Goal Ambiguity and Organizational Performance in U.S. Federal Agencies

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ABSTRACT

In spite of numerous observations that government organizations have high levels of organizational goal ambiguity that exert major influences on their other characteristics, few researchers have measured goal ambiguity and tested these frequent assertions. In previous research, we developed measures of four dimensions of goal ambiguity: mission comprehension ambiguity, directive goal ambiguity, evaluative goal ambiguity, and priority goal ambiguity. Confirming hypotheses developed from the literature on public organizations, the latter three variables showed relations to such organizational characteristics as organizational age, financial publicness (proportion of funding from government allocations), and regulatory status. This article reports a second analytical step of examining the relations between the goal ambiguity dimensions and indicators of organizational performance based on responses to the 2000 National Partnership for Reinventing Government Survey of federal employees. The performance variables included managerial effectiveness, customer service orientation, productivity, and work quality. Regression analyses with numerous control variables found that directive, evaluative, and priority goal ambiguity related negatively to managerial effectiveness. All four performance indicators showed significant negative relationships with evaluative goal ambiguity and directive goal ambiguity. The results provide further evidence of the viability of the new measures of goal ambiguity, support theory-based but previously untested hypotheses, and further indicate the feasibility and value of analyzing goal ambiguity of government organizations.

The literature on public organizations contains numerous assertions about the impacts of goal ambiguity on important characteristics of those organizations. Again and again, authors say that vague, hard-to-measure goals influence structural dimensions, attitudes, behaviors, and organizational outcomes in public organizations and make them different from business firms on these characteristics (for a review, see Rainey 1993). The great frequency of such observations, however, has not generated a comparable amount of empirical research aimed at proving or disproving them. The small number of studies that have tried to provide...
empirical evidence, moreover, have usually relied on managers’ responses to survey questions about whether their organizations have vague or clear goals (e.g., Rainey, Pandey, and Bozeman 1995). These studies have found that public and private managers do not differ in their responses to questions about whether their organizations’ goals are vague and hard to measure. These findings thus run counter to the typical observation that public organizations have less goal clarity than business firms. They raise the question of whether one would get different empirical results using evidence relying less on managers’ survey responses. The situation calls for more research with better measures of goal ambiguity.

This study relates new measures of the goal ambiguity of U.S. federal government agencies to measures of the agencies’ performance. This study is the second report of a larger study reported previously (Chun and Rainey 2005). That first article reported the development of the new measures of the four dimensions of goal ambiguity described below. As described below, it reported evidence that supported hypotheses about the relations between those measures of goal ambiguity and “antecedent” variables that should influence the degree of goal ambiguity. These antecedents included the agency’s financial publicness (the proportion of its funding from government allocations as opposed to sales or user charges), regulatory functions versus nonregulatory functions, complexity of the policy problems the agency confronts, and others. Researchers in the social sciences have paid very little attention to clarifying and measuring the concept of goal ambiguity. These confirmations of hypotheses about relations between the goal ambiguity measures and these antecedent variables justified optimism about measuring organizational goal ambiguity in a meaningful way and about using those measures in research on the many assertions about its antecedents and consequences. The larger study analyzed the relations between goal ambiguity and a variety of consequence variables, including such variables as employee work satisfaction and perceptions about organizational structure. This article reports our analysis of the relations between goal ambiguity and arguably the most important of these consequence variables, organizational performance.

Examining these relationships has important implications for the theory of public organizations, since assertions about goal ambiguity figure so importantly in many scholars’ assertions about the other characteristics of public agencies, including their performance. It also has important implications for public policy and managerial practice, for the assumption that goal clarification will improve organizational performance underlies recent administrative reforms, including the Government Performance and Results Act (GPRA) in the United States and initiatives based on the New Public Management in other nations. This assumption involves a leap of faith, since there is so little empirical evidence of such a relationship and since one can argue that for some government agencies goal clarification might not be feasible and might indeed be dysfunctional. Further development of measures of organizational goal ambiguity and research on their relations to other variables can contribute to better analysis of such matters.

Then comes the formidable challenge of measuring the performance of government agencies in a way that provides common, comparable measures for all the different agencies. We use data from the very large 2000 National Partnership for Reinventing Government Survey conducted by the Office of Personnel Management to construct the performance measures from the responses of the employees in the agency. As we describe later, the survey’s very large sample size leads to very sensitive statistical tests that find many statistically significant results but with small effect sizes (small $R^2$ statistics). Nevertheless, the finding of statistically significant support for the hypotheses offers
further support for the usefulness of the measures of goal ambiguity and useful evidence about frequent assertions in the literature.

DIMENSIONS OF GOAL AMBIGUITY IN ORGANIZATIONS

For this study, organizational goal ambiguity refers to the extent to which an organizational goal or set of goals allows leeway for interpretation, when the organizational goal represents the desired future state of the organization. An organizational goal loses clear meaning and becomes ambiguous when it invites a number of different interpretations. This definition of organizational goal ambiguity (or clarity) is consistent with some previous conceptions of the construct (DiMaggio 1987; Kelemen 2000; Locke et al. 1989; Zahariadis 1999).1 Goals can be ambiguous in various ways, however, and along different dimensions. We developed four dimensions of goal ambiguity that refer to communicating the reason for the existence of an organization, directing organizational activities, evaluating organizational performance, and making decisions about organizational priorities (Chun and Rainey 2005).

Measuring Organizational Goal Ambiguity

The measures for variables usually appear in the method section. Given the newness of the four concepts and measures of goal ambiguity, to aid the reader we describe the measures in this section as we introduce the concepts. As described below, the data for most of the dimensions of organizational goal ambiguity were collected from the agencies’ strategic plans and performance reports. The Government Performance and Results Act of 1993 requires that virtually every federal agency describe the agency’s goals and performance indicators in the strategic plans and in annual performance plans and performance reports that must be submitted to Congress (U.S. Office of Management and Budget [OMB] 2001). This provides access to information about the formally stated goals of most federal agencies.2 The measures of the goal ambiguity dimensions we employ do not have a long history of use, so we provide evidence of criterion validity, especially convergent validity, in notes in the following sections.

1 There has been little clarification of the relations among such goal attributes as goal vagueness, specificity, complexity, multiplicity, conflict, tangibility, and measurability. The relationships among these ambiguity-like constructs remain ambiguous themselves. A focus on the level of interpretive leeway involves conceiving goal ambiguity as a general concept incorporating these seemingly interrelated goal attributes.

2 Using the GPRA plans and reports as data sources to measure goal ambiguity in federal agencies has several significant advantages in dealing with methodological complications that have hampered previous research on organizational goals. First, it is a fairly reasonable way to identify organizational goals in government agencies, since the goals of government agencies are essentially mandated by statutes (Lerner and Wanat 1983) and the GPRA explicitly requires federal agencies to develop their goals based on such statutory mandates (U.S. OMB 2001). In fact, researchers on public management have often identified the goals of government agencies by looking at formal mandates (for examples, see Meyers, Riccucci, and Lurie 2001; Perry et al. 1999). The second advantage has to do with a challenge encountered in previous research on organizational goals that has focused on mission statements (Weiss and Piderit 1999) or vision statements (Baum, Locke, and Kirkpatrick 1998). Organizational mission or vision statements are often idealized, symbolic, and brief (Levin 2000). The GPRA plans and reports, however, contain not only the mission statement of an agency but also a description of the agency’s long-term goals and annual performance targets, which convey in-depth information about the agency’s goals. Third, it can minimize the “whose goal?” problem (Grizzle 1982; Vancouver and Schmitt 1991) in organizational goal research. Consultations with key stakeholders are mandatory procedures in preparing the strategic plan of a federal agency (Franklin 2001; Roberts 2000). As the main purpose of the consultations is to draw a workable consensus among stakeholders concerning the goals of a federal agency, the agency goals finally described in the GPRA plans and reports can be considered as agreed-upon goals among key stakeholders. An additional advantage comes from the standardization of terms that otherwise could lead to significant measurement errors when organizational data were collected from archival sources (Van de Ven and Ferry 1980). All of the plans and reports were prepared under the same guidelines provided by the OMB.
Mission Comprehension Ambiguity

Mission comprehension ambiguity refers to the level of interpretive leeway that an organizational mission allows in comprehending, explaining, and communicating the organizational mission (Daft 1998; Dess and Miller 1993; Thompson 1997). Organizational leaders often promulgate mission statements to enhance the organization’s legitimacy and in turn to enhance members’ commitment (Gable 1998; Richards 1986; Scott 2003) and “sense of mission” (Campbell and Nash 1992; Wilson 1989). Researchers analyzing mission statements have used the concept of mission statement clarity to refer to the degree to which the mission statement is easy to read and understand (Campbell and Nash 1992; Weiss and Piderit 1999). Consistent with these previous approaches, we conceive mission comprehension ambiguity as referring to the understandability of the mission statement. When the mission statement is easier to understand, explain, and communicate, there will be less leeway for interpretation and more shared agreement about its meaning.

