Organizational Effectiveness and Bureaucratic Red Tape: A Multimethod Study

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ORGANIZATIONAL EFFECTIVENESS AND BUREAUCRATIC RED TAPE

A Multimethod Study

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ABSTRACT: *Although many efforts to improve the effectiveness of government agencies target bureaucratic red tape, little academic work has evaluated the implications of red tape for organizational performance. This article proposes and tests a model of organizational effectiveness that explicitly accounts for red tape and the mitigating effect of organizational culture. This multimethod study uses both quantitative data from questionnaires and qualitative data from in-depth interviews. Findings suggest that red tape in human resource systems and information systems has a negative effect on organizational effectiveness. However, a dimension of organizational culture, namely developmental, mitigates the negative effects of bureaucratic red tape.*

KEYWORDS: *budgeting, organizational effectiveness, performance management, red tape*

Few ideas capture the zeitgeist of public management as succinctly and completely as performance management, prompting characterization of the present times as the "era of government by performance management" (Moynihan & Pandey, 2005, p. 421). Public management scholars increasingly focus on both the development and testing of new theories of public sector effectiveness. This research remains largely silent about the effect of red tape on organizational effectiveness. In sharp contrast, real-world efforts to improve the effectiveness of government agencies inevitably target red tape (e.g., Gore, 1993; Osborne & Gaebler, 1992; Thompson, 1993). To extend Rainey and Steinbauer's (1999) metaphor

about public sector effectiveness, the scant consideration of the effect of red tape on organizational effectiveness is akin to ignoring the proverbial "elephant in the room." This literature has also had difficulty in modeling the impact of culture, although there is general agreement that values and beliefs that reinforce agency mission have a direct and positive impact on organizational effectiveness (Boyne, 2003; Lynn, Heinrich, & Hill, 2000; Rainey & Steinbauer, 1999; Wilson, 1989). Culture may reinforce positive behaviors, but can culture also moderate the effect of bureaucratic pathologies?

We propose and test a model of organizational effectiveness that explicitly accounts for red tape and the role of organizational culture. We propose that red tape has a salient and negative effect on perceived organizational effectiveness. We also propose that culture not only has a direct relation to effectiveness but also moderates the impact of red tape. To test our theory, we use a multimethod approach that combines data obtained from a national survey with in-depth interviews. Our study adds value to the growing literature on bureaucratic red tape in three ways. First, to our knowledge, this article is the only multi-method study on red tape, and, therefore, qualitative details from the interviews help us better understand and contextualize findings from the questionnaire data. Second, we extend prior red tape studies by examining red tape in multiple management systems. Finally, by proposing a mitigating influence of organizational culture, we offer a new way of understanding how red tape pathologies may be overcome.

Organizational Effectiveness and Red Tape

The first theoretical claim we make is that red tape has a negative effect on organizational effectiveness. Although this is a simple claim, neither the quantitative empirical literature on performance management nor the growing literature on bureaucratic red tape has tested this claim thoroughly. To understand why, it is worth briefly reviewing the development of the red tape literature. The impetus for much of the recent research on red tape comes from the foundational work

of Bozeman (e.g., Bozeman, 1993, 2000; Bozeman, Reed, & Scott, 1992). The scholarly work prior to Bozeman was polemical in nature, suggesting that red tape was an inevitable aspect of government, and failed to acknowledge the negative and dysfunctional aspects of bureaucratic red tape (Bozeman et al. 1992; DeHart-Davis & Pandey, 2005; Pandey & Scott, 2002). Bozeman (1993, 2000) forcefully argued that discussing beneficial effects of red tape and offering defenses (or apologies) is counterproductive, actually limiting the ability to reduce dysfunctional red tape.

The early empirical red tape studies that followed Bozeman (1993, 2000; Bozeman et al. 1992) focused on reporting differences in levels of red tape between public and private sector organizations (e.g., Baldwin, 1990; Bozeman et al., 1992; Bretschneider, 1990; Pandey & Kingsley, 2000; Rainey, Pandey, & Bozeman, 1995). Other studies have sought to link red tape to organizational capacity or indirect measures of effectiveness. For example, Pandey and Bretschneider (1997) proposed that organizations facing higher levels of red tape are likely to look for means to remediate red tape through new information technologies. Moon and Bretschneider (2002) further developed this insight into "demand pull" and "technology push" hypotheses. Bozeman and Kingsley (1998) similarly found that organizations with higher levels of red tape have less tolerance for "risk culture" (i.e., a culture that may encourage risk taking for the sake of achieving organizational goals).

The lack of quantitative empirical evidence on the impact of red tape on effectiveness has been noted by others (Boyne, Brewer, & Walker, 2006, p. 6). The terms of this debate are, however, slowly but surely beginning to shift from whether public organizations have more red tape to an acceptance of Bozeman's (1993, 2000) definition of red tape as burdensome rules and regulations and then to how organizations might overcome red tape. More recent research seeks to link red tape with organizational effectiveness. Brewer and Selden (2000) tested the impact of red tape on self-reported measures of performance among federal employees. Contrary to expectations, they did not find a relation, although perhaps because their measure of red tape was the employee's perception of too many management levels. Improvements in conceptualizing and measuring the red tape variable reduces the potential for such problems in this and future studies by creating direct measures of perceived red tape and red tape in specific management areas (Bozeman, 2000; Bozeman & Scott, 1996; Coursey & Pandey, in press; Pandey & Garnett, 2006; Pandey & Scott, 2002; Pandey & Welch, 2005).[1]

We attempt to articulate the linkage between different dimensions of bureaucratic red tape and organizational effectiveness. We consider five dimensions of red tape identified by recent research (Coursey & Pandey, in press; Pandey & Garnett, 2006).[2] These dimensions are human resources red tape, procurement red tape, information systems red tape, budgetary red tape, and communication red tape. We also consider a closely related concept, organizational goal ambiguity (Pan-

dey & Rainey, 2006; Rainey, 1983). We begin with a consideration of budgetary and procurement red tape and their impact on financial management. Financial management encompasses system-wide activities, such as preparing budget requests, and usually more decentralized ones, such as purchasing and procurement. An agency's financial management capacity is determined by financial system flexibility as well as managerial discretion; such flexibility may be reflected in procurement and contract discretion, the ability to carry over funds across fiscal years, and fungiblity (Moynihan, 2006). Financial management capacity should directly influence agency effectiveness: An agency that cannot effectively overcome budgeting red tape, for instance, will suffer reduced resource levels or constraints that prevent it from allocating money effectively. For example, Knott and Payne (2004) found that greater autonomy among statewide higher education boards generally leads to universities with greater resources and better effectiveness. These considerations lead to the following hypotheses:

> *H1: Higher procurement/purchasing red tape is associated with lower organizational effectiveness.*

> *H2: Higher budgeting red tape is associated with lower organizational effectiveness.*

In the area of human resources, Ingraham, Joyce, and Donahue (2003) argued that managerial flexibility in areas such as disciplining and rewarding employees is related to effectiveness, and speed in hiring and termination processes has been identified as a personnel system outcome (Donahue et al., 2000). Personnel systems in state government tend to limit managerial authority (Kellough & Selden, 2003), and reform rhetoric to enhance managerial flexibility has rarely been matched with action (Moynihan, 2006). Pandey and Welch (2005) showed that hiring delays are a key contributor to personnel red tape. Therefore, we expect human resources red tape to influence negatively several key processes, ranging from recruitment of qualified personnel to retention and motivation (DeHart-Davis & Pandey, 2005; Moynihan & Pandey, 2007; Scott & Pandey, 2005), leading to lowering of organizational effectiveness. Accordingly, we propose our third hypothesis.

