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Performance Management Routines that Work? An Early Assessment of the GPRA Modernization Act

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Comments and feedback welcome

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Abstract

The GPRA Modernization Act of 2010 provides the latest chapter in a history of US federal performance reforms that have largely failed to meet expectations. Will the Modernization Act be any different? This paper offers an early systematic assessment, and the results provide grounds for optimism. Managerial use of performance data was an explicit goal of the Modernization Act, a goal that previous federal reforms failed to achieve. The Act established a new series of performance routines to encourage performance information use. Our analysis of GAO survey data shows that as federal managers experience those routines, they are more likely to report using performance data to make decisions. Specifically, routines centered around the pursuit of cross-agency priority goals, the prioritization of a small number of agency goals, and data-driven reviews are all associated with higher rates of performance information use. We also find that managers in better-run data-driven reviews also report using performance data at higher levels.

Introduction: The Continuing Triumph of Hope over Experience?

In 1986, Downs and Larkey characterized the persistence of performance management and other reforms with a strong rational imprint as a “triumph of hope over experience.” Both the allure and practical difficulties of such reforms are simultaneously so great that policymakers seem doomed to repeat the same failures again and again. Their warning appeared prescient to those who observed a new generation of such reforms, which took inspiration to varying degrees from the New Public Management, but which remain in force even as New Public Management no longer serves to frame discussions on public sector design. For example, Radin’s (2012) account of the last 50 years of US federal management reforms echoes the “triumph of hope over experience” theme, narrating a series of rational designs increasingly out of step with the growing complexity of government.

Just within the context of managerial reforms that rely on performance measures, there is a growing acknowledgement that they have not lived up to expectations. Most OECD countries claim to have some sort of performance budgeting and management system in place (OECD, 2007; 2013), but the OECD generally categorizes such systems as presentational: there may be a formal process in place to collect and disseminate data, but there is little sense that they are being used. If anything, the use of such data appears to have declined for major decisions in recent years (OECD 2013). A recent meta-analysis of empirical studies of performance reforms concluded that “performance management has not been particularly successful at improving performance in public organizations” (Gerrish and Wu, 2013, 391).

In late 2010, the GPRA Modernization Act was passed, the latest iteration of performance reforms for the US federal government. This paper offers an early – and to our

knowledge the first – systematic scholarly assessment of whether the Modernization Act is achieving its goals. We examine if new routines put in place by the Act are associated with higher use of performance information, an explicit goal of the architects of the reform. Our analysis offers some reasons for optimism.

Using a “reforms as routines” framework, discussed in the next section, we suggest that the Modernization Act put in place a series of routines that went beyond data creation and dissemination and sought to establish organizational conditions for greater use of performance data. Specifically, routines centered around the pursuit of cross-agency priority goals, the prioritization of certain agency goals, and routine data-driven reviews are associated with higher rates of performance information use. We also find that the quality of the implementation of data-driven reviews is associated with higher performance information use. We detail these routines in the sections that follow, and analyze them using a 2013 Government Accountability Office (GAO) survey of federal officials. We conclude by speculating that the Modernization Act is working differently from previous performance reforms precisely because it sought to learn from the experience of those reforms. In this respect, the Modernization Act represents a triumph of hope *and* experience.

Reforms as Routines

Assessments of performance reform initiatives in the US federal government in the last 20 years fit a general pattern of dashed expectations. The Government Performance and Results Act (GPRA) of 1993 required agencies across government to engage in systematic strategic planning and performance measurement. The now-defunct Program Assessment Rating Tool

(PART), introduced by President George W. Bush, sought to classify the effectiveness of all federal programs based on a mixture of performance, evaluation, and other information. While both reforms have had their champions and been adopted elsewhere, they have also been subject to sharp criticism. For example, GPRA and PART have both been criticized as at odds with the disaggregated design of US government (Radin 2000; Frederickson and Frederickson 2006). PART was further criticized for a partisan pattern of implementation (Lavertu, Lewis and Moynihan 2013), undercutting government attention to policymaking (White 2012), and failing to connect to budget outcomes (Heinrich 2012).¹

While some of the critiques of GPRA and PART point to the unanticipated consequences of reform, the most damning assessment was that the reforms failed their own basic goal of making the systematic use of performance data a norm within government. Policymakers had reached such judgments (OMB 2001; Zients 2009, see also Moynihan and Lavertu 2012, 593-4), spurring a desire for a new approach to performance management.

Moynihan and Lavertu (2012) argued we could better design and test performance reforms by conceptualizing them in terms of the organizational routines they created and altered, and establishing if these routines resulted in behavioral change. The “reforms as routines” analytic strategy reflects a classic and enduring claim from organizational theory: organizational life is structured by the routines individuals experience in their work (Levitt and March 1988). Performance management reforms serve as meta-routines, that is, routines that structure more micro routines, usually in the name of regularizing creativity and improvement as stable outcomes (Alder, Goldoftas and Levine 1999). GPRA and PART established routines centered on the creation and dissemination of data. The result was that involvement in these routines facilitated passive use of performance data to comply with existing performance reporting

requirements. However, neither GPRA nor PART was associated with more purposeful use of performance data to make management, program, or resource allocation decisions (Moynihan and Lavertu 2012).