Measuring Mission Comprehension Ambiguity. We collected the agencies’ mission statements from their strategic plans during the period of 1997–99 and calculated the Gunning-Fog Index (GFI) for each mission statement (Gunning and Kallan 1994). The GFI is an established indicator for evaluating the degree of “fog” in a written passage. The GFI has predicted the extent to which a piece of writing would be easily understood by readers. Previous studies have used it as an indicator of mission statement clarity (e.g., Weiss and Piderit 1999). The higher the GFI, the harder the written passage is to comprehend (Gunning 1968). The GFI scores showed reasonable convergent validity with an independent rating of the “transparency” of the performance reports.

Directive Goal Ambiguity

Directive goal ambiguity refers to the amount of interpretive leeway available in translating an organization’s mission or general goals into directives and guidelines for specific actions to be taken to accomplish the mission (Dess and Miller 1993; Moore 1995; Scott 2003). Other scholars have treated the room for interpretation in translating organizational missions into concrete activities and behaviors as an important facet of goal ambiguity.

The procedures to get the GFI score of a mission statement were as follows: (a) count the number of words in successive sentences in the statement and divide the total number of words in the statement by the number of sentences, which gives the average sentence length of the mission statement; (b) count the number of words of three syllables or more in the statement and figure the percentage of such hard words out of total words in the statement; and finally, (c) total the two factors.

In general, convergent validity is established by demonstrating a high correlation between scores from two different measures of the same construct (Schwab 1999). It is ideal that the criterion and the measure being validated are collected by totally different methods (O’Sullivan and Rassel 1995). The alternative measure used for validating the measure of mission comprehension clarity used was the “transparency” score reported in the Performance Report Scorecards (PRS) released by the Mercatus Center (2000–2) at George Mason University. Since 2000, the center has annually evaluated the quality, which has been assessed based on three dimensions including “transparency,” of the GPRA performance reports in twenty-four federal agencies covered under the Chief Financial Officer (CFO) Act. The transparency dimension, which consisted of four evaluating factors including understandability, has been rated on a twenty-point scale by experts in the center. As an agency’s mission statement is supposed to play a key role in preparing the performance report of the agency (U.S. OMB 2001), it was assumed that the transparency score of the performance report should be negatively correlated with the degree of difficulty in comprehending the mission statement. We calculated Pearson correlations between the mission comprehension ambiguity measure used in this study and the average transparency score in the PRS for the last three years in the twenty-four CFO Act agencies. The two measures were correlated negatively, as expected, and moderately at −.37. Given that understandability is only one of four factors constituting the transparency score in the PRS, which might lower the correlation between the two measures, to find a moderate correlation in the expected direction provides support for convergent validity of the mission comprehension ambiguity measure used.
(Ginger 1998; Lowi 1979; Sharkansky 1999; Spicer and Terry 1996). For example, Lerner and Wanat’s (1983) concept of the “fuzzy mandates” of public bureaucracy taps the same construct as directive goal ambiguity when the authors point out that fuzzy terms in legislation provide too little guidance for crisp implementation of the legislative mandates.

**Measuring Directive Goal Ambiguity.** When the terms used in goal statements do not lend themselves to precise definition, goals lose clarity as directives for day-to-day decisions. To translate general and fuzzy formal mandates from legislation into specific guidelines, government agencies often have to refine statutory language by issuing administrative rules (Ripley and Franklin 1991). We used the indicator “rules to laws ratio” (R/L ratio) because it indicates the extent to which a federal agency needs to clarify vague congressional intent or directions by adding specifications. This indicator is the ratio of the number of pages of administrative rules that the agency issues to the number of pages of legislation that the agency administers. Meier (1980) developed this measure in his work on agency power. He used the R/L ratio as an indicator of the autonomy of federal agencies because he posited that more ambiguity in statutes would allow more autonomy for agency officials.5

**Evaluative Goal Ambiguity**

Evaluative goal ambiguity refers to the level of interpretive leeway that a statement of organizational goals allows in evaluating the progress toward the achievement of the mission. For performance evaluation, the organizational mission should be transformed into performance indicators and targets (Grizzle 1982). Organizations vary in the extent to which performance targets can be precisely described and in the extent to which valid and objective performance indicators are available (Gable 1998; Smith 1999). Some organizations can express their performance targets in an objective and measurable manner that allows a minimum level of interpretive leeway. Other organizations have difficulty specifying objective, quantitative, and outcome-focused performance indicators and may use workload or process indicators rather than results or outcome indicators in performance evaluation (Bohte and Meier 2000; Grizzle 1982; Merton 1957).6

5 The procedures to get the R/L ratio were as follows: (a) count the number of pages of rules in the Code of Federal Regulations (CFR) for each agency, (b) count the number of pages of legislation in the U.S. Code for each agency, and finally (c) divide the first factor by the second factor. Both the CFR and the U.S. Code used for this study were issued in 2000. They covered legislation and administrative rules issued by the end of the previous year, 1999. The rules in the CFR were classified by subdepartmental agency and independent establishments, and the CFR had a parallel table of legal authorities and rules as an appendix, which makes it possible to objectively calculate the R/L ratio for each agency.

To provide evidence of convergent validity, an alternative measure of vagueness of congressional directives was used. Appropriation is another important area in which congressional intent often varies in specificity. Some agencies are required to prepare their budget descriptions with great detail, while others are permitted to submit budgets devoid of detail. A measure of this directive ambiguity in budgets, which was also developed by Meier (1980), is the ratio of the agency’s budget size in dollars to the number of pages the budget takes in the appendix to the *Budget of the United States Government*. For a randomly selected subset of twenty sample agencies, we correlated the R/L ratio with this measure of budget direction ambiguity. The Pearson correlation was .29. Considering that these two indicators measured related, rather than identical, constructs, i.e., an indicator of the vagueness of congressional intent in legislation versus an indicator of that in budget, finding a modest but positive correlation provides support for the validity of the directive goal ambiguity measure used in the study.

6 As with the previous dimensions, evaluative ambiguity is not a new concept in the goal ambiguity literature (Rainey 1993). For example, role ambiguity researchers viewed the lack of information about the consequences of role performance (Kahn et al. 1964) or performance evaluation ambiguity (Dougherty and Pritchard 1985) as one of the multiple dimensions of role ambiguity.
Measuring Evaluative Goal Ambiguity. Evaluative goal ambiguity refers to the degree of difficulty in objectively evaluating progress toward the achievement of organizational goals. This dimension is measured by the percentage of subjective or workload-oriented performance indicators, as opposed to objective and results-oriented performance indicators, in each agency’s performance plan. Franklin (1999) has used a similar measure in her study of strategic planning in Arizona state agencies. Data were collected from each agency’s GPRA performance plan released in 1998–99 or performance report released in 1999–2000. As with strategic plans, we collected the GPRA-required performance plans and reports either from the web sites of the agencies or by contacting agency officials in planning units. In this study, “subjective” performance indicators refer to measures based solely on individual perceptions about the level of organizational performance and frequently without a numerical target level. Although many subjective indicators are descriptive (i.e., they provide no numerical target level), it is possible for a performance indicator to be subjective and quantitative at the same time. Objectivity in performance evaluation could be obtained by observing tangible conditions or events, such as a moon landing. The performance indicators in the GPRA performance plans and reports are meant to be objective and/or quantitative. Where such indicators are not feasible, however, the GPRA allows use of subjective and descriptive performance indicators, with the U.S. OMB’s (2001) approval.

