THIRD DIMENSION OF DATA IN THE PUBLIC SECTOR

Using Predictive Analytics to Improve Government

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After decades of management policies developed to improve efficiency and generate results, government management is emphasizing the utilization of more data and information in decision-making. This evolution is changing the dynamic of how leaders, executives, and practitioners within the discipline of performance management are approaching evidence-based decision-making. Under sequester, performance-based management tactics have been stressed, as managers are forced to link performance to smarter budgeting with no additional resources. As requirements become more prominent, the considerable amount of time needed to gather, administer, and analyze data is being questioned. Proving the success of programs using data is a valuable asset, at this time. It can help determine where additional resources are needed or where they should not be allocated.

This research paper examines the evolution to use data analysis, and predictability to improve results. This process is known as the Third Dimension of Data and Performance Management. The third dimension of data analytics is an untapped resource in the public sector that allows civil servants to use information they currently have to predict the success of a program through a series of weighted key performance indicators. Using a survey of government professionals and case studies, it was discovered that data is available to make the shift to predictive analysis. However, data is still not linked to decision-making and key factors that indicate progress towards outcomes.

Based on these findings, we propose that major government agencies use decision factors and sub-factors to report performance. These factors need to adopt measurable criteria that each government organization can use to make the tough decisions. This structure will allow government organizations the ability to determine the probability of performance success and a means of communicating progress to the public. Our proposed solution is to create a process that can be offered to government organizations that aids their need to meet the expectations of evidence-based decision-making.

This research will serve as a launch point to begin the discussion regarding the future of data usage by the public sector. Through our research, survey, and case studies, we found that practitioners are collecting the correct data, but are lacking the resources and time to effectively communicate it. Utilizing a factors based structure to examine and assess performance would provide an optimal solution based on our findings. Embracing this solution will allow the public sector to utilize predictive analytics to improve government.
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INTRODUCTION

Data is a source of continual growth and innovation. It surrounds our everyday activities and motivates our progression of thought. Our thirst for technology has developed exponentially from megabytes, to gigabytes, to terabytes, and beyond. One of the greatest sources of the ‘big data’ uprising is the public sector. Prior to the first Bush administration the federal government passively collected data using occasional figures to demonstrate program success; this was the first dimension of data. Data was present, growing in volume but its true potential as a resource was yet to be actualized. In the late 1990s the federal government underwent a paradigm shift from passive data collection to performance-based government. This was the federal government’s first step into the second dimension of data. Data was being used to describe program success, and make midstream changes. The Government Performance Results Act of 1993 (GPRA) initiated the use of data by mandating the measurements of program success, requiring the development of program strategic plans, and establishing performance measures to gauge success. In 2010, the GPRA Modernization Act (GPRAMA) was launched, which mandated quarterly performance reviews requiring in-person discussions of project success and failures. Using this process performance reviews went from being a static report to using data as a tool to make decisions.

Performance based project management has suffered under sequester. Managers are required to do more with less. Gathering, administering, and analyzing data is a large task. Many managers lack the time and resources to accommodate the increased workload. Proving the success of programs becomes paramount during this stage. Demonstrating where resources should and should not be allocated using evidence is highly valuable. This sentiment is especially true for state and local governments, who began feeling the effects of sequestration earlier. Unfunded mandates have evolved from a frequent inconvenience to the new normal for state and local governments. In this period, of restricted resources state and local governments are learning to do more with less. To continue making and data is visible. While the information is available, it is not being used to make key decisions. The inability to use data to make decisions is an uphill battle for current government performance.

The public sector must now learn how to invest smarter due to limited resources. A key to the success of this initiative is to intuitively use collected data. The third dimension of data analytics allows the public sector to use information collected to make more informed decisions.

HYPOTHESES

The Third Dimension of data analytics has been in practice in the private sector for decades. Using advanced logarithms, large retail stores and advertisers have been collecting mass amounts of data to predict trends in the market place and assess current customer developments. Insurance companies use data to predict fraud, and police departments have effectively used data to detect hot spots for crime.

We propose the following three observations, in order to under how this new advance in data can be beneficial to the public sector:

1. After twenty years of collecting performance data, the government is in a prime position to begin predicting performance.
2. It is possible to determine the probability of performance success.
3. There is a need to use performance data in a more dynamic and predictive manner.

LEGISLATIVE BACKGROUND

In 2009, a primary objective of the Obama administration was to pass and implement the American Recovery Act, commonly known as the Stimulus. During the initial hearing with the Director of the Recovery Act office, Ed Devany, the call to action from both parties was for clear transparency and accountability of these “dollars.” The stimulus gave the federal government and the performance community a glimpse into the scrutiny that was going to be placed on the Federal budget. The unprecedented call for tracking and reporting throughout the entire government system is the strictest federal program management requirements to date.

To help manage and communicate the performance reporting process, the Office of Management and Budget (OMB) and General Services Administration (GSA) supported the launch of Recovery.gov. This website acts as a transparent window into the heart of the Recovery Act. A clear gap between decision-making and data is visible. While the information is available, it is not being used to make key decisions. The inability to use data to make decisions is an uphill battle for current government performance.

Sequestration was enacted in 2011. This marked the beginning of a change to the status quo for performance management. In agencies, taking an across

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the board cut of nearly 10% was a difficult decision. This did however; shed light on how to manage a reduction in resources, while sustaining performance.

Even though agencies have been tracking performance since the inception of GPRA of 1993, in 1993, the sequester caused them to re-evaluate the connection between data and resources. Many agencies discovered that current data did not adequately provide them with the information necessary to make effective decisions. Data needed to be complete, whole, and accurate. The quickest solution for the administration and department heads was to furlough employees. Using data could there have been another way? Is it possible that a different solution would have presented itself?

