	149	144
Program Size	Pearson	.015	.102	-.037	.020	.157	.083	-.075	1	-.002
	Sig.	.857	.216	.660	.811	.058	.317	.361		.977
	N	145	149	144	149	146	146	149	149	142
Climate Fit	Pearson	.358	-.016	.304	.058	-.314	.266	-.050	-.002	1
	Sig.	.000	.849	.000	.488	.000	.001	.554	.977	
	N	144	144	143	144	142	142	144	142	144

Note. Significance is 2-tailed.

Before running the regression analysis, the variables were analyzed for multicollinearity (see Table 27). Using the Pearson Correlation analysis to test whether the variables differ, results show that none of the variables are above the .8 threshold for high correlation (Garson, n.d.). Three of the independent variables (Communication, Strategic Plan Direct, and Climate Fit) are significantly correlated with Employee Alignment. Only one variable, Strategic Plan Characteristics, is negatively correlated with Employee Alignment, but not significantly.

The results of the regression analysis indicated that the eight predictors accounted for 44% of the variance in Employee Alignment with strategic plan goals (see Table 28). The model as a whole was significant, $F(8, 138) = 12.604$, $p < .05$. Turning to the regression estimates, Communication and Climate Fit were positively and significantly related to Employee Alignment indicating that higher levels of communication and climate for achieving results and recognizing differences in performance were associated with better employee knowledge of the agency's goals and priorities. The relative strength of the effect of Communication coefficient is very large according to Cohen's d ($d = 1.4$; $r = .56$) while Climate Fit's is medium ($d = .44$; $r = .22$) (Rosenthal & Rosnow, 1991; Cohen, 1988). Strategic Plan Characteristics was also positively related to Employee Alignment, but the relationship was not statistically significant. Management Guidance and Leadership Support were negatively related to Employee Alignment, though this relationship was not statistically significant. Strategic Plan Direct to Program was a significant and positive predictor of Employee Alignment, indicating that programs with strategic plans directly developed for that program were associated with better employee knowledge of agency's goals and

priorities. Regulatory and Program Size were not uniquely predictive of Employee Alignment.

The results of this regression analysis supports two of the five the hypotheses for Model 2b. Communication was found to be positively and significantly related to Employee Alignment ($\beta = .56$, $t = 7.968$, $p < .05$). Communication appears to have the largest unique influence on the dependent variable in the model. The null hypothesis, there is no relationship between regular communication of strategic goals and employee knowledge of strategic goals, can be rejected. Therefore Hypothesis 3 is supported: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.

Table 28: Regression Results Predicting Employee Alignment (N = 138)

Predictors	*B*	*SE*	*β*	*p*
Communication	.297	.037	.559	.000
Leadership Support	-.642	.998	-.044	.521
Climate Fit	.150	.058	.192	.010
Management Guidance	-.151	.968	-.011	.876
Strategic Plan Characteristics	.839	.552	.120	.131
Strategic Plan Direct	2.105	.891	.181	.020
Regulatory Status	.167	.952	.012	.861
Program Size	.000	.000	.004	.954
R^2		.437		

Climate Fit was also found to be positively and significantly related to Employee Alignment ($\beta = .19$, $t = 2.603$, $p < .05$). Nevertheless the null hypothesis that there is no relationship between programs that have a climate for achieving results and recognizing difference in performance and employee knowledge of strategic goals can be rejected and Hypothesis 4 is confirmed; programs that have a climate for achieving results and

recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.

The non-significant findings for Leadership Support, Management Guidance, and Strategic Plan Characteristic variables indicate that the null hypothesis cannot be rejected for these hypotheses:

> Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.
>
> Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.
>
> Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.

The addition of the control variables provided additional unexpected findings. Both Program Size and Regulatory Status were anticipated to be negatively related to Employee Alignment. While both were not significantly related, they were positively related. Whether or not a program has developed its own strategic plan for its level is significantly and positively related to employee knowledge of strategic plan goals ($\beta = .18$, $t = 2.361$, $p < .05$).

Testing Assumptions

These Model 2b regression results were also evaluated using three common multivariate regression diagnostic tests to determine if linearity, normality or variance

assumptions were violated. Collinearity between both models was evaluated by plotting the Studentized residuals for the regression model against the predicted Employee Alignment value. The relationship for both was linear and positive. Multicollinearity was tested by examining the tolerance levels. All of the predictors in the model exceed the <.2 threshold indicating no multicollinearity among the variables (Garson, n.d.).

When examining normality, the stem-and-leaf plots of the residuals show normal distribution with a single peak which suggests the data sample is from a normal population. The Q-Q plot show similar results with almost all the points falling on the straight line. With these results the normality assumption can be accepted. Finally, when testing for variance, the scatter plots of the Studentized and Standardize Predicted Values showed no pattern in the data points, meaning the variance of the Employee Alignment variable is the same for all of the values of the predictor variables.

Discussion

The results from the Model 2b using the Employee Alignment dependent variable are considerably different than the results using the Plan Alignment dependent variable, but could have been anticipated. The variables found to be significantly related to Employee Alignment differ in measurement (percent responses versus dichotomous responses) from those variables found to be significantly related to Plan Alignment. When conceptualizing goal alignment as employee knowledge, communication, climate fit and whether or not a program has a strategic plan directly created for it are all variables that can enhance employees' knowledge about how their work relates to the organization's goals and priorities; whereas, the more procedural variables of Leadership Support and Management

Guidance, are not related to enhancing employees' knowledge. Leadership Support is conceptualized as program implementation approval and oversight and Management Guidance is conceptualized as guidance from management on how to incorporate organizational performance into the assessment process. While they set processes in place that are predicted to lead to goal alignment, both of these variables are a step removed from actually enhancing employees' knowledge.

Communication had the greatest relative strength in explaining Employee Alignment in Model 2b ($\beta = .56$, $t = 7.968$, $p < .05$), over twice the explanatory strength of the next highest variable. Again, this finding affirms the important and widespread role of communication in implementation literature (Rogers, 2003; Damanpour, 1991; Ghoshal & Bartlett, 1988; Nilakanta & Scamell, 1990). For this research, Communication was conceptualized as the extent to which managers communicate the goals and priorities of the organization. Under this conceptualization, it is not surprising that communication of the goals and priorities of the organization significantly leads to increased employee knowledge. This result affirms Hypothesis 3 and further supports the common belief that agencies that regularly communicate the goals and objectives of the strategic plan are more likely to have that "line of sight" between individual activities and organizational goals and staff will experience greater clarity of how their work relates to the agency's goals and priorities.

The results also support the fourth hypothesis that programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee alignment. Climate Fit's relative strength ($\beta = .19$, $t = 2.603$, $p < .05$) in Model 2b is much smaller than Communication's, but follow Kline & Sorra (1996) findings that an

organization's Climate Fit of the innovation to be a key factor in implementation. Climate Fit was conceptualized as employees' perceptions that they are held accountable for achieving results and differences in performance are recognized in a meaningful way. Perceptions of being held accountable for achieving results seem to imply that employees must be knowledgeable about the results they are to achieve. Accountability for results and ensuing performance consequences are predictive indicators of employee goal alignment in an organization.

The inclusion of Strategic Plan Characteristics and whether or not a program has a strategic plan directly related to it (Strategic Plan Direct) provided an interesting result. Strategic Plan Characteristics was hypothesized to positively influence Employee Alignment and Strategic Plan Direct, as a control variable, was also expected to positively influence Employee Alignment. This hypothesis builds on implementation and diffusion literature's thesis that an innovation's characteristics can be a factor that influences the facilitation or impeding of its diffusion and implementation (Wejnert, 2002; Damanpour, 1991). However, the results indicate that strategic plan characteristics are not significantly predictive, rejecting the sixth hypothesis. The conceptualization of Strategic Plan Characteristics was specifically related to ease of embedding strategic plan goals and objectives into employee performance plans. The variable measured how actionable the strategic plan was written for performance appraisal plan alignment. Even though the results in Model 2a trended towards significance ($\beta = .12$, $p = .131$), indicating some causal relationship between characteristics and employee knowledge, the relationship is not as predictive as whether or not the program simply has a strategic plan written for its level.

This predictive finding of strategic plans in Model 2a being developed directly for a program, versus relying on an overall agency strategic plan, is an important contribution to goal alignment and strategy implementation theory. The relative size of the coefficient is small when compared to other factors such as communication, but important. Strategy implementation and goal alignment literature have not specifically tested the influence of program levels in strategic plans. Having a strategic plan that is directly related to a program is a predictive indicator of employee alignment.

CHAPTER 6: GOAL ALIGNMENT AND QUALITY PERFORMANCE APPRAISAL PROGRAMS

Building on the analysis from Chapter 4 and 5, Chapter 6 expands the research to the next step with Model 3. Model 3 evaluates the second research question: to what extent and under what conditions does the alignment of strategic plan goals with performance appraisals positively impact program performance? As demonstrated in Chapter 5, several organizational factors and strategic plan characteristics are predictive of goal alignment. Model 3 takes the dependent variables from Model 2 and tests the relationship between performance appraisal plan alignment and increased performance and the moderating effect of overall performance appraisal program quality (see Figure 1 in Chapter 1). The two final hypotheses are tested in this chapter:

> Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.
>
> Hypothesis 9: Employee knowledge of how their works relate to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.

As indicated by Hypotheses 8 and 9, Model 3 also uses the two different constructs of goal alignment.

Chapter 6 is organized into three sections. The first section presents the results of the factor analysis to create an index of Quality Performance Appraisal Program. The second and third sections present the results of the multiple regression analysis using the two

different constructs of goal alignment as the primary predictors of program performance, thus presenting two evaluations of Model 3: Models 3a and 3b.

Quality Performance Appraisal Program Factor Analysis

As outlined in Chapter 2, the frequent appearance of similar performance appraisal success factors suggests that a performance appraisal program quality index can be developed to evaluate the impact of overall performance appraisal program quality on the goal alignment and program performance relationship. Through a review of the literature, seven variables were identified: Results, Credible Measures, Award Expectancy, Performance Consequences, Feedback, Employee Involvement, and Training.

Table 29: Quality Performance Appraisal Variable Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Results	146	69.00	31.00	100.00	80.6822	7.92392
Credible Measures	151	1.00	.00	1.00	.7086	.45592
Award Expectancy	146	56.55	15.00	71.55	46.3571	9.48274
Performance Consequences	144	52.55	27.50	80.05	50.4327	7.79563
Feedback	146	45.00	35.00	80.00	59.3422	7.08792
Employee Involvement	151	2.67	.00	2.67	1.6909	.76893
Training	151	1.00	.00	1.00	.3775	.34984

Two of the variables, Credible Measures and Training are dichotomous measures, while the remaining variables are either categorical or continuous (see Table 29 for descriptive statistics). These seven factors contribute to performance appraisal program effectiveness and are useful for measuring overall performance appraisal program quality. An initial reliability analysis produced a Cronbach's alpha of .68, which approaches the threshold for indicating the items are highly correlated with each other. Cronbach's alpha is

a measure of level of mean intercorrelation weighted by variances and is a sample of internal consistency (Garson, n. d.).

Table 30: Quality Performance Appraisal Variables Correlations

Variables		Results	Credible Measures	Award Expectancy	Feedback	Employee Involvement	Training	Performance Consequence
Results	Pearson	1	.067	.229	.290	.039	-.072	.182
	Sig.		.422	.005	.000	.641	.390	.029
	N	146	146	146	146	146	146	144
Credible	Pearson	.067	1	-.020	.047	.331	.328	.035
Measures	Sig.	.422		.807	.573	.000	.000	.676
	N	146	151	146	146	151	151	144
Award	Pearson	.229	-.020	1	.672	.142	-.055	.782
Expectancy	Sig.	.005	.807		.000	.088	.509	.000
	N	146	146	146	146	146	146	144
Feedback	Pearson	.290	.047	.672	1	.135	-.008	.699
	Sig.	.000	.573	.000		.104	.921	.000
	N	146	146	146	146	146	146	144
Employee	Pearson	.039	.331	.142	.135	1	.453	.176
Involvement	Sig.	.641	.000	.088	.104		.000	.035
	N	146	151	146	146	151	151	144
Training	Pearson	-.072	.328	-.055	-.008	.453	1	.008
	Sig.	.390	.000	.509	.921	.000		.922
	N	146	151	146	146	151	151	144
Performance	Pearson	.182	.035	.782	.699	.176	.008	1
Consequence	Sig.	.029	.676	.000	.000	.035	.922	
	N	144	144	144	144	144	144	144

Note. Significance is 2-tailed.

The first step was to determine if the seven variables factored together to create a single factor score of Quality Performance Appraisal Program Index. Results from a simple bivariate correlation analysis found at least six of the variables correlated together above .3 and nearly half of the correlations were significant (see Table 30). From the correlation table it appears that Award Expectancy, Feedback, and Performance Consequences are strongly

related together while Credible Measures, Employee Involvement, and Training are moderately related together.

To determine proportion of variance that can be accounted for by common factors, Principle Axis Factoring with Promax rotation was applied to extract the factor loadings of the seven variables. The resulting Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) statistic of .71 indicated that the degree of common variance among the seven variables was adequate for the factor analysis. Additionally, Bartlett's Test was significant, meaning sphericity was not violated. Based on the KMO and Bartlett Test, the null hypothesis that the attributes are uncorrelated can be rejected.

Based on the factor loadings and eigenvalues, two factors emerged (see Table 31). Instead of one overarching factor, six of the variables loaded onto two different factors (using a factor loading threshold of .4). The first factor explained 32.6% of the variance and the second factor explained 16.3%. These two factors were renamed, Factor 1: Performance Culture (Award Expectancy, Performance Consequences, and Feedback) and Factor 2: Agency Appraisal Processes (Credible Measures, Employee Involvement, and Training). Essentially the variables that measured employee opinion regarding elements of the performance appraisal program (questions from the FHCS Performance Culture section) factored together, and the variables that measured actual performance program attributes factored together. Each of the three variables that loaded onto the respective factors were significantly related to each other in the bivariate correlation, with the exception of the Employee Involvement variable which was significantly related to all of the variables except the Results variable. Given the differing measures, it makes sense that the first factor be

renamed to Performance Culture, as employee opinion regarding the performance appraisal program is a type of outcome of the program. Likewise, the second factor contains measures of processes related to the performance appraisal program such as developing credible measures, ensuring employee involvement in the development of the program and performance plans, and training managers and employees on the performance appraisal program.