> *H3: Higher personnel red tape is associated with lower organizational effectiveness.*

Information systems red tape can impede timely information exchange and, thus, prevent managers from receiving useful and useable information essential for decision making. An effective information system transcends traditional governmental barriers, whereas an ineffective one fails to provide managers with needed information. Ingraham et al. describe the importance of information technology: "Government-wide and agency-level information technology systems provide information that adequately supports managers' needs and strategic goals" (2003,

p. 167). Moynihan and Ingraham (2004) offer evidence by demonstrating that information accessibility leads to more informed agency-level decision making. Thus, we offer the following hypothesis.

>   *H4: Higher information systems red tape is associated with lower organiza-*
>   *tional effectiveness.*

Ingraham et al.'s (2003) black box model highlights the salient role played by integrating mechanisms. Traditionally, public sector management systems are "stove piped" with incompatible design logic. System designs are not based on organizational effectiveness as a top priority. Indeed, management systems may primarily serve to uphold regime values specified at a higher level of governance (Klingner & Nalbandian, 2003; Pandey & Welch, 2005). Integration of these systems can occur via leadership, clarification of goals, and better communication flow (Ingraham et al., 2003). Ill-specified or poorly understood goals complicate the task of integrating the outputs of different management systems. The new public management/reinvention reformers stress this emphasis on goals—perhaps based on Osborne and Gaebler's (1992) call for mission-driven government—and made fostering goal clarity among the most widely implemented reforms in the 1990s (Moynihan, 2006; Rainey, 2003, p. 134). Clarifying agency goals is done as part of strategic planning or an overarching managing for results reform (Moynihan, 2005; Thompson & Riccucci, 1998). Goal clarification can mitigate conflicts and improve the quality of communication, ushering in greater accuracy and consistency (Garnett, 1992; Nutt & Backoff, 1992; Pandey & Garnett, 2006). Effective communication across management systems can enable information as a connector (Ingraham et al., 2003). This argument bolsters our fourth hypothesis on the role of information systems and also suggests additional hypotheses specifically concerning goal clarity and communication.

>   *H5: Greater goal clarity is associated with increased organizational*
>   *effectiveness.*
>   *H6: Higher red tape in communication is associated with lower organizational*
>   *effectiveness.*

ORGANIZATIONAL EFFECTIVENESS: THE MITIGATING EFFECT OF ORGANIZATIONAL CULTURE ON RED TAPE

The second theoretical claim we make relates to the impact of organizational culture on organizational effectiveness. We propose that development-orientated culture has an independent effect on effectiveness and a mitigating effect on the negative impact of bureaucratic red tape. By mitigate, we mean that one independent variable reduces the impact of another independent variable on a dependent variable.[3] In other words, the negative effect of red tape on organizational effectiveness is smaller for organizations with certain cultural attributes. This claim

is based on organizational culture scholarship that has asserted culture as a key determinant of organizational effectiveness (Deal & Kennedy, 1982; Peters & Waterman, 1982).[4]

Although public management researchers recognize the value of culture as an explanatory construct, comparatively little empirical knowledge exists about the effect of organizational culture on public agency effectiveness. Nonetheless, surprising consistency exists in assertions about organizational attributes necessary for organizational effectiveness with most scholars emphasizing the importance risk-taking, flexibility and innovation. The reinvention movement, for example, raised the salience of the thesis that *entrepreneurial* government leads to better performance (Osborne & Gaebler, 1992; Thompson & Riccucci, 1998); others refer to this as enterprise culture (Mascarenhas, 1993) or risk culture (Bozeman & Kingsley, 1998).[5]

One of the more detailed accounts of the interaction of culture with red tape is offered by Carolyn Ban (1995). Her study of federal agencies found that managers in the U.S. Environmental Protection Agency (EPA) were more adept at mitigating the negative effects of human resource constraints than managers in other public organizations. EPA's ability to stay within human resource constraints and yet be more successful in achieving organizational goals was linked to its status as an adhocracy with an open culture, focusing on external conditions, change, and flexibility and fostering a dynamic and entrepreneurial work environment, characterized by creative problem solving and risk taking. Because EPA was a smaller organization, it could rely on informal contacts rather than formal rules. Ban describes shadow personnel offices—administrative officers and assistants in regional offices—that helped managers handle the administrative burden created by the actual personnel office and civil service regulations. These individuals provided services such as interpreting formal rules and telling managers what they can and cannot do, coaching and counseling managers on issues like addressing problem employees, and so on.

Ban's (1995) study suggests the need to consider the interaction between red tape and culture. In simple terms, Organization A and Organization B could face exactly the same rule burden. However, Organization A could be more effective than Organization B because of its ability to cope with and manage this rule burden. The difference between the two organizations is the nature of the organizational culture: Organization B has a culture that encourages rule adherence, resulting in a greater likelihood of goal displacement away from effectiveness, whereas Organization A has a culture that focuses on finding ways to use the rules flexibly to improve performance (see Figure 1). Hal Rainey (2003) describes cultures such as these as coping cultures—some agencies bemoan the constraints placed on them, and others manage to work effectively around them, coping better with the same set of circumstances.[6]
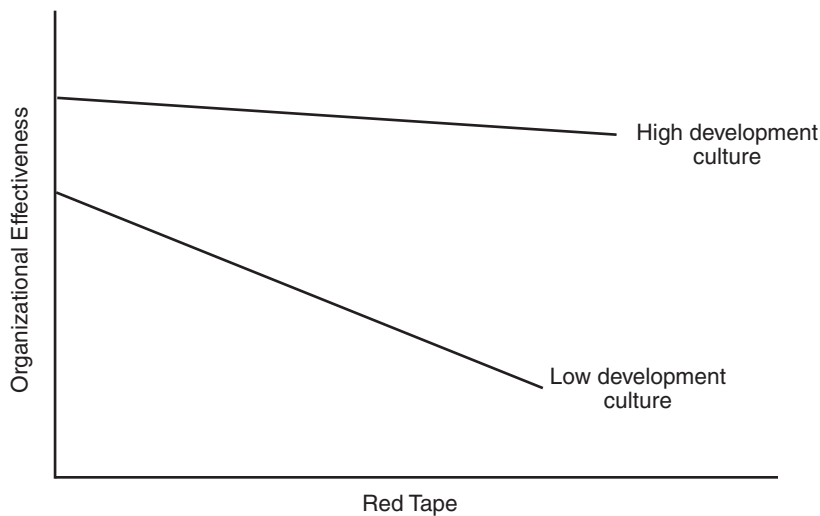
Figure 1. The Nature of the Developmental Culture Mitigation Effect