Moving to predictive analysis is the next stage in the progression of government management. Unlike the private sector, the government does not have simple factors of financial success and market share. The federal government has numerous factors that can be critical in managing excellence. Understanding those critical differences is the key to creating the potential for a heightened probability of performance success. The third dimension of government management is grounded in the idea of using performance data to determine the odds of success. Thus allowing for executives to examine key factors and adjust improving results.

The term “Third Dimension,” implies that there have been previous dimensions of government management. However, we have not progressed beyond the simple 2D picture of performance. Currently, most federal departments stop at the collection of data and do not interpret it.

The first dimension of government management was introduced with GPRA. This act distinguished a requirement for planning and measuring department goals. In addition, GPRA initiated the collecting of data related to outputs regarding department activities. Its impact was visible at an operational and program level. This data provided much needed insight to all members of management. Resources and program milestones were communicated using this act.

Under a new administration, after nearly a decade of GPRA, President George W. Bush pushed the data agenda into a new direction focused on outcomes. Using his background and experience as the first President with a Masters of Business Administration, President George W. Bush’s administration developed the President’s Management Agenda (PMA). The PMA moved government management into the second dimension, with a focus on scorecards and outcomes. The PMA scope was the addition of transparency in performance at a program level. The Program Assessment Rating Tool (PART) put a formal structure in place for comprehensive planning, measuring, budgeting, and evaluating program performance whereby, establishing annual performance reports. For agencies this provided a new level of rigor necessary for compliance. There was now a direct link between performance and outcome goals. PMA and PART were criticized due to the fact that despite there being full compliance these requirements had no real impact on funding. In process, it was revealed that poor measures and insufficient data being used to justify budgets. The legacy of Bush’s PMA is a shift in focus towards outcomes and increased visibility at the departments and program level.

Moving into the second decade of the 21st century, Congress and the Obama administration worked to updated GPRA. In 2010, Congress passed the Government Performance and Results Modernization Act (GPRMA). The primary focus of GPRMA was the strengthening of specific elements of strategic planning and performance reporting. GPRMA requires all agencies identified in the CFO Act to update department-wide strategic plans every four years. In addition, it requires that departments develop priority goals and link department programs to those goals. Regarding reporting, GPRMA now requires departments to report on the priority goals every quarter. This reporting is done through a website established by the Office of Management and Budget (OMB). Performance.gov provides a central location to report with transparency to the public the performance of the Federal government, whereby increasing public accountability. These changes have improved the application of GPRA but have not pushed past the Obama and Bush administrations’ second dimensional level of government performance review.

In 2012, OMB issued a new vision for government performance management, data-driven government management. OMB is looking for agencies to use performance data to begin making strategic and programmatic decisions. The emphasis on using data is consistent with the movement to use technological resources that are available. This should help manage the resources of the federal government more effectively. This push for data and use of information to effect decision making is the launching point for the third dimension of government performance management. This action has provided the vision, granting the federal government with a key opportunity to finally generate results from data collected.
STATE AND LOCAL

State and Local governments have taken a different, and a frequently more accelerated path on their use of data. This is likely the result of innovative thinking required to achieve mission critical goals while lacking sufficient resources. Like the federal government, state and local governments possess a wealth of data, including demographics, tax records, and other administrative data. One of the biggest areas of growth in the last decade for state and local government is the use and distribution of geospatial information. State and local governments collect and use this data for many types of planning, zoning, and policy development. The evolution of Esri and other open geospatial software packages are allowing localities to become more interactive, residents can develop and modify maps of their towns showing everything from water tables and soil content to bus stops and shoveled sidewalks.

In addition to grass roots analytical efforts many states have also developed Stat programs. A prime example is the Baltimore CitiStat system used by the City of Baltimore, MD.

In 1999, Baltimore City instituted a new system of management called CitiStat in order to “make City government responsive, accountable and cost effective.” Modeled after a similar program in New York City Police Department, the Baltimore City Police Department initiated weekly-computerized statistics meeting otherwise known as ComStat to improve crime-fighting efficiency. CitiStat represents the extended application of the same basic principles to the management of all municipal functions. The program was designed to maximize personal accountability by requiring city agencies to provide CitiStat analysts with metrics representing performance. During monthly and bimonthly meetings with the Office of the Mayor, each department must examine sub-standard performance and propose solutions that can be carried out in an efficient manner.

The Office of CitiStat is a small performance-based management group responsible for continually improving the quality of services provided to the citizens of Baltimore City. CitiStat evaluates policies and procedures practiced by City departments for delivering all manners of urban services from criminal investigation to pothole repair. Staff analysts examine data and perform investigations in order to identify areas in need of improvement. City agencies are required to participate in a highly particularized presentation format designed to maximize accountability. Agencies must be prepared to answer any question raised by the Mayor or her Cabinet at CitiStat sessions, which are held every four weeks. As a result of its success, local governments have adopted the CitiStat model across the U.S. and around the world.

This Stat model is being used not only at local levels of government, but is moving into the federal space. In 2010, as a result of the state of information technology (IT) projects across the Federal Government, the Office of Management and Budget (OMB) launched TechStat Accountability Sessions (TechStat). TechStat is a face-to-face, evidence-based accountability review of IT resources. It enables the federal government to intervene in order to correct or terminate IT projects that are not producing results for the American people. Since January 2010, OMB has led over 60 TechStat sessions, including 38 high priority reviews between August and December 2010. These reviews resulted in $3 billion in total cost implications and an average acceleration of deliverables from over 24 months to 8 months.

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FEDERAL LEVEL

SBI NET

One of the first efforts in the federal government to use data to make decisions was the Secure Border Initiative. The Secure Border Initiative (SBI) was established by the Department of Homeland Security in 2006. SBInet was to be a comprehensive shield of the Southern United States border comprised of an integrated network of personnel, infrastructure, and technology solutions. SBInet put a strong emphasis on the use of technology to provide information for rapid response capability allowing Customs and Border Protection (CBP) leadership to make strategic operational decisions. The end goal was never-before-experienced continual 24 hour, round the clock observation of the Southern Border Region.