Creating and sharing data are, of course, necessary precursors for the use of performance data. But the poor record of success for such systems suggests that routines of data creation and dissemination are not sufficient. This critique has taken other forms. For example, Schick (2001, 43) argued that “The great mistake of the performance measurement industry is the notion that an organization can be transformed by measuring its performance,” suggesting that such a logic had it precisely backward, “...organizational change has to precede, not follow, performance measurement.” Observations of the US approach to performance management portrayed greater attention to measures, but with relatively few tools or flexibilities provided to managers (Moynihan 2008). Common across these critiques is the idea that performance reforms, in the US federal context at least, established a mismatch between the design of routines and expectations for outcomes. As a result, the reforms were inherently unable to live up to the lofty expectations that accompanied their adoption. In this respect, they exemplified one more case of the folly of rewarding A, while hoping for B (Kerr 1975).

The next section explains the GPRA Modernization Act, and details the new organizational reforms it sought to establish.

The GPRA Modernization Act

In the aftermath of President Obama’s election, it was clear that performance management would be a priority for the new President, as it had been for George W. Bush. In his

inaugural speech, Obama presented himself as a result-minded pragmatist: “The question we ask today is not whether our government is too big or too small, but whether it works -- whether it helps families find jobs at a decent wage, care they can afford, a retirement that is dignified. Where the answer is yes, we intend to move forward. Where the answer is no, programs will end.”² This formulation announced a continuing emphasis on the importance of performance data (if not its actual use) that has characterized the US federal government in recent decades. There were other aspects of continuity with the Bush years. First, the President made the Office of Management and Budget (OMB) the spear-carrier of his management initiatives, a contrast with the Clinton administration’s reliance on the National Performance Review. Second, some of the specific initiatives of the Bush-era performance system were maintained. These included executive orders that established performance improvement officers and chief operating officers in each agency, positions that would be placed into statute when the Modernization Act was passed.

It was also clear that President Obama would do away with the much of the agenda of his predecessor. PART, which had enveloped the OMB’s time and attention (White 2012), was stopped. Though the Bush administration had also argued for the importance of performance information use as a goal of management reform, this framing became even more pronounced under the Obama administration (OMB 2009; Zients 2009). In recent Senate testimony that summarized the experience of the Obama administration, Shelly Metzenbaum (2014, 3), who served as Associate Director for Performance and Personnel Management at OMB said: “The idea was to get agencies to use goals to communicate priorities and to use performance data to figure out how to improve and enlist others in that effort. Useful, useful, useful. That was, and I believe still is, the mantra. If goals and measurement are not being used, they are useless and

sometimes even wasteful.” The GAO had noted the lack of progress in the use of performance data, and submitted reports and testimony to Congress on potential improvements. There was also a general sense from Congressional staff that neither GPRA nor PART information were being widely used (Frisco and Stalebrink 2008; Moynihan 2008).

In some respects the Modernization Act maintained or only slightly modified many of the basic routines of GPRA. Strategic planning was moved from a five-year to a four-year timeframe, to align with Presidential calendar. The requirement for an annual performance plan remained. The Act sought to better integrate measurement and strategic goals, and created a new process of annual agency performance reviews by OMB, with the potential for remedial action if an agency consistently failed to achieve goals.

While the idea of revising GPRA had been discussed for a number of years, some of the key aspects of the Modernization Act had already been initiated by the Obama administration before the Act was passed. For example, every significant goal was also to be associated with a particular individual – a “goal leader” – whose name would be publicly associated with a specific goal.

The routines we examine can also be traced to OMB political appointees in reports written prior to joining the administration (Metzenbaum 2009), in statements to Congress (Zients 2009), and in the President’s first budget proposal (OMB 2009). These include the use of agency priority goals, cross-agency priority (CAP) goals, and regular data-driven reviews. Common to all of these routines are requirements for active contribution of individual time and interaction with other organizational actors (and in some cases with members of other organizations). These two requirements alter the practical experience of organizational life, and in doing so, they are

expected to reorient how individuals view their organizational role and actions, and how they relate to organizational norms (Levitt and March 1988). In the next sections we introduce the three primary routines we examine, the theory behind them, and how they are reflected in the Modernization Act (see Table 1 for a summary).

Table 1: The Purpose of New Performance Management Routines

<i>New Routine</i>	<i>Implied Critique of Prior Approach</i>	<i>Modernization Act Solution</i>
Cross-Agency Priority Goals	Basic structure of organizational life, and pattern of performance systems give little attention to need for collaboration to achieve goals	Routine of goal coordination: identify cross-cutting goals, which agencies contribute to them
Agency-priority goals	Too many goals erode goal clarity, fail to engage leaders or followers	Routine of prioritization: require leaders to commit to small number of visible goals
Quarterly reviews	Vast amount of performance data collected, but no routines to compel organizational actors to examine these data	Routine of data-driven reviews: require quarterly reviews of performance information

Cross-Agency Priority Goals: Routines of Goal Coordination

The first routine we consider are routines of goal coordination. The Modernization Act called for a substantive governmentwide plan that featured crosscutting federal government goals, which OMB has labeled as cross-agency priority goals. In turn, agency plans need to identify how they contributed to these goals. Each CAP goal has a goal leader assigned to it (in practice this has often been a White House official sharing duties with an agency representative), and it is subject to quarterly reviews. OMB staff are directed to ensure the existence of common indicators to be used for different agencies that contribute to CAP goals and to consider management challenges that might weaken these goals. The goals were intended to be small in number and long-term in nature (revised or updated every four years), a nod to the difficulties in

coordinating different agencies toward some of the most challenging policy objectives. The goals could also include a mixture of explicit policy objectives and management-focused changes. One example of a current CAP policy goal is “More than double Federal government consumption of electricity from renewable sources to 20% by 2020 and improve energy efficiency at Federal facilities as part of the wider strategy to reduce the Federal Government’s direct greenhouse gas emissions by 28 per cent and indirect greenhouse gas emissions by 13 per cent by 2020 (2008 baseline).” An example of a management-focused CAP goal is “Deliver world-class customer services to citizens by making it faster and easier for individuals and businesses to complete transactions and have a positive experience with government.”