Table 31: Initial Factor Loadings (N = 144)

	Factor Loadings	
	Performance Culture	Agency Appraisal Processes
Results	.277	.013
Performance Consequence	**.877**	.126
Award Expectancy	**.871**	.050
Feedback	**.796**	.099
Training	-.026	**.690**
Employee Involvement	.180	**.681**
Credible Measures	.032	**.475**
% of variance	32.6	16.4

Note. Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

Only the Results variable did not load high on either factor. Unlike the other variables which relate directly to opinions of performance or the performance plan and process, the Results variable measures accountability, not actual performance or performance processes. The Results variable measures the extent to which employees believe they are held accountable for achieving results. It may be that employees view a relationship between being held accountable for results and high performance. In the bivariate correlation, the Results variable did not highly correlate with any of the other six variables, although it was significantly related to the performance variables (Feedback, Award Expectancy, and

Performance Consequences). The low loading suggests that Results is not related to either an outcome or a process of a performance appraisal program.

Because the Results variable did not load high on either factor, it was dropped from the model and the factor analysis was re-run with the remaining six variables (see Table 32 for the new factor loadings without the Results variable). Without the Results variable, Cronbach's alpha increased to .71 for the remaining six variables. The second analysis had a similar KMO of .71 and a significant Bartlett's Test. With the elimination of the Results variable, the remaining variables loaded slightly higher onto the two factors. The two factor loadings did not meet the hypothesized single index of overall quality performance appraisal program, but these two new factor scores can be used to test the moderating effect of performance culture and agency appraisal program processes.

Table 32: Final Factor Loadings without the Results Variable (N = 144)

	Factor Loadings	
	Performance Culture	Agency Appraisal Processes
Performance Consequence	**.900**	.119
Award Expectancy	**.873**	.043
Feedback	**.772**	.093
Training	-.016	**.685**
Employee Involvement	.182	**.682**
Credible Measures	.024	**.478**
% of variance	36.9	19.0

Note. Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

Plan Alignment Regression Analysis

For the analysis of Model 3a, regression analysis was used to test the predictive fit of the first measure of goal alignment, Plan Alignment, and the moderating effect of the two factors of Performance Culture and Agency Appraisal Processes. To test the moderating

effect of the two new variables, Performance Culture and Agency Appraisal Processes, both the moderating and predictor variables were centered to reduce the multicollinearity among the main effects and the interaction. Two interaction terms were created by multiplying the moderating variables (Performance Culture and Agency Appraisal Processes) with the predictive variable Plan Alignment (see Table 33 for the descriptive statistics). The Align Plan_Culture interaction had a negative and significant correlation with Program Performance while the Agency Appraisal Processes and Align Plan_Processes were significantly correlated with Plan Alignment (see Table 34).

Table 33: Model 3a Plan Alignment Variable Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Plan Alignment	151	1.00	.00	1.00	.7285	.44623
Program Performance	110	.85	.08	.93	.5886	.18225
Performance Culture	144	6.09	-3.32	2.76891	.0000	.94889
Agency Appraisal Processes	144	3.33	-1.75	1.57304	.0000	.82329
Plan Alignment_ Culture	144	3.95	-1.52	2.42	-.0073	.44625
Plan Alignment _ Processes	144	2.14	-.86	1.28	.1700	.34859

Table 34: Model 3a Plan Alignment Correlations

Variable		Program Performance	Plan Alignment	Performance Culture	Agency Appraisal Processes	Plan Alignment _Culture	Plan Alignment _Processes
Program Performance	Pearson	1	.030	.174	.010	-.250	.010
	Sig.		.755	.072	.920	.009	.918
	N	110	110	108	108	108	108
Plan Alignment	Pearson	.030	1	-.018	.474	.018	-.528
	Sig.	.755		.834	.000	.834	.000
	N	110	151	144	144	144	144
Performance Culture	Pearson	.174	-.018	1	.127	-.109	-.042
	Sig.	.072	.834		.128	.193	.614
	N	108	144	144	144	144	144
Agency Appraisal Processes	Pearson	.010	.474	.127	1	-.038	-.126
	Sig.	.920	.000	.128		.650	.131
	N	108	144	144	144	144	144
Plan Alignment _Culture	Pearson	-.250	.018	-.109	-.038	1	.176
	Sig.	.009	.834	.193	.650		.035
	N	108	144	144	144	144	144
Plan Alignment _Processes	Pearson	.010	-.528	-.042	-.126	.176	1
	Sig.	.918	.000	.614	.131	.035	
	N	108	144	144	144	144	144

Note. Significance is 2-tailed.

Even though the relationship between performance appraisal plan alignment and program performance from Model 1a was not found to be significant as hypothesized, the moderating effect of the two quality performance appraisal variables was still tested. A hierarchical regression analysis was conducted to determine the affects of the predictor and moderators on the dependent variable without the interaction effects. The first block included the predictive variable, Plan Alignment, and the two moderating variables, Performance Culture and Agency Appraisal Processes.

As can be seen in Table 35, this first block of predictors and moderators accounted for 4% of the variance in the dependent variable, but the model was not significant. The results of the second block indicated that the overall model was significant $F(5, 107) = 2.389$, $p < .05$, but the model only explains about 11% of the variance in program performance (see Table 33 for regression results). The initial model with just the predictor and moderators was not significant but the addition of the interaction effects changed the model to significant. Turning to the coefficient results, as expected, the relationship between Plan Alignment and Program Performance remained non-significant but increased slightly from the first to the second block. Both of the moderator coefficients decreased slightly between the two blocks. In the second block, only the coefficient for the Plan Alignment and Performance Culture interaction term was significant ($\beta = -.27$, $t = -2.685$, $p < .05$). This means that the joint effect of the predictor and the moderating variables is significant over and above each variable alone. The interaction indicates that the relationship between Plan Alignment and Program Performance differs across levels of Performance Culture.

Table 35: Plan Alignment Model 3a Regression Results (N = 108)

	Block 1				Block 2			
Predictors	*B*	*SE*	*β*	*p*	*B*	*SE*	*β*	*p*
Plan Alignment	.035	.046	.084	.443	.063	.051	.149	.224
Performance Culture	.036	.020	.180	.068	.032	.019	.159	.105
Agency Appraisal Processes	-.013	.024	-.059	.594	-.023	.023	-.107	.331
Plan Alignment_ Processes					.086	.057	.171	.133
Plan Alignment_ Culture					-.110	.041	-.270	.008
R^2	.036				.105			
ΔR^2					.023			

Note. Dependent Variable is Program Performance

To decompose the single significant interaction, the moderating variable was divided into 3 values (high, medium, low) using the variable mean and one standard deviation above

and below the mean. A simple slopes analysis[3] was used to determine the level at which the interaction was significant (see Appendix C for simple slopes output). Based on the results of the simple slope analysis, at high levels and the mean of Performance Culture, there is no significant relationship between Plan Alignment and Program Performance. At low levels of Performance Culture, Plan Alignment and Program Performance are positively and significantly related (see Figure 5 for the simple slopes). In agency programs where the performance culture is low, the low level significantly moderates the relationship between performance appraisal goal alignment and program performance.

With these results, the outcome of Hypothesis 8 is mixed. Hypothesis 8 suggested that alignment of strategic goals with employee performance plans would positively influence program performance depending on the overall quality of the performance appraisal program. Ideally high levels of a quality performance appraisal program should predict increased program performance. However, it appears that at low levels of Performance Culture the quality of an agency's appraisal program as it relates to performance culture does significantly and positively moderate the relationship between Plan Alignment and Program Performance.

[3] The simple slopes were calculated using a macro from http://people.ku.edu/~preacher/interact/mlr2.htm.

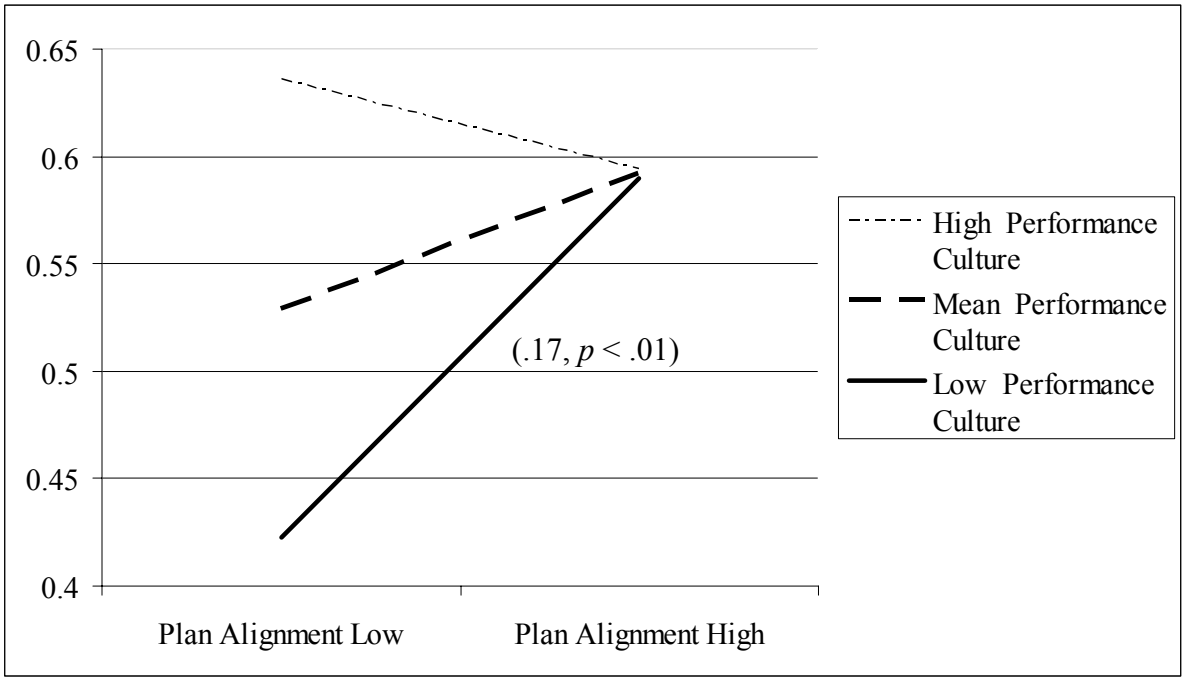


Figure 5: Simple Slopes of Plan Alignment and Outcome Interaction Effect

Testing Assumptions

The regression results also were evaluated using three common multivariate regression diagnostic tests to determine if linearity, normality or multivariate assumptions were violated. A simple histogram showed normal distribution with a single peak which suggests the data sample is from a normal population. A simple scatter plot showed linearity of the variables. The Q-Q plot showed similar results with almost all the points falling on the straight line. The normality assumption can be accepted with these results. None of the variables met the .2 threshold for tolerance, indicating that multicollinearity is not a problem.

Discussion

The quality of a performance appraisal program does moderate the relationship between performance appraisal plan alignment and program performance, but not exactly as hypothesized. The Model 3a analysis using the Plan Alignment conceptualization of goal alignment, found that the overall quality of the performance appraisal program, either as a measure of performance culture or agency appraisal processes was not a unique predictor of program performance. Quality performance appraisal programs appears to not matter, except when the programs have performance plan goal alignment and varying levels of performance culture, but not for varying levels of agency appraisal processes. The relationship between alignment and program performance is stronger under conditions of low performance culture. Performance plan alignment matters to program performance in agency programs where: 1) awards are not perceived to depend on how well employees perform their jobs, 2) there are limited consequences for action or non-action, or 3) performance feedback is not seen as worthwhile.

The performance appraisal program processes such as involving employees in the design of the program and performance standards, training managers and employees on the program and developing credible measures for the performance plans does not predict or moderate the relationship at any level. Although the literature strongly suggests these processes as best practices for developing an effective results-oriented performance appraisal program (Longenecker and Fink, 1997; Hall et al, 1989), this research suggests that merely having good processes in place does not lead to increased performance. Realistically, simply because a program involves or trains its employees in the performance appraisal process or

develops credible measures, it does not necessarily mean the employees are high performers or achieve the defined measures. Obviously there must be intervening factors like those in the Performance Culture that link employee performance to outcomes or ensure accountability to meet the performance goals. This suggests that while having a results-oriented process framework in place is good, processes alone are not predictive of increased program performance.

As hypothesized, it was anticipated that high levels of Performance Culture would significantly moderate the relationship between Plan Alignment and Program Performance. The non-significant moderating effect of high levels of Performance Culture is counter to the suggested hypothesis. This finding indicates that in agency programs where the performance culture perceptions are high, the relationship between performance plan alignment and program performance is not necessarily strengthened. The negative relationship between Plan Alignment and high levels of Performance Culture (as seen in Figure 5), while not significant, is an interesting result. The negative relationship is most likely the result of anomalies in the data for cases above one standard deviation. Plan Alignment is measured dichotomously, and with so few cases above one standard deviation, it only takes several cases with high Performance Culture but not Plan Alignment to skew the slope. While negative, it is not a significant relationship.

The non-significant effect on high levels and the significant effect on low levels may actually reflect the influencing role of goal alignment as a process. The influence of Plan Alignment is lost in programs that have high levels of Performance Culture because the program may be functioning well enough to meet strategic plan goals. For programs where

there are low levels of Performance Culture, if there is at least performance appraisal goal alignment, that seems to be enough to affect program performance. Essentially, the process component of ensuring that employee activities align with organizational goals can make up for the limited performance culture. It is almost as if, with the right alignment, agency programs can succeed in spite of low award expectancy among the employees, performance consequences, or limited feedback on performance.

Employee Alignment Regression Analysis

For the analysis of Model 3b, regression analysis was used to test the predictive fit of the second measure of goal alignment, Employee Alignment and the moderating effect of the two factors of Performance Culture and Agency Appraisal Processes. Again the predictor and moderating variables were centered to reduce the multicollinearity among main effects and the interaction and two interaction terms were created by multiplying the moderating variables (Performance Culture and Agency Appraisal Processes) with the predictive variable Employee Alignment (see Table 36 for the descriptive statistics). Employee Alignment and Performance Culture were significantly related to Program Performance and positively and significantly related to each other. Agency Appraisal Processes was the only variable not significantly related to any of the other variables in the model (see Table 37).