SBInet was initiated with a pilot program known as Project 28. Project 28 occurred along a 28 mile section of the Arizona/Mexico border to test the vision of the integrated network. The pilot focused on the technology solutions of SBInet, including night vision and infrared cameras mounted on towers to provide 24/7 visual capture of the border. The intent of this technology was to capture illegal activity as it was occurring and allow CBP agents to quick deploy and intercept the criminals before advancing deeper into the United States. However, during the two-year pilot many of the technology resources were found to be ineffective.

SBInet as a system was one of the first large scale systems to provide not just predictive data, but real time data at a federal level. The rapid response element of SBInet allowed operational leadership to effectively and efficiently manage resources. The real time data gave CBP the evidence necessary to demonstrate the need for more border agents at specific times. Further, it allowed for CBP to be proactive in their effort to prevent illegal activity at the border and secure for legitimate commercial activity.

In addition to the real time data, SBI began capturing the pattern of border crossing by immigrants. In 2006, as part of the Congressional oversight, CBP began tracking monthly border crossing by immigrants. CBP began to see that during certain times of the year crossing increased from the U.S. to Mexico, specifically during Christmas and Easter. In conjunction, they saw an increase in crossing back to the U.S. in the month following those major holidays.

CBP and DHS took a position that the future of securing the world’s busiest border was to use performance data and analysis. SBI took a risk by taking a big step forward in how they allowed data to influence their operations. Unfortunately, the technology for this initiative failed, but the data that came out of this program was a critical step in allowing the federal government to rise and begin to see beyond the horizon.
NUCLEAR REGULATORY COMMISSION

BACKGROUND

The United States Nuclear Regulatory Commission’s (NRC) mission is to license and regulate the Nation’s civilian use of byproduct, source, and special nuclear materials to ensure protection of public health and safety, promote the common defense and security, and protect the environment from the effects of radiation. NRC regulates use of nuclear materials in both the nuclear power industry and a variety of medical, industrial, waste processing, government, and other civilian uses.

NRC receives two main funding sources, for Nuclear Reactor Safety, and Nuclear Materials Safety. For over a decade, the NRC has evolved its Planning, Budgeting, and Performance Management (PBPM) process, which was created in the fall of 1997 in response to the enactment of GPRA. In compliance with GPRA and other pertinent guidance including the CFO Act of 1990, Title 31 of the United States Code, and OMB Circular No. A-11, “Preparing and Submitting Budget Estimates,” the NRC communicates to Congress, OMB, NRC staff, and other stakeholders its multi-year strategic direction.

In 2009, when the Performance Institute (PI) began working with NRC, the agency had been cited for excellence in its measurement and planning processes, but leadership still saw room for improvement. Performance Measures were being used to monitor progress but they were not being utilized to predict outcomes.

STRONG GOALS BUT FEW LEADING INDICATORS

OMB and the Mercatus Center for Government at George Mason University had pointed out the lack of clear traceability from the NRC Strategic Plan goals and outcomes to the agency budget and performance. Agency Strategic Plan goals and outcomes were expressed at a very high level, with very few intermediate outcomes below these higher levels.

At the highest level, the goals were appropriate, aligned to the goals of Safety and Security, with six strategic outcomes:

- Prevent the occurrence of any nuclear reactor accidents.
- Prevent the occurrence of any inadvertent criticality events.
- Prevent the occurrence of any acute radiation exposures resulting in fatalities.
- Prevent the occurrence of any releases of radioactive materials that result in significant radiation exposures.
- Present the occurrence of any releases of radioactive materials that cause significant adverse environmental impacts.
- Prevent any instances where licensed radioactive materials are used domestically in a manner hostile to the United States.

While these are logical and long-standing outcomes as determined by NRC’s statutory language, they were not supplemented by intermediate outcomes at a level that could relate easily to NRC’s budget categories. In an interesting twist, similar to other organizations, NRC’s very success at preventing major injuries and incidents over the last 40 years has led many both inside and outside the organization to question whether better performance measures are needed and why predictive analytics is even necessary. The agency had been consistently successful in achieving high levels of performance in these measurable areas for more than twenty years. There had been no critical nuclear accidents, exposures, releases, and there had been no fatalities in more than four decades. While NRC was known in industry and government as a successful and high performing organization, as well as being named “the best place to work” by the Partnership for Public Service from 2006-2010, the lack of more predictive indicators created a large gap in management information.9

Leadership and program managers were unable to discern:

- Which program was creating the most value, and which added little or no value.
- What changes their programs required given expected changes in future technology, weather patterns, and other external conditions.
- What patterns they should be monitoring for in emerging data that would provide early information on future safety and security issues.

PI worked with NRC over two strategic planning cycles to begin using intermediate outcomes in a way that leads to more leading information on the future security and safety of nuclear materials throughout the country. For the Planning Cycles that began in 2008 and 2012, NRC and PI worked with agency managers, researchers, and scientists to better understand “the critical precursors” to nuclear incidents. By leverag-
ing the science and existing data behind these early indicators, stronger intermediate outcomes could be developed.

However, the indicators alone were not enough. NRC also had to convince senior leadership and political appointees of the changing conditions surrounding nuclear plants, waste, disposal, medical materials, and transportation. Using this information it was understood that past success does not necessarily equal future success. As the operating environment changed to include unforeseen environmental changes and new technology developments like newer smaller reactors, the Japanese tsunami and the Mid-Atlantic earthquake of 2011, there was a growing understanding that better predictive measures were needed.

LACK OF INTEGRATION OF BUDGET AND PERFORMANCE INFORMATION

NRC’s budget and performance information did not integrate consistently to allow activity-based cost analysis or show the value of all activities related to the strategic results. This was a direct result of the lack of third dimension or predictive measures that would have allowed business lines to see the impact of discrete activities. This is a standard issue in many government organizations however; NRC’s independent Commission and strong Chief Financial Officer (CFO) were determined to bring closer alignment to budget and performance.