We specifically focus on cultures that have the potential to mitigate the negative effects of red tape. Especially suitable for this purpose is the concept of developmental culture, which is consistent with Ban's (1995) and others' description of coping or entrepreneurial cultures. Developmental cultures emphasize flexibility (as opposed to control), readiness, and adaptability in the face of change and put high value on organizational growth (Quinn & Kimberly, 1984; Zammuto & Krakower, 1991). We believe the extent to which an organization has developmental culture will have a positive impact on agency effectiveness, both independently and as a mitigating influence through red tape. This produces our final hypotheses.

> *H7: Higher level of developmental culture is associated with higher organizational effectiveness.*
>
> *H8: As developmental culture increases, the negative effect of bureaucratic red tape on organizational effectiveness declines.*

Data and Methods

The quantitative data for this study were collected in Phase II of the National Administrative Studies Project and in follow-up interviews. The theoretical population of interest for this study was comprised of state-level primary human service agencies. Primary human service agencies were identified according to the definition used by American Public Human Services Association (APHSA) and include agencies housing programs related to Medicaid, Temporary Assistance to Needy Families, and child welfare. We identified a range of roles in these organizations likely to be knowledgeable key informants for inclusion in the sampling frame;

these roles include the top program administrator, managers of information system applications, managers in charge of evaluation and research, and managers dealing with public information and communication. The sampling frame was developed from the most widely used and authoritative directory of human service agency managers: the APHSA directory. Application of study criteria resulted in a sampling frame made of 570 managers, representing all 50 states and Washington, DC. Given the small size of the sampling frame, all potential respondents were surveyed (i.e., a census). The average age of managers we surveyed was almost 50 years, almost one-half were women, the average length of stay in the organization was over 15 years, and the average salary was between $50,000 and $75,000. The survey provided a sample size of 274 and a response rate of approximately 53 percent (for more details, see Pandey, 2003).

We also incorporated a qualitative interview-based component to the study to (a) triangulate (by method) the findings from quantitative part of the study and (b) provide richer details in the analysis section (Jick, 1979; Miles & Huberman, 1994). Given that the purpose of the interview was to test and better understand a prespecified model rather than develop grounded theory, we employed a semistructured interview protocol with probes (Miles & Huberman, 1994). We interviewed eight high-level managers in two state human service agencies about different programmatic aspects of their work. These confidential interviews were conducted from October to December 2005 and lasted an average of 40 minutes. Four interviewees were high-level civil service managers and the other four were political appointees. Just like the quantitative aspect of the study, this sampling strategy (focusing on high-level officials) was designed to include managers with a well-rounded and in-depth knowledge of organizational operations. Interviews were recorded and transcribed. After reading the interviews multiple times, we contacted the interviewees if clarification was necessary.

MEASURING AGENCY EFFECTIVENESS

No clear consensus exists on the best approach to the measurement of organizational effectiveness. Early attempts sought unitary or objective measures—efforts some researchers found so frustrating that they despaired about the prospects of organizational effectiveness as a usable concept for empirical research (Cameron & Whetten, 1983). Acceptance of multiple measurement strategies, including both subjective and objective approaches, is quite common now (Rainey, 2003). Indeed, perhaps the most widely cited article on organizational effectiveness argues for a competing values perspective that gives due recognition to the subjective and multifaceted nature of the construct (Quinn & Rohrbaugh, 1983).

Thus, efforts to measure organizational effectiveness need to begin with an explicit recognition of underlying choices and resultant trade-offs. No matter how effectiveness is measured, it is an abstraction of something else, an abstraction

that comes with its own advantages and disadvantages. Brewer (2006) argued that all effectiveness measures are subjective because all measures are socially constructed, and, on this basis, perceptual measures may have advantages over other types of measures because they are based on the knowledge of those who know the organization the best, namely, its employees. The potential for gaming and upward bias among publicly reported organizational measures has been noted in the public sector and raises questions about many hard measures of effectiveness (Bohte & Meier, 2000; Hood, 2006).[7] Similarly, multiple dimensions of effectiveness, as well as the inevitably selective nature of performance reporting, undermine any claim that objective measures can be comprehensive. For example, Boyne's (2002) examination of the relatively sophisticated performance regimes of English local governments found that they systematically exclude important dimensions of effectiveness such as equity and responsiveness. We take a middle-of-the-road critical realist position on this issue arguing that, carried to extreme, both objective and subjective measures have the potential to mislead.

We measure effectiveness with a single-item question by which respondents rated the perceived effectiveness of the agency in accomplishing its core mission. Respondents were asked, "On an overall basis, rank the effectiveness of your agency in accomplishing its core mission" (0 = *not effective at all*; 10 = *extremely effective*). This approach is consistent with other research (e.g., Brewer, 2005; Brewer & Selden, 2000; Molnar & Rogers, 1976; Mott, 1972). Such perceptual measures of effectiveness have been found to be moderately to strongly correlated with objective measures. Walker and Boyne (2006, p. 378) highlighted several studies that show strong positive correlation between perceptual and objective measures of organizational effectiveness (see also Wall et al., 2004). The zero-to-10 temperature-styled item also has the advantages of reducing anchoring and scale-type fatigue[8] from the common Likert scale response sets for the other items.[9] However, these advantages may come at a tradeoff of some potential ambiguity across respondents as to what a particular value means between the end points.

Of course, one downside of a global perceptual measure of effectiveness, like any perceptual measure of a somewhat abstract concept, is that it is impossible to determine how the respondent defines the concept of effectiveness. However, the sample involved relatively senior level managers who can be expected to be knowledgeable about organizational programs and processes, and the survey explicitly asked the respondents to frame their answers in term of the entire organization rather than a specific work unit or program. Indeed, our single-item perceptual measure has some advantages. Effectiveness measures based on a single program are likely to be unreliable indicators of agency effectiveness. Heinrich and Fournier (2004), for example, found that different independent predictors of performance vary significantly depending on specific substance-abuse treatment performance measure used. Therefore, an employee-defined effectiveness measure providing a

broader assessment of effectiveness is perhaps more valuable than programmatic performance measures. Moreover, similar measures are being used in assessing effectiveness of both public and private sector organizations (e.g. Brewer, 2005; Brewer & Selden, 2000; Delaney & Huselid, 1996; Huselid, Jackson, & Schuler, 1997; Lawler, Mohrman, & Benson, 2001).