Table 36: Model 3b Employee Alignment Variable Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Employee Alignment	147	38.00	62.00	100.00	84.178	5.55561
Program Performance	110	.85	.08	.93	.5886	.18225
Performance Culture	144	6.09	-3.32	2.76891	.0000	.94889
Agency Appraisal Processes	144	3.33	-1.75	1.57304	.0000	.82329
Employee Alignment_Culture	144	59.77	-22.63	37.14	1.9453	7.26219
Employee Alignment_Processes	144	34.26	-19.45	14.81	.5144	4.11824

Table 37: Model 3b Employee Alignment Correlations

Variables		Program Performance	Employee Alignment	Performance Culture	Agency Appraisal Processes	Employee Alignment _Culture	Employee Alignment _Processes
Program	Pearson	1	.221	.174	.010	-.260	.054
Performance	Sig.		.021	.072	.920	.007	.576
	N	110	109	108	108	108	108
Employee Alignment	Pearson	.221	1	.369	.113	-.208	-.062
	Sig.	.021		.000	.179	.012	.461
	N	109	147	144	144	144	144
Performance Culture	Pearson	.174	.369	1	.127	-.011	-.153
	Sig.	.072	.000		.128	.898	.067
	N	108	144	144	144	144	144
Agency Appraisal	Pearson	.010	.113	.127	1	-.100	-.156
Processes	Sig.	.920	.179	.128		.232	.062
	N	108	144	144	144	144	144
Employee Alignment	Pearson	-.260	-.208	-.011	-.100	1	.084
_Culture	Sig.	.007	.012	.898	.232		.318
	N	108	144	144	144	144	144
Employee Alignment	Pearson	.054	-.062	-.153	-.156	.084	1
_Processes	Sig.	.576	.461	.067	.062	.318	
	N	108	144	144	144	144	144

Note. Significance is 2-tailed.

Model 3b used hierarchical regression to examine the extent to which the predictor and moderators and the interaction terms accounted for individual differences in Program Performance. Block 1 included the predictor variable, Employee Alignment, and the two moderating variables, Performance Culture and Agency Appraisal Processes, and block 2 included the two interaction terms. Block 1 accounted for nearly 6% of the variance in Program Performance (see Table 38). None of the variable coefficients were significantly related to the dependent variable; however, the predictor variable, Employee Alignment, trended toward significance. Although Employee Alignment was significantly related to Program Performance in the first regression analysis, it appears the inclusion of the two moderating variables alters the relationship. Likewise, the model in block 1 was not found to be significant.

With the addition of the two interaction terms to block 2, the amount of variance explained by the model increased to 10%, but not significantly as indicated by the R square change statistic. However, the overall model in block 2 was significant, $F(5, 107) = 2.217$, $p < .05$. The three initial variables coefficients remained non-significant in block 2 and only the coefficient for the Employee Alignment and Performance Culture interaction term was significant ($\beta = -.24$, $t = -2.044$, $p < .05$). Thus the joint effect of the predictor and the moderating variable was significant over and above each variable alone. This significant interaction indicated the relationship between Employee Alignment and Program Performance differed across levels of Performance Culture.

Table 38: Employee Alignment Model 3b Regression Results (N = 108)

	Block 1				Block 2			
Predictors	*B*	*SE*	*β*	*P*	*B*	*SE*	*β*	*p*
Employee Alignment	.007	.004	.186	.100	.008	.005	.029	.831
Performance Culture	.016	.023	.081	.473	.045	.023	.151	.194
Agency Appraisal Processes	-.006	.021	-.028	.771	-.011	.021	-.038	.699
Employee Alignment_ Processes					.025	.004	.085	.388
Employee Alignment_ Culture					-.073	.003	-.235	.044
R^2		.055				.098		
ΔR^2						.095		

Note. Dependent Variable is Program Performance

To decompose the single significant interaction, the moderating variable was divided into three values (high, medium, low) using the variable mean and two standard deviations above and below the mean (one standard deviation did not produce a significant slope). A simple slopes analysis was used to determine the level at which the interaction was significant (see Appendix D for simple slopes output). Based on the results of the simple slope analysis, at very high levels and at the sample mean of Performance Culture, there is no relationship between Employee Alignment and Program Performance. At very low levels of Performance Culture, Employee Alignment and Program Performance are positively and significantly related (see Figure 6).

Like Hypothesis 8, the result of Hypothesis 9 is mixed. Employee knowledge of how work relates to strategic plan goals does influence program performance depending on the *level* and *type* of overall quality of the performance appraisal program. It appears that at very low levels of Performance Culture, the quality of an agency's appraisal program as it relates to performance culture does significantly and positively moderate the relationship between

Employee Alignment and Program Performance. Ideally high levels of a quality performance appraisal program should predict increased program performance. Not surprisingly, because this second analysis uses the same moderating variables as the analysis for Hypothesis 8, the same interaction effect is significant even with the different operationalization of goal alignment.

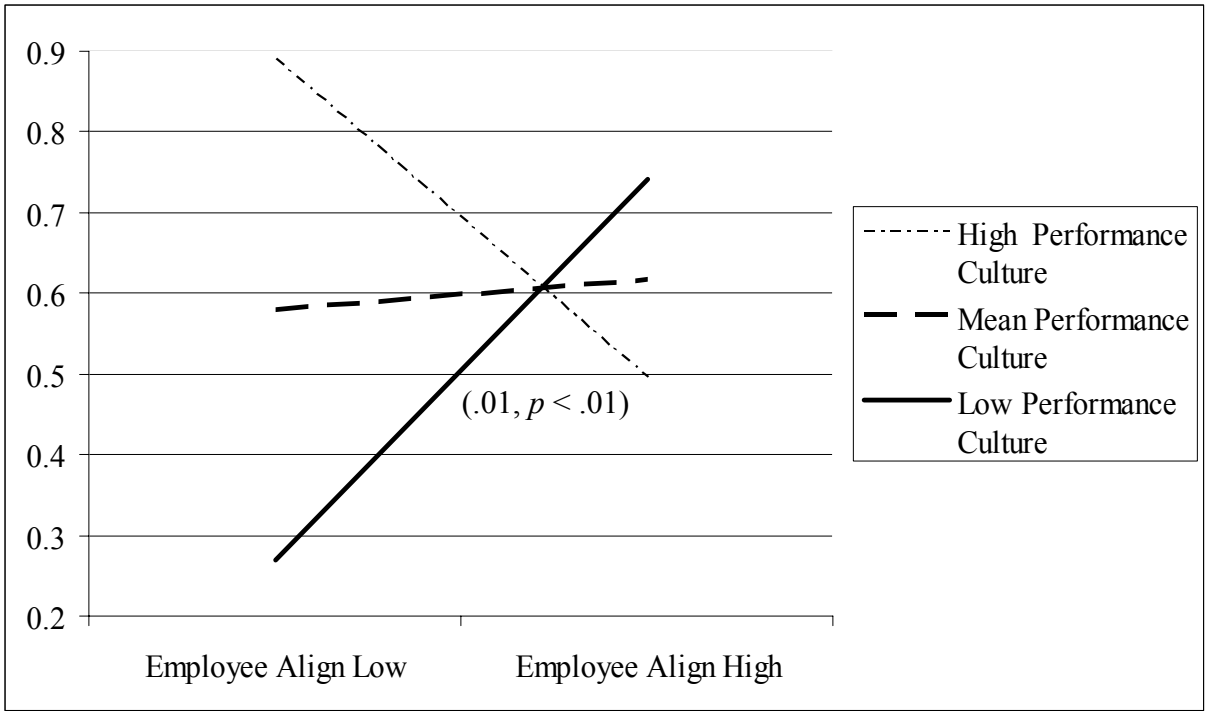


Figure 6: Simple Slopes of Employee Alignment and Outcome Interaction Effect

Testing Assumptions

The Model 3b regression results also were evaluated using three common multivariate regression diagnostic tests to determine if linearity, normality or multivariate assumptions were violated. A simple histogram showed normal distribution with a single peak which suggests the data sample is from a normal population and a simple scatter plot

showed linearity of the variables. The Q-Q plot showed similar results with almost all the points falling on the straight line. The normality assumption can be accepted with these results. None of the variables met the .2 threshold for tolerance, indicating that multicollinearity is not a problem. In an analysis of outliers the box plot and Cook's Distance did indicate at least one significant outlier, but the case remained in the analysis to not pull observations toward the mean and possibly introduce additional bias.

Discussion

This analysis of Model 3b using the conceptualization of goal alignment as employee knowledge mirrors the results in the Model 3a with one exception. In the analysis of Model 1b, employee knowledge of how their work relates to the agency's goals and priorities was found to be a significant predictor of program performance. However, when Employee Alignment was entered into the moderation Model 3b, its unique predictive influence was diminished and it was no longer a significant predictor. Moreover with each addition of the moderators and interaction terms, the relative strength of the Employee Alignment coefficient decreased. Employee Alignment positively correlated with Performance Culture, indicating a relationship between Employee Alignment and agency program performance culture. While the strongest correlation going into the model, the Pearson's Correlation was not high (r = .39). However, this complete moderation of Employee Alignment in blocks 1 and 2 in the moderation Model 3b appears to be the result of the Performance Culture. This suggests that the performance culture perceptions, measured as the perceptions of award expectancy among the employees, performance consequences, and feedback on performance, completely moderates the relationship between employee knowledge of the goals and

priorities of the agency and agency program performance. Assuming quality performance appraisal programs can lead to increased program performance, this finding affirms the general belief that performance appraisal programs are considered effective if the employees perceive the system as being fair and that they can affect the measures for which they are rewarded or penalized.

The complete moderation of Employee Alignment was not anticipated with Hypothesis 9 nor was the level of Performance Culture, but the finding is in line with the hypothesis of moderation. As demonstrated with Plan Alignment, quality performance appraisal programs do not matter in this model, except when the programs have employee goal alignment and only for performance culture and not agency appraisal processes. Neither was individually significantly predictive, but was significant with the interaction effect between Employee Alignment and Performance Culture. This means the relationship between Employee Alignment and Program Performance is stronger under conditions of very low Performance Culture. Employee Alignment matters to program performance in agency programs where employees have low perceptions of: 1) awards depend on how well employees perform their jobs, 2) there are consequences for action or non-action, or 3) performance feedback is worthwhile. This further affirms the influence of employee alignment and employee perceptions of performance on program performance (Kristof-Brown & Stevens, 2001; Jauch, Osborn, and Terpening, 1980).

However, the predictive influence of goal alignment differs based on its conceptualization. Plan Alignment and Employee Alignment are moderated by differing low levels of performance culture. As a process of embedding strategic plan goals into

performance plans, low levels of performance culture perceptions strengthen the relationship, and as an outcome of employee knowledge, very low levels of performance culture perceptions completely changes and strengthens the relationship. This suggests that employee knowledge of how his or her work relates to the goals and priorities of the agency is more effective than performance plans aligned with and designed to support organizational goals, especially under very low conditions of performance culture perceptions. Either way, quality performance appraisal programs benefit from plan or employee alignment.

As was seen in Model 3a with Plan Alignment, involving employees in the design of the program and performance standards, training managers and employees on the program and developing credible measures for the performance plans, does not moderate the relationship when goal alignment is conceptualized as Employee Alignment. Good performance appraisal processes were not predictive of program performance as processes alone cannot explain the relationship. The influence of Agency Appraisal Processes remained relatively unchanged from Model 3a block 1 to block 2.

Similar inferences for high levels of Performance Culture can be drawn for Model 3b. The non-significant moderating effect of high levels of Performance Culture indicates that agency programs where performance perceptions are very high, does not necessarily strengthen the relationship between performance employee alignment and program performance. Again, this is counter to Hypothesis 9, and indicates that employee alignment does not influence agency programs that have high performance culture perceptions. The negative slope also can be explained by anomalies in the data. When examining just a

handful of cases two standard deviations from the mean, having just a few cases with high employee knowledge, but low perceptions of performance culture can bias the result.

The Model 3a analysis revealed that goal alignment conceptualized as employee knowledge matters to program performance and to the moderating effect of very low levels of performance culture. Program performance was operationalized as the PART rating a program received for meeting its short- and long-term performance measures and goals. In the bivariate analysis, employee knowledge of these agency goals and priorities is predictive of achieving the organizational goals and measures. This relationship is moderated with perceptions of performance measured by Performance Culture. The non-significant effect on very high levels and the significant effect on very low levels reflect on the influencing role of goal alignment as employee knowledge. Employee Alignment is a predictor of program performance alone, but is muddled under conditions of varying perspectives regarding performance culture expectations and is only influencing at very low levels of employee performance culture perceptions.

CHAPTER 7: RESEARCH SUMMARY – IMPLICATIONS AND LIMITATIONS

The purpose of this research was to answer two specific questions regarding the use of performance appraisal programs as a management tool for implementing agency strategic plan goals. These questions were: 1) To what extent do Federal agency program organizational factors and strategic plan characteristics predict performance appraisal goal alignment? 2) To what extent and under what conditions does performance appraisal goal alignment support the successful implementation of strategic plans in a Federal agency? As reviewed in Chapter 2, the models for the two research questions were embedded in the literature of organizational performance, strategy implementation, strategic planning, and performance appraisal systems. Within strategy implementation literature, the use of performance appraisal programs as an implementation tool came predominately from within the structural and control mechanisms literature. Control mechanisms center on how to measure performance during and after implementation (Noble, 1999), and how the type of control mechanism strongly relates to organizational performance (Jaworski & McInnis, 1989; Jaworski et al, 1993).

Management control systems, such as performance appraisal systems, have been found to be one of the key factors in successful strategy implementation (Daft and Macintosh, 1984; Jaworski & McInnis, 1989; Jaworski et al, 1993). The research models approached the use of performance appraisal programs in Federal agencies from two different perspectives, with the key factor in each perspective being the importance of goal alignment. While there are a variety of types of performance appraisal systems, from trait-

based systems to behavior-based systems, the research focused on performance appraisal program functions for a results-oriented program, usually those found in a MBO or ABO system. The results of the models contribute and provide implications to each of these areas of literature. Most importantly, the results demonstrate the nuances in how performance appraisal goal alignment can affect strategy implementation and organizational performance and provide implications on how agencies can develop or revise their performance appraisal programs to be more results-oriented.

Nine research hypotheses were proposed to predict the relationships in the models. Five hypothesized the organizational factors and strategic plan characteristics that influenced goal alignment and four hypothesized the relationship of goal alignment under two different conceptualizations to program performance and the moderating effect of the overall performance appraisal program. Four of the hypotheses were supported by the statistical analyses and two had mixed findings (see Table 39 for a summary of hypotheses supported). All of the regression analyses for the models found the models as a whole significant. The purpose of this chapter is to discuss the key findings and takeaways from this research.

This chapter is divided into three sections. The first section reviews the major key takeaways and implications of models based on their theoretical and practical contributions. The second section addresses the limitations of the study as a whole. Finally the last section concludes with suggestions for future research.