On the other hand, “workload-oriented” performance indicators refer to input and output indicators as opposed to such “results-oriented” ones as outcome and efficiency measures. It should be noted, however, that to distinguish “results-oriented” indicators from “workload-oriented” ones is not as simple as it sounds since the difference between the two is not always crystal clear. To deal with this problem, in classifying the performance indicators reported in the GPRA plans and reports we developed very specific criteria supplemented by examples. The criteria are described in appendix 1. Inter-rater reliability was calculated for a subset of the sample of agencies, and two alternative measures were used for validating this evaluative goal ambiguity measure.

7 Based on the same criteria described in appendix 1, Chun and a research assistant, a doctoral student majoring in public management, independently coded the performance indicators of twenty sample agencies that were randomly selected and calculated the evaluative goal ambiguity scores for the agencies. Rater reliability for the resultant evaluative ambiguity scores was shown by a correlation between raters of .91 (p < .0001).

Two alternative measures were used for validating this evaluative goal ambiguity measure. The first was the General Accounting Office’s (GAO) grades on the “clarity of intended performance” in twenty-four CFO Act agencies’ performance plans released in 1999 (U.S. GAO 1999). In assessing the clarity of performance picture provided by the performance plan, the criteria used by the GAO were as follows: the results orientation of performance measures, the possibility of before-and-after performance evaluation, and the presence of performance targets for managerial challenges. For calculating the correlations between the GAO’s grades and the evaluative goal ambiguity measure used in this study, the four grades employed by the GAO were converted to a four-point scale, i.e., 1—clear picture of performance, 2—general, 3—limited, 4—unclear. The Pearson correlation was .52, statistically significant at the .01 level. This result strongly supports the concurrent validity of the evaluative goal ambiguity measure used in the study. Another alternative measure was the “public benefits” score provided by the Performance Report Scorecards of the Mercatus Center, which were described earlier. The public benefits dimension, which was one of the three dimensions that served as the criteria to assess the quality of the GPRA performance reports in twenty-four CFO Act agencies, included such evaluating factors as the results orientation of the agency’s goals and performance measures, the demonstration of a clear relationship between the agency’s work and results, and the presence of cost information. We calculated Pearson correlations between the measure of evaluative goal ambiguity used in the study and the average public benefits score of the PRS for the last three years in the twenty-four CFO Act agencies. The correlation was −.67, statistically significant at the .01 level, which provides further support for the concurrent validity of the measure used.
Priority Goal Ambiguity

Priority goal ambiguity refers to the level of interpretive leeway in deciding on priorities among multiple goals. To indicate priorities means to make decisions about which goals should take precedence over others at a given time or to form a goal hierarchy in which the goals are vertically arranged through means-ends relationships (Richards 1986). The presence of multiple goals without any hierarchical arrangement and prioritization leaves much room for interpretation of such priorities and about which goals take precedence. This dimension is similar to several existing constructs in the goal ambiguity literature, such as goal focus (Weiss and Piderit 1999) and goal complexity (Lee, Locke, and Latham 1989).8

Measuring Priority Goal Ambiguity. For priority ambiguity, or the degree of imprecision in indicating priorities among multiple goals and performance targets, we used two indicators: (a) the number of long-term strategic goals and (b) the number of annual performance targets. Previous research on goals in public organizations has used indicators such as these to measure the extent to which multiple organizational goals or “goal equivalents” are simultaneously presented without any prioritization (Franklin 1999; Weiss and Piderit 1999).9 To combine the two indicators, the number of strategic goals and the number of annual performance targets, into a composite measure of priority goal ambiguity, it was necessary to standardize the indicators so that each was based on the same scale (O’Sullivan and Rassel 1995). The Z-scores of each of the indicators were used for this standardization, and the average of the two Z-scores was calculated as the priority ambiguity score for each agency.10

The Goal Ambiguity Measures and the Antecedent Variables

Three of these goal ambiguity measures performed well in the previous study of the “antecedents” that might influence them (Chun and Rainey 2005). The antecedent

8 For example, Lee, Locke, and Latham defined goal complexity as “the number of different intended outcomes and their interrelationship” (1989, 299). Whereas goal complexity pertains to interconnections among goals in a general sense, the concept of goal conflict refers to only contradictory relationships among them. Goals can counteract one another at the same hierarchical level as well as at different levels (Behn 1991, 70). Goal conflict at the same level may have two different forms: direct and indirect conflict. Direct conflict among goals represents explicit trade-offs among multiple goals, and indirect goal conflict refers to potential competition between the goals in acquiring resources. Direct goal conflict may occur when achieving one valued goal directly inhibits achieving another desired goal (Lee, Locke, and Latham 1989). In contrast, indirect goal conflict can be observed whenever there are multiple goals at the same hierarchical level, since more goals means greater need to split limited resources and thereby exposes more points of potential conflict.

9 Data for long-term strategic goals for each federal agency were obtained from the GPRA strategic plans released in 1997–99, and data for annual performance targets, from the GPRA performance plans submitted to Congress in 1998–99 or from the performance reports in 1999–mid-2000. The strategic plan of a federal agency describes long-term strategic goals that define how the agency will carry out its mission over a period of time. Similarly, the performance plan of the agency reports annual performance targets, i.e., specific milestones in achieving the long-term strategic goals. The number of annual performance targets tends to be greater than the number of long-term strategic goals as the progress toward achieving a strategic goal is often demonstrated by several performance measures.

10 To provide some evidence of concurrent validity, we collected data on the number of organizational units, including staff units, that directly report to the agency head in a randomly selected subset of twenty sample agencies. These data were collected from organizational charts posted on the web sites of the agencies. While this indicator does not exactly measure the same construct as priority goal ambiguity, it is a closely related construct in that different organizational units directly reporting to the agency head should represent distinct priorities in the agency. The Pearson correlation between the two measures was .58, statistically significant at the .05 level, which strongly supports the convergent validity of the priority goal ambiguity measure used.
variables, which are used as control variables in the present analysis, showed statistically significant and reasonably strong relations to three of the goal ambiguity measures, in support of hypotheses and in logically explicable patterns.

Financial publicness was negatively related to directive, evaluative, and priority goal ambiguity, indicating that those agencies receiving higher levels of funding through government allocations (as opposed to sales or user charges) have higher levels of goal ambiguity (as contrasted with more “businesslike” agencies that rely less on government allocations, and that the results showed to have lower goal ambiguity). Regulatory agencies had higher levels of directive and evaluative ambiguity, as many authors would have predicted, but not of priority goal ambiguity (i.e., the number of different objectives they proclaim). This is consistent with the interpretation that they have more general and vague mandates and goals but not necessarily more different objectives than other types of department.

The variable competing demands (the number of different groups that testify about the agency) was strongly positively related to priority goal ambiguity but not to the other types of goal ambiguity. This indicates that the more groups involved, the more different objectives the agency states, but the objectives do not show higher levels of evaluative ambiguity. The measure of mission comprehension ambiguity, however, showed no significant relations to any of the “antecedent” variables, thus raising questions about the value of the GFI as a measure of agency mission characteristics (and indicating implications for interpreting the present analysis).

In sum, the mission comprehension ambiguity measure did not perform well, but the other three goal ambiguity measures did. They produced fairly strong results that supported hypotheses, and there were logically reasonable differences among the three measures in their relations to the “antecedent” variables.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The present study focuses on four different variables representing organizational performance, including survey responses about managerial effectiveness, customer service orientation, productivity, and work quality. Below we will hypothesize the same relationship between each goal ambiguity measure and each of these performance measures, so for brevity we state one hypothesis about performance for each goal ambiguity measure that refers to all four performance measures.