This routine of goal coordination addresses a fundamental governance challenge. Governments and their routines are largely structured around agencies, but many pressing goals cut across the responsibility of multiple agencies (Fountain 2013). While at an abstract level, managers may understand and agree that crosscutting goals are important, the basic structure of organizational life directs them instead toward organizational priorities. The problem of fostering coordination in such circumstances is equivalent to a central problem of managing networks: how to direct attention toward collective goals when incentives and norms may direct attention toward organizational outcomes (Provan and Lemaire 2012). The Modernization Act’s reliance on specifying collective goals and identifying shared responsibilities toward those goals is likewise consistent with practices to overcome this problem in a collaborative setting (McGuire 2006).

By instituting routines for agencies to relate their actions to CAP goals, the Modernization Act explicitly sought to break with the traditional implementation of performance systems, which have tended to maintain, or even reinforce organizational boundaries. Traditional

routines of data creation are largely organization-centered, without systematic attention to how multiple agencies might be working on the same or overlapping goals. While GPRA had required a governmentwide plan, in practice this plan became a subsection of the President's annual budget proposal, without in-depth or sustained attention to crosscutting goals. The Senate report on Modernization Act made the case for CAPs by pointing out that “(u)nfortunately, GPRA compliance currently is largely an independent exercise among agencies, with agency performance plans largely focused on goals directly related to agency statutory missions” (Committee on Homeland Security and Governmental Affairs 2010, 8). OMB's Chief Performance Officer, Jeff Zients, struck a similar note in testifying to the Senate (2009, 2-3): “Too often in the past targets have been internal and process oriented. Similarly, achieving broad government outcomes often requires contributions from multiple actors across different agencies and often inside and outside of government. Goals and measurements must support coordination across these organizational boundaries.”

Simply introducing CAP goals may elevate attention to performance data in decisions. But there are other theoretical logics for why CAP goals may matter. First, the content of the goals may appeal to employee prosocial motivations in a way that operation goals do not. As suggested by the examples of CAP goals offered above, crosscutting goals seek to capture visible, ambitious and profoundly important governance outcomes of high relevance to the public and public employees. Prior work suggests that performance information use increases when individuals believe these data help employees to make a difference to society (Moynihan, Pandey and Wright 2012). Second, by articulating a collective goal, identifying other actors also pursuing that goal, and requiring interaction in this collective, CAP goals may increase performance information use by establishing a sense of collective enterprise and shared norms.

Research on collective goals suggests that as individuals learn that others are engaged in a shared effort toward common goals, their behavior becomes more goal-congruent (Shteynberg and Galinsky 2011), and Kroll (2013) finds that performance information use increases as managers perceive this behavior as a social norm shared by their direct peers.

There is little research on how goal coordination matters to performance information use, though one study of English local government shows that challenging and cross-cutting goals motivates strategic partnerships to achieve better outcomes (Andrews, Downe and Guarneros-Meza 2013). Consistent with the theory outlined above, we propose the following hypothesis.

H1: Routines of goal coordination are associated with the use of performance information for decisions.

Agency Priority Goals: Routines of Goal Prioritization

The Modernization Act also required agency leaders to identify “agency priority goals” from the broader list of agency goals. No more than five can be identified per agency, and the goals are intended to reflect short-term targets that can be achieved within a two-year time frame. As with CAPs, each goal has a goal leader, and is subject to quarterly reviews.

Why require an agency to explicitly prioritize a small subset of goals that would likely otherwise appear in a performance plan? A central premise for performance management, drawn from goal-setting theory, is that goal clarity motivates use (Metzenbaum 2009). Prior research shows that quantified strategic goals have been linked to positive organizational effects (Boyne and Chan 2007), and the experience of goal clarity is associated with greater performance information use (Moynihan and Pandey 2010). But a classic problem for performance systems in

practice is that they generate vast amounts of performance information, thereby undermining the potential for goal clarity. Research on PART, which itself was intended to deal with the problem of excess performance data, points to significant underlying goal ambiguity between programs (Jung 2013), and Boyne (2010) suggests that the beneficial effect of quantified goals erodes as the number of goals becomes unmanageable. By establishing agency priority goals, the authors of the Modernization Act put in place a mechanism to differentiate between the relative importance of goals and thereby reestablish goal clarity.

A second rationale for agency priority goals was to foster leadership commitment to performance management. There is significant evidence that leadership matters to the use of performance data (e.g., Behn 2014; Broadnax and Conway 2001; Dull 2009). But how to generate leadership commitment when leadership time and attention is at a premium? By requiring leaders to participate in setting a small number of goals they would be held accountable for, the authors of the Modernization Act hoped to boost their engagement with performance management. This underlying logic is articulated in testimony to a Senate oversight committee by OMB Deputy Director Jeff Zients (2009, 2): “It is critical that senior agency leaders “own” the overall performance management process and their agency goals and measurements. Secretaries and Deputies will be charged with the setting of agency goals, will be held responsible for performance against those goals and their related measurements and will be expected to be actively engaged in all aspects of the performance management process.” The type of ownership Zient’s refers to has been associated with information use: managers who identify themselves with their goals and are highly committed to their indicators are also more likely to consider performance data when making decisions (Kroll 2014). This, in turn, should foster follower commitment to the use of performance data. Because of the assumed positive

benefits that routines of goal prioritization generate for goal clarity and manageability, and leadership commitment and ownership, we propose the following hypothesis.