CONCEPTUALIZING AND MEASURING THE RED TAPE CONCEPT

Careful attention to the red tape concept, combined with rigorous empirical analysis, has transformed red tape from a mere evocative epithet to a useful social scientific construct (Bozeman, 2000; Bozeman & Scott, 1996; Coursey & Pandey, in press; Pandey & Garnett, 2006; Pandey & Scott, 2002). Bozeman defined red tape as "rules, regulations, and procedures that remain in force and entail a compliance burden but do not serve the legitimate purposes the rules were intended to serve" (2000, p. 12). Bozeman also drew a distinction between *organizational red tape* and *stakeholder red tape.* Organizational red tape imposes a "compliance burden for the organization but makes no contribution to achieving the rule's functional object" (Bozeman, 2000, p. 82).[10]

This study focuses on organizational red tape. Recent work by Pandey and colleagues (Pandey & Kingsley, 2000; Pandey & Scott, 2002) offered modifications of Bozeman's (1993) definition for measurement purposes. Pandey and Kingsley defined red tape as "impressions on the part of managers that formalization (in the form of burdensome rules and regulations) is detrimental to the organization" (2000, p. 782).

> [This definition] avoids the necessity of a detailed case study of every rule for determining organizational/social significance of the rule's functional object, and, rather than leaving determining organizational/social significance as an open matter, it provides a clear guideline. Simply put, red tape exists when managers view formalization as burdensome and detrimental to organizational purposes. (Pandey & Scott, 2002, p. 565)

The measure of human resources red tape used is derived from prior research (Pandey & Kingsley, 2000; Pandey & Scott, 2002; Rainey, 1983). Consistent with the theoretical definition, we examine a series of items that operationalize other dimensions of red tape used in the study: procurement, budgeting, information systems, and communication. These new measures were subjected to extensive peer review and show good scale properties (Coursey & Pandey, in press).[11] Additional measurement details, such as questionnaire item wording, source, and internal consistency coefficient, are presented in the Appendix.

MEASURING DEVELOPMENTAL CULTURE

Measuring culture in a questionnaire-based study presents some challenges. Organizational culture can best be understood as a dimensional property with the

unique culture of an organization consisting of a combination of different levels of the component dimensions.[12] Consistent with this view, Zammuto and Krakower (1991)—based on the work of Quinn and colleagues (Quinn & Kimberly, 1984; Quinn & Rohrbaugh, 1983)—proposed four dimensions of organizational culture: group culture, hierarchical culture, rational culture, and developmental culture. As previously noted, the flexibility and adaptiveness dimensions of developmental culture make this variable especially suited to examine the ability of culture to mitigate red tape. The three questions used to operationalize this dimension (see Appendix) are based on Zammuto and Krakower (1991).

Our model includes individual controls (age, income, and education) and also a potential confounding variable, job satisfaction. Job satisfaction could influence both perceptions of red tape and organizational effectiveness, driving both the independent and dependent variables. Hence, its exclusion has the potential to produce spurious results. Moreover, it is possible the relation between job satisfaction and red tape is reciprocal (Pandey & Welch, 2005), and, hence, inclusion of job satisfaction would suppress the red tape's main effects.[13]

Analysis and Results

The dependent variable, perceived organizational effectiveness, was regressed against the independent variables using ordinary least squares (OLS). It is important to note organizational effectiveness is an ordinal measure, which has some potential limitations in OLS. More suitable techniques exist, such as ordinal regression or maximum likelihood/weighted least squares models using the polychoric/polyserial correlation matrix (with greater statistical power; Jöreskog & Sörbom, 1993). However, ordinal regression yielded too many empty cell frequencies, given the 11-point (zero to 10) organizational efficiency scale, and the latter failed to converge for similar reasons. But the 11-point scale makes OLS a more reasonable procedure than the more common, 4- or 5-point Likert scale ordinal variable where error variance, for example, is much harder to normalize. Also, as expected, the dependent variable is positively skewed. Combined with the ordinality, this finding presents possible problems such as nonlinearity and heteroskedasticity of the error term. A host of diagnostic procedures for such OLS threats as well as outlier diagnostics found no significant problems with the use of OLS.[14]

The hypothesized mitigating effect of developmental culture on the bureaucratic red tape and organizational effectiveness relationship is tested via interaction terms.[15] We are more interested in the mitigation of red tape via developmental culture than through each dimension of red tape. We have no theoretical reason to expect the mitigating effect of developmental culture to vary across types of red tape. In short, we ask: Does developmental culture moderate the overall influence of red tape on perceived organizational effectiveness? Including too many

interaction terms reduces statistical power of the explanatory variables, and so a summary measure of the various red tape dimension interactions with developmental culture is desirable for theoretical and practical reasons.

To develop such a summary measure, we used principal component analysis to derive a singular, underlying dimension for products of the red tape dimensions and the developmental culture scale. The first component yields a 2.2 eigenvalue, and the second is close to 1.0. The one-factor solution demonstrates strong loadings on all the products (see Table 1).

However, the single-factor solution accounts for only 44.5 percent of the product variance and has a low communality score for the communication red tape and developmental culture interaction. Including the second factor increases the accounted variance to 62.5 percent and improves the communalities. The two-factor solution produces a factor heavily weighting budgeting and procurement red tape (Factor 1) and another stressing human resources, information technology, and communications (Factor 2). This result suggests that the related concepts of budgeting and procurement should be considered separately. Models were estimated using the one- and two-factor score representation of the red tape and developmental culture interaction (see Table 2). Both models account for a sizable proportion of variance in the perceived organizational effectiveness with an adjusted R^2 of .47.[16]

Among the main effects, significant negative associations exist for information systems red tape along with a positive one for developmental culture. Human resource red tape is just insignificant in both models ($p = .054$ and $p = .069$ in the one-factor and two-factor models, respectively).[17] Higher red tape is associated with lower organizational effectiveness, and stronger developmental culture is associated with higher organizational effectiveness. These findings supported the hypotheses. However, the budget and procurement items are not close to statistically significant. This result suggests that red tape in these systems may not be as important as those in communication and information systems and, perhaps, human resources.

Interaction terms differ between the models. The one-factor model comprised of all the red tape and culture interactions is statistically significant. In the two-factor model, the interaction using budgeting and procurement red tape is not significant, but the factor for human resources, communications, and information technology is highly significant. The one-factor finding suggests that the influence of red tape on organizational effectiveness is mitigated by a developmental culture. The same level of red tape is less damaging to organizational effectiveness for organizations with more developmental cultures. This finding means that increases in red tape for the more developmental cultures have less negative influence on organizational effectiveness. Conversely, the less an organization's culture is developmental, the greater the effect of red tape is on reducing organizational effectiveness.