A decision by senior leadership to take strong ownership of this shift was the major motivation for progress at NRC. The CFO was appointed as the agency Chief Performance Officer, and while that itself was not unusual, the NRC CFO was unique in the attention he paid to performance, even while dealing with budget and appropriation issues. The NRC CFO regularly made time to attend government-wide performance council meetings and even spoke on performance issues to outside audiences. The impact of leadership attention, particularly financial leadership cannot be overstated. The CFO pursued and in this case it influenced two key decisions, the decision to strengthen the strategic planning process beyond that which was required for compliance purposes and the decision to implement an activity based costing and finance system that would begin tracking the impact of resource decisions.

The Office of the Chief Financial Officer (OCFO) leads the annual Performance Budget process to request authorization of funding from Congress, then throughout the fiscal year, issues monthly and quarterly Budget Execution Reports that relate budget with accounting data. As part of the Performance Budget process, NRC managers use the strategic plan and aligned logic model structure to set measures and targets for the agency, and a few high-priority output measures and targets.

The Office of the Executive Director of Operations (OEDO) leads an annual Operating Plan process in which NRC managers identify additional output measures and targets to track expected performance for programmatic and administrative activities. On a quarterly basis, offices submit Performance Reports to OEDO via an enterprise-wide web site, which serves as a data collection and reporting system. Then, Office Directors meet with the appropriate Deputy Executive Director for Operations (DEDO) to review office performance in meeting program and administrative targets. In many cases, this performance information relates to budget line items below the sub-program level. One continuing concern here is that some programmatic budget line items have multiple measures, some have none, and some measures cross budget line items and even sub-programs. Moreover, because offices have interpreted the call for operational measures differently, measures are defined at different levels of granularity for each office and sometimes overlap in the case of shared processes for a given sub-program.

To deal with some of the inconsistencies in measurement development at the business line or sub-program levels, NRC is instituting a more robust alignment process. This logic model based system will directly drive intermediate outcomes down to the business line level and require all business lines and major support organizations to develop their own set of leading and lagging indicators that can drive down to budget and resources.

To better incorporate business and financial analytics the CFO also moved forward with improved systems to analyze and report financial and performance information. The new systems were targeted for more efficient and timely data collection, analysis, integration and reporting of financial and performance data. In addition, there is an ongoing effort to define the agency’s budget structure in terms of Programs, Business Lines, Product Lines and Products, which will bring greater consistency and transparency to budgeting and set the stage for the improved accounting NRC expects from its recent selection of financial management software for its Financial Accounting & Integrated Management Information System (FAIMIS).
Finally, and perhaps most importantly the agency turned to its technical experts to uncover the best possible leading indicators that would provide predictive information. Instead of staffing its planning and measurement working group with budget or management analysts, as is often the case, the NRC brought some of its most respected technical experts to think differently on predictive analytics. This group looked to scientific evidence in a way that may not be possible in every government organization, specifically at a framework known as Accident Sequence Precursors.

**PRECURSORS**

An accident precursor was a known factor that led to a serious safety concern, and they were structured in a leading to lagging nature that would allow their incorporation into a logic model framework for measurement development. The use of these precursors in a framework known as an “Event Tree” is illustrated below:

All precursors must meet the following criteria, and the use of a set of similarly structured criteria may be seen as a potential leading practice for other organizations. The criteria used for these predictive data points are:

- Any failure of a system that should have functioned as a consequence of an off-normal event or accident
- Any instance of two or more failures
- All events that resulted in or required initiation of safety-related equipment
- All complete losses of off-site power and any less-frequent, off-normal initiating events or accidents
- Any event or operating condition that was not within the plant design bases or that proceeded differently from the plant design bases
- Any other event that, based on the reviewer’s experience, could have resulted in or significantly affected a chain of events leading to potential severe core damage

Successfully building predictive models requires the use of structured criteria in developing the measures. While not every organization can turn to scientific data like the nuclear industry, it does seem reasonable that every organization can use similar criteria to begin gathering data on what early issues would indicate a future problem or future success. For the 2014 Strategic Planning Process, the NRC Planning team has drafted safety and security objectives and measures that correspond to precursors and for the first time measure early indicators of potential issues, instead of simply measuring risk-significant or critical events.
CITY OF ALBUQUERQUE BUDGETING MODERNIZATION

The City of Albuquerque Office of Management and Budget in collaboration with Oracle and its systems integration consulting team, successfully implemented Oracle Hyperion Planning and Oracle Hyperion Public Sector Planning and Budgeting on a full scale. This effort culminates a two-year endeavor by the City of Albuquerque to update and replace its 20-year-old budgeting system. The software implementation project was completed in approximately seven months, preceded by extensive planning, software selection, and included participation by the Albuquerque Bernalillo County Water Utility Authority (WUA).

The City of Albuquerque during the implementation of Oracle Hyperion Planning and Oracle Hyperion Public Sector Planning and Budgeting, a centralized, Excel and Web-based planning, budgeting, and forecasting solution that integrates financial and operational planning processes and improves business predictability controls, data accuracy, and reporting. The City of Albuquerque’s new system helps it manage existing and projected budgets with sophisticated models of positions and employee-related expenses with reliable information from human capital management (HCM) and general ledger (GL) systems.

"With the Hyperion solutions in place, the City now has an integrated system with current financial information, budget projections and our planned allocation of future financial and human capital resources,” said Mayor Berry. “This is a huge step forward for our City, and part of my commitment to fiscal responsibility as a Mayor.”

Mark Sandoval, Project Sponsor, City of Albuquerque Office of Management and Budget noted that the city has seen fundamental financial and management improvements since the implementation, as business practices associated with budgeting operations within the Hyperion solution now are directly connected to the City of Albuquerque’s PeopleSoft Financial and Human Capital Management system, which improves communication and data accuracy across the organization.