H₂: Routines of goal prioritization are associated with the use of performance information for decisions

Quarterly Reviews: Routines of Data-Driven Reviews

The Modernization Act requires that significant goals are subject to quarterly meetings to review progress on goals. For agency priority goals, the quarterly reviews are to involve the agency head, the Chief Operating Officer and the Performance Improvement Officer and relevant goal leaders. Where appropriate, they are also supposed to include relevant officials from outside the agency.

The turn to quarterly reviews reflects the critique that performance systems had established routines of data creation and dissemination, but that there were no organizational routines that compelled employees to actually consider this data. Some scholars drew from organizational learning theory to describe “learning forums” that featured routine discussion of performance data (Moynihan 2005). A compelling example of possibility of data-driven reviews came from Compstat meetings for policing in New York, and its successors at different levels of government (Behn 2014). Variations on the Compstat model spread across the public sector, and prior to the Modernization Act could be found in the Food and Drug Administration, the Federal Emergency Management Agency, Veterans Affairs, and Housing and Urban Development (Behn 2014; Hatry and Davies 2011), and were cited by OMB officials in arguing for quarterly reviews (Metzenbuam 2009; Zients 2009). The adoption of quarterly reviews in the Modernization Act represents a straightforward assumption that requiring people to regularly meet and talk about goals will make it more likely that performance data will be used.

We divide our analysis of the quarterly reviews into two aspects. First we examine if the experience of quarterly reviews alters whether performance data is used for decisions.

H_{3a}: Involvement in data-driven reviews is associated with the use of performance information for decisions.

The second aspect of our analysis of quarterly reviews seeks to understand if the quality of data-driven reviews makes a difference. Scholars who have observed these reviews in action have described a variety of practices and characteristics that are hypothesized to make them more effective. The most comprehensive accounts come from Behn (2014) and Hatry and Davies (2011) who suggest that effective data-driven review routines involve leadership and multiple levels of employees, deal with significant goals, feature appropriate data and strong analytical capacity, and follow-up prior commitments. Table 2 summarizes these principles in more detail.

*Table 2: Principles of Well-Run Data-Driven Reviews**

Meetings take place on a routine basis
Focus on important goals
Agency leaders are involved and seen as committed
Multiple level of employees facilitate learning and problem solving
Need appropriate and timely information
Need staff and technological capacity to analyze data
Quality data (reliable, accurate, valid, disaggregated to the right level, comparative) facilitates analysis
Follow-up on issues raised in prior meetings
Positive reinforcement
Constructive feedback
Reviews establish process of analysis

* Principles are those identified in both Behn (2014) and Hatry and Davies (2011), and which correlate with survey questions. Each principle aligns, in the order listed with the list of statements in the “quality of data-driven review” measure in Appendix 1, e.g. Follow-up on issues raised in prior meetings” aligns with “My agency has a process in place for following up on problems or opportunities identified through these reviews”

While these principles in Table 2 have been observed in different settings (Behn examined three-dozen different types of meetings at different levels of government), they are

based on qualitative observation and have not been subject to systematic large-N analysis as to their effects on the use of performance data. There is also a potential selection issue with research that is based on best-practice cases that voluntarily adopted data-driven reviews. It is possible that the practices that enabled these organizations to succeed will not apply to organizations that are mandated to adopt data-driven reviews. There is, therefore, substantive value in examining whether variation in the implementation of data-driven reviews matters to performance information use in a context where such reviews are mandated.

H_{3b}: Well-run data-driven reviews will generate higher performance information use than poorly-run reviews.

Analytic Strategy

We employ a similar analytic approach to Moynihan and Lavertu (2012) which is to identify self-reported involvement in routines as primary independent variables, and measures of performance information use as our dependent variables.

Data and Measures

This paper uses data from a survey conducted by the GAO in 2012-2013. The survey was addressed to a random, nationwide sample of mid- and upper-level federal managers in the 24 agencies covered by the Chief Financial Officers Act of 1990, stratified by agency and management level. The response rate was 69%, and between 57-88% in different agencies (for more information, see GAO 2013). To compare the effects of the routines created as a part of the

Modernization Act with the former PART routine, this paper also uses data from 2007 which featured a response rate of 70% (see GAO 2008).

Table 3: Types of Performance Information Use

<i>Item</i>	<i>Mean (SD)</i>	<i>Factors (Cronbach's α)</i>			
		<i>1 (.92)</i>	<i>2 (.93)</i>	<i>3 (.90)</i>	<i>4 (.85)</i>
For those program(s)/operation(s)/project(s) that you are involved with, to what extent, if at all, do you use the information obtained from performance measurement when participating in the following activities?					
Developing program strategy	3.56 (1.07)	0.75			
Setting program priorities	3.67 (1.05)	0.84			
Allocating resources	3.63 (1.06)	0.60			
Identifying program problems to be addressed	3.71 (1.03)		0.69		
Taking corrective action to solve program problems	3.70 (1.05)		0.70		
Developing or refining program performance measures	3.45 (1.12)			0.75	
Setting new or revising existing performance goals	3.55 (1.10)			0.75	
Setting individual job expectations for the government employees I manage or supervise	3.69 (1.03)				0.73
Rewarding government employees I manage or supervise	3.59 (1.08)				0.77

Note: The observations (factor analysis based on n= 4,253) are pooled for 2007 and 2013. Factor loadings below 0.3 are omitted. We label the four factors as follows: 1 = "Program Management", 2 = "Problem Solving", 3 = "Performance Measurement", 4 = "Employee Management." Factor 3 is associated with passive use of performance data, while the other factors are treated as variations on purposeful use of data. Agreement with the items is measured using a 5-point Likert scale.