Table 39: Summary of Hypotheses Supported

Hypotheses	Supported?
Hypothesis 1: Alignment of strategic goals with employee performance plans will be positively related to program performance.	No
Hypothesis 2: Employee knowledge of how their works relates to strategic plan goals will be positively related to program performance.	Yes
Model 1: Organizational Factors and Strategic Plan Characteristics – Goal Alignment	
Hypothesis 3: Programs where managers regularly communicate the strategic goals of the organization to employees will be more likely to have employee performance appraisal plans align with strategic plan goals.	Yes – for Employee Alignment
Hypothesis 4: Programs that have leadership support will be more likely to have employee performance appraisal plans that align with strategic plan goals.	Yes – for Plan Alignment
Hypothesis 5: Programs that have a climate for achieving results and recognizing differences in performance will be more likely to have employee performance appraisal plans that align with strategic plan goals.	Yes – for Employee Alignment
Hypothesis 6: Programs where management provides guidance to rating officials about how unit performance should be considered will be more likely to have employee performance plans that align with strategic plan goals.	No
Hypothesis 7: Programs that have clearly actionable strategic plans will be more likely to have employee performance appraisal plans that align with strategic plan goals.	No
Model 2: Goal Alignment – Program Performance	
Hypothesis 8: Alignment of strategic goals with employee performance plans will positively influence program performance depending on the overall quality of the performance appraisal program.	Mixed
Hypothesis 9: Employee knowledge of how their work relates to strategic plan goals will positively influence program performance depending on the overall quality of the performance appraisal program.	Mixed

Implications

This research applied strategy implementation, strategic planning, performance appraisal, and organizational performance theories as well as best practices on performance appraisal programs in an effort to understand increasing goal alignment and organizational

performance in Federal agency programs. Because the models were empirically tested within the literature, this research has both theoretical and practical implications. The results of the study apply predominately to strategy implementation and goal alignment theories, but also produced some interesting results for strategic planning, performance appraisals, and organizational performance.

Theoretical Implications

From a theoretical standpoint, there are six major takeaways/implications from these research results. Foremost is the significant relationship between employee alignment and program performance, and the non significant relationship between plan alignment and program performance. These results have implications not only for the importance of goal alignment and its different constructs, but also for the use of PART as a measure of program performance, a second major takeaway from this research. Third, communication, climate fit, and the program level of the strategic plan predict how well an employee understands how their work relates to the goals and priorities of the agency. In particular, the significant relationship of strategic plan program level is an important contribution to strategic planning and strategy implementation literature. Fourth, leadership support of a performance appraisal program is a predictor of performance appraisal plan alignment. Fifth, creating a construct for measuring an overall quality performance appraisal program helped to clarify how to evaluate a performance appraisal program. Using the indicators for this research, the construct was split between two factors of processes and employee perceptions. Finally, the quality of a performance appraisal program does moderate the relationship between plan and employee alignment and program performance, but not as hypothesized. In particular,

performance culture matters to plan and employee alignment and program performance. In agency programs where performance culture is low, plan and employee alignment can make a difference in program performance. Each of these theoretical takeaways is discussed further in this section. Practical implications and other takeaways are discussed in the next section.

Plan Alignment and Employee Alignment as Constructs of Goal Alignment

The first important takeaway is the significant relationship between employee alignment and program performance, and the non significant relationship between plan alignment and program performance. A key component to building any type of a results-oriented system or management tool is goal alignment. Results-based management starts with strategic planning and aligning organizational goals with organizational activities (Osborne & Gaebler, 1992; Peters & Waterman, 1983). Ideally, goal alignment leads to results, which can equal increased performance. In this case, goal alignment is very much a functional process within an organization and goal alignment can be the result of a process or an organizational factor.

Goal alignment can also be a function of knowledge of organizational goals (Enriquez, McBride, & Paxton, 2001). Goal setting theorists hypothesize if employees can see how their work contributes to achieving organizational goals, they are more likely to see their work as meaningful and adjust their performance accordingly (Locke and Latham, 2002). Likewise, when attempting to enhance group performance, goals at the individual level should be aligned with the group goals. Accordingly, goal alignment was conceptualized in two ways for this research. The first conceptualization of goal alignment

was whether the employee performance plans align with and are designed to support organizational goals, that is, whether performance requirements and outcomes are linked to specific outcomes identified in the agency's strategic plan. Second, goal alignment was conceptualized as the extent to which individual employees know how their work relates to the agency's goals and priorities. With these two conceptualizations, this research centered on organizational factors that would predict goal alignment in a performance appraisal program and the role of goal alignment in a performance appraisal program to achieving increased program performance.

The differences between the two conceptualizations of goal alignment have produced an interesting story for models and strategy implementation. In particular, for Model 3, the interplay among Employee Alignment, Plan Alignment, Performance Culture, and Agency Appraisal Processes illustrates the value of processes within an organization versus the value of knowledge and awareness to program performance. The analyses of Models 1a and 2b demonstrated that there is a difference between goal alignment as a process of plan alignment and as employee knowledge to program performance. When evaluating the significance of that single relationship, plan alignment as a process does not matter to program performance, while employee knowledge does. However, when evaluated in Models 3a and 3b, both plan and employee alignment were no longer significantly related to program performance.

Interestingly, organizations have more control over processes and less influence on employee knowledge. This makes the results of Model 2 even more important to Model 3. Successful strategy implementation begins with influencing factors such as communication and climate fit that affect employee alignment in an agency. Processes like leadership

support of a program are important for plan alignment, but when comparing which factors lead to alignment that drives program performance, the factors that lead to employee alignment have the greatest influence. The non-significant trend of processes continues with Model 3's evaluation of performance appraisal as a management control tool. Processes like training and employee involvement are not directly related to program performance (although this does not mean they are unrelated to an effective performance appraisal program). In fact, performance is driven again at the employee level. Employee perceptions of an agency's performance culture moderate the relationship between goal alignment and program performance. The interaction effect in Model 3 is discussed more in the *Moderating Role of Performance Culture* section.

PART as a Measure of Program Performance

The second important takeaway is the usefulness of PART scores as a measure of Federal agency program performance. An increase in organizational performance is usually the outcome of innovation implementation effectiveness (Kline & Sorra, 1996; Bradford & Florin, 2003). In order to determine if performance appraisals are an effective implementation tool, a measure of organizational performance was required. Organizational performance literature splits evaluations of performance between the organizational level (Rainey & Steinbauer, 1999; Boyne, 2003; Brewer and Selden, 2000) and the individual level (Brewer & Selden, 2000; Chun & Rainey, 2005; Brewer, 2005; Moynihan & Pandey, 2005). At the organizational level, because public organizations cannot typically determine success based on financial outcomes, the measure of performance has to be more multidimensional (Wolf, 1993; Rainey & Steinbauer, 1999; Boyne & Dahya, 2002; Boyne, el al, 2002;

Ingraham, Joyce, & Donahue, 2003). OMB's PART ratings were chosen for this research based both on the multidimensional approach to rating program performance results and the program level unit of analysis. Under the "Program Results" section of PART, program ratings are determined based on whether a program met the short- and long-term measures identified in sections 2 and 3. The conceptualization met the multidimensional approach to measuring performance.

The "Program Results" ratings were given the benefit of the doubt in interpreting the results from Models 1 and 3. The discussion in Chapter 6 focused almost exclusively on the interaction effect of goal alignment and performance culture with limited reference to the dependent variable, program performance. The significant correlation of the PART ratings with the independent and moderating variables and the significant outcome of Models 1 and 3 are encouraging for the usefulness of the PART ratings despite the criticisms (Gilmour & Lewis, 2006b; Moynihan, 2008; Gueorguieva et al, 2008). This research evaluated the relationship between the PART ratings and generally accepted valid measures of employee perceptions of performance using FHCS data. The significant outcomes may be indicative of its usefulness as a measure of program performance. The individualized nature of the PART ratings would be difficult to replicate at other levels of government, which limits its use as a model of program performance. However, for research on Federal agency programs, PART ratings may be a valuable measure of performance. Future research should continue to test their validity.

Organizational Factors to Employee Alignment

The third important takeaway is communication, climate fit, and the program level of the strategic plan are predictors of how well an employee understands how their work relates to the goals and priorities of the agency. As indicated from the results in Chapter 5, several organizational factors are predictive of goal alignment depending on its conceptualization. Foremost, communication is the largest predictor of employee alignment. Regular management communication of the goals and priorities of the organization plays a significant role in employee knowledge of the goals and priorities. Communication has been a stalwart factor in implementation literature. It proved its overwhelming importance again with the largest effect size in Model 1.

The size of the effect of climate fit was relatively small but it is still predictive of goal alignment; the literature identifies climate fit as a key factor in implementation (Kline & Sorra, 1996). This conceptualization measured climate fit as employees' perceptions of accountability for achieving results and differences in performance are recognized in a meaningful way by their managers. Specifically it examined whether a results-oriented climate was predictive of goal alignment. As Model 2 demonstrated, employees' perceptions of the results-oriented the climate of their agency is significantly related to how well they understand how their work relates to the agency's goals and priorities. Meaning results-oriented climate can lead to this type of goal alignment. A results-oriented organization is usually viewed as a result of goal alignment, (Jauch, Osborn, and Terpening, 1980), but as this relationship suggests, the relationship may be more circular and reinforcing.

A key contribution of this research to both strategic plan implementation and goal alignment literature is the level at which a strategic plan is developed. When GPRA required agencies to prepare three-to-five year strategic plans and submit them to the OMB, the initial requirement was to develop plans at the agency level. Since that initial mandate, many sub-agencies and units have developed their own cascaded strategic plans. Having a sub-unit program strategic plan would naturally increase the linkage between program activities and strategic plan goals. This is especially true for very large agencies (number of employees and divisions) like the Department of Commerce, where the activities of a sub-agency like the Patent and Trademark Office can be more clearly linked to its own strategic plan than to the Department of Commerce's. As indicated in Model 2b, having a strategic plan written directly for an agency program was significantly predictive of employee's knowledge of how their work relates to the agency's goals and priorities. The relative size of the coefficient was small when compared to other factors in the model, but important. It appears that the levels at which organizational goals are developed is predictive of employee alignment within an organization.

Additionally, in simple cross tab analysis, strategic plans that covered smaller programs tended to identify specific employees, positions or offices responsible for action plans, steps, or performance measures and indicators more than strategic plans that covered an agency or larger program. For strategic plans that cover entire agencies, this makes sense because it is more difficult to align organizational goals to individual performance and the linkage is less meaningful. Having or developing a sub-unit or program strategic plan allows for better cascading of goals and objectives to individuals and more meaningful linkage.

This research hypothesized that if an agency clearly delineated action steps and identified responsible individuals or positions they were more likely to extend that accountability tracking to the individual's performance appraisal. Upon review of strategic planning literature and best practices (Bryson & Alston, 2005; Poister & Streib, 2005), the conditions under which agencies would be more likely to align employee performance plans with strategic plan goals included having clearly outlined organizational goals, acting plans or steps for achieving organizational goals, and/or identifying action officers (employees or positions) responsible for achieving organizational goals. The research hypothesis was based on the theory that an item's characteristics are an important influence in facilitation of its implementation (Wejnert, 2002; Damanpour, 1991). The result of Models 2a and 2b indicated that strategic plan characteristics were not a unique predictor in either determining if an agency had goal alignment through their performance appraisal plan or if it increased employee knowledge of how their work relates to the goal and priorities of the agency. The hypothesis was not supported. Given that all agencies are required to develop 5-year strategic goals, almost all the agencies met this requirement. When observing performance plan alignment and employee alignment as simply embedding the strategic plan goals into performance and knowledge of the goals and priorities, the limited amount of variance may be contributing to this result. Future research would need to make the measures more nuanced to determine specifically which strategic plan characteristics were more conducive to implementation.

Organizational Factors to Plan Alignment

The fourth important takeaway is leadership support of a performance appraisal program is a predictor of performance appraisal plan alignment. As a process of embedding strategic plan goals into performance plans, leadership support and approval greatly increases the probability of plan alignment. This result affirms the theory that any management system requires leadership support and approval (Wejnert, 2002; Damanpour, 1991; Greenhalgh et al., 2004; Berry and Wechsler, 1995; Alder, et al., 2003). This linkage assumes that the same leaders who shepherded the strategic goal identification process also would be supportive of management processes and controls to achieve goal accomplishment.

Overall Quality Performance Appraisal Program Index

The fifth important takeaway is that when creating an index to measure an overall quality performance appraisal program one should consider the different dimensions in a performance appraisal program. Performance appraisal literature has focused predominately on performance measurement issues, rater-ratee characteristics, errors and accuracy, feedback, and rater/appraisal sources (Bretz et al, 1992). In general, performance appraisal research has attempted to determine effective factors of performance appraisals (Roberts & Pavlak, 1996; Daley, 2001), but not necessarily the entire program itself. By developing an index of seven widely identified effective performance appraisal factors, this research evaluated the ability to create an overall quality performance appraisal program index. The result was mixed as a result of the different types of measures entered into the factor analysis. Future research should still consider developing an overall quality index for ease of evaluating performance appraisal programs; however, it should consider that there may be

some dimensionality to such an index. While this research did not specifically test the effectiveness of the individual performance appraisal factors, the result of the factor analysis is telling for the measures.

The overall quality performance appraisal program index was split between measures of processes and performance culture perceptions. With the exception of the Results variable (exclusion explained in Chapter 5), the six measures created two factor scores for the analysis. The literature is to some degree split along these two dimensions. Human resource management literature has focused on processes of training, employee involvement, and developing measures (Longenecker & Fink, 1997; Roberts & Pavlak, 1996) while personnel psychology literature has focused on motivation, award expectancy, and performance consequences (Porter & Lawler, 1968). This research was not successful in developing a single index, but there still is room for further investigation. With the measures split between dichotomous and continuous variables, the two factor scores should not have been surprising.

In terms of plan or employee alignment's influence on the performance appraisal program, plan and employee alignment only appears to affect performance program outcomes for programs that have low performance cultures. This gives hope for such programs that implementing the goal alignment can positively influence organizational outcomes. However, there is a difference between a paper process alignment and an employee's knowledge or awareness. In programs with very low performance culture perceptions (two standard deviations from the mean), knowledge of the organizational goals matters while in programs with low performance culture (one standard deviation from the mean), plan alignment matters. Embedding the strategic plans goals into the performance

plans for plan alignment and for employee alignment may not matter much because almost all Federal employees on average only see their performance plans twice a year.