Goal Ambiguity and Organizational Performance

Mission Comprehension Ambiguity and Performance

Organizational mission statements have become virtually ubiquitous in the United States. This proliferation of mission statements implies the assumption that comprehension of the organization’s mission enhances the organization’s performance. Conversely, mission comprehension ambiguity should be negatively related to organizational effectiveness. Various authors have argued that an attractive mission benefits an organization in numerous ways that link to performance (Rainey and Steinbauer 1999; Scott 2003; Weiss 1996; Weiss and Piderit 1999; Wilson 1989). When it is difficult to understand, explain, and communicate the mission, these benefits should wane. Actually, research findings on this relationship are mixed. Weiss and Piderit (1999) found no significant relationship
between a measure of mission statement clarity, the Gunning-Fog Index, and school performance. In contrast, Baum, Locke, and Kirkpatrick (1998) reported a significant and positive relationship between several vision statement attributes, including brevity and clarity, and the financial performance of business firms. Therefore we examine this relationship between mission comprehension ambiguity and performance as indicated by organizational members’ responses to survey items about managerial effectiveness, customer service orientation, productivity, and work quality:

H₁ Federal employees in agencies with higher levels of mission comprehension ambiguity will perceive lower levels of organizational performance.

**Directive Goal Ambiguity and Performance**

There have been two different lines of argument concerning the relationship between directive goal ambiguity and organizational performance. Some scholars view goal clarity in directing organizational decisions and behaviors as a critical element in establishing accountability and meeting the expectations of stakeholders. Others see it as an obstacle to learning from experiments and to flexible adjustments to environmental changes. For instance, many political scientists have considered broadly and loosely defined policy mandates for government agencies as a serious threat to democratic control and accountability (Lowi 1979; Page 1976; West 1997). Similarly, some authors contend that more specific policy mandates make implementation more effective since broadly defined mandates often permit the implementers to interpret them to fit their own values and benefits (Sabatier and Mazmanian 1979). Others, however, assert that specific policy directives can impede political responsiveness to local needs (Lerner and Wanat 1983; Lindblom 1959) and that loosely defined policy mandates allow room for experiments, learning, and adjustments to variations in implementation contexts (Berman 1978; Palumbo 1980).

Among management experts, some argue for goals without specific behavioral expectations to support flexible responses to environmental changes (Conger and Kanungo 1998; Kelemen 2000), responses to unexpected opportunities (Moore 1995), avoidance of strategic myopia (Bartlett and Ghoshal 1994), management creativity (David 1989), increased administrative autonomy (Baier, March, and Saetren 1988; Ginger 1998; Kettl 1992; Mahler 1997), and decreased political conflict (Moore 1995). Others emphasize the potential costs of loosely defined policy directives such as the possibility of arbitrary judgments concerning public values (Spicer and Terry 1996) and inconsistency of decisions and activities with the overall organizational mission (Behn 1991). As Sharkansky warns, “Flexibility is an attraction but ambiguous limits to acceptable behavior invite irresponsible exploitation of flexibility” (1999, 11).

Empirical evidence to resolve this conflict is limited but tends to indicate that directive goal ambiguity is negatively related to organizational performance in the public sector (Boal and Bryson 1987; Lan and Rainey 1992; Wright 2001, 2004). An outcome in either direction would be interesting, but we hypothesized a negative relationship:

H₂ Federal employees in agencies with higher levels of directive goal ambiguity will perceive lower levels of organizational performance.
Evaluative Goal Ambiguity and Performance
The literature on public management generally holds that evaluative goal ambiguity is negatively related to organizational effectiveness, with some empirical evidence supporting this conclusion (e.g., Boyatzis 1982; Hyndman and Eden 2001; Lan and Rainey 1992); and others similarly contend that clear and measurable performance targets improve performance (Behn 1991). Tullock (1965) suggested that business managers can review such indicators as sales and profits and thus are better able than public sector managers to prevent information distortion in upward communications; such distortions, of course, impede performance. Some executives experienced in the public and private sectors have observed that the lack of a “bottom line” for public organizations causes executives to concentrate on general reputation, media relations, and political relations more than on substantive performance (e.g., Allison 1983; Blumenthal 1983). Thus we have the following hypothesis:

\[ H_3 \quad \text{Federal employees in agencies with higher levels of evaluative goal ambiguity will perceive lower levels of organizational performance.}\]

Priority Goal Ambiguity and Performance
Peter Drucker wrote that “to try to do several things at once” in public agencies is “one of the deadly sins in public administration” (1980, 103). Based on her experience, Shalala advises that a government executive must “set firm goals and priorities and stick with them” because “if you try to do everything, you will accomplish nothing” (1998, 287). In a case study on the Federal Deposit Insurance Corporation, Khademian (1995) found that political consensus on a single priority or a “bottom line,” the solvency of the Bank Insurance Fund, played a key role in improving the agency’s effectiveness by letting the managers of the agency concentrate their efforts on the achievement of the “bottom line.” Analyzing local welfare agencies, Meyers, Riccucci, and Lurie (2001) also reported that the existence of a complex set of formal goals could cause goal incongruence in implementation, uncoupling the work priorities of frontline staff from policy goals of offices at higher levels. In their study of AmeriCorps, Perry et al. (1999) concluded that the diversity of goals in the agency allowed implementers to use the situation for the benefit of their own goals (although they also found a positive impact on organizational learning). Thus we hypothesize the following:

\[ H_4 \quad \text{Federal employees in agencies with higher levels of priority goal ambiguity will perceive lower levels of organizational performance.}\]

METHODOLOGY
Data Sources and Sample
The data for the performance measures were collected from the 2000 U.S. Federal Employee Survey by the National Partnership for Reinventing Government (NPR) and the U.S. Office of Personnel Management (OPM). The survey was mailed in September 2000 to a random sample of 50,844 full-time employees in forty-nine federal agencies, and 31,975 surveys
were returned for a response rate of 63 percent. The sample was a representative cross section of the target population of full-time federal civilian employees. A subset of this sample of the survey that included 25,814 federal employees working for thirty-two federal agencies (a list of these agencies is available from the authors) was used in the present study. Because of missing values, however, the number of respondents in each of the analyses below was somewhat lower than 25,814 and varied between analyses.

**Measures of the Dependent Variables**

The questionnaire items for this analysis are described in appendix 2.

**Organizational Performance**

Studies of the performance of business firms have often used such financial measures as return on assets (e.g., Bloom and Milkovich 1998; Westphal 1999). For the U.S. federal agencies, common, relatively “objective” or quantifiable measures of performance rarely exist, making it difficult to compare agencies on performance measures. For this reason, we used measures of perceived effectiveness. The limitations of perceptual data in assessing organizational effectiveness have been well recognized (e.g., Huselid 1995). Objective and perceptual measures of organizational effectiveness, however, have often been found to be positively related to each other (e.g., Kirkman and Rosen 1999), and previous studies of public agency performance have used perceptual measures (e.g., Brewer and Selden 2000). We used four separate measures of perceived organizational effectiveness: managerial performance, customer service orientation, productivity, and work quality.

**Managerial Performance**

Concerning managerial performance, one can argue that where employees give high ratings to the organization’s managers, these positive assessments should relate to better organizational performance (Hooijberg and Choi 2001; Ingraham, Joyce, and Donahue 2003). Based on measures used in previous research on perceived managerial performance (for a review of such measures, see Miller 1991; Price and Mueller 1986), we identified the six survey questions described in appendix 2. They concern how well managers communicate...
the mission, organize the work group, support employees’ family and personal responsibilities, correct poor performance, work cooperatively with the unions, and generally do a good job. Factor analysis and item analysis supported combining these six items in a scale.13

**Customer Service Orientation**

Customer service orientation has received more emphasis in government due to the Clinton administration’s NPR, Total Quality Management initiatives, and other influences. One can debate the appropriateness of viewing citizens as customers (Mintzberg 1996), but an emphasis on customer service has many advocates (Osborne and Gaebler 1992; Osborne and Plastrick 2000). The survey contained three items about customer service orientation described in appendix 2. Previous research on customer service has used similar items (e.g., Kirkman and Rosen 1999; Lawler, Mohrman, and Ledford 1995).14

**Productivity and Work Quality**

Productivity and work quality are critical elements of performance. Since they can trade off against each other, we sought to measure both, as other researchers have (Durant, Legge, and Moussios 1998; Hodge 2000; Morris and Helburn 2000; Sloan et al. 2001). As appendix 2 indicates, the questions asked about the productivity improvement of the work units and the overall quality of work being done. Although reliance on a single-item measure is often questionable, these questions directly asked about the levels of productivity and work quality, and hence the construct validity of the measures is not likely to be lower than that of multi-item measures and no serious loss in reliability is likely to occur (see Wanous and Reichers 1996).