Table 1. Principal Component One- and Two-Factor Solution for Interaction Variables' Varimax Rotated Component Matrix: Interaction of Developmental Culture with Red Tape Dimensions

One Factor	Factor 1A	Communality
Developmental Culture × Human Resource Red Tape	.774	.554
Developmental Culture × Procurement Red Tape	.646	.418
Developmental Culture × Information Systems Red Tape	.673	.452
Developmental Culture × Budgetary Red Tape	.688	.473
Developmental Culture × Communication Red Tape	.575	.330
Eigenvalue	2.23	
Rotated cumulative variance (%)	44.5	

Two Factor	Factor 1B	Factor 2B	Communality
Developmental Culture × Human Resource Red Tape	.446	.608	.568
Developmental Culture × Procurement Red Tape	.878	.031	.772
Developmental Culture × Information Systems Red Tape	.352	.601	.485
Developmental Culture × Budgetary Red Tape	.689	.281	.554
Developmental Culture × Communication Red Tape	−.046	.864	.748
Eigenvalue	2.23	.900	
Rotated cumulative variance (%)	44.5	62.5	

Table 2. Regression Results for Organizational Effectiveness as the Dependent Variable Using One- and Two-Factor Interaction Term Solutions

	One-Factor		Two-Factor	
	b	p-value	b	p-value
Human resources red tape	−.048	.054	−.045	.069
Procurement red tape	−.014	.634	−.007	.819
Information systems red tape	−.082	.037	−.084	.031
Budgetary red tape	.015	.715	.022	.599
Communication red tape	.007	.781	.004	.868
Developmental culture	.148	.000	.152	.000
Culture/red tape interaction: Factor 1A	.158	.032	—	—
Culture/red tape interaction: Factor 1B	—	—	.028	.699
Culture/red tape interaction: Factor 2B	—	—	.193	.006
Goal clarity	.236	.000	.230	.000
Job satisfaction	.146	.000	.147	.000
Age	−.008	.404	−.007	.482
Income	−.050	.572	−.065	.463
Education	.075	.489	.073	.497
R^2	.493		.500	
Adjusted R^2	.467		.471	
N	245		245	

The two-factor model suggests this mitigation does not apply to budgeting and procurement red tape. This result mirrors the main effects for budgeting and procurement, which are not significant, and is worth noting because it provides clear evidence that respondents distinguished different types of red tape according to their organizational experience and are not merely offering knee-jerk reaction against all kinds of red tape. If the respondents had a generalized predisposition against all forms of red tape, we would have expected this bias to influence all the red tape dimensions.[18]

Such interaction terms may be explained with either involved variable as the mitigator. In this study, we choose to consider developmental culture as the mitigator of red tape. However, red tape may also be interpreted as a mitigator of developmental culture's relation to organizational effectiveness. Under such a specification, the results imply that the positive effect of developmental culture on the dependent variable is increased with higher red tape. These findings also suggest that red tape makes developmental culture more important to perceived organizational effectiveness, which is, intuitively, the mirror image of the previous interpretation. Finally, goal clarity is positively related to the dependent variable and is highly statistically significant in both models, suggesting clear goals, as hypothesized, are positively associated with perceived organizational effectiveness.

Among the control variables, job satisfaction is highly significant, which suggests managers are more likely to perceive their organization as effective when

they are satisfied with their employment. This finding could, in part, be the halo effect of one's job satisfaction inducing one to both believe that the organization is more effective and also experience greater satisfaction with agency effectiveness. Interestingly, without job satisfaction in the model, human resources red tape becomes clearly significant ($p = .02$) in both models, whereas the significance of information systems red tape improves ($p < .01$), suggesting that job satisfaction may also suppress those relations, as red tape likely has a direct effect on job satisfaction (DeHart-Davis & Pandey, 2005; Pandey & Kingsley, 2000). The demographic variables age, income, and education were all highly insignificant.

As noted previously, the interview-based qualitative component of the study was undertaken to understand better and flesh out the significance of the findings. As a first step, we wanted to get a sense of the kind of bureaucratic red tape these managers face and not simply rely on the mail survey results. We were particularly interested in triangulating the results of the survey, especially clarifying human resources red tape, as it is borderline significant and could suffer from some suppression effects of job satisfaction in the model.[19]

Indeed, in our interviews, human resources red tape was the most commonly identified kind of red tape. A high level information systems manager characterized human resources red tape thus:

> Red tape and human resources are almost one and the same. . . . It prevents you from effectively managing your organization and hiring the individuals you need. It is designed more to acquire individuals with no knowledge, that you have to spend years training, but you only have one day to train them. It is an impossible situation.

Another manager, in charge of regulatory enforcement function in a second agency echoed this sentiment:

> It has taken me almost three years to fill positions and I am constantly tripping into lists where completely inappropriate, unqualified individuals must be chosen for a promotional position. So, there are issues with new positions and much more serious issues with promotional positions.

The issue of red tape in promotional opportunities may have been a legacy from prior managerial actions and perhaps unique to this agency. Prior incumbents of this manager's position were concerned about hiring the wrong person. To avoid this, they eliminated positions and invented special classifications so that they could fill these positions from the outside on a temporary basis. As this manger said, it was hard to "head a unit with a whole lot of people from the outside who don't know what is going on—you have to be able to promote people from within."

Another dimension of red tape emerged at the intersection of procurement and information systems. This agency had multiple divisions, and each of these divisions contracted with multiple outside parties for service delivery. One of the recurring problems that managers from this agency identified was lack of uniformity in the contracting process, so much so that the same vendor could contract

with different units of this large agency and charge different prices to these units for providing the same service. The agency did have an information support system, but it was not yet able to provide useful information. One of the managers described this situation and the attempts to reform it:

> There may be different rates that are occurring and that's largely because we don't have a system that can take all of that data and translate it in a way where you can compare apples to apples and oranges to oranges. . . . In general, we need to get to a point where you have a running account of how much money you have obligated in contracts at any given point, and without having a good system where you can do that, it's difficult to begin to plan accordingly. . . . Contract reform analysis will allow us to do that. It will allow us to collect that data in a way where it is not just data, it is data that can be translated into information for planning.