The individual measures and variables were not tested outside of the factor analysis so their individual strength is not known. The process-type measures (training, employee involvement, and credible measures) do not appear to be contributory to program performance like the performance perception-type measures (award expectancy, performance consequences, and feedback). This does not negate their importance in creating an effective performance appraisal program, especially given the overwhelming support in literature (Longenecker & Fink, 1997; Roberts & Pavlak, 1996; Rogers & Hunter, 1991; Hall et al, 1989; Daley, 2001). The moderating effect of low to very low performance perceptions does reinforce the importance of appraisal program and performance accountability to an effective performance appraisal program.

This research did not evaluate manager perceptions of the performance appraisal program, but because the PAAT questionnaire included these questions, the outcome is interesting for this discussion. In general, individual-level assessments about program performance are biased toward the program, so the results to the two questions of manager perception of performance appraisal programs are notable. Less than half of the managers agreed that there was a relationship between the ratings of employees and the performance of the unit (see Table 40). In a separate analysis by the Merit Systems Protection Board, less than half of Federal employees agreed that performance ratings in their work unit accurately reflected job performance (U.S. Merit Systems Protection Board, 2006). Employee ratings are determined by supervisors so this result is not reflective of the effectiveness of the

performance appraisal program itself, but it is telling for trying to determine the relationship between performance appraisal programs and organizational performance. These same managers, however, overwhelmingly believe the program is effective for helping an organization achieve its goals. This indicates that even with an effective performance appraisal program, supervisory ratings can negate both the effectiveness of the process and employee performance perceptions. Federal programs have been cited for hyperinflation in performance ratings numerous times, which has generally meant performance appraisal programs are not viewed as a serious tool for management reform (Light, 1999). The very low variance explained by both analyses of Model 3 is indicative of this.

Table 40: Agency Leadership Perception of Performance Appraisal Programs

Question	Yes	No
1. Does the rating distribution of employees reflect organizational unit performance, that is, is there a relationship between the ratings of employees and the performance of the unit?	41.7%	58.3%
2. Do you feel this appraisal program helps the organization achieve its goals?	87.6%	12.4%

Source: U.S. Office of Personnel Management.

Moderating Role of Performance Culture

The final important takeaway from this research is that the quality of a performance appraisal program moderates the relationship between alignment and program performance. Specifically, performance culture matters to plan and employee alignment and program performance. The significance of performance culture is best explained through goal setting theory. Goal setting theory contributes to results-based management by clarifying the relationship of goal assignment to performance. Locke and Latham's practical applications mirror the central tenets of results-based management: setting specific performance goals can

lead to increased productivity and cost improvement; use of performance appraisals for goal setting to increase individual accountability; and goal setting's role in increasing self-regulation (2002). The moderating effect of Performance Culture is in line with the Locke and Latham's identified moderators of goal setting. Goal commitment can moderate the relationship by driving expectations associated with achieving the goal (award expectancy and performance consequences). Feedback moderates the relationship through influencing performance actions by providing direction to adjust levels of performance to meet the goal. The Performance Culture factor score in Model 3 included these factors of goal commitment and feedback.

As demonstrated in Models 3a and 3b, goal alignment is moderated by low and very low levels of performance culture depending on the measure of goal alignment. This result provides another contribution to the understanding of how plan alignment and employee alignment can affect organizational performance. Agencies programs with medium to high levels of performance culture are not significantly related to program performance. Those high levels of performance culture alone may contribute to increased program performance, although it is not a significant predictor. Under conditions of low performance culture the relationship between plan and employee alignment and program performance is strengthened. This reinforces the value of plan and employee alignment to strategy implementation, at least for programs with low performance culture. Often it is the programs with high performance culture that pursue strategic planning and goal alignment while programs with low performance culture do not pursue it yet are the programs that would benefit the most. However, future research should note that the results of Models 3a

and 3b explained very low variance in program performance. The models were only mildly adequate in providing additional insight to increasing program performance.

Practical Implications

This research also offers at least six practical implications for agency officials, human resource specialists and performance management officers. Most of the practical implications reaffirm general best practices in implementing strategic plan goals and building a results-oriented program. The purpose of this research was to examine why agencies have lacked success in increasing program performance in light of strategic planning. Multiple models exist to help organizations with strategic planning. For example, Bryson's (2003) the Strategy Change Cycle offers public organizations very practical steps to strategic planning. Bryson, like many other theorists have been concerned with strategic planning and not necessarily strategic plan implementation. Poister and Streib (2005) believe strategic planning as action planning is only useful when carefully linked to implementation, and suggest it be viewed as part of strategic management. Like Poister and Streib, this research was less interested in strategic planning and specifically interested in how public agencies can implement strategic plans as part of overall strategic management. In their limited discussion of implementation, Bryson and his contemporaries suggest successful implementation occurs through integrating the strategic plan throughout an organization's relevant systems. This research focused on performance appraisal programs because of their ability to link individual activities to organizational goals and outcomes. The intention was to help fill the research gap with strategic plan implementation. As stated in Chapter 1, strategic plans are only valuable to an organization to the extent they are effectively

implemented. Strategic plan goals, objectives, and action items can only become real outcomes through operationalization and implementation (Eadie, 1983; Bryson, 2003). This research provides practical suggestions for agencies on how to increase their effectiveness in strategic plan implementation and build a results-oriented program.

The first practical implication, already highlighted as a theoretical implication, is the importance of goal alignment to program performance. The result of Model 1b indicates that employee alignment matters to organizational performance. Employees' knowledge of how their work relates to the goals and priorities of the organization is a predictor of organizational performance. Goal alignment impacts an organization and its employees in several ways, from communicating to employees the importance of the organization's strategic goals to understanding how their day-to-day activities support the strategic goals of the agency. Goal alignment helps ensure employees' performance promotes the goals of the organization. Performance appraisal plan alignment, while not significantly related to organizational performance, does have value for increasing employee knowledge. In a simple comparison of the means and modes of performance appraisal plan alignment and employee alignment, programs that require that employee performance plans align with organizational goals generally have a slightly higher percent of employees agree that they know how their work relates to the agency's goals and priorities. The modal difference between the two groups is much higher.

Accordingly, it makes sense, for agencies to concentrate on activities that can increase employee knowledge of the organization's goals and priorities. A second practical implication is the agencies are able to influence plan and employee alignment through a

number of activities and actions. Again, the results of models indicate the activities and actions that can lead to increased employee knowledge. The first activity is frequent managerial communication of the goals and priorities of the organization. Communication not only increases awareness of the goals and priorities but it also demonstrates that the agency is committed to its strategic goals and objects. Agencies can engage in key communication activities such as developing a communication plan for rolling out the strategic plan, regularly communicating strategic plan successes and milestones, and posting the agency mission, vision, and strategic goals around the office (Bryson, 2003). Managers often underestimate the value of communication even though research has demonstrated time and again its importance (Rogers, 2003; Damanpour, 1991; Ghoshal & Bartlett, 1988; Nilakanta & Scamell, 1990).

Another important organizational factor is the results-oriented climate fit. The likelihood of an agency to successfully increase employee goal alignment depends on the results-oriented climate of agency employees. Anything related to organizational culture or climate is definitely more difficult to change, but for agencies that are trying to build a results-oriented performance appraisal program, it is useful to know that changing the program will be very difficult as it goes against the climate of the agency. Likewise, a transition to a results-oriented performance appraisal program will require careful change-management to address the issue of climate.

A third practical implication is an agency's performance culture can impact the relationship between alignment and program performance. The moderating effect of Performance Culture on both measures of goal alignment indicates that embedding strategic

plan goals into performance plans and employee knowledge are effective at improving program performance especially in circumstances where employees perceive they are not always held accountable for their performance. This would indicate that even in a climate of low performance culture perceptions, goal alignment can impact organizational outcomes. Organizational cultural assessments become an important tool for programs that wish to be results-oriented. For performance appraisal programs this means at least implementing the process of goal alignment into the program functions can make a difference. As conceptualized in this research, process goal alignment is simply aligning the commitment or standard with the strategic plan goal and the desired outcome.

A fourth practical implication is the importance of collaboration between the agency performance office and the human resources office. Although management guidance was not statistically significant to either plan alignment or employee alignment, it did correlate significantly with plan alignment and did trend toward significance in Model 2a. In practice, the relationship between the agency performance management office and the central human resources office is important for communicating the performance and goal outcomes of the agency to the officials who advise the managers on developing performance standards. Management guidance is where an agency head or designee provides guidance to the supervisor or manager on how to incorporate organizational performance into the assessment process. For decision-making purposes, communication and on-going dialog are important factors for managers to understand how performance data can enhance program performance (Newcomer, 2007). While not empirically tested in this research, the close collaborative working relationship between these two offices within an agency is important for not only

performance appraisal programs, but also for aligning strategic human capital plans and other workforce and succession planning plans. Developing a working relationship between the performance office and the HR office will help ensure performance appraisal goal alignment.

A fifth practical implication for strategic planning and implementing strategic plans is also evident from this research. Like Management Guidance, Strategic Plan Characteristics was not a significant predictor of goal alignment using a two-tailed significance test, but trended toward significance. The Strategic Plan Characteristics measure used simple three-part criteria for evaluating the plan characteristics. The characteristics identified by the three-part criteria are still good characteristics to consider when developing a strategic plan. In fact, in a simple bivariate analysis, agency programs with strategic plans that included performance measures and indicators tended to have performance plans aligned with strategic plan goals. Identifying performance measures for each strategic plan goal outcome can make performance measure identification easier at the individual level. The more specific the action plans, strategies, objectives, and milestones are, the more easily they can be translated into individual performance standards.

A final very important practical implication for strategic planning that has already been mentioned several times is the program level for which a strategic plan is developed. Strategic plans developed at the program level are predictive of increasing employee goal alignment. Developing a strategic plan for an agency program or sub-unit that cascades from the agency strategic plan appears to refine the linkage between individual activities and agency strategic goals and objectives. At the program level, a strategic plan can more clearly define the goals and priorities of that particular agency program. For the individual, this

means a much closer linkage of activities related the strategic plan goals and priorities. This closer linkage between the individual and the strategic plan significantly affects employee knowledge and awareness of agency goals and priorities.

Limitations

This research contained several limitations that should be considered. The first limitation is with the data sampling and unit of analysis. This research only included agency programs for Model 2 that were evaluated by OPM's PAAT and had a strategic plan, and for Models 1 and 3, agency programs that were evaluated by OPM's PAAT and OMB's PART. With the unit of analysis being performance appraisal program, the overall number of agency programs included was not consistent from Model 2 (n = 138) to Models 1 and 3 (n = 108). This reduces the ability to adequately compare results across the two models. Cases in Model 2 may be biasing Model 2 in a way that is not realized in Model 3. The additional cases could have been dropped from both analyses, but at the loss of available, valuable data. Moreover, in Models 1 and 3 because PART only evaluates Federal Government programs and not administrative or support programs, the influence of alignment and overall quality performance appraisal program is not observed for administrative or support programs. Thus the models only really tell a story of appraisal performance for programs that provide a service or program. Likewise, the mandate to develop a strategic plan and associated strategic goals does not exist outside of the Federal programs. Without a strategic plan (which actually eliminated two small independent agencies from this study) it is difficult to determine if implementation of one would lead to increased performance.

Another limitation with the data sampling is the overall generalization of findings. The combination of small sample size and sample covering Federal agency programs, the majority of which are covered by very specialized legislation and human resources policies, makes the results of this study difficult to generalize to other state or local agencies. Inferences drawn from the results of models cannot necessarily be extended to other public sector or government performance appraisal programs. The results are significant for the Federal community since the sample represents nearly the entire population of performance appraisal programs.

The data and measures operationalization also limited the ability to test the full model (presented in Figure 1 in Chapter 1). Using secondary data from four different data sources resulted in dichotomous, categorical, and interval measures. Almost all of the key performance appraisal measures were dichotomous. When tested through the different statistical analyses, the results responded in accordance with the different data groupings. This was most noticeable with the factor analysis. Dichotomous process measures (i.e. "Does the appraisal program require employee involvement in the development of the employee's performance plan?") factored together while the remaining interval measures factored together. For most of the dichotomous variables the variance was limited. Similarly in the regression analysis the pattern of the dichotomous and interval data emerged. These measure limitations, especially in the case of the dichotomous data and small sample size, did not allow for the full model to be tested using path analysis. Path analysis could have tested the overall fit of the model and demonstrated the relationship of relevant causal variables to goal alignment and goal alignment's causal relationship to program performance.

Models 3a and 3b, while significant, accounted for very limited variance in the dependent variable, Program Performance (11% and 10% respectively). The low variance explained is a limitation to the models and is indicative of missing variables. The model would benefit from the inclusion of control variables, such as "leadership style" or "financial resources," that have previously been strongly linked to program performance (Boyne, 2003). Including these control variables in future testing of the models could enhance the explanatory power of the models.

A final limitation to this research is the assumptions it makes regarding the program performance measures. Increased program performance was chosen as a dependent variable based on literature that affirms the connection between planning, implementation, and program performance (Shrader, Taylor, Dalton, 1984; Miller & Cardinal, 1994). PART has been used on a limited basis as a measure of program performance (Gilmour and Lewis, 2006a; Gilmour, 2007; Mullen, 2007; U.S. Government Accountability Office, 2005). PART was created to provide a consistent approach to evaluating program performance as part of the Federal budget formulation process. While it claims to measure overall performance, its intent does bias it toward measures for making budgeting decisions. This means measures may focus more on efficiency and harm programs that are notoriously inefficient.

PART also has been heavily criticized for being a subjective measure and not an equitable measure of a unit's performance (Gilmour and Lewis, 2006b; Moynihan, 2008; Gueorguieva et al, 2008). These suggested limitations could greatly bias the results. However, assuming PART is an adequate and equitable measure of program performance, the PART measures used by the various PART'ed programs are very specific and not

necessarily included in all strategic plans or perform plans. As PART grew to encompass more programs, more agencies began using their PART measures in their strategic plan, annual performance plan and Performance and Accountability Reports. This has ensured better consistency between organizational goals and PART measures, but the direct link between an agency's organizational goals and PART performance scores is not always visible. This has implications down to the employee level for this research. For PART to measure performance outcomes of goal alignment at the employee and performance plan levels, it assumes that the goals and measures link with PART. Essentially, the independent measures could be holding employees to one outcome while the dependent variable is measuring another outcome.