**Measures of the Control Variables**

**Individual-Level Controls**

Since the measures of the dependent variables are based on individual perceptions, it is important to control for the respondents’ personal attributes. However, data on some basic demographic variables, including age, gender, and race, were not available in the data set because of the Freedom of Information Act provisions. Still, those on several important work-related individual characteristics, such as tenure, pay grade, job category, and managerial level, were available, and we used them as control variables (see appendix 2).15

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13 A factor analysis produced a single common factor with an eigenvalue of 2.71 and factor loadings of .70, .79, .69, .55, .41, and .80, respectively. Therefore, the managerial effectiveness scale was composed of the six items, and the Cronbach alpha for this scale was .73.

14 Factor analysis of these items revealed one common factor with an eigenvalue of 1.99, and factor loadings were .82, .83, and .79, respectively. Accordingly, the index for customer service orientation was made up of the three items, and the Cronbach alpha for this scale was .74.

15 Tenure can be considered as a proxy measure for age since the two variables often cause a serious multicollinearity problem in organizational research (e.g., Campion, Cheraskin, and Stevens 1994). Although it was by nature an interval measure, in the survey tenure was measured on an eight-point ordinal scale, ranging from “less than one year,” to “26 to 30 years,” to “31+ years.” Similarly, pay grade was measured on a six-point ordinal scale, ranging from “01 through 05,” to “above 15,” to “SES” (Senior Executive Service). Job category was measured by six discrete types: professional, administrative, technician, clerical, wage grade, and other. Each job category was dummy coded for this analysis with “other” as the referent category, and hence the “other” category was always coded “0.” Managerial level was dummy coded as well. In the survey, the variable had five discrete categories: employee with no supervisory responsibility, team leader, first-line supervisor, manager, and executive. The first category, employee with no supervisory responsibility, was used as the referent category and was always coded “0.”
Organizational-Level Controls

To control for organizational characteristics, we used seven variables, including organizational size, organizational age, institutional location, financial publicness, policy problem complexity, type of policy responsibility, and the need for political compromise among competing demands from constituencies. In the previous report on this project (Chun and Rainey 2005), we analyzed the last five of these variables as “antecedents” of goal ambiguity; we found significant relations between each of them and goal ambiguity. The measure of financial publicness was the percentage of a federal agency’s financial resources from government sources. Data for this measure were obtained from the Budget of the United States Government, FY 1997. In the budget system of the U.S. government, agency revenues from nongovernmental sources were chiefly found under the category of offsetting collections. The glossary in the Budget of the United States Government defines offsetting collections as “amounts received from the public as a result of business-like or market-oriented activities.”

The need for political compromise among competing demands from constituencies was measured by the number of clientele groups for a federal agency (Meier 1980, 2000; Rourke 1984). As the number of clientele groups for a public organization increases, in general so do competing demands from the groups (Hargrove and Glidewell 1990). Data for the measure were collected from the House Appropriations Committee hearings for FY 1997. The number of clientele groups for a federal agency was measured by the number of organized groups that testified concerning programs administered by the agency, by either appearing personally or sending written testimonies. The type of policy responsibility (regulatory, nonregulatory, or hybrid) was identified based on two steps, using the Congressional Quarterly’s Federal Regulatory Directory and the percentage of budget for personnel compensation.

Some of the offsetting collections, called offsetting receipts, are credited to receipt accounts, but most offsetting collections are deducted from gross budget outlays rather than combined with governmental receipts. Accordingly, the total financial resources for a federal agency were measured by the sum of gross budget outlays, which are composed of general, special, and trust funds, plus offsetting collections deducted. Then the amount of financial resources from government sources for a federal agency was calculated by subtracting only the amounts collected from market-oriented activities from the total financial resources for the agency. To calculate the amount of collections only from governmental sources, the assumption was that regulation is a relatively labor-intensive business (Levine et al. 1990). Salamon argues that one of the defining characteristics of regulation is coerciveness, which requires “an extensive system for monitoring compliance and for carrying out enforcement” (2002, 118). In contrast, the implementation of nonregulatory policies, especially at the federal level, usually involves distributing money in such forms as grants, subsidies, and contracts rather than hiring a large group of inspectors or examiners. For this reason, hybrid or mixed agencies, as compared to “regulation-only” agencies, should have a lower percentage of their budgets devoted to personnel compensation. For this reason, agencies listed in the Federal Regulatory Directory with less than 10 percent of their budgets devoted to personnel compensation in FY 1997 were shifted to the category of hybrid agencies from that of regulatory agencies. Agencies that spend more than 90 percent of their budget for uses other than personnel compensation were presumed to engage more in benefits-distributing activities through grants, loans, contracts, or subsidies and less in behavior-restricting activities such as field inspections. These three categories were dummy coded with the category of regulatory agency as the referent category. For the variable of nonregulatory policy responsibility, a “1” was recorded for nonregulatory agencies, and a “0” was recorded for all other agencies. For the variable of hybrid policy responsibility, a “1” was recorded for hybrid agencies, and a “0” was recorded for all other agencies.
Professional staff ratio (PSR) was used as a proxy measure of policy problem complexity. Federal employees are classified into five major job categories: professional, administrative, technical, clerical, and wage grade. Federal employees in the “professional” job category include scientists, engineers, psychologists, and attorneys. The PSR of a federal agency was measured by the percentage of full-time employees that were classified in the job category of “professional” in 1997. The measure of organizational size was the natural logarithm of the number of full-time employees in 1997. As in the measure of professional staff ratio, data were collected from the Central Personnel Data File of the OPM. The measure of organizational age was the number of years after the agency’s establishment. Institutional location refers to whether a federal agency is inside the executive departments or outside. We determined the institutional location based on the U.S. Government Manual published in 1997. A “0” was recorded for agencies inside the executive departments, and a “1” was recorded for independent establishments.

RESULTS

Although the hypotheses were stated as bivariate relations, we tested them with ordinary least squares regression analyses in order to control for the individual and organizational characteristics. The descriptive statistics for all the variables are presented in tables 1, 2, and 3. (A correlation matrix for all the variables is available from the authors.)

Intercorrelations of the Goal Ambiguity Measures

Table 4 shows that each of the goal ambiguity measures correlated with each of the others to a statistically significant degree. In evaluating the meaning and usefulness of these measures, these intercorrelations of very independently measured variables are encouraging.

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18 Data for this indicator were obtained from the Central Personnel Data File (CPDF) of the OPM. The CPDF contains information on job categories of most of the federal civilian workforce, except the U.S. Postal Service, Tennessee Valley Authority, and Federal Reserve System. For these three agencies, the missing PSR scores were replaced by the mean score obtained from other observations. The justification for this mean substitution is that it is often regarded as a “conservative” technique as it is likely to attenuate the relationship observed, yet power is increased (Schwab 1999).