The City of Albuquerque has realized significant productivity improvements. Data that had to be entered in multiple places now only has to be entered once, and teams are no longer inundated with multiple and redundant spreadsheets. The new system increases information accessibility and maximizes data accuracy, helping the City of Albuquerque meet performance objectives. For example, the City of Albuquerque can utilize prior year actuals for budget worksheets and the budget process easily. In addition, it reduced the final budget preparation process from over a week to just a half-day. Using Hyperion provided the City of Albuquerque with more flexibility in budgeting for cost-of-living adjustment (COLA), and adjusting salary savings at the department level.

“Public sector organizations, like the City of Albuquerque, are faced with increasingly complex planning and budgeting processes in light of reduced funding for new and existing programs, increased compliance and regulatory pressures, a greater need for transparency and accountability to the public, and internal pressure to do more with smaller IT budgets. In this environment, organizations look to adopt a ‘buy versus build’ approach that helps them reduce implementation time and cost by using a packaged planning and budgeting application built for the public sector, such as Oracle Hyperion Public Sector Planning and Budgeting,” said Gevorg Abrahamian who is responsible for product management of EPM solutions for public sector at Oracle Corporation.

The City of Albuquerque embraced the third dimension of predictive analytics. Using Hyperion allowed them to analyze data to their advantage. Government workers can now access previous years’ data to make informed choices regarding budgeting and allocating resources. By harnessing the proper information, the City of Albuquerque has empowered it’s government to make better decisions to aid the inhabitants of their city.

ARIZONA DEPARTMENT OF HEALTH

The Arizona Cancer Registry (ACR) is a population-based surveillance system funded by the state of Arizona with assistance from the Centers for Disease Control and Prevention (CDC). The registry is designed to collect, manage and analyze information on incidence and survival of Arizona residents diagnosed with cancer.

In the early 2000s the ACR discovered a problem with the segmenting of data. Their system was unable to provide citizens statistics in their “community”. The system had no defined boundaries for Arizona communities. There were no predefined rates by community. This meant that there was no easily accessible repository for cancer statistics.

According to Wesley Kortuem, Geospatial Information System (GIS) Director for the Arizona Department of Health Services, “they developed a geographic unit or measure, to represent the communities of Arizona.” The Arizona Department of Health Services (ADHS) developed Community Health Analysis Areas (CHAAs) to better analyze cancer and other diseases within Arizona. These CHAAs gave a defined scope for the ACR to report data on community specific statistics to citizens.

Mr. Kortuem continued, “once they had the CHAA defined, we could create cancer statistics for the public to use at a community level.” The CHAA geography combines census boundaries, county, and city boundaries in 126 areas that maintain community characteristics.

Once the ACR defined the characteristics, they discovered other variables that needed to be linked. As Mr. Kortuem explained, “This moved us to the next challenge, making the community level data, reports, and tools centrally located and easily accessible to decision makers and the public. Also, we had frequently changing data that effected the geography.” This meant that changing data was creating volatility and inconsistency in the information presented by the maps.

ADHS created “Designation Mapper” through their GIS dashboard. The solution displays all Health System Development (HSD) geographies and their related data in an interactive application, easily accessible to the public. The dashboard provides the public a link to HSD reports. Designation Mapper allows HSD personnel to easily update with current data and information.

ACR Cancer Data Query System is an interactive query system that is an Indicator Based Information System for Public Health (IBIS-PH). This system allows the public to query cancer rates, mortality rates, and population estimates for Arizona. The information provided by the system gives the public, doctors, health care professionals, and decision makers the information to navigate limited funding to response to Arizona’s health system. This system is making the citizens of Arizona healthier through data.

The analysis of cancer by CHAA can be accessed on the Internet at: http://www.azdhs.gov/phs/azchaa/.

NAVY POPS

BACKGROUND

In the early 2000s, the Navy was looking for an approach to improve the quality assurance of high priority, high value acquisition. In order to achieve this goal, Carl Siel, the Chief Systems Engineer for Navy Research, Development, and Acquisition (R&D) developed the Naval Probability of Program Success (PoPS) program or Navy PoPS. Which would improve the current Department Of the Navy (DON) Two-Pass/Six-Gate Process. By inserting a PoPS process and documenting at each gate review the Navy would develop key historical data, which would help them better, assess reports and manage acquisitions.

PoPS and the DON Two-Pass/Six-Gate Process are separate but related processes with distinct but cohesive objectives. Naval PoPS is the required assessment component of each DON Gate Review. During our interview, Mr. Siel explained the call to action, “Secretary Winter organized a group of Navy executives to figure out a solution to assess, report, and manage our acquisitions.”

DON TWO-PASS/SIX GATE

The objective of the DON Two-Pass/Six-Gate Process is to establish a disciplined and integrated process for requirements and acquisition decision making within the Navy. As mandated, the process acts to endorse key Joint Capabilities Integration Development System (JCIDS), acquisition documents, and facilitate decisions regarding required Navy and Marine Corps capabilities and acquisition of corresponding material solutions.

Mr. Siel explained, “because of the process, we were able to develop criteria and factors for a logical tool for review. We used a 100 point framework to decompose the critical elements for secretary-level reviews.”

The tailored briefing content and the new standardized Gate Review briefing templates are tools to senior DON decision makers, Program Executive Officers (PEOs), and Program Managers (PMs). Program Health is one of many briefing topics in the process. It is applicable to all ACAT and non-ACAT acquisition programs. Each Program Health assessment has a new standardized set of briefing templates.

Mr. Siel explained, “We used Navy standards to determine if a program is good, moderate, or poor. It was vital that we archived reports. We were looking for progress and key information. This gave us the ability to focus on priorities that affected the results for the Navy. We used the briefings and assessment to allow PEOs and PMs the ability for corrective actions.”