We measure performance information use utilizing the nine items listed in table 3. We ran a factor analysis which extracted four distinct types of data use – program management, problem solving, performance measurement, and employee management. Though all four types are correlated, we treat the four factors separately to explore whether Modernization Act

routines, like GPRA and PART routines, vary in terms of their relationship between passive use (the performance measurement factor) and purposeful forms of use (program management, employee management, and problem solving) (for a similar approach, see Moynihan and Lavertu 2012; Rabovsky 2014).

Specific measures of all independent variables are provided in the appendix. It is worth noting that for involvement in quarterly reviews (hypothesis 3a), this does not require personal involvement of the individual in an actual review, merely that the individual's work is subject to such reviews. It therefore represents a relatively demanding test of the reviews.³ To test hypothesis 3b (model four in table 5), which examines the quality of data-driven reviews, we limit the analysis to only those who responded that their programs are subject to quarterly reviews, since they are the only ones likely to be able to have reliable information on the quality of these reviews.

In addition to the descriptive information provided in the appendix, it is worth reporting the proportion of managers who have expressed “any involvement” in the three routines, established by the Modernization Act. A majority of them reported to be involved in the routines related to cross-agency priority goals (56%) and agency priority goals (72%), whereas only about a fourth (24%) indicated that they were actively involved in quarterly reviews.⁴

Method

Part of the goal of paper is to facilitate comparisons with previous assessments of GPRA and PART, and we therefore include equivalent controls from prior analyses on variables such as discretion, leadership commitment, and political conflict (Moynihan and Lavertu 2012). We also

estimate pooled regression models that allow a direct comparison of the Modernization Act with PART.⁵ We employ ordinary least square analysis and cluster standard errors at the agency level.⁶

There is correlation between the individual routines (with correlations ranging between 0.21 and 0.47). We therefore estimate the effect of each routine separately in order to understand its effect in isolation and to minimize the possibility of a type II error. In order to provide a measure of cumulative effect of these routines, we group them together into a single variable, which we label GPRAMA (see Table 4).

Limitations

Since all of the data are self-reported, this introduces the possibility of common source bias, but prior work suggests that performance information use seems much less vulnerable to this problem than variables that carry a higher social desirability bias (Meier and O' Toole 2013). Involvement in management routines also does not have obvious social desirability bias and represents the respondents' recollection of a relatively specific objective event, further weakening the risk that the results are inflated by common source bias. Despite more than two decades of reform rhetoric emphasizing the importance of performance information use, the mean of this variable has only marginally increased across time (GAO 2013), further undercutting a concern that managers felt compelled to report artificially high scores.

There is also the potential issue of selection bias in the model – namely, that those who are selected into the routines we test also have a predisposition or responsibility to use performance information. We cannot exclude that possibility – indeed, to some degree a well-

designed reform *should* target those whose responsibility is to use performance data. However, it is worth noting that if such a selection bias exists, we would expect it to be a relatively constant feature of performance reforms, but it has not appeared to be enough to result in involvement in routines being associated with purposeful use of performance data for prior reforms (see Moynihan and Lavertu 2012, and the PART variable in Table 4.) Controlling for Senior Executive Status may also partially control for this issue, since more senior managers are expected to be involved in CAP goals, agency priority goals, and quarterly reviews.

Results and Discussion

Before we present tests of each of our specific hypotheses, we first present a model that is intended to offer a sense of the cumulative effect of the Modernization Act on different types of performance information use. In Table 4, the GPRAMA variable is a summary of involvement in CAP goals, agency priority goals and data-driven reviews. To provide a sense of the nature and relative magnitude of this effect, we create a pooled regression model with 2007 and include similarly-scaled measures of involvement in PART and other previously-tested predictors of performance information use. Given our controls have been previously examined, we do not discuss them in detail, beyond noting that their effects are consistent with prior work (e.g., Dull 2009; Moynihan and Lavertu 2012).

The results show that the GPRAMA index is consistently associated with all types of information use. The direct contrast with PART is instructive. Confirming prior research, PART is associated with passive use of performance data for measurement purposes, but not for purposeful use (Moynihan and Lavertu 2012). This suggests that the Modernization Act is

related to performance information use in a way that PART was not. While PART directed managers to use data to set and refine program goals, the Modernization Act is also associated with the use of performance data to manage programs and employees, and identify and solve problems.

Table 4: Pooled Regression Models of PART-GPRAMA Comparison (2007 & 2013 Samples)

<i>Predictors</i>	<i>Perform. Measurement</i>	<i>Program Management</i>	<i>Problem Solving</i>	<i>Employee Management</i>
GPRAMA	0.14** (5.10)	0.15** (5.49)	0.12** (4.08)	0.13** (4.24)
PART	0.08** (3.52)	0.03 (1.33)	-0.01 (-0.33)	-0.01 (-0.38)
Measurement Problems	-0.03 (-1.16)	-0.07** (-3.02)	-0.06* (-2.48)	-0.11** (-5.09)
Missing Link to Action	-0.15** (-8.53)	-0.15** (-6.41)	-0.18** (-6.96)	-0.12** (-4.69)
Discretion	0.10** (5.80)	0.07** (3.12)	0.07** (3.09)	0.07** (5.06)
Political Conflict	0.04^ (1.97)	0.09** (5.04)	0.08** (5.03)	0.07** (4.02)
Leadership Commitment	0.08* (2.74)	0.10** (3.03)	0.09* (2.73)	0.06^ (2.06)
Learning Routine	0.11** (5.74)	0.12** (5.69)	0.11** (4.88)	0.13** (7.34)
Accountability to Results	0.12** (6.69)	0.17** (7.17)	0.17** (6.13)	0.20** (9.70)
Resources	0.18** (7.42)	0.15** (6.76)	0.16** (7.23)	0.15** (7.46)
SES	0.08** (5.33)	0.02 (1.53)	0.02 (1.17)	0.01 (0.86)
2013	-0.08** (-3.50)	-0.07* (-2.39)	-0.08* (-2.49)	-0.14** (-4.66)
n	3,189	3,189	3,189	3,189
Adj. R ²	0.32	0.32	0.30	0.32

Note: Standardized beta coefficients are reported; standard errors are adjusted for 24 agency clusters; related t statistics are reported in parentheses. Significance levels: ^ p<0.1, * p<0.05, ** p<0.01.