19 Researchers have pointed out that to determine the age of a government agency is not as simple as it looks (Daniels 1997; Kaufman 1976; Lewis 2002; Peters and Hogwood 1988). This is because new government agencies often inherit functions from previously existing agencies. For example, the OMB was established in 1970, but many of the agency’s functions were similar to those of the Bureau of the Budget, which had been in existence since 1939. It is clear, then, that many agencies with new names are not really new agencies. Facing this complication, this study followed the criterion of Lewis, that is, an agency was regarded as a new agency “if it had a new name and different functions from any previously existing agencies” (2002, 104). In tracing the organizational history of functions discharged by all sample agencies, we primarily relied on the Greenwood Encyclopedia of American Institutions: Government Agencies, edited by D. Whitnah (1983), especially its appendix on the chronicles of federal agencies, and the U.S. Government Manual (U.S. Government Printing Office 2000–2005).

20 To verify the assumptions of normality, linearity, no influential outliers, no serious problems of multicollinearity, and homoscedasticity, we conducted several diagnostic tests using plots and the Shapiro-Wilk statistic. The examinations revealed no major violations of linearity, normality, the absence of influential outliers, and homoscedasticity. The variance inflation factors were all within acceptable limits, suggesting no serious multicollinearity problems.
Organizational Performance

The results of regression analyses for four measures of organizational performance, that is, managerial effectiveness, customer service orientation, productivity, and work quality, are shown in tables 5, 6, 7 and 8, respectively. (It is appropriate to begin the name of each of these variables with “perceived,” but for brevity we will omit that term.) Hypothesis 1 stated that mission comprehension ambiguity would be negatively related to the four indicators of organizational performance, but the findings from the multivariate regression analyses were mixed. As predicted, mission comprehension ambiguity was significantly and negatively associated with productivity (beta = -0.03, p < .001). However, the relationship between this dimension of goal ambiguity and the measure of work quality was not significant (beta = -0.01, n.s.). In addition, mission comprehension ambiguity was found to be significantly related to both measures of managerial effectiveness and customer service orientation, but the directions were not negative but positive, contrary to the expectation (with beta = 0.03, p < .01, for managerial effectiveness; and beta = 0.04, p < .001, for customer service orientation). Therefore, hypothesis 1 received only partial support from the data.

Hypothesis 2 predicted that directive goal ambiguity would have a negative impact on perceived organizational effectiveness. This dimension of goal ambiguity was significantly and negatively associated with every measure of organizational effectiveness used in this study, including managerial effectiveness (beta = -0.05, p < .001), customer service orientation (beta = -0.02, p < .05), productivity (beta = -0.05, p < .001), and work quality (beta = -0.05, p < .001).

Table 1
Descriptive Statistics of Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial Effectiveness</td>
<td>13,269</td>
<td>19.05</td>
<td>5.31</td>
<td>6.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Customer Service Orientation</td>
<td>21,817</td>
<td>9.60</td>
<td>2.71</td>
<td>3.00</td>
<td>15.00</td>
</tr>
<tr>
<td>Productivity</td>
<td>22,974</td>
<td>3.22</td>
<td>1.13</td>
<td>1.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Work Quality</td>
<td>25,545</td>
<td>3.86</td>
<td>0.93</td>
<td>1.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Note: The number of respondents varied because of missing values.

Table 2
Descriptive Statistics of Independent and Control Variables: Ordinal- and Interval-Level Measures

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>25,513</td>
<td>4.23</td>
<td>1.90</td>
<td>1.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Pay Grade</td>
<td>25,251</td>
<td>2.88</td>
<td>1.02</td>
<td>1.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Organizational Size (log)</td>
<td>25,814</td>
<td>8.96</td>
<td>0.83</td>
<td>7.38</td>
<td>12.11</td>
</tr>
<tr>
<td>Organizational Age</td>
<td>25,814</td>
<td>99.27</td>
<td>59.93</td>
<td>23.00</td>
<td>221.00</td>
</tr>
<tr>
<td>Policy Problem Complexity</td>
<td>25,814</td>
<td>28.39</td>
<td>17.87</td>
<td>2.60</td>
<td>62.97</td>
</tr>
<tr>
<td>Competing Demands</td>
<td>25,814</td>
<td>11.94</td>
<td>22.07</td>
<td>0.00</td>
<td>127.00</td>
</tr>
<tr>
<td>Financial Publicness</td>
<td>25,814</td>
<td>76.74</td>
<td>32.65</td>
<td>6.42</td>
<td>100.00</td>
</tr>
<tr>
<td>Mission Ambiguity</td>
<td>25,814</td>
<td>58.91</td>
<td>15.01</td>
<td>35.30</td>
<td>125.90</td>
</tr>
<tr>
<td>Directive Ambiguity</td>
<td>25,814</td>
<td>4.45</td>
<td>3.94</td>
<td>0.97</td>
<td>16.27</td>
</tr>
<tr>
<td>Evaluative Ambiguity</td>
<td>25,814</td>
<td>58.11</td>
<td>23.08</td>
<td>12.50</td>
<td>94.10</td>
</tr>
<tr>
<td>Priority Ambiguity</td>
<td>25,814</td>
<td>-0.31</td>
<td>0.96</td>
<td>-1.14</td>
<td>3.96</td>
</tr>
</tbody>
</table>
According to hypothesis 3, evaluative goal ambiguity would be negatively related to organizational performance. Evaluative goal ambiguity had a significant and negative impact on each of the four measures; for managerial effectiveness, beta = –.06, p < .001; for customer service orientation, beta = –.12, p < .001; for productivity, beta = –.04, p < .001; and for work quality, beta = –.06, p < .001.

Hypothesis 4 stated that priority goal ambiguity would have a negative association with organizational performance, but the findings were mixed. The results showed a negative impact of priority goal ambiguity on the measure of managerial effectiveness (beta = –.05, p < .001). Priority goal ambiguity, however, showed no significant relationship to customer service orientation, productivity, and work quality.

### Table 3
Descriptive Statistics of Independent and Control Variables: Nominal-Level Measures

<table>
<thead>
<tr>
<th>Variable Category</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Category (N = 21,316)</strong></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>11,079 (42.9)</td>
</tr>
<tr>
<td>Administrative</td>
<td>3,607 (14.0)</td>
</tr>
<tr>
<td>Technical</td>
<td>1,543 (6.0)</td>
</tr>
<tr>
<td>Clerical</td>
<td>1,012 (3.9)</td>
</tr>
<tr>
<td>Wage Grade</td>
<td>1,003 (3.9)</td>
</tr>
<tr>
<td>Other Jobs</td>
<td>3,072 (11.9)</td>
</tr>
<tr>
<td><strong>Managerial Level (N = 24,691)</strong></td>
<td></td>
</tr>
<tr>
<td>Nonleadership</td>
<td>19,042 (73.8)</td>
</tr>
<tr>
<td>Team Leader</td>
<td>2,025 (7.8)</td>
</tr>
<tr>
<td>Supervisor</td>
<td>2,187 (8.5)</td>
</tr>
<tr>
<td>Manager</td>
<td>1,189 (4.6)</td>
</tr>
<tr>
<td>Executive</td>
<td>248 (1.0)</td>
</tr>
<tr>
<td><strong>Institutional Location (N = 25,814)</strong></td>
<td></td>
</tr>
<tr>
<td>Inside Departments</td>
<td>22,587 (87.5)</td>
</tr>
<tr>
<td>Independent</td>
<td>3,227 (12.5)</td>
</tr>
<tr>
<td><strong>Policy Responsibility (N = 25,814)</strong></td>
<td></td>
</tr>
<tr>
<td>Regulatory</td>
<td>10,816 (41.9)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>6,040 (23.4)</td>
</tr>
<tr>
<td>Nonregulatory</td>
<td>8,958 (34.7)</td>
</tr>
</tbody>
</table>

### Table 4
Pearson Correlation Coefficients for the Goal Ambiguity Measures

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mission Comprehension Ambiguity</th>
<th>Directive Goal Ambiguity</th>
<th>Evaluative Goal Ambiguity</th>
<th>Priority Goal Ambiguity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Comprehension</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambiguity</td>
<td></td>
<td>0.32**</td>
<td>0.42**</td>
<td>0.43**</td>
</tr>
<tr>
<td>Directive Goal Ambiguity</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluative Goal Ambiguity</td>
<td></td>
<td>0.70**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Priority Goal Ambiguity</td>
<td></td>
<td>0.14**</td>
<td>0.15**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p = .05; **p = .01; ***p = .001.
Joint F Tests

Joint F tests found that all four goal ambiguity measures showed jointly significant relations to each of the four performance measures. For managerial effectiveness, $F = 12.25$, $p < .0001$; for customer service orientation, $F = 34.62$, $p < .0001$; for productivity, $F = 25.54$, $p < .0001$; and for work quality, $F = 22.69$, $p < .0001$.