The objective of Program Health Assessments (Naval PoPS) were to reduce the workload of PMs and civil servants in the long term by providing a standardized and practical aid to program management and Program Health reporting. It was used as the sole authoritative Program Health input for all circumstances where performance information was required. Naval PoPS was intended as an aid to PEOs and PMs for internally managing all of their acquisition portfolios/programs and to efficiently respond to numerous requests for portfolio/program status from multiple sources. In this regard, Naval PoPS does not prohibit PEOs/PMs from developing greater detail if desired. In fact it is expected that the PEOs/PMs will develop the tailored level of additional detail they deem appropriate for their specific management needs.

Naval PoPS is applicable to all levels of acquisition programs. For fairness and consistency in reporting across all programs, Naval PoPS uses standardized Criteria Statements. These are aimed at reducing subjectivity and tailored to the size of a program and to the program’s position in the acquisition process. Along with Criteria Statements, Naval PoPS uses a standardized method in which a program’s status and backup data is visually presented (i.e. standardized PowerPoint templates). These templates often contain a greater level of detail than the associated Criteria Statements. There is some overlap between Naval PoPS reporting templates and the briefing templates used for the DON Two-Pass/Six-Gate Reviews; the expectation is that once developed, these reporting templates will find a place in numerous other internal decisional or informative forums.

For Mr. Siel the key to this program was its, “ability to link the program health assessment to the budget [allowing] PMs to ask for necessary resources from leadership. In addition, it gave Naval leaders the traceability of actual budget to estimated budget. PoPs gave decision makers the visibility to determine whether a program was health or needed a discussion to stop the budget and use resources elsewhere.”

The PoPs structure set up the parameters for program evaluation and reporting on mission critical systems. It took an approach of assessing key factors and sub-factors through the entire process of a program. PoPs utilized performance measures and data, a weighted structure provided standards, and the scoring of the factors on “100 – point scale” supplied clear communication of performance to Naval leadership. This is a successful model of using performance data to manage for organization excellence.

“We piloted the first version and took the lessons learned from the initial rollout to modify the next version. This allowed us to fine-tune the criteria and factors. Part of the new elements was a red flag to the assessment sub-factors. This supported that at various phases of the acquisition, certain points, like requirements capture” are more important. Thus creating visibility of the inter-relationships of the entire acquisition process, over time your leadership could make tough decisions with information backed by the data.”

12 Secretary Winter served as Secretary of the Navy, January 2006, to March 2009
13 Secretary of the Navy Instruction 5000.2D1 Paragraph 2.11
14 Naval PoPS v.2 Memorandum
15 Guidance for the Implementation of NavaPoPS: A Program Health Assessment Methodology, For Navy and Marine Corps Acquisition Programs. V. 2.2.
LARGER CONTEXT

CULTURAL OBSTACLES

Cultural, political, and emotional biases play an outsized role in the ability or inability of public organizations to fully utilize Third Dimension Analytics. The primary tenant behind these tools is to challenge one’s intuitive view of the world and the way it works. In the day-to-day management of government programs, it is the willingness to suspend assumptions and accept new data, more than the data gathering or analysis itself that has been the largest barrier for implementation. Introducing new information is only effective with an open mind and a willingness to experiment; unfortunately the fundamental cultural issues existing in public sector organizations challenge both of these characteristics.

FEAR

Programs are often structured around a stable set of activities, with funding and support driven by where the program operates, its political benefactors and who receives financial and other benefits. Congress and other legislators increasingly insert themselves into the operational level of programs, providing very little room for experimentation or new conceptual frameworks. Meaning that often times, experimenting is simply not an option. A dominant paradigm in most programs is to avoid controversy, questions or anything that might end in an investigation, hearing or media exposure. As its impossible to experiment with program delivery models and avoid occasional missteps or failures, it becomes very difficult to try new options.

TIME

In the public sector, time is of the essence. With short election cycles and appointed officials who must both learn about the organization and make a mark in even less time, there is precious little space to allow strategies to create an impact. Swift actions and new initiatives are the tools of choice. The impact and end results are too far off for senior leaders to be in place to observe or sometimes even understand. Further, election cycles can create the incentive to focus on short-term effects as opposed to larger or longer programs where ultimate impacts may be greater but much farther down the road. This also causes the problem of pushing greater consequences off on later generations.

STRUCTURAL ISSUES

Checks and balances are not always a strong business tool. While separation of power and a diverse group of decision makers helps the country ensure accountability and transparency from government. They increasingly prevent the government from shifting strategies or attempting better program design. As we have seen in the federal government it prevents agencies with similar goals from collaborating on key efforts, resulting in duplicative programs or incomplete responses. In state and local governments it is often the issue of jurisdiction and funding. Is it within the federal, state, or local jurisdiction? Is there grant money or tax money for this?

CONTEXTUAL ISSUES

Why are some government organizations succeeding and some failing in the early adoption of the Third Dimension of Predictive Analytics? The Performance Institute’s work in this field over the last fifteen years has demonstrated that contextual issues more than technology, data collection, or other technical details promote or derail the adoption of the Third Dimension. In 1999, when PI began working with state, local, and federal public sector groups on improved transparency and accountability, it was the lack of data that constrained improved performance. Today, this paradigm has been completely upended with a performance analyst at the Department of Health and Human Services reporting that the agency is, “up to our ears in data.” What the organization does with the data, not the technical act of gathering and compiling it, has inundated a management culture that is grounded in mid-20th century practices. Among these issues is a hierarchical organizational structure that moves even routine decision making upward to high levels and frequently mixes opinion, intuition, and fact. In public policy environments, the goals of the organization can be the subject of disagreement and open to interpretation. Political and leadership changes have a larger than expected ripple effect in discouraging the use of objective information to pursue strategic challenges and gaps.

POLITICAL BARRIERS TO DATA USE

One of the most unexpected results of the surveys and interviews for this report was the consistent reporting of a resistance to data driven prediction and analysis in the face of declining budgets. While target setting, enhanced option analysis, and the use of probability factors were seen as sensible ways to deal with reduced resources. The politicized nature of the use of data prevented organizations in both regulatory and taxpayer service sectors from fully using their key indicators in moving resources to more productive activities.