Individual Performance versus Teamwork

Performance appraisal programs are designed to evaluate individual performance and individual performance contributions to organizational performance. The focus on goal alignment at the individual level and within the performance appraisal program has ignored the contribution and dimension of teams and teamwork in an organization. Organizations benefit from developing temporary to permanent teams to tackle important projects and address significant problems (Katzenbach & Smith, 2003). Results-based management has spurred the development of teams, recommending organizations develop quality improvement teams to process improvement teams. The benefit of teams and teamwork is that they can often produce joint organizational outcomes that cannot be produced by individuals themselves. This means teams and teamwork have an equally important

contribution to organizational performance and goal alignment for teams is as equally important as individual goal alignment for organizational performance.

With the factor of teams, individual performance and action are not always directly linked to organizational outcomes. Teamwork can play a moderating role in that linkage. The moderating role of teamwork may even supercede the role of quality performance appraisal programs. The influence of high-performing employees may be reduced by the quality of work performed by the team while low-performing employees, or free riders, can falsely benefit from the team's performance. Individual goal alignment can influence a team, but goal alignment also should be extended to the team to ensure activities align with organizational and strategic plan goals. Teamwork is usually evaluated apart from the performance appraisal program and through incentive and reward programs. Many of the same concepts of award expectancy, performance consequences, and feedback apply, but are cultivated separately from the performance appraisal program. As a limitation of this research, future research should consider this moderating role of teamwork, especially in relation to goal alignment and organizational performance.

Future Research

Results of this research and its limitations and implications suggest four key directions for future research. The first direction for this research may be to evaluate the two operationalizations of goal alignment in other models of organizational performance. Very limited research has examined employee knowledge of goals and priorities as a measure of goal alignment (Enriquez, McBride, & Paxton, 2001). Future research on employee

knowledge as a measure of goal alignment could be performed several ways. First, it can be tested in other models of goal alignment that look at factors such as work attitudes, employee retention and engagement, etc. (Kristof-Brown & Stevens, 2001). Second, this particular measure originated with the FHCS, the purpose of which is to measure employees' perceptions of whether, and to what extent, conditions characterizing successful organizations are present in their agencies. The FHCS offers a number of other agency factors that could be used to test the significance of employee knowledge as goal alignment. Even though goal alignment as a process measure of embedding organizational goals into performance was not significantly related to program performance, it does not mean it should not be tested in other models of organizational performance.

A second direction for this research may be to unpack and further test the value of the PART "Program Results" as a measure of program performance. This research knowingly overlooked the observed flaws in OMB's evaluation of agency programs (Moynihan, 2008). The results from Model 2 seem to indicate that PART may be an adequate measure of program performance. The few significant correlations between the separate PART data and PAAT data provide some optimism for its usefulness. A better understanding of how PART rating decisions are made is still needed.

A third direction for this research may be to test the moderating effect of teams and teamwork. As briefly addressed in the previous section, teams are a key contributor to organizational performance. Government agency programs are dominated by committees and teams and for this reason many agency programs have built-in group reward systems. Organizations create incentives for employees at the individual, group, and unit levels to

meet performance standards. Goal alignment is integral to ensuring teams also achieve agency goals and priorities and that goal alignment often starts at the individual employee level. Given the considerable role teams and teamwork have in increasing organizational performance, future research could evaluate under what conditions the alignment of strategic plan goals within teams positively impacts program performance.

A final direction for this research may be to test the generalizability of the findings by expanding the two models to other government level agencies. Many states have moved to adopting strategic plans within their state agencies (Bryson & Roering, 1988; Miesing & Anderson, 1991; Berry, 1994; Berry & Wechsler, 1995) and performance appraisal program characteristics transcend governmental levels. The wealth of data available at the state and local levels could provide the sample size and power to test the entire model using path analysis. With some revision to variable operationalization, a path analysis statistical approach could better explain the pivotal role of goal alignment between the two models and determine if there is a connection. Moreover, path analysis could better explain the contribution of different performance appraisal elements to an overall measure of quality performance appraisal program and to the moderating relationship. The theoretical basis for the models is firm so the expansion of data could lead to additional significant results.

Summary

This research set out to understand how performance appraisal programs could be used as a management control tool for implementing organizational goals and increasing organizational performance. The belief was that the extent to which performance appraisals align with and employees understand how their work relates to the strategic plan goals of an

organization could determine successful implementation. As a result of this research, several organizational factors and strategic plan characteristics were identified that explain why a Federal agency program would have goal alignment. Additionally this research demonstrated the key role goal alignment has in increasing program performance and the moderating role performance appraisal elements contribute to that relationship.

Scholars have successfully demonstrated the importance of management to increasing organizational performance (Brewer, 2005; Moynihan & Pandey, 2004; Boyne, 2003). Performance appraisal programs as a management tool for increasing organizational performance are partial at best in increasing organizational performance. The overall model explains only limited variance and the overall quality of the performance appraisal program is not directly predictive. Goal alignment, however, continues to be a very important factor in organizational performance. The results of models do provide insight into the "black box" theory of government (Ingraham & Donahue, 2000). Management processes such as communication and leadership support are key inputs that can lead to goal alignment outcomes. Likewise, ensuring goal alignment as a process and employee knowledge can make up for other management control shortcomings, such as the overall quality of the performance appraisal program, specifically low employee perceptions of performance culture. "Does management matter?" is an enduring question for the Public Management field. This research, like others before it, provides a new perspective on how management can matter.

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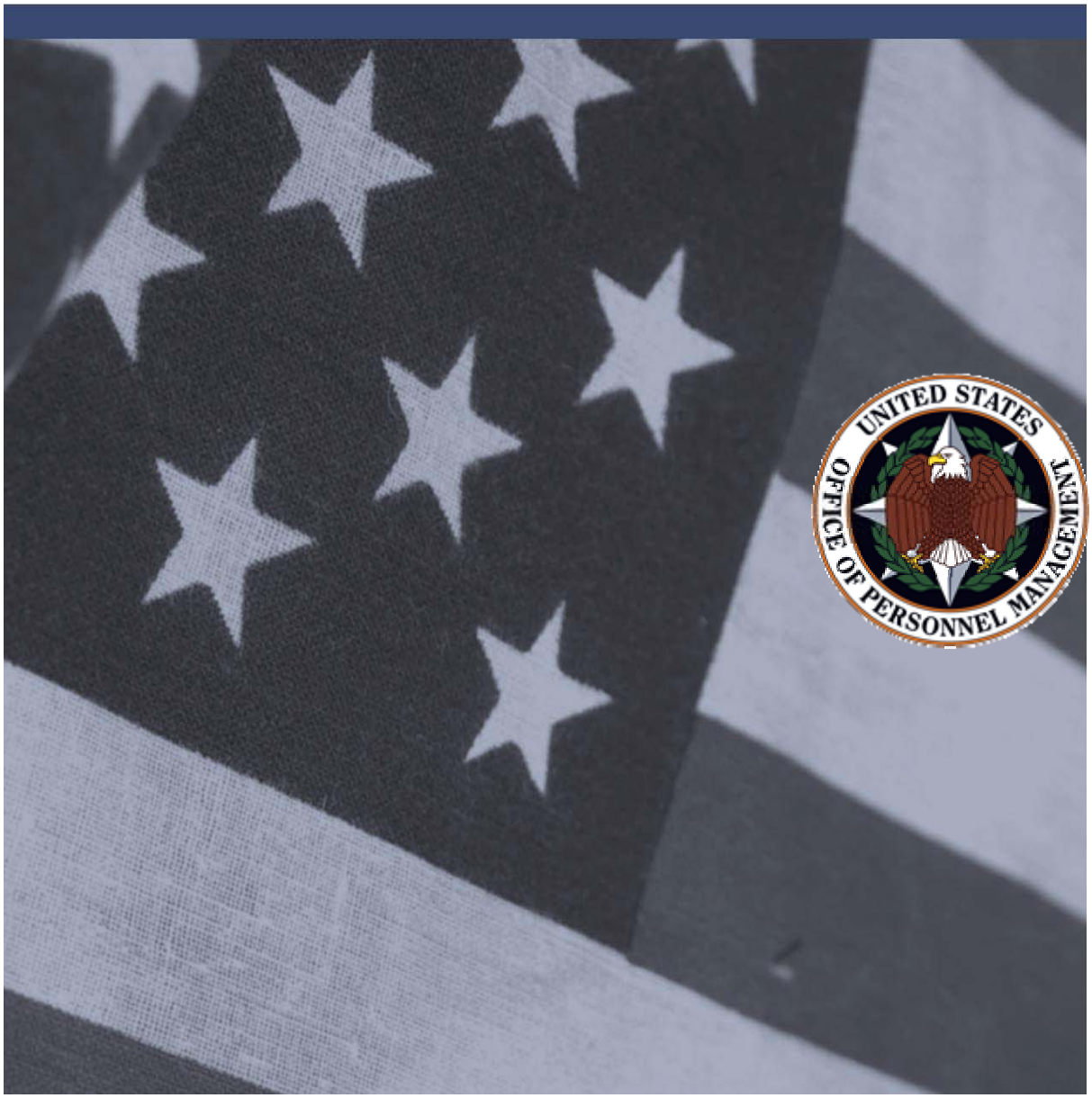
APPENDICES

APPENDIX A: PAAT INSTRUMENT

SYSTEM AUDIT TOOL

Performance Appraisal Assessment Tool



Introduction

Developing a result-oriented performance culture is critical to successfully achieving organizational goals and objectives. One tool Federal managers can use to develop results-oriented performance cultures is their appraisal programs. Appraisal programs provide a formal process for communicating organizational goals and individual performance expectations, promoting accountability for achieving those goals, identifying developmental needs, assessing performance using appropriate measures, improving individual and organizational performance, and using the results of the appraisal as a basis for appropriate personnel actions. Effective appraisal programs are fair, credible, and transparent by providing for the following:

- **Alignment.** Employee performance plans align with and support organizational goals.
- **Results-focus.** Employee performance plans hold employees accountable for achieving results appropriate to their level of responsibility.
- **Credible Measures.** Employee performance plans provide for balance, so that in addition to measuring expected results, the performance plans include appropriate measures, such as quality, quantity, timeliness, and/or cost-effectiveness, indicators of competencies, and customer perspective. In addition, for managers and supervisors, performance plans should also incorporate employee perspective.
- **Distinctions in levels of performance.** The appraisal program provides for multiple levels to appraise performance and rating officials use those levels to clearly describe distinctive levels of performance and appropriately rate employee performance.
- **Consequences.** The result of appraisal is used for recognizing top performers and addressing poor performance.
- **Employee Involvement.** Employees are involved in the design of the appraisal program and in the development of their performance plans.
- **Feedback and Dialogue.** The appraisal program establishes a performance feedback process that ensures a dialogue between supervisors, managers, and employees throughout the year.
- **Training**. The appraisal program requires that executives, managers, supervisors, and employees receive adequate training and retraining on the performance appraisal program. In addition, supervisors must have the competencies necessary for managing performance.
- **Organizational Assessment and Guidance.** The appraisal program requires that appropriate organizational performance assessments are made and communicated to rating officials, and that guidance is provided by the head of the agency or designee on how to incorporate organizational performance into the assessment process, especially regarding the appraisal of managerial and supervisory employees.
- **Oversight and Accountability.** The head of the agency or designee has oversight of the results of appraisals and awards, ensures that the program operates effectively and efficiently, and ensures that appraisals and awards are based on performance. In addition, managers and supervisors are held accountable for the performance management of their subordinates.

As the initiative owner for the Strategic Management of Human Capital, the Office of Personnel Management (OPM) is committed to providing products and technical assistance to help agencies design and operate appraisal programs that support results-focused high-performance cultures. This tool can help agencies assess their appraisal programs' status. By completing the tool, agencies will be able to identify the strengths and weaknesses of their programs and provide the information they need to develop plans and strategies for making any improvements necessary.

Instructions:

Complete this assessment for *each* appraisal program operating within the agency. For example, if an agency has an appraisal system that has 10 appraisal programs operating within that system, an assessment tool must be completed for each program. (See the glossary for definitions of a system and a program.) A copy of the appraisal program description must be attached to the tool.

This tool addresses appraisal programs that cover General Schedule, Prevailing Rate, and other employees, and excludes programs that cover the Senior Executive Service, the Senior Foreign Service, and the Foreign Service.

A glossary of terms follows these instructions. Following the assessment questions are the scoring sheets. Two scores will be given: the first score will be for the design and implementation of the program. The second score will be for the strategy for improvement of the appraisal program, if it is warranted. The questions in cells shaded light blue are the questions and responses that are covered by the second score. OPM will be completing the scoring sheets and providing the scores to the agency. (If the appraisal program scores above 90 for design and implementation, the agency may not need to develop strategy for improvement and so may not receive the second score.)

If you have questions as you are conducting this assessment, please contact your OPM Human Capital Officer.

Return the completed assessment to your OPM Human Capital Officer by email, or by mail at:

U.S. Office of Personnel Management
Division for Human Capital Leadership
and Merit System Accountability
1900 E Street, NW, Room 7470
Washington, DC 20415

Glossary

Appraisal means the process under which performance is reviewed and evaluated.

Appraisal period means the established period of time for which performance will be reviewed and a rating of record will be prepared.

Appraisal program means the specific procedures and requirements established under the policies and parameters of an agency appraisal system.

Appraisal system means a framework of policies and parameters established by an agency for the administration of performance appraisal programs.

Critical element means a work assignment or responsibility of such importance that unacceptable performance on the element would result in a determination that an employee's overall performance is unacceptable.

Performance expectation in this document has the same definition as critical element.

Performance plan means all of the written, or otherwise recorded, performance elements that set forth expected performance.

Performance standard means the management-approved expression of the performance threshold(s), requirement(s), or expectations(s) that must be met to be appraised at a particular level of performance.

Progress review means communicating with the employee about performance compared to the performance standards and critical and non-critical elements.

Rating of record means the performance rating prepared at the end of an appraisal period for performance of agency-assigned duties over the entire period and the assignment of a summary level within a pattern (as specified in 5 CFR 430.208(d)) or in accordance with 5 CFR 531.404(a)(1).