Yet another example of information systems red tape was provided by a manager in charge of three different programs operated by the state agency with substantial federal financial support through grant-in-aid monies. To coordinate functions and enable seamless referrals across the child welfare, food stamp, and the public assistance program, this agency wanted to build a common information system platform. In the manager's own words, these efforts faced a range of hurdles:

> [The federal agencies] may fund anywhere from 50 to 87 percent of a state's cost for development for hardware and software procurement. But each division within the federal government has slightly different standards, and although they are in the same overall bureaucracy they don't talk with one another. . . . And our department is actually trying to build a common architectural platform that is not proprietary so that the systems can talk to one another so that if we have a client who is involved in child welfare but also needs child support and food stamps, we would be able to have a relational database that we can look things up on, and as part of our conversation yesterday with federal officials we found out that in terms of development costs, the federal government still wants to assign data elements and lines of code. Now all of these systems are being developed in Web-based technology where lines of code don't matter, but that is how their cost allocation plan is set up, and they don't want to change it.

So, how do managers go about overcoming the adverse effects of red tape on organizational effectiveness? One of the line managers we interviewed talked about the value of a skilled administrative director within their unit:

> The administrative director in any department is the HR person, and the first two years I was there, the person who was there just had grown up through the system but was not very dynamic and did not understand the system very well. She left and was replaced by somebody who had worked in HR at the department level and was brilliant. Grew up in HR, knew every angle, every single angle he could play . . . knew how to work with unions, knew how to work the system to get what he wanted, and he has been manipulating things ever since he moved in to our advantage.

Other studies on public organizations have reported the value of industrious and insightful managers who recognize the intricacies of the personnel systems

in government organizations (e.g. Ban, 1995; Rogers & Brown, 1999). Rogers and Brown made a point similar to the manager we interviewed:

> An effective agency director can make the control systems work for the agency and not against. This effort may be more a function of the agency director's persua-siveness and skill in managing relationships than a function of his or her ability to influence the systems themselves. Knowing how to finesse the rules with the tacit or explicit concurrence of the control agency's leadership may either make or break effectiveness during periods of unusual, shifting demand. (1999, p. 458)

However, getting the personnel system to work for the benefit of the organization is only one part of the puzzle. Throughout our interviews, several of our interviewees stressed the value of communication and efforts to reform and create a culture that values goal accomplishment. These efforts to reform and create the right culture often were carried out under circumstances in which past organizational history posed significant obstacles. And, for managers to succeed in these circumstances, it requires "out of the box" thinking and perseverance. One of our managers, who took three years to staff and train her unit to perform the regulatory function, described the challenges involved in fostering a culture of trust and flexibility:

> Yes, the biggest thing that was missing and I think is missing in general because of the way people are promoted—you are on the list, you have been here a few years, it is your turn to get a higher job no matter what your abilities are. There is no culture of development of leadership skills or management skills—none. So what happens is that you may be promoted from a staffperson to a supervisor, and you are handed a job description and there is little—people will now say you have to do this and that—they are not taught how to lead, manage, and mentor people. If there is a problem, rather than dealing with the staff person to find out why, they will take the job description and say that here it is, and if you do not do it, then we will fail you. Good-bye! People are not taught how to progressively manage or supervise to get the best out; no teamwork development done, communication skills done because if somebody is not doing something for you, they get threatened because they are supposed to be doing it because it is written down that they are supposed to do it! . . . So, what I spent a lot of time on is leadership skills, management skills, communicating, teamwork, etc., and how to hold people accountable in a positive manner and how to get what you need to get out of people. . . . I do a huge amount of one-on-one work all the time. It's been quite a challenge because it is the most difficult thing to do, it is so time consuming. At my level because of all the missing supervisory positions, I had about 13 people reporting directly to me, which is way too many. And the people who were underneath me just did not know about leader-ship, about getting the job done in a good way. . . . It was a very punitive atmosphere I walked into—contentious and unhappy.

Thus, this manager attempted to change a rule-oriented culture to a goal-oriented one. In the process, her efforts were directed at creating a sense of ownership in her staff so that they were invested in the overarching goals of the organization and did not merely seek to follow the rules. Other managers tried similar approaches; one manager was a big believer in a well-developed and formulated strategic plan

that drew out employees about their visions of personal growth and organizational needs. This manager believed deeply in the value of communication, even going so far as to make the minutes of executive committee meetings open to rank-and-file employees. By doing this on a consistent basis, this manager sought to make a break with the past and foster a culture of trust. He outlined the value of this approach:

> I believe the best way of empowering people is by keeping them informed. . . . I ran an organization and I established a policy that every set of minutes for the executive staff needed to be distributed to all of our units. Now, you are talking about an organization that had 1,200 employees. Although I thought I did some other things, when I left the organization, the thing they talked about the most was how they always got a copy of all the executive staff minutes. . . . I would have never guessed that would be something that was very important to them. But they felt like, "Now we know what the executive staff know." I felt like, why should we keep our minutes a secret? What we are talking about affects the organization, and why wouldn't we want people at every level of the organization to know? I would even go out and do visibility tours and check to make sure that those minutes were posted in areas where people had access to them. People just felt so empowered by that.

One of our interviewees described the value of bringing about organizational change; for this high-level political appointee, the only way to get durable improvements in organizational effectiveness was by changing the organizational culture. His remarks provide corroboration for the mitigation hypothesis we propose:

> I truly believe that in being a change agent, you really have to get the buy-in of everyone, including the civil service personnel . . . if we work with data input, get them to buy into a project and they understand what is the nature of the change, why the change is needed, and what its outcome is, once a change happens, they begin to buy in it, it takes a little more time, but it really helps. . . . Changing the culture has been instrumental for making progress, and I truly believe that once people understand what the nature of the changes is and what outcome of the changes will be, they will buy it. Of course, there are going to be some naysayers, but they tag along and really jump on the bandwagon once they know the train is going to move, that is just what happens. The first step is to get everyone in a room and talk about where we are today and where do we see ourselves, where we need to go, how we get there, and what does getting there mean. We talk about the process, how do we get there, and get everyone to understand what their roles are going to be. Then, make a game plan and give a leadership role to as many people as we can; leadership in a smaller group, leadership in a larger group. That's the way to make lasting changes; otherwise the changes are just going to be short term.

Conclusion

Although the value of organizational culture as a lever for improving the effectiveness of public organizations has long been recognized by both practitioners and academics (Ban, 1995; Gore, 1993; Moynihan, 2005; Osborne & Gaebler, 1992), efforts to improve performance rarely employ strategies designed to develop and

foster a performance-oriented culture. Indeed, reform efforts do not favor intangible levers for enhancing performance. Instead, a bias exists toward formal rule and procedure-based interventions such as GPRA and MFR (Moynihan, 2005; Radin, 1998). Resorting to rule-based systems in organizations already beset with an abundance of rules and regulations likely impairs rather than enhances performance (Bozeman, 2000; Radin, 1998). Thus, our finding about the mitigating role played by culture provides a valuable counterpoint. For example, two organizations with the same level of red tape might see their effectiveness suffer, but the organization with a culture more attuned to coping with and working around red tape is likely to experience smaller performance declines. The implication is that in public organizations in which the reduction of red tape is often, at best, difficult to achieve, fostering cultures that promote adaptive responses to red tape may mitigate the negative aspects of burdensome rules and procedures.