Because the coefficients are standardized, we can compare the relative size of the effects of the GPRAMA index with other predictors of performance information use. The most substantive barrier to use is difficulties in drawing causal inference between measures and decisions (the “Missing Link to Action” variable). The factors that are most strongly associated with use of data is a sense that employees are held accountable to results and that adequate resources are available as well as the existence of informal learning routines where employees talk to their supervisor about performance data. While any such comparisons are approximate

because of correlations between items, the findings suggest that the effects of the GPRAMA routines are substantive and in the same range (though at the lower end) of the largest predictors of performance information use.

One additional interesting insight from the results is that informal learning routines remain important even with the introduction of formal data-driven reviews. This suggests that different types of performance routines do not necessarily have to compete with one another, but can be complementary. For example, Behn (2014) argues that formal data-driven reviews should spur more informal discussions of performance at lower levels.

Table 5 offers a more detailed breakdown of the effect of Modernization Act routines. The table consists of four sections, each of which focuses on a different type of performance information use as the dependent variable. The different columns represent four different models which separately estimate the effects of all three Modernization Act routines as well as the quality of the quarterly reviews, while including (though not reporting) the controls included in Table 4.

The first three columns provide evidence consistent with hypotheses 1-3a: The three routines established by the Modernization Act consistently show significant positive relationships with the use of performance information. While we refrain from comparing standardized regression coefficients across models, the model-fit coefficient adjusted R-squared indicates that each routine explains a very similar portion of variation in each of the types of use ($\pm 2\%$). These findings suggest that the routines associated with the Modernization Act foster information use and that goal-coordination, goal-prioritization, and review routines make equivalent contributions.⁷

Table 5: Regression Models of Performance Information Use (2013 Sample)

<i>Variables</i>	<i>Models</i>			
	<i>Goal Coordination Routine</i>	<i>Goal Prioritization Routine</i>	<i>Data- Driven Review</i>	<i>Quality of Data-Driven Review</i>
Perform.				
Measurement				
CAP Goals	0.17**	—	—	—
Agency Goals	—	0.15**	—	—
Reviews	—	—	0.06**	—
Review Quality	—	—	—	0.28**
Adj. R ² / n	0.35 / 1,006	0.37 / 1,232	0.35 / 1,536	0.41 / 493
Program				
Management				
CAP Goals	0.16**	—	—	—
Agency Goals	—	0.15**	—	—
Reviews	—	—	0.09**	—
Review Quality	—	—	—	0.28**
Adj. R ² / n	0.39 / 1,006	0.38 / 1,232	0.37 / 1,536	0.42 / 493
Problem Solving				
CAP Goals	0.14**	—	—	—
Agency Goals	—	0.11**	—	—
Reviews	—	—	0.08**	—
Review Quality	—	—	—	0.28**
Adj. R ² / n	0.33 / 1,006	0.35 / 1,232	0.35 / 1,536	0.40 / 493
Employee				
Management				
CAP Goals	0.15**	—	—	—
Agency Goals	—	0.09**	—	—
Reviews	—	—	0.06**	—
Review Quality	—	—	—	0.29**
Adj. R ² / n	0.37 / 1,006	0.35 / 1,232	0.35 / 1,536	0.42 / 493

Note: Dependent variables are highlighted in bold. Standardized beta coefficients are reported; standard errors are adjusted for 24 agency clusters but not reported. Significance levels: * p<0.05, ** p<0.01. All models control for the following nine control variables – Measurement Problems, Discretion, Learning Routine, Accountability Routine, Missing Link to Action, Leadership Commitment, Political Conflict, Resources, and SES – but their coefficients are not reported because of space constraints.

The fourth column offers insights into the quality of the review routines. We find support for hypothesis 3b, which proposed that well-run data-driven meetings have a stronger association with performance information use than poorly run meetings. The review-quality specification

explains the most variation in data use across all models (40-42%). This corroborates previous claims not just that data-driven reviews increase the use of performance data, but that how these reviews are implemented also matters a great deal (Behn 2014; Hatry and Davies 2011). The descriptive statistics furthermore indicate that the reviews, where established, are widely perceived in positive terms. According to the review-quality index variable we constructed, the median manager moderately or greatly agrees that the meetings are well run, and 73% provide on average a positive assessment of the meetings' quality. This point that it matters how the review meetings are run is likely to be true more broadly among the routines established by the Modernization Act. The routines compel the involvement of employees with performance data in unprecedented ways, but how these routines are implemented may vary a good deal across settings in a way that effects outcomes.

Conclusion

We offer evidence that the Modernization Act has instituted a series of routines that has allowed it to succeed in achieving its stated goal of encouraging the use of performance information. It is appropriate to qualify our findings. Our analysis does not speak to important normative critiques of performance systems (Radin 2012) or to the issue of whether performance management increases organizational performance (Boyne 2010). It is also worth noting that the Modernization Act rests on a relatively modest reform agenda – it largely avoided promises of revolutionizing governance or even introducing performance budgeting. But by setting the more modest goal of increasing performance information use among managers, it created a grounded

target around which routines could be designed. Our results suggest success in a manner where prior reforms have struggled.