Program Information. *Sections 1 through 5 ask for basic background information about the appraisal program. While this information does not address the effectiveness of the program, it sets the stage for understanding how the program operates. Effectiveness questions are included in sections 6 through 16.*
1. Coverage
a. What department/agency does this appraisal program operate within?
b. What component/organization/bureau/operative within the agency does this program operate within?
c. How many total employees are covered by this appraisal program (including supervisors)?
d. How many managers and supervisors are covered by this appraisal program?
e. What pay plan covers the employees who are covered by this program, that is, General Schedule, Wage Grade, etc.?
f. Who is excluded from this appraisal program?
g. When was this appraisal program implemented? (Month and Year)
2. Appraisal Period
a. What is the length of the appraisal period?
b. What are the beginning and ending months and dates of the appraisal period?
3. Minimum Appraisal Period
a. What is the minimum period of performance that must be completed before a performance rating can be given (e.g., 90 days, 120 days)? (Note: if different groups under this program have different minimum period lengths, identify each group and the length of its minimum period.)
4. Summary Levels
a. How many summary levels does the appraisal program use?
b. List the pattern (ranging from patterns A through H as described in 5 CFR 430 subpart B).
c. List the names of the levels (e.g., Outstanding, Exceeds, Fully Successful, Minimally Successful, Unacceptable).

5. Element Appraisal (Performance Expectations)
a. How many appraisal levels are required for appraising elements?

Characteristics of an Effective Appraisal Program
6. Alignment *(10 points for design and implementation score)*
a. Does the program description require that employee performance plans align with organizational goals, such as the specific goals identified in the organization's annual performance plan? ☐ Yes ☐ No
b. How many employees have performance plans that align with organizational goals?
i. Describe how many plans were reviewed, how alignment was verified, if sampling was involved, etc. *(See instructions)*
ii. If all your employees are not covered by performance plans that are aligned with organizational goals, what is the agency doing to get those plans aligned with organizational goals? Develop a strategy for improvement and include a timeline for actions. Consider the results of 6c in your response.
c. What were the results to the most recent Federal Human Capital Survey (FHCS) or Annual Employee Survey question that addresses alignment? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #19: I know how my work relates to the agency's goals and priorities.
Item #39: Managers communicate the goals and priorities of the organization.
Item from agency survey (if applicable)

b. List the names of the levels (e.g., Outstanding, Exceeds, Fully Successful, Minimally Successful, Unacceptable).

7. Results *(10 points for design and implementation score)*
a. Does the program description require that each employee's performance plan include at least one critical element (performance expectation) that holds the employee accountable for achieving results (at the appropriate level of responsibility)? ☐ Yes ☐ No
b. How many employees have performance plans with critical elements that make it possible to hold them accountable for results?
i. Describe how many plans were reviewed, how results-oriented critical elements were identified, etc. *(See instructions.)*
ii. If all your employees are not covered by performance plans that include at least one critical element that makes it possible to hold employees accountable for results, what is the agency doing to ensure that performance plans include a critical element that focuses on achieving results? Consider the results of 7c in your response. Include a timeline for actions.
c. What were the results to the following 2004 Federal Human Capital Survey questions that address being held accountable for achieving results? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #24: Employees have a feeling of personal empowerment with respect to work processes.
Item #32: I am held accountable for achieving results.
Item from agency survey (if applicable)

8. Credible Measures **(Credible measures means that standards include descriptions of quality, quantity, timeliness, cost-effectiveness, and/or manner of performance)** *(10 points for design and implementation score)*
a. Does the *appraisal program* require that elements and standards (performance expectations) include credible measures of performance that are observable, measurable, and/or demonstrable?

☐ Yes ☐ No
b. How many employees have performance plans that include *credible measures of performance*?
i. Describe how many plans were reviewed, how you determined that credible measures were present, the types of measures used, how competencies were identified and described if they are used, etc. *(See instructions.)*
ii. Provide examples of credible measures of performance used in employee performance plans.
iii. If all your employees do not have performance plans that include credible measures of performance, what is the agency doing to ensure that those plans include credible measures of performance in the future? Consider the results of 8e in your response. Include a timeline for actions.
c. Does the *appraisal program* require that performance plans for supervisors take into consideration employee and customer perspective? ☐ Yes ☐ No
d. How many supervisors have *performance plans* that take into consideration employee and customer perspectives?
i. Describe how many plans were reviewed, how you determined employee and customer perspectives, the types of measures used, etc. *(See instructions.)*
ii. Provide examples of employee and customer perspectives that were incorporated in supervisory plans.
iii. If all your supervisors do not have performance plans that take into account employee and customer perspectives, what is the agency doing to ensure that those plans incorporate employee and customer perspectives in the future? Include a timeline for actions.
e. What were the results to the following 2004 Federal Human Capital Survey questions that address customer perspective? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question	
Item #25: Employees are rewarded for providing high quality products and services to customers.	
Item from agency survey (if applicable)	

9. Differentiate among various levels of performance *(10 points for design and implementation score)*

a. For the latest appraisal period, show the distribution of ratings:

Performance Rating
Number of Employees Receiving the rating

Performance Rating	Number of Employees Receiving the rating
Level 5 (i.e., Outstanding or equivalent)	
Level 4 (i.e., Exceeds or equivalent)	
Level 3 (i.e., Fully Successful or equivalent)	
Level 2 (i.e., Minimally Successful or equivalent)	
Level 1 (i.e., Unacceptable)	
Not rated	
TOTAL*	
*** Total number of employees here should match the total number of employees covered by this program, as reported in #1c.**	

b. Compare the results identified in 9c to the rating distribution reported in 9a. In particular, how do the responses to Item #31 in 9c support the rating distribution reported in 9a?

c. What were the results to the following 2004 Federal Human Capital Survey question that addresses differentiating levels of performance? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #29: In my work unit, differences in performance are recognized in a meaningful way.
Item from agency survey (if applicable)

10. Consequences based on performance *(10 points for design and implementation score)*

a. **CASH AWARDS** – *Provide the following information for the last (most recent) fiscal year or calendar year, whichever is more appropriate for your agency appraisal and award cycle. (Please specify whether you used calendar or fiscal year.) For questions related to rating-based awards, report the awards that were based on the ratings that were reported in 9a above.*

	Number and Cash Amount				
Total number of cash awards given to covered employees					
Total dollar amount of cash awards given to covered employees					
*Number of cash awards based on assigned rating of record	Rated Level 5	Rated Level 4	Rated Level 3	Rated Level 2	Rated Level 1
*Amount of cash awards based on assigned rating of record					
*Number of cash awards ***not*** based on rating of record					
*Amount of cash awards ***not*** based on rating of record					

*If your agency no longer tracks rating-based awards separately from other types of awards, respond "N/A" for information not available.

b. **TIME OFF AWARDS** – *Provide the following information for the last (most recent)*

fiscal year or calendar year, whichever is more appropriate for your agency appraisal and award cycle. (Please specify whether you used calendar or fiscal year.) For questions related to rating-based awards, report the awards that were based on the ratings that were reported in 9a above

	Number of awards and hours
Total number of time off awards granted	
Total number of hours of time off granted	
*Number of time off awards based on assigned rating of record	
*Number of hours of time off granted based on assigned rating of record	
*Number of time off awards ***not*** based on rating of record	
*Number of hours of time off granted ***not*** based on rating of record	

*If your agency does not track rating-based time-off awards separately from other types of time-off awards, respond "N/A" for information not available.

c. **QUALITY STEP INCREASES (QSI)** – *Provide the following information for the last (most recent) fiscal year or calendar year, whichever is more appropriate for your agency appraisal and award cycle. (Please specify whether you used calendar or fiscal year.)*

	Number of awards
Total QSI awards given as a result of last rating of record	

i. Analyze the results identified in 10a, 10b, and 10c and consider the survey results in 10d. Does your awards program support organizational goal achievement and make distinctions in levels of performance? Identify any findings, relationships, or other information that may be helpful for your organization when providing consequences for performance.

d. What were the results to the following 2004 Federal Human Capital Survey questions that address consequences of performance? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #28: Awards in my work unit depend on how well employees perform

their jobs.
Item #56: How satisfied are you with the recognition you receive for doing a good job?
Item from agency survey (if applicable)

e. **UNACCEPTABLE PERFORMANCE**
(unacceptable performance on a critical element) *Provide the following information for the last (most recent) appraisal period. Use the same time period used to answer 9 above.*

	Number
Employees rated "Unacceptable"	
Employees placed on Performance Improvement Period (PIP) as a result of unacceptable performance	
Employees removed based on unacceptable performance (i.e., a performance-based or adverse action)	
Employees reassigned based on unacceptable performance (i.e., a performance-based or adverse action)	
Employees who were reduced in grade based on unacceptable performance (i.e., a performance-based or adverse action)	

i. Analyze the results identified in 10e and compare it to the survey responses in 10f. Identify any findings, relationships, or other information that may be helpful for your organization when or if you revise your appraisal program and the efforts to address poor performance.

f. What were the results to the following 2004 Federal Human Capital Survey question that addresses consequences for poor performance? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here)*

FHCS Question
Item #23: In my work unit, steps are taken to deal with a poor performer who

cannot or will not improve.	
Item from agency survey (if applicable)	

11. Employee Involvement *(10 points for design and implementation score)*
a. Was the appraisal program designed with input from employees and their representatives, if applicable? ☐ Yes ☐ No
i.. If ***yes***, describe the process.
ii. If ***no***, describe why.
b. Does the appraisal program require employee involvement in the development of the employee's performance plan? ☐ Yes ☐ No
i. If ***yes***, describe the process.
ii. If ***no,*** describe why.
c. Are employees actually involved in the development of their performance plans? ☐ Yes ☐ No
i. If ***yes,*** describe how this occurs.
ii. If ***no***, describe why.
iii. Analyze the results identified in 11a, 11b, and 11c and compare it to the survey responses in 11d. Identify any findings, relationships, or other information that may be helpful for your organization when or if you revise your appraisal program and the efforts of the organization to involve employees in the performance appraisal process.

d. What were the results to the following 2004 Federal Human Capital Survey question that addresses employee involvement? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #54: How satisfied are you with your involvement in decisions that affect your work?
Item from agency survey (if applicable)

12. Feedback Process *(10 points for design and implementation score)*

a. Does the appraisal program require that employees receive a progress review on their performance (that is, feedback) at least once during the appraisal period?
☐ Yes ☐ No

b. Approximately how many employees received a progress review?

c. How do you track whether employees receive a progress review?

i. Analyze the results identified in 12b and 12c and compare it to the survey responses in 12d. Identify any findings, relationships, or other information that may be helpful for your organization when or if you revise your appraisal program to ensure it provides for adequate employee feedback.

d. What were the results to the 2004 Federal Human Capital Survey regarding feedback discussions with supervisors? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #31: Discussions with my supervisor/team leader about my performance are worthwhile.
Item #47: Supervisors/team leaders provide employees with constructive

suggestions to improve their job performance.
Item from agency survey (if applicable)

13. Training and Competency Development *(10 points for design and implementation score)*
a. Does the appraisal program description require that supervisors receive training and retraining on the requirements and operation of the performance appraisal program? ☐ Yes ☐ No
b. Has the agency conducted training for at least 50 percent of its supervisors on the performance appraisal program sometime during the last 2 years? ☐ Yes ☐ No
i. If ***yes***, describe the training, how many attended, the content of the course, and any other information that would show adequate training was provided.
ii. If fewer than 50 percent of supervisors were trained on performance management in the last 2 years, what is the agency doing to ensure that supervisors receive training in the future? Include a timeline for actions.
c. Does the *appraisal program* description require that employees receive training and retraining on the requirements and operation of the performance appraisal program? ☐ Yes ☐ No
d. Has the agency conducted training for at least 50 percent of employees on the performance appraisal program sometime during the last 2 years? ☐ Yes ☐ No
i. If ***yes***, describe the training, how many attended, the content of the course, and any other information that would show adequate training was provided.
ii. If fewer than 50 percent of employees attended performance appraisal training in the last 2 years, what is the agency doing to ensure that employees receive training in the future? Include a timeline for actions.
e. When a supervisor performs poorly on the required supervisory element (see Oversight and Accountability section), what action has the agency taken to improve the supervisor's performance management competencies (that is, interpersonal communication, leading people, setting goals, performance measurement, business acumen, appraising performance, recognition)
f. Describe the agency's competency development activities for supervisors.

g. What were the results of **supervisors and managers** responses to the following 2004 Federal Human Capital Survey questions that address training and competency development? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #2: I am given a real opportunity to improve my skills in my organization.
Item from agency survey (if applicable)

14. Assessment and Guidance *(10 points for design and implementation score)*

a. Does the agency assess organizational unit performance?
☐ Yes ☐ No

i. If ***yes***, explain how unit performance is assessed (e.g., using PAR, PART, or some other assessment tool). Provide an example of the assessment tool, if applicable.

ii. If ***yes***, explain how organizational unit performance was communicated throughout the organization.

iii. If ***no***, that is, if the agency does not assess organizational unit performance, what is the agency doing to ensure that unit performance is assessed and communicated in the future? Include a timeline for actions.

b. Did an agency official provide guidance to rating officials about how unit performance should be considered when deciding ratings and awards?
☐ Yes ☐ No

i. If ***yes***, either describe the guidance or provide a copy.

ii. If ***no***, what is the agency doing to ensure that guidance is given about ratings and work unit performance in the future? Include a timeline for actions.

c. What were the results to the following 2004 Federal Human Capital Survey question that addresses organizational assessment? Be sure to consider survey results when developing

strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #40: Managers review and evaluate the organization's progress toward meeting its goals and objectives.
Item from agency survey (if applicable)

15. Oversight and Accountability *(10 points for design and implementation score)*
a. Do the performance plans of supervisors include a critical element (performance expectation) that holds the supervisors accountable for the performance management of subordinates, that is, the agency holds supervisors responsible for ensuring that subordinate performance plans are aligned with organizational goals and for the degree of rigor the supervisor demonstrates in the appraisal of subordinates? ☐ Yes ☐ No
i. If ***yes***, how many supervisors have this element included in their performance plans?
ii. If ***no***, what is the agency doing to ensure that in the future all supervisors are held accountable for the performance management of subordinates? Include a timeline for actions.
b. Was this program approved by the agency head or designee before it was implemented? ☐ Yes ☐ No
i. If ***yes***, provide the title of the designee if the agency head was not the approver.
ii. If ***no***, describe the process used for obtaining approval for implementing the program within the agency.
c. Is there a high-level agency official who has oversight of the results of appraisals and awards under this program? ☐ Yes ☐ No
i. If ***yes***, provide the title of the official.
ii. If ***no***, what is the agency doing to ensure that in the future a high-level agency official will oversee the results of appraisals and awards under this program? Include a timeline for actions.

d. Has this program been evaluated by the agency within the last 3 years to determine compliance and effectiveness? ☐ Yes ☐ No
i. If ***yes***, when?
ii. If ***yes***, what were the results? (Provide a copy of the report.)
iii. If ***no***, that is, if the agency has not evaluated the appraisal program within the last 3 years, what is the agency doing to ensure that in the future regular evaluations of the program will occur? Include a timeline for actions.
e. Does the rating distribution of employees reflect organizational unit performance, that is, is there a relationship between the ratings of employees and the performance of the unit? ☐ Yes ☐ No
i. If ***yes***, explain. Include a description of how organizational performance was assessed, how it was communicated throughout the agency, and the instructions given to rating officials and second-level reviewers on how to incorporate the organization's performance into the review process.
ii. If ***no***, what actions is the agency taking to ensure that rating distributions in the future reflect unit performance?