This research is also valuable because it links two somewhat parallel academic streams, performance management and red tape, and suggests how management capacity may be bolstered in the public sector. Moreover, this article is a significant addition to the developing literature examining effectiveness in different policy domains. From a practical perspective, this work is among the few articles addressing organizational effectiveness of state human service agencies (as opposed to specific programs). These agencies manage many of America's largest health and social programs, and, therefore, a better understanding of bureaucratic red tape and the role of culture as they relate to performance improvement is highly desirable.

Two findings are worth noting. First, only some forms of red tape have direct negative association with perceived effectiveness. Information systems red tape hypothesis is supported. Human resources red tape is borderline insignificant, although strongly stressed in the interviews, and procurement, budgetary, and communication red tape are not statistically significant. These findings suggest that not all forms of red tape are equally important from a performance perspective. One possible explanation is the nature of the sampling frame. Managers involved in information management activities may find human resources and information management red tape as more proximate than budgeting and communication. The public management information systems literature has long stressed human resources difficulties as perhaps the greatest problem for such operations, which may explain why the interviews stressed human resources red tape far more than in the survey results, which considered many control variables (Bozeman & Bretschneider, 1986). We are less willing to assert that the findings suggest budgeting, procurement, and communications red tape have no influence on effectiveness.

Second, the findings suggest that fostering a developmental culture, with a greater external orientation and higher value on flexibility, may be used with advantage to ameliorate the negative effect of red tape on effectiveness. Ban (1995) provided anecdotal evidence on this count. Focusing on another level of government, she

found that managers in the EPA were more adept at mitigating the negative effects of human resources constraints than managers at U.S. Department of Agriculture. In this richly detailed portrayal, relying on in-depth interviews, Ban concluded that the EPA's ability to stay within human resources constraints and yet be more successful in achieving organizational goals was due to a more entrepreneurial culture. Our findings, based on both questionnaire-based and interview data at a different level of government, corroborate Ban's findings in her study of federal agencies: namely, developmental culture mitigates the negative effects of red tape on organizational effectiveness. Where respondents perceive higher levels of developmental culture, the effects of perceived human resources and information systems red tape on perceived effectiveness are attenuated in a way that is consistent with Ban's findings. More broadly, the results are consistent with the belief that coping and proactivity can reduce the deleterious effects of red tape. From an applied perspective, the results suggest that management reforms focusing on cultural changes in the face of difficult-to-reduce causes of red tape may still be effective.

Beyond these results, there is certainly room for future research. One particular concern is the nature of possible reciprocal relations among the study variables that are perhaps more appropriate for time series or structural models. For example, red tape levels may influence organizational effectiveness, but organizational effectiveness changes may influence levels of red tape. A poorly performing government agency may face increased levels of red tape-based supervision toward presumably improved effectiveness, albeit a usually misguided intervention. Public schools, for example, face burdensome demands for standardized tests and curriculum partly due to perceived low effectiveness. Time-series data would be critical to studying such relations.

Future research should consider both a richer array of measures and more complex model specifications. Although we were able to offer validation of our findings through triangulating interviews, future research should consider using performance data from multiple sources. Furthermore, model specifications should consider more complex model specifications in including other variables, such as job satisfaction. For example, job satisfaction may influence perceived organizational effectiveness, but the reverse is likely true as well (Pandey & Welch, 2005). Additionally, job satisfaction may mediate or moderate the effects of red tape on organizational effectiveness (Baron & Kenny, 1986). In sum, further exploration of the role culture plays in improving organizational effectiveness is likely to have significant payoffs for both theory and practice.

Notes

1. Boyne et al. (2006, p. 16) cited these improvements in enabling them to test the red tape impact on performance in English local authorities and found general support for the claim that red tape is negatively related to perceptual measures of effectiveness.

2. A note about intellectual debt to the scholarship of Patricia Ingraham and the Government Performance Project (GPP) is in order. GPP's examination of the organizational black box and efforts to connect management capacity with different management systems influenced the conceptualization of different dimensions of red tape for Phase II of the National Administrative Studies Project.

3. In multiple regression terminology, the term *moderation* is used more often than *mitigation*. Moderation subsumes mitigating as well accentuating effects (Baron & Kenny, 1986). Other scholars have used interaction effects to study the mitigating effects of culture (Sorensen, 2002).

4. Subsequent research has offered mixed evidence on the links between culture and effectiveness. Strong culture, defined by broadly shared and intensely held norms and values, helps organizations in stable environments succeed; however, for organizations under greater environmental volatility, strong culture is not necessarily beneficial (Denison, 1990; Sorensen, 2002).

5. Two key underlying assumptions are worth noting. First, Merton's (1940) arguments are accepted that bureaucratic organizations foster a culture of goal displacement in which individuals became increasingly attuned to upholding formal rules at the expense of organizational goals. Second, an assumption exists that organizational culture is malleable and can be shaped to foster mission achievement, while encouraging managers to remove, cope with, or work around the formal constraints (Khademian, 2000).

6. Comments made during the Determinants of Performance in Public Organizations: Advancing Knowledge in Public Management Conference, Advanced Institute for Management Research, Cardiff University, Wales, May 6–8, 2004.

7. Traditional "objective" bottom-line measures, such as quarterly earnings for private for-profit organizations, are increasingly considered an unreliable effectiveness measure. The balanced scorecard work of Kaplan and Norton (1996) suggests the need for alternatives to objective measures of effectiveness because of objective measures' failure to predict long-term performance.

8. Anchoring is when a respondent answers a question relative to how he or she responded to nearby predecessor questions and, hence, adds measurement error. Scale-type fatigue is from respondents paying less attention to questions due to redundant question formats, and it adds measurement error. Having the same scale type for long sections of questions can increase this risk due to fatigue in the survey completion. Breaking up the question style is one strategy for reducing anchoring and fatigue risk. For more on these issues, see Fowler (1995), Groves, Floyd, Fowler, Couper, and Lepkowski (2004) and Sudman and Bradburn (1982).

9. The single-item measure we employ provides a global indicator of agency effectiveness that is both economical and appropriate for the sample of state health and human service agencies. These agencies run a range of programs and, although it may be possible to collect effectiveness indicators of individual programs, it would be exceedingly difficult to develop a scheme integrating performance measures for these disparate programs into a measure of agency effectiveness. However, we do not suggest that single measures of organizational effectiveness are the ideal. Multiple measures of such complex concepts producing indexes and scale may be desirable for reliability and validity purposes, especially when the conceptual domain of the construct is clearly identifiable.

10. Stakeholder red tape differs from organizational red tape in that the usefulness of rules is assessed on the basis of whether they serve the stakeholder group's values and goals.