Our analysis represents an early assessment of the Modernization Act, and there is much potential for additional research. It is possible that the effects of the routines we identify may change over time, and our analysis should be revisited in the future. We specified the direct effects of routines on performance information use, but future work could do more to specify moderating and mediating effects with other variables. There are also other aspects of the Modernization Act we could not assess because appropriate data are not available – such as the effect of goal leaders, or new positions created by the Act, such as Performance Improvement Officers. Beyond the Modernization Act itself, our approach points to the research value of conceptualizing reforms as routines, identifying the specific changes in organizational life set in place by a reform, and examining if those exposed to those changes alter their behavior in meaningful ways.

Despite our cautions, there is some reason for guarded optimism about the Modernization Act. If we are to accept that the Modernization Act represents a better approach to performance management than its predecessors, how was the cycle of failure broken? What can we learn about the design of managerial reform? It is beyond the scope of the paper to fully answer this question, but there are some intriguing and overlapping possible answers. One is that GPRA was embedded in statute. It could not be easily dismissed by a new Presidential administration. If policy design is shaped to some degree by path dependency, then a policy needs a stable starting point that one can build from. GPRA provided that. It has also helped that performance management has not become yesterday's reform, but retains a strong appeal, meaning that policymakers continue to ask questions about whether the current performance system is

working, and if not, why not, rather than simply dismissing the effort. Policymakers also benefited from (and encouraged) the intellectual capital of experts inside and outside of government. Perhaps most notable was the ongoing series of reports that the GAO offered on GPRA and PART (GAO 2004; 2008) and the infusion of ideas that came with OMB political appointees at the start of the Obama administration (Metzenbaum 2009; Zients 2009). Critiques from academia and practical alternatives bubbling up from lower levels of government, such as Compstat, prompted discussion about how to improve the existing system. Collectively, this has generated a fertile context for trying to understand how to better design performance systems, a context that informed the creation of the Modernization Act.

If, as Downs and Larkey argued, rational reforms of government are largely the triumph of hope over experience, the Modernization Act may have succeeded in breaking the pattern of failure by combining hope with experience. A certain level of hope is necessary to inoculate against the discouragement that comes if one dwells on the evidence of past problems and current opposition. But if married with knowledge of past problems and some ideas about how to remedy them, the hope of reformers can actually result in changes that make a difference.

For other governments looking at the latest iteration of the US federal system, it will certainly be tempting to designate the Modernization Act as a best practice to emulate. Indeed, there is nothing specific to the US system about the types of routines adopted, or the types of problems they seek to address. From this perspective, the three routines we examine could be usefully considered in any context where governments seek to foster coordination around cross-cutting goals, prioritize between lots of performance goals, and compel organizational actors to actually meet to review performance information. But for those who may consider emulating the Modernization Act, we offer two notes of caution. The first is to seek not to emulate an entire

performance system, but specific performance routines that are expected to result in specific behavioral changes. This allows for a grounded causal reasoning frequently absent in the making of public management reforms, as well as for clear hypotheses that can be later tested to assess the reform's effect. Second, as we note above, the Modernization Act arose from an adaptive incrementalism, where policymakers made changes based on assessments of what had gone wrong in the past, and new ideas (some of which were adapted from elsewhere), but not on the wholesale adoption of another system. The introduction of performance routines should similarly be informed by the existing context, including the detritus of past reforms, and how new routines will interact with that context.

Endnotes

¹ For a fuller assessment of the empirical research on PART, see Moynihan 2013.

² This rhetorical framing is broad enough to invite little dissent, and indeed echoes a quote from President Bush that was used in his President's Management Agenda (OMB 2001, 27): "Government should be results-oriented -guided not by process but guided by performance. There comes a time when every program must be judged either a success or a failure. Where we find success, we should repeat it, share it, and make it the standard. And where we find failure, we must call it by its name. Government action that fails in its purpose must be reformed or ended."

³ For questions on involvement in quarterly reviews for prior skip questions where individuals indicated they had no knowledge of reviews, we infer this to mean they are not involved in the reviews. This step was done to preserve observations in the analysis. If our inference is incorrect (people who have not heard of the reviews are still subject to their influence) this should reduce the precision of our estimates, but in ways that disfavor the finding that reviews are associated with use.

⁴ For CAP and agency goals, we counted managers as involved if they reported "any involvement" for all three items that make up each index. We cannot provide a reliable percentage of managers whose programs have been subject to reviews because of the structure of the survey: all managers who stated that they were generally not familiar with quarterly reviews skipped by a default "programs have been subject to reviews" question. We therefore report the percentage of managers actively involved in the review process as the most reliable indicator of involvement. The key distinction is that not all managers whose programs are subject to reviews will indicate that they are actively involved in these reviews.

⁵ To run pooled models, missing values had to be conserved for the PART and the Modernization Act variables in order to allow cross-wave comparisons. The advantages of pooled models over the comparison of separate 2007 and 2012 models are that they can make use of the fact that both survey waves have identical variables, and that the standard errors of pooled models are more reliable because these models provide t-value estimates based on a constant sample size.

⁶ There are some minor differences in method with Moynihan and Lavertu (2012) – we use the full-range of all GPRAMA and PART variables, not dichotomous measures, cluster standard errors at the agency level rather than use agency fixed effects, and estimate the underlying factors behind performance information use scales rather than use the actual ordinal scales. These differences reflect marginal methodological preferences, and our results are robust to either approach.