16. Purpose of Performance Management *(100 points for strategy for improvement)*
a. What were the results to the following 2004 Federal Human Capital Survey question that addresses organizational assessment? Be sure to consider survey results when developing strategies for improving your appraisal program. *(Include this information if you are able to isolate the data for only those employees covered by this appraisal program. Otherwise, respond "N/A" for not available. If your organization conducts its own employee survey and has similar questions with results, include the applicable question(s) and results here.)*

FHCS Question
Item #30: My performance appraisal is a fair reflection of my performance.
Item from agency survey (if applicable)

b. Do you feel this appraisal program helps the organization achieve its goals? (The response to all of 16b is to be approved by the person that has oversight responsibility for the program, as identified in 15c.) ☐ Yes ☐ No
i. If ***yes***, explain.
ii. If ***no***, what is the agency doing to the design or operation of its program to

improve program effectiveness at helping employees achieve organizational goals? Note: This answer should be the summarizing plan for how the agency intends to improve its performance appraisal program. Include all the answers from previous sections that address improvement actions.

APPENDIX B: AGENCIES COVERED BY PAAT

AGENCY	SUB AGENCY
COMMERCE	Commerce ALL
COMMERCE	National Institute of Standards and Technology
COMMERCE	Patent and Trademark Office
HOMELAND SECURITY	Federal Law Enforcement Training Center
HOMELAND SECURITY	Homeland Security ALL
HOMELAND SECURITY	Transportation Security Administration
HOMELAND SECURITY	United States Coast Guard
HOMELAND SECURITY	US Citizenship and Immigration Services
HOMELAND SECURITY	US Customs and Border Protection
HOMELAND SECURITY	US Immigration and Customs Enforcement
HOMELAND SECURITY	US Secret Service
HOMELAND SECURITY	USCG, FLETC, and ICE
DEFENSE	Army Corps of Engineers
DEFENSE	Department of Defense NSPS Spiral 1.2 and 1.3
DEFENSE	Military Departments and Defense activities
ENERGY	Bonneville Power Administration - Non Supervisors
ENERGY	Bonneville Power Administration - Supervisors and Managers
ENERGY	Energy-wide Non Supervisor
ENERGY	Western Area Power Administration
ENERGY	National Nuclear Security Administration
INTERIOR	Bureau of Land Management
INTERIOR	Bureau of Land Management, Colorado
INTERIOR	Interior ALL
JUSTICE	Alcohol, Tobacco, Firearms and Explosives - 1811
JUSTICE	Alcohol, Tobacco, Firearms and Explosives - non1811
JUSTICE	Alcohol, Tobacco, Firearms and Explosives – PMDP
JUSTICE	Antitrust Division Offices Boards and Divisions
JUSTICE	Bureau of Prisons Federal Prison System
JUSTICE	Bureau of the Public Debt Bargaining
JUSTICE	Bureau of the Public Debt Supervisory
JUSTICE	Civil Division, Offices Boards and Divisions

AGENCY	SUB AGENCY
JUSTICE	Civil Rights Division Attorney
JUSTICE	Civil Rights Division Bargaining
JUSTICE	Civil Rights Division Non-Bargaining
JUSTICE	Community Relations Service
JUSTICE	Criminal Division Offices Boards and Divisions
JUSTICE	Drug Enforcement Administration
JUSTICE	Environment Natural Resources Division Offices
JUSTICE	Executive Office for Board Immigration Appeals
JUSTICE	Executive Office for Immigration Review
JUSTICE	Executive Office for U.S. Trustees
JUSTICE	Executive Office for United States Attorney
JUSTICE	Federal Bureau of Investigation
JUSTICE	Justice Management Division
JUSTICE	Justice Office of the Inspector General
JUSTICE	National Drug Intelligence Center
JUSTICE	Office of Justice Programs
JUSTICE	Saint Lawrence Seaway Development Corporation
JUSTICE	United States Marshals Service
LABOR	Labor ALL
TRANSPORTATION	FAA - Technical Operations Services
TRANSPORTATION	FAA - LOBs/SOs
TRANSPORTATION	FAA - PPRS
TRANSPORTATION	Federal Highway Administration
TRANSPORTATION	Federal Motor Carrier Safety Administration
TRANSPORTATION	Federal Railroad Administration
TRANSPORTATION	Federal Transit Administration
TRANSPORTATION	Maritime Administration
TRANSPORTATION	National Highway Traffic Safety Administration
TRANSPORTATION	Office of the Secretary (OST) HR
TRANSPORTATION	OST Human Resource Management
TRANSPORTATION	Pipeline and Hazardous Materials Safety Administration
TRANSPORTATION	Office of Inspector General
TRANSPORTATION	Volpe National Transportation Systems Center
EDUCATION	Education ALL

AGENCY	SUB AGENCY
EDUCATION	Federal Student Aid (beta)
EDUCATION	Office of the Chief Financial Office-ED
EPA	Environmental Protection Agency
EPA	Environmental Protection Agency OIG
EPA	Office of Administration and Resources Management
EPA	Region 4
EPA	Region 9
GSA	GSA-Wide
GSA	Region 7
HEALTH AND HUMAN SERVICES	Agency for Healthcare Research and Quality
HEALTH AND HUMAN SERVICES	Health and Human Services
HEALTH AND HUMAN SERVICES	Office of the Secretary
HOUSING AN URBAN DEVELOPMENT	Housing and Urban Development Dept EPPES
HOUSING AN URBAN DEVELOPMENT	Housing and Urban Development Dept PACS
NASA	NASA ALL
NATIONAL SCIENCE FOUNDATION	National Science Foundation ALL
OFFICE OF MANAGEMENT AND BUDGET	Office of Management and Budget ALL
OFFICE OF PERSONNEL MANAGEMENT	Office of Personnel Management
OFFICE OF PERSONNEL MANAGEMENT	Human Capital Leadership and Merit Systems
SMALL BUSINESS ADMINISTRATION	Small Business Administration ALL
SMITHSONIAN	Smithsonian Institution ALL
SMALL AGENCIES	African Development Foundation
SMALL AGENCIES	Armed Forces Retirement Home
SMALL AGENCIES	Commission on Civil Rights
SMALL AGENCIES	Committee for Purchase from People Who Are Blind
SMALL AGENCIES	Commodity Futures Trade Commission
SMALL AGENCIES	Corp. for National and Community Services

AGENCY	SUB AGENCY
SMALL AGENCIES	Court Services
SMALL AGENCIES	Defense Nuclear Facilities Safety Board- Office of the General Counsel
SMALL AGENCIES	Defense Nuclear Facilities Safety Board- Office of the General Manager
SMALL AGENCIES	Defense Nuclear Facilities Safety Board- Office of the Technical Director
SMALL AGENCIES	Elections Assistance Commission
SMALL AGENCIES	Inter-American Foundation
SMALL AGENCIES	International Boundary Commission
SMALL AGENCIES	National Capital Planning Commission
SMALL AGENCIES	National Credit Union Administration
SMALL AGENCIES	Nuclear Regulatory Commission-SN
SMALL AGENCIES	Nuclear Regulatory Commission-Wide
SMALL AGENCIES	Office of Government Ethics
SMALL AGENCIES	Office of the U.S. Trade Representative
SMALL AGENCIES	Railroad Retirement Board
SMALL AGENCIES	Railroad Retirement Board – Supervisory System
SMALL AGENCIES	Securities and Exchange Commission
SMALL AGENCIES	Surface Transportation Board
SMALL AGENCIES	The John F. Kennedy Center for the Performing Arts
SOCIAL SECURITY	Social Security Administration GS-15
SOCIAL SECURITY	Office of Investigator General
SOCIAL SECURITY	Social Security Administration GS-14 and below PACS
STATE	State Department ALL
TREASURY	Alcohol and Tobacco Tax and Trade Bureau GS
TREASURY	Alcohol and Tobacco Tax and Trade Bureau Pay Demo
TREASURY	Bureau of Engraving and Printing
TREASURY	Bureau of Engraving and Printing - Pilot Program
TREASURY	Departmental Administration
TREASURY	Financial Crimes Enforcement Network
TREASURY	Financial Management Service
TREASURY	Internal Revenue Service
TREASURY	IRS Office of Chief Counsel
TREASURY	Office of the Comptroller of the Currency

AGENCY	SUB AGENCY
TREASURY	Office of Thrift Supervision
TREASURY	Tax Division
TREASURY	U.S. Mint
TREASURY	Office of Investigator General
TREASURY	Treasury Inspector General for Tax Administration
USAID	Agency For International Development ALL
USDA	Agricultural Marketing Service
USDA	Agricultural Research Service
USDA	Animal and Plant Health Inspection Service
USDA	Co-operative State Research, Education Extension
USDA	Departmental Administration
USDA	Economic Research Service
USDA	Farm Service Agency
USDA	Food and Nutrition Service
USDA	Food Safety and Inspection Service
USDA	Foreign Agricultural Service
USDA	Forest Service
USDA	Grain Inspection Packers Stockyards Administration
USDA	National Agricultural Statistics Service
USDA	Natural Resources Conservation Service
USDA	Office of the Inspector General-AGOIG
USDA	Risk Management Agency
USDA	Rural Development
USDA	USDA-OCFO/NFC
VETERANS AFFAIRS	Veteran's Affairs ALL
VETERANS AFFAIRS	Veterans Health Administration
VETERANS AFFAIRS	VA Medical Centers Albany, NY and Central Texas and Portland, OR

APPENDIX C: SIMPLE SLOPE ANALYSIS FOR PLAN ALIGNMENT AND OUTCOMES

TWO-WAY INTERACTION SIMPLE SLOPES OUTPUT

Input

```
============================================================
  X1        = -0.73
  X2        = 0.27
  cv1       = 0.94889683
  cv2       = 0
  cv3       = -0.94889683
  Intercept = 0.575
  X Slope   = 0.063
  Z Slope   = 0.032
  XZ Slope  = -0.11
  df        = 108
  alpha     = 0.05
```

Asymptotic (Co)variances

```
============================================================
  var(b0) 0.00039419
  var(b1) 0.00262687
  var(b2) 0.00037778
  var(b3) 0.00167612
  cov(b2,b0) 0.00002625
  cov(b3,b1) -0.00011545
```

Region of Significance

```
============================================================
  Z at lower bound of region = -0.4165
  Z at upper bound of region = 2.7654
  (simple slopes are significant *outside* this region.)
```

Simple Intercepts and Slopes at Conditional Values of Z

```
============================================================
  At Z = cv1...
    simple intercept = 0.6054(0.028), t=21.618, p=0
    simple slope     = -0.0414(0.0626), t=-0.6612, p=0.5099
  At Z = cv2...
    simple intercept = 0.575(0.0199), t=28.9612, p=0
    simple slope     = 0.063(0.0513), t=1.2292, p=0.2217
  At Z = cv3...
```

simple intercept = 0.5446(0.0262), t=20.8167, p=0
simple slope = 0.1674(0.066), t=2.5363, p=0.0126

Simple Intercepts and Slopes at Region Boundaries

==========

Lower Bound...
simple intercept = 0.5617(0.0209), t=26.8421, p=0
simple slope = 0.1088(0.0549), t=1.9821, p=0.05
Upper Bound...
simple intercept = 0.6635(0.0586), t=11.3316, p=0
simple slope = -0.2412(0.1217), t=-1.9822, p=0.05

Points to Plot

==========

Line for cv1: From {X=-0.73, Y=0.6356} to {X=0.27, Y=0.5942}
Line for cv2: From {X=-0.73, Y=0.529} to {X=0.27, Y=0.592}
Line for cv3: From {X=-0.73, Y=0.4224} to {X=0.27, Y=0.5898}

APPENDIX D: SIMPLE SLOPE ANALYSIS FOR EMPLOYEE ALIGNMENT AND OUTCOMES

TWO-WAY INTERACTION SIMPLE SLOPES OUTPUT

Input

```
============================================================
 X1        = -22.18
 X2        = 15.82
 cv1       = 1.898
 cv2       = 0
 cv3       = -1.898
 Intercept = 0.602
 X Slope   = 0.001
 Z Slope   = 0.03
 XZ Slope  = -0.006
 df        = 107
 alpha     = 0.05
```

Asymptotic (Co)variances

```
============================================================
 var(b0) 0.00036153
 var(b1) 0.00002279
 var(b2) 0.00053895
 var(b3) 0.00000927
 cov(b2,b0) 0.00009616
 cov(b3,b1) 0.00000807
```

Region of Significance

```
============================================================
 Z at lower bound of region = -174.3802
 Z at upper bound of region = -1.1821
 (simple slopes are significant *inside* this region.)
```

Simple Intercepts and Slopes at Conditional Values of Z

```
============================================================
 At Z = cv1...
  simple intercept = 0.6589(0.0517), t=12.757, p=0
  simple slope     = -0.0104(0.0093), t=-1.1149, p=0.2674
 At Z = cv2...
  simple intercept = 0.602(0.019), t=31.661, p=0
  simple slope     = 0.001(0.0048), t=0.2095, p=0.8345
 At Z = cv3...
```

simple intercept = 0.5451(0.044), t=12.3813, p=0
simple slope = 0.0124(0.0051), t=2.4508, p=0.0159

Simple Intercepts and Slopes at Region Boundaries

==========

Lower Bound...
simple intercept = -4.6294(4.0442), t=-1.1447, p=0.2549
simple slope = 1.0473(0.5283), t=1.9824, p=0.05
Upper Bound...
simple intercept = 0.5665(0.0298), t=19.0193, p=0
simple slope = 0.0081(0.0041), t=1.9824, p=0.05

Points to Plot

==========

Line for cv1: From {X=-22.18, Y=0.8893} to {X=15.82, Y=0.4946}
Line for cv2: From {X=-22.18, Y=0.5798} to {X=15.82, Y=0.6178}
Line for cv3: From {X=-22.18, Y=0.2703} to {X=15.82, Y=0.741}