A USAID performance specialist reported, “target setting and analytic analysis were not reflective of
THIRD DIMENSION OF DATA IN THE PUBLIC SECTOR

 shifts emphasis from tactical to strategic

When goals and data are presented and analyzed to take advantage of Third Dimension analytics they can connect separate agencies and their work, new strategies can emerge that point to improved success. This key contextual issue addresses the tactical imbalance that frequently dominates decision making and management discussions. Working largely in the tactical realm has held public organizations inside their organizational stovepipes and prevented a more strategic top-down perspective. CAP goals were purposely created to take a more strategic perspective and their implementation shines a positive light on changing the contextual and cultural barriers for more predictive and more successful use of data.

changes in budgets.” Fear of even deeper targeted financial cuts prevent the open and honest use of data and measures to reflect how changes in resources were impacting delivery, future effects, and expected goals. An August 2013 meeting of the Federal Performance Improvement Council centered on the need for a more honest and straightforward use of indicators and analytics, particularly in target setting, to reflect the effects of reduced funding. More than half of the 25 agencies represented agreed that target setting for key indicators was not reflecting current political or financial realities. Guidance from the OMB had not provided clarity on ways to rectify this clash.

Cultural issues are more than peripheral as they begin to erode better decision-making. When political or leadership issues cloud the use of data, prevent the re-prioritization of strategies, or otherwise prevent the smart use of analytics, the entire methodology comes into question. In the last several years, the government has seen examples of both positive and negative cultural elements in analytics, sometimes in the very same program. One example of these phenomena can be seen in the current use of Federal “Cross Agency Priority Goals” also known as CAP Goals. These CAP goals have combined three key management principles in the use of Third Dimension Analytics:

UNRELENTING FOCUS THROUGH SENIOR LEADERSHIP ACCOUNTABILITY

The White House required CAP Goals to include Cabinet Secretary accountability. In publicized events, the senior appointed officials for the responsible agencies signed their names to specific goals. This level of responsibility ensures, attention and prioritization.

PRIORITIZATION IS REQUIRED FOR PERFORMANCE IMPROVEMENT

The White House culled down the number of CAP Goals to a large but manageable number. In FY 2013, the White House introduced 14 cross cutting goals, a very focused number for a huge enterprise like the Federal government. This approach is very different and from the granular approach of previous Administrations which focused performance at a program level. Prioritization puts emphasis on overall results instead of on the specifics of execution.
PROPOSED SOLUTION

Based on all the data collected in the previous case studies, we recommend that all government institutions implement predictive analytics through a system using factoring. Utilizing the strategy at Navy PoPS, we elevate key elements of the process to be used as the agency or enterprise level. We further improve upon this by adding an annual evaluation structure.

WHAT ARE THE POTENTIAL FACTORS?

Bill James theorist behind the book and popular movie, “Moneyball” established metrics, which provided objective knowledge of baseball. Specifically, James created what is known as SABRmetrics, creating the ability to analyze baseball through objective evidence that is collected from actual in-game activity. From that data, James found he could find specific factors that could answer objective questions of the sport. This concept of “Moneyball” has become the term to use whenever there is push to use data analysis and analytics to drive decision making. “The first (and easiest) step is simply collecting more information on what works and what doesn’t.” More information will lead to better decision making in Washington. The point of Moneyball is not that there is a need for more data; the public sector is already overwhelmed with information. Instead it is the quality of data, and the way it is used which creates the potential for Moneyball in the public sector. The keystone of James’s idea is that there exist key questions that predict an outcome and the probability of success when you build a strategy around these key factors. This therefore begs the question: What are the key factors for decision making in government?

For a manager within government, the focus is on managing the functions of the program, agency, or department they oversee. However, like the private sector looks at customer satisfaction or sales, public managers should be looking at the outcome for the community. When we look across the government landscape, we need to determine a series of key factors for examining probability of success. At a program and project level we have seen the ability to find key factors, such as cost, schedule, risk, resource, and performance. The development of key factors allows us to collect and organize this information in a way that is useable by public sector organizations. In all of the CFO Act Departments, they should at an enterprise level, be able to assess their ability to determine the likelihood of meeting strategic, priority, and annual goals based on a series of common key factors.

The foundations of common key factors are already in place, simply waiting to be refined. When looking at best practices of “high performing organizations”, a set of similar characteristics emerge. Those organizations strive to excel at the following categories: Organizational, Financial, Acquisition, Talent and Personnel, Technology, and Customer. Within these categories, a series of sub factors should be introduced to determine which are able to make enterprise decisions. Sub factors can be weighted and aggregated to give the common key factors their per weighted score. During the sub factor selection process some sub factors will be identified high priority or red flag, upon receiving a sub-par score the other factors are disregarded and the key factor is automatically given

NATIONAL FACTORS

<table>
<thead>
<tr>
<th>Organizational Management</th>
<th>Financial Management</th>
<th>Human Capital Services</th>
<th>Acquisition Management</th>
<th>Technology Services</th>
<th>Citizen-Centered Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
<td>General Ledger</td>
<td>Training and Development</td>
<td>Strategic Sourcing</td>
<td>Cyber Security</td>
<td>Quality</td>
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<td>Framework</td>
<td>Internal Controls</td>
<td>Competency</td>
<td>ROI</td>
<td>Cloud Integration</td>
<td>Responsiveness</td>
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<tr>
<td>Program Management</td>
<td>Budgeting</td>
<td>Knowledge Management</td>
<td>Requirements</td>
<td>Sustainment</td>
<td>Timeliness</td>
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<td>Functional Management</td>
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<td>Succession</td>
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<td>Alignment</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Configuration Management</td>
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</tr>
</tbody>
</table>

Figure: Our Recommended Model.

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a failing score. The weighting of the factors provides a score. The scoring element provides the ability to compare the factors. Scoring each factor links information to performance. In addition, management has a quantifiable value to adjust to meet the strategic and functional goals of the organization.