⁷ If we were to include the CAP, agency priority goal and quarterly reviews in the same model, CAP goals have significant effects on information use across models, while the agency priority goals are more associated with passive use and quarterly reviews more with the other three purposeful uses. Given the additional collinearity this introduces into the models, we are reluctant to assert a great deal of confidence in the precision of these results. Furthermore, all three routines are by definition conceptually connected, which is why it makes more sense to combine them into a summative GPRAMA index than estimate mutually controlled coefficients for each routine.

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Appendix: Independent Variables

Variable	Operationalization Unless otherwise stated, agreement with the items is measured using a 5-point Likert scale.	2007		2013	
		n (Range)	Mean (SD)	n (Range)	Mean (SD)
Involvement in cross-agency priority goals (CAP Goals), $\alpha=0.77$	(After listing of existing cross-agency goals): To what extent, if at all, do you agree with the following statements as they relate to one or more of the cross-agency priority goals listed above? I have been involved in creating the cross-agency goals; The program(s)/operation(s)/ project(s) I have been involved in contribute to the achievement of one or more cross-agency priority goals; I have collaborated outside of my program(s)/operation(s)/project(s) to help achieve the cross-agency priority goals.	—	—	1,545 (1-5)	2.52 (1.04)
Involvement in high-priority goals (Agency Goals), $\alpha=0.73$	(After listing of agency priority goals) To what extent, if at all, do you agree with the following statements as they relate to [agency name] priority goals? I have been involved in creating my agency's priority goals; The program(s)/operation(s)/ project(s) I am involved with contribute to the achievement of one or more of my agency's priority goals; I have collaborated outside of my program(s)/operation(s)/project(s) to help achieve one or more of my agency's priority goals.	—	—	1,995 (1-5)	2.91 (1.04)
Involvement in data-driven reviews (Reviews)	To what extent, if at all, do you agree with the following statements as they relate to [agency name] quarterly performance reviews? Overall, the program(s)/ operation(s)/project(s) that I am involved with has been the subject of these reviews.	—	—	2,721 (0-5)	1.27 (1.80)
Involvement in well-run data-driven reviews (Review Quality), $\alpha=0.92$	To what extent, if at all, do you agree with the following statements as they relate to [agency name] quarterly performance reviews? These reviews are held on a regular, routine basis; These reviews focus on goals and objectives that are aligned with my agency's strategic and performance plans; Agency leadership actively participates in these reviews; These reviews include staff with relevant knowledge needed to facilitate problem solving and identify improvement opportunities; My agency has the performance information needed for these reviews; My agency has the capacity to analyze the information needed for these reviews; Performance information for these reviews is communicated in an easy-to-understand, useful format; My agency has a process in place for following up on problems or opportunities identified through these reviews; Program managers/supervisors at my level are recognized for meeting performance goals discussed at these reviews; Discussion at these reviews provides a forum for honest, constructive feedback; The reviews have led to similar meetings at lower levels	—	—	673 (1-5)	3.60 (0.85)
GPRAMA, $\alpha=0.62$	Additive index of CAP, Agency Goals, and Reviews, rescaled to 5 point scale	—	—	1,287 (0-5)	2.41 (1.01)

PART	To what extent, if at all, have you been involved in any PART-related activities? (This includes any involvement in preparing for, participating in, or responding to the results of any PART assessment.)	1,160 (1-5)	2.60 (1.26)	—	—
Measurement Problems, $\alpha=0.86$	Based on your experience with the program(s)/operation(s)/project(s) that you are involved with, to what extent, if at all, have the following factors <u>hindered</u> measuring performance or using the performance information? Difficulty determining meaningful measures; Different parties are using different definitions to measure performance; Difficulty obtaining valid or reliable data; Difficulty obtaining data in time to be useful; Difficulty distinguishing between the results produced by the program and results caused by other factors	2,534 (1-5)	2.92 (0.96)	2,365 (1-5)	2.83 (0.96)
Discretion	Agency managers/supervisors at my level have the decision making authority they need to help the agency accomplish its strategic goals.	2,886 (1-5)	3.20 (1.09)	2,717 (1-5)	3.18 (1.08)
Learning Routine	The individual I report to periodically reviews with me the results or outcomes of the program(s)/operation(s)/project(s) that I am responsible for.	2,892 (1-5)	3.54 (1.17)	2,704 (1-5)	3.50 (1.19)
Accountability to Results, $\alpha=0.85$	Agency managers/supervisors at my level are held accountable for the results of the program(s)/operation(s)/project(s); Agency managers/supervisors at my level are held accountable for agency accomplishment of its strategic goals.	2,856 (1-5)	3.87 (0.89)	2,682 (1-5)	3.81 (0.91)
Missing Link To Action	Difficulty determining how to use performance information to improve the program	2,726 (1-5)	2.46 (1.15)	2,558 (1-5)	2.45 (1.11)
Leadership Commitment	My agency's top leadership demonstrates a strong commitment to achieving results.	2,829 (1-5)	3.94 (0.98)	2,669 (1-5)	3.78 (1.08)
Political Conflict	Difficulty resolving conflicting interests of stakeholders, either internal or external.	2,686 (1-5)	2.73 (1.22)	2,489 (1-5)	2.72 (1.18)
Resources, $\alpha=0.84$	My agency is investing the resources needed to ensure that its performance data is of sufficient quality; My agency is investing in resources to improve the agency's capacity to use performance information.	2,381 (1-5)	3.14 (0.99)	2,167 (1-5)	3.08 (0.98)
SES	What is your current grade level? (0 = Others; 1 = Senior Executive Service or equivalent)	2,937 (0-1)	0.20	2,762 (0-1)	0.19