11. The draft survey instrument was sent for review to more than 15 noted researchers in public management and health policy familiar with the red tape literature. The feedback was used to modify and refine questionnaire items.

12. Ashkanasy et al. (2000) distinguished between *typing* and *profiling* approaches in studies that use questionnaire data to measure culture. The typing approach seeks to assign a specific cultural type to the organization. Profiling, alternatively, recognizes that real-world organizations do not neatly fall into one specific category.

13. Tests for the two models without job satisfaction and other controls found that red tape coefficients were generally greater in magnitude, but only the substantive level of significance for the human resource tape index was changed ($p < .02$ for one-factor model and $p < .03$ for two-factor model).

14. These procedures include plots of the standardized error term versus the predicted value of the dependent variable and Levene's test for heteroskedasticity, normality plots for the error term, and influence diagnostics for outliers including Cook's D, leverage statistics, SdfBeta, and bivariate plots (Cook, Hepworth, Wall, & Warr, 1981).

15. Mitigation is represented as the product of the two variables; therefore, in this case, we generated factor scores for a red tape dimension multiplied by the value for developmental culture. Significance of the coefficient for this product indicates support for a mitigating effect. Such models are often subject to multicollinearity problems (Jaccard, Turrisi, & Wan, 1990). Typically, variables involved in the interactions are centered (i.e., the variable is represented as its initial value minus its mean) in such models. Interactions are also easier to interpret with centered variables. Diagnostics on a model using noncentered variables found, as expected, significant difficulties (e.g., several low variable tolerance scores and high variance inflation factors as well as high condition index dimensions with large loadings on the involved variables). Hence, all indexed variables involved in the interactions are centered for the analysis.

16. Diagnostics, including tests verifying constant error variance and normality, yield no evidence of model problems. Also, no evidence exists of multicollinearity threats (no tolerance below .70 and no condition index higher than 11), as would be expected given the centered predictors.

17. Given the number of variables in the model in relation to sample size, the p-values of .054 and .069 in the one-factor and two-factor models, respectively, are reasonable to interpret as evidence of an association, especially as job satisfaction suppresses the total effect of red tape items. Indeed, without job satisfaction in the model human resources, red tape is significant in both models ($p = .02$).

18. Such interaction effects are difficult to grasp, especially given the factor scores. Figure 1 explicates the moderation results supported by our analysis. The lines represent the relation between a red tape main effect and organizational effectiveness. The two lines present two hypothetical organizations, Organization A and B, where Organization A has a high developmental culture and Organization B has a low organizational culture. Because developmental culture has an independent positive impact on effectiveness, Organization A is placed higher on the vertical axis representing effectiveness. The interaction between culture and red tape is represented in the nature of the slope of the two organizations. Figure 1 demonstrates that for Organization A the slope of the relation between red tape and performance is less steep than for Organization B (i.e., increases of red tape have a lower negative impact on performance for Organization A than for Organization B).

19. Job satisfaction can be expected to correlate with perception of personnel red tape, hence suppressing the significance.

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Appendix: Survey Measurement Details

Organizational Effectiveness

On an overall basis, rank the effectiveness of your agency in accomplishing its core mission (0 = *not effective at all*; 10 = *extremely effective*). Respondents were asked to give a rating based on this scale as an open-ended item.

Human Resources Red Tape (std. Cronbach's alpha = .694)

Summative index based on responses to the following statements (1 = *strongly disagree*; 5 = s*trongly agree*):

- Even if a manager is poor performer, formal rules make it hard to remove him or her from the organization.
- The rules governing promotion make it hard for a good manager to move up faster than a poor one.
- The formal pay structures and rules make it hard to reward a good manager with higher pay here.
- The personnel rules and procedures that govern my organization make it easier for superior to reward subordinates for good performance (reversed).

Procurement Red Tape (std. Cronbach's alpha = .668)
Summative index based on responses to the following statements (1 = *strongly disagree*; 5 = s*trongly agree*):
- The rules governing purchasing/procurement in my organization make it easy for managers to purchase goods and services (reversed).
- Due to standard procedures, procurement is based more on the vendor's ability to comply with rules than on the quality of goods and services.
- The rules governing procurement make it hard to expedite purchase of goods and services for a critical project.

Information Systems Red Tape (std. Cronbach's alpha = .679)
Summative index based on responses to the following statements (1 = *strongly disagree*; 5 = s*trongly agree*):
- Rules and procedures on preparation of information system reports ensure that managers receive timely information (reversed).
- Procedural requirements for information system requests make it difficult for managers to obtain relevant information.

Budgetary Red Tape (std. Cronbach's alpha = .692)
Summative index based on responses to the following statements (1 = *strongly disagree*; 5 = s*trongly agree*):
- Budgetary rules and procedures limit manager's ability to reprogram funds in accordance with agency mission.
- The budgeting rules and procedures limit manager's ability to deal with unexpected program/project cost overruns.

Communication Red Tape (std. Cronbach's alpha = .617)
Summative index based on responses to the following statements (1 = *strongly disagree*; 5 = s*trongly agree*):
- Top managers in this agency are allowed to communicate freely with reporters (reversed).
- Communication within my agency is restricted by policies and procedures.
- Communication with other government agencies is restricted by policies and procedures.

Developmental Culture (std. Cronbach's alpha = .731)
Culture questions are adapted from Zammuto and Krakower (1991). Respondents are asked to indicate how accurately each of the following descriptions fit their organizations (1 = *strongly disagree*; 5 = *strongly agree*):
- My agency is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
- The glue that holds my agency together is a commitment to innovation and development. There is an emphasis on being first.
- My agency emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.

Clarity of Organizational Goals (std. Cronbach's alpha = .810)
Summative index based on three statements rated on 4-point scale (1 = *strongly disagree*; 4 = *strongly agree*) (Rainey, 1983):
  • The organization's mission is clear to almost everyone who works here.
  • It is easy to explain the goal of this organization to outsiders.
  • The organization has clearly defined goals.

Job Satisfaction (*std. Cronbach's alpha = .869*)
Summative index of items taken from the Michigan Organizational Assessment Questionnaire (Cook, Hepworth, Wall, & Warr, 1981); statements are rated on a 5-point scale (1 = *strongly agree*; 5 = *strongly disagree*):
  • All in all, I am satisfied with my job.
  • In general, I don't like my job (reversed).
  • In general I like working here.

Education
Which of the following best describes your highest level of education? 1 = *some college*; 2 = *bachelor's*; 3 = *MPA or Public Policy*; 4 = *other graduate* (3 and 4 were combined into one response for analysis).

Age
2002 – year of birth

Income
Which of the following categories best describes your income from the agency last year? 1 = < $50,000; 2 = $50,000–$75,000; 3 = $75,000–$100,000; 4 = $100,000–$150,000; 5 = $150,000+.

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