Organizational Dummy Variables

Because we felt that the low $R^2$ values might result from wide variations among the agencies, we ran the regression analyses again, introducing a dummy variable for each agency. The adjusted $R^2$ values for each increased only by about .01.
DISCUSSION AND CONCLUSIONS

The results have methodological and theoretical significance. The findings in the previous analysis of antecedents, together with the findings in the present analysis, support the conclusion that three of the goal ambiguity constructs offer viable ways of conceiving and measuring organizational goal ambiguity for government agencies. Researchers can now use these measures to test additional hypotheses drawn from theoretical discussions of public agencies and other sources. One can interpret the low $R^2$ statistics in this analysis as failure to support this optimistic conclusion. On the other hand, one can interpret the high level of statistical significance for each dependent variable in relation to both directive and evaluative goal ambiguity as a very supportive finding. The survey responses came from a survey designed for purposes other than this study. Employing them as dependent variables required the assumption that one could use such responses from highly diverse respondents in diverse subunits within a government organization to represent that

<table>
<thead>
<tr>
<th>Table 6</th>
<th>Results of Regression Analysis for Customer Service Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Unstandardized Coefficient</td>
</tr>
<tr>
<td>Individual-Level Factors</td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>0.02***</td>
</tr>
<tr>
<td>Pay Grade</td>
<td>-0.21***</td>
</tr>
<tr>
<td>Professional</td>
<td>-0.07</td>
</tr>
<tr>
<td>Administrative</td>
<td>0.09</td>
</tr>
<tr>
<td>Technical</td>
<td>-0.03</td>
</tr>
<tr>
<td>Clerical</td>
<td>0.29**</td>
</tr>
<tr>
<td>Wage Grade</td>
<td>-0.06</td>
</tr>
<tr>
<td>Team Leader</td>
<td>0.08</td>
</tr>
<tr>
<td>Supervisor</td>
<td>0.28***</td>
</tr>
<tr>
<td>Manager</td>
<td>0.68***</td>
</tr>
<tr>
<td>Executive</td>
<td>1.33***</td>
</tr>
<tr>
<td>Organizational-Level Factors</td>
<td></td>
</tr>
<tr>
<td>Organizational Size</td>
<td>0.02</td>
</tr>
<tr>
<td>Organizational Age</td>
<td>-0.00005</td>
</tr>
<tr>
<td>Institutional Location</td>
<td>0.93***</td>
</tr>
<tr>
<td>Problem Complexity</td>
<td>0.01***</td>
</tr>
<tr>
<td>Competing Demands</td>
<td>-0.0008</td>
</tr>
<tr>
<td>Financial Publicness</td>
<td>-0.004***</td>
</tr>
<tr>
<td>Nonregulatory Policy</td>
<td>0.34***</td>
</tr>
<tr>
<td>Hybrid Policy</td>
<td>-0.04</td>
</tr>
<tr>
<td>Goal Ambiguity Dimensions</td>
<td></td>
</tr>
<tr>
<td>Mission Ambiguity</td>
<td>0.007***</td>
</tr>
<tr>
<td>Directive Ambiguity</td>
<td>-0.01*</td>
</tr>
<tr>
<td>Evaluative Ambiguity</td>
<td>-0.01***</td>
</tr>
<tr>
<td>Priority Ambiguity</td>
<td>0.02</td>
</tr>
</tbody>
</table>

$R^2 = .060$

$F$ Value = 59.26***

Adjusted $R^2 = .059$

Sample Size = 21,324

*p = .05; **p = .01; ***p = .001.
organization. One can expect tremendous variation among individuals in the same large organization. Weick (2001, 65), for example, refers to the “myth” of organizational design, arguing that an organization can be regarded as a “group of groups” or a variety of different structures and processes in different subunits. One can argue that under such circumstances, finding very consistent patterns of highly statistically significant relations between goal ambiguity and each dependent variable, in regression analyses with numerous control variables, is remarkable. Even so, the weak effect sizes indicate the need to continue to develop better ways to measure the performance of government organizations.

Proceeding, nevertheless, on the conclusion that the statistically significant findings also have theoretical and practical significance, the findings support the arguments of various authors cited in the literature review earlier in this article. Three measures of goal ambiguity were negatively related to managerial effectiveness at the .001 level of significance. The finding about evaluative goal ambiguity supports the frequent assertions, mentioned in the development of the hypotheses, about the effects of the lack of clear

| Table 7 | Results of Regression Analysis for Productivity |
|-----------------|-----------------|-----------------|-----------------|
| Variables | Unstandardized Coefficient | Standard Error | Standardized Coefficient |
| **Individual-Level Factors** | | | |
| Tenure | -0.01*** | 0.00 | -0.02 |
| Pay Grade | 0.003 | 0.00 | 0.00 |
| Professional | -0.07*** | 0.02 | -0.03 |
| Administrative | 0.02 | 0.02 | 0.00 |
| Technical | 0.03 | 0.03 | 0.00 |
| Clerical | 0.24*** | 0.04 | 0.04 |
| Wage Grade | -0.14 | 0.04 | -0.00 |
| Team Leader | 0.11*** | 0.02 | 0.02 |
| Supervisor | 0.25*** | 0.02 | 0.06 |
| Manager | 0.50*** | 0.03 | 0.09 |
| Executive | 0.64*** | 0.07 | 0.05 |
| **Organizational-Level Factors** | | | |
| Organizational Size | -0.09*** | 0.01 | -0.07 |
| Organizational Age | -0.0005* | 0.00 | -0.02 |
| Institutional Location | 0.25*** | 0.02 | 0.07 |
| Problem Complexity | 0.005*** | 0.00 | 0.08 |
| Competing Demands | -0.0003 | 0.00 | -0.00 |
| Financial Publicness | -0.0001 | 0.00 | -0.00 |
| Nonregulatory Policy | 0.16*** | 0.03 | 0.07 |
| Hybrid Policy | -0.03 | 0.03 | -0.01 |
| **Goal Ambiguity Dimensions** | | | |
| Mission Ambiguity | -0.002*** | 0.00 | -0.03 |
| Directive Ambiguity | -0.01*** | 0.00 | -0.05 |
| Evaluative Ambiguity | -0.002*** | 0.00 | -0.04 |
| Priority Ambiguity | -0.01 | 0.01 | -0.01 |

\[ R^2 = .059 \]

\[ F \text{ Value} = 61.26\text{***} \]

Adjusted \( R^2 = .058 \)

Sample Size = 22,437

\*p = .05; **p = .01; ***p = .001.
performance indicators on organizational performance (e.g., Allison 1983; Behn 1991; Blumenthal 1983; Thomas 2001). It also provides evidence from a large cross-sectional data set that is consistent with the conclusions of some descriptive and case studies (Broadnax and Conway 2001; Hirschmann 2002; Julnes and Holzer 2001; Mihm 2001; Streib and Poister 1999).

All four performance indicators show significant negative relationships with evaluative goal ambiguity and directive goal ambiguity, again supporting the authors discussed in the development of the hypotheses and coinciding with the small number of relevant empirical studies (e.g., Boal and Bryson 1987; Lan and Rainey 1992; Wright 2004).21 Contrary to our hypothesis and to the observations of the authors we cited, priority goal

Table 8
Results of Regression Analysis for Work Quality

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized Coefficient</th>
<th>Standard Error</th>
<th>Standardized Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual-Level Factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>0.006</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Pay Grade</td>
<td>0.06***</td>
<td>0.00</td>
<td>0.06</td>
</tr>
<tr>
<td>Professional</td>
<td>−0.04**</td>
<td>0.01</td>
<td>−0.02</td>
</tr>
<tr>
<td>Administrative</td>
<td>0.003</td>
<td>0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Technical</td>
<td>0.08**</td>
<td>0.02</td>
<td>0.02</td>
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$R^2 = .056$

$F$ Value = 64.11***

Adjusted $R^2 = .055$

Sample Size = 24,965

*p = .05; **p = .01; ***p = .001.

21 The interpretation is complicated, but these findings do not support certain arguments in favor of more general and less specific goals and policies, in order to maximize flexibility, learning, and experimentation (Bartlett and Ghoshal 1994; Conger and Kanungo 1998; David 1989).
Ambiguity shows no significant relationship to customer service orientation, productivity, and work quality. A possible explanation is that perhaps more goals and performance targets actually attract more support from constituencies, and that makes it possible to get more resources, which leads to better organizational performance. As Weiss and Piderit note, “tight focus may backfire” (1999, 197) in terms of an agency’s relation to external stakeholders.

As for practical implications for managing government organizations, the findings are consistent with several interpretations. First, in relation to managerial effectiveness, work quality, customer service, and productivity, goal clarity is good. Higher levels of directive and evaluative goal ambiguity related to lower levels on the four performance variables, and higher priority goal ambiguity related to lower managerial effectiveness. In government organizations with lower goal ambiguity and hence higher goal clarity, survey respondents gave more positive responses on the performance-related questions. This supports prescriptions from a variety of sources that leaders and others in organizations should invest in goal clarification. High-quality strategic planning provides one path toward goal clarification. One can interpret the results here as suggesting that in spite of reasons for skepticism about GPRA and strategic planning in general, well-designed initiatives of this sort can benefit organizational performance.

An alternative interpretation might contend that some agencies simply enjoy advantages in goal clarity and that goal clarification initiatives in the disadvantaged agencies will prove fruitless or dysfunctional. In the previous analysis and in this one, financial publicness and regulatory status related to higher goal ambiguity. One might conclude that agencies that can impose user charges or that have other independent sources of financing, and hence have low financial publicness, have more businesslike functions and inherently clearer goals. One might also argue that regulatory agencies, conversely, have notoriously vague and idealized mandates and face major disadvantages in trying to clarify their goals. Both the financial publicness results and the regulatory agency results could be taken to indicate that the mandates from enabling legislation, funding patterns, and other political and institutional factors determine agency goal characteristics (e.g., Radin 2000). As a result, executives and other members of these agencies can have little impact on goal ambiguity. Yet the regression analyses “controlled” for regulatory status, financial publicness, and other of the antecedent variables. This shows that the relations between goal ambiguity and the performance variables remained even after statistical adjustments for regulatory status, financial publicness, and other factors. This weakens the alternative interpretation that such factors account for the findings. It strengthens the interpretation that goal clarification is good and that leaders should invest in it.

Of course, goal clarification initiatives should include consideration of many nuances. Even in the interpretation of very consistent findings that clear, challenging goals enhance the performance of group and individual tasks, Locke and Latham (2002) emphasize the role of important moderating variables. Clear, challenging goals, they conclude, will not necessarily enhance task performance where individuals lack ability or lack commitment to the goals or where the task is highly complex. At the organizational level, goal setting raises even more complications and considerations. Obviously, the interpretations above about the goodness of goal clarification notwithstanding, clumsy efforts to quantify the qualitative will lead to dysfunctions.

In general, the results support the desirability of trying to clarify goals and objectives for government agencies, as emphasized by various reform initiatives, although they
cannot firmly resolve such questions as whether such efforts are more appropriate for some agencies than others. More importantly, the results of this study contribute to our ability to answer such questions. Together with the previous one (Chun and Rainey 2005), this study provides encouraging progress toward the development of concepts and measures of the goal characteristics of government agencies, as well as the influences on them and their consequences. Further progress can support analysis and decisions about whether, when, and how to clarify agency goals and what difference it will make if we do.

APPENDIX 1: CRITERIA FOR CLASSIFYING PERFORMANCE INDICATORS

Type and Definition

Objective indicators = (1) those with numerical levels of performance target and (2) those based on descriptive narratives anchored to physically observable conditions or events.

Examples:
- Number of railroad-related fatalities and injuries in the fiscal year
- Annual growth rate of the gross domestic product
- Number of the agency’s web site accesses per day
- Safe return of a space shuttle to the earth
- No armed conflicts in the Korean peninsula

Subjective indicators = (1) those without numerical levels of performance target, (2) those quantified through officials’ self-assessments, and (3) those based on descriptive narratives without being anchored to physically observable conditions or events.

Examples:
- Successful identification of terrorist threats
- Full compliance with a particular act
- Number of parks in good or improved condition
- Successful completion of the first phase of a particular study
- Status of global agreement to minimize transboundary pollution

Workloads-oriented indicators = (1) those of the quantity of work completed by the agency, (2) those of the quantity and quality of input resources, and (3) those of the quantity of managerial work without any proven connection to outcome and productivity measures.

Examples:
- Number of inspections conducted
- Employee job satisfaction ratings
• Percentage of employees who are female
• Rate of compliance with a regulatory standard for safety facilities
• Number of training sessions

Results-oriented indicators = (1) those of the amount and/or the frequency of events, occurrences, or conditions outside the work or program itself and of direct importance to clients or the public; (2) those of the quality of work completed by the agency; (3) those of cost-saving, unit-cost, or productivity, i.e., input–output ratio; (4) those of intermediate outcomes that are proven to lead to a desired end but not an end in itself; and (5) those of the quantity of managerial work with proven connection to outcome and productivity measures.

Examples:

• Number of aviation accidents in the fiscal year
• Customer satisfaction ratings
• Percentage of first-class mail on time
• Number of completed cases per employee in the fiscal year
• Number of patents or publications in journals with peer review

Source: Adapted and revised from Morley, Bryant, and Hatry (2001); Franklin (1999); U.S. OMB (2001); and the performance plans of a variety of federal agencies.

APPENDIX 2: QUESTIONNAIRE ITEMS FROM THE SURVEY

Dependent Variables—Performance Variables

Five-point Likert-type items with 1 for “strongly disagree” and 5 for “strongly agree” or with 1 for “not at all” and 5 for “a very great extent”

Managerial Effectiveness (Cronbach's alpha = .73)
In my organization, managers communicate the organization’s mission, vision, and values. (strongly disagree to strongly agree)

In my organization, my immediate supervisor has organized our work group effectively to get the work done.

In my organization, supervisors/team leaders understand and support employees’ family/personal life responsibilities.

In my organization, corrective actions are taken when employees do not meet performance standards.

In my organization, management and the union(s) work cooperatively on mutual problems.

Overall, how good a job do you feel is being done by your immediate supervisor/team leader? (very poor to very good)
Customer Service Orientation (Cronbach’s alpha = .74)
In my organization, there are service goals aimed at meeting customer expectations. (strongly disagree to strongly agree)
In my organization, there are well-defined systems for linking customers’ feedback and complaints to employees who can act on the information.
In my organization, employees receive training and guidance in providing high-quality customer service.

Productivity
In the past two years, the productivity of my work unit has improved. (strongly disagree to strongly agree)

Work Quality
How would you rate the overall quality of work being done in your work group? (very poor to very good)

Control Variables
Tenure
How long have you been a federal government employee (excluding military service)?
- Less than 1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- 21 to 25 years
- 26 to 30 years
- 31+ years

Pay Grade
What is your pay grade?
- 01 through 05
- 06 through 10
- 11 through 12
- 13 through 15
- Above 15 (Senior Level, Scientific or Professional Positions, Administrative Law Judges)
- Senior Executive Service
Job Category
What is your job category?

Professional
Administrative
Technician
Clerical
Other

Managerial Level
What is your level of supervisory responsibility?

None, I am not a supervisor
Team leader
First-line supervisor
Manager
Executive

REFERENCES