Through this approach, departments and agencies would be able to review these common key factors each year as part of the Planning, Performance, Budget, and Evaluation (PPBE) cycle to demonstrate the areas that are the drivers for decision making, and the impact of those decisions.

HOW DO YOU DETERMINE WHAT FACTORS ARE BEST?

Throughout Malcolm Gladwell’s book Outliers, Gladwell examined and interviewed subjects in relation to being the outliers from the “norm” of their cultures and society. In each study Gladwell examined a number of factors to make a calculated observation. The determination of factors he used to make his observations used data, the known “norm,” and personal experiences. Once he gathered the information on his study, his factors solidified the observations. Determining factors that have a meaningful value support the reasoning of critical decisions.

In order to make the connection of data to decision making, the understanding of the right organizational factors is necessary. The first question an agency, department or program officer has to ask is do we have the right factors? That question has multiple ways to be answered. The question should be how did we determine the right factors? The answer is not about right or wrong; it is about the process of determining the factors. For each department and agency, that process may differ, but there should be a set of parameters that shape the factor determination process.

Similar to the measurement development process, determining the right factors should begin with an alignment of key data points to the goals and objectives of the organization. From that starting point, you can begin to have candidate factors that allow for the discussion amongst a team with the knowledge to recommend the best factors to leadership. Having a candidate set of factors will allow organizations to engage in a down-select structure to debate each factor. In addition, the down-select and discussion that comes from having a candidate set of factors will strengthen the factors that are selected by leadership. The recommended factors should have a series of data points provided they are able to create the criteria to weight each organization factor. These factors will be consistent and aligned to the performance measures and standards.

Once the factors are selected and weighted, each factor should have a definition sheet that outlines the following elements:

- Factor
- Frequency
- Formula
- Weight Criteria
- Process for Collection
- Factor Usage
- Availability of data:
- Data Source(s):
- Linkages:
- Alignment:

These elements bring credibility and clarity to each factor, an understanding of what makes up the factors.

By going through a deliberate process to determine the factors, each organization will gather insight into the drivers of the organization. Remember the point of the factors is to provide leadership with the drivers that impact the organization. Without a process, how can an organization ensure goodness and trust in the accuracy, validity, or value of decision-making factors, and their subsequent use?

HOW DO YOU WEIGHT FACTORS?

Each year, US News and World Report publishes its rankings of the top universities in the United States. To rank each university, the publication establishes factors to judge. In their methodology they weight the factors to determine which give them ranking and other meaningful data. They determine their weight through a decision process that focuses on the key variables and the mission of each educational institution. The publication makes sure that they have accurate and relevant weighting that directly relates to the data points they gather.

Similarly, each department and agency should create a weighting process that incorporates their priorities in achieving their mission. A number of data points will provide the information to create the factors, but
the weighting needs to demonstrate the importance of each annual and priority goals. By putting the emphasis on the annual and priority goals for weighting, the departments and agencies will be able to use the factors to drive decision-making.

Once we establish the weighting of the factors and sub factors, leadership and decision makers can use the information to manage resources. In addition, the factors will inform and modify the overall management of the organization. The modification could be as limited as the tweaking of a single performance or as grand as the redesign of strategy and structure. Ultimately, this evolution of strategic and organizational management will allow leadership, executives, and managers a guide for effectiveness and efficiency.

TRANSLATING LEADING INDICATORS TO DECISION MAKING FACTORS

A key element for long-term decision making with a focus on results, is the ability to use the information to gauge trends and adjust leading indicators. Within a sector where the motivation or definition of success is ambiguous at best, the ability to create a predictive value in decision-making will be a premium. The important element of using leading indicators to guide decision-making, is showing the relationship to long-term outcomes. Ultimately for government, being able to use the data and information to improve citizen-centered services in an efficient and effective manner is the value of leading indicators.

The current trend is demonstrating a continuous increase of data collection. In fact according to a 2012 survey of 150 IT professionals from the federal government, “nearly one-third of all the collected data is unstructured and therefore substantially less useful.” In that same survey, “only 40 percent of those IT pros say that their agency is even bothering to analyze the data that they have and even fewer are using it to make strategic decisions on a regular basis.” Understanding these challenges, at all levels of government is driving the use of data for decision-making. A valuable tool for management would have a system that translates indicators to focused factors.

Leading indicators will have an impact on the scoring applications of the factors-based approach. One of the critical elements of the weighting and scoring is giving a probability of performance rating. As the data is collected and analysis gives insight, management should be continuously looking at the factors as a means of communication. By integrating the factors, management is able to justify decisions to stakeholders on the impact of change. Thus using the data effectively and not just collecting data for the purpose of archiving.

CONCLUSIONS

After evaluating our original hypothesis, which asserted that the government should be able to use data for predictive analysis, to improve decision-making. We have found that the potential is there, however it is clearly not being implemented universally. The most prevalent obstacles include: cultural obstacles, fear, time, structural issues, contextual issues, and political barriers to data use. Prevalent among these concerns is how exactly to execute this advancement. The factors model presented overcomes this issue with an emphasis on process not product. This allows agencies to more actively engage in a self-education exercise, which ultimately will help overcome cultural obstacles to data usage. We found that every department and agency within all levels of government is collecting performance data. Whether it is the push to data-driven at the federal level, or the Stat model employed by major cities throughout the United States. Government is using data to predict performance. The challenge is the lack of structure to manage the data and make impactful decisions. Addressing this challenge is the solution we proposed, using factors to structure the data and score it. Weighting sub factors to set the drivers and guiders of information that effect organizational management.

We found that the era of sequestration spotlights the importance of understanding the relationship of adjustment and performance. As we gather data that should align with outcomes for each department, we see that it exposes the levels of decision-making that program managers need to make more frequently. This data is opening the door to give a glimpse of the impact of larger policy decisions and its effects on citizens. The ability of federal managers to have a path to navigate and adjust will make them more effective and efficient.

We found that data by itself does not tell us anything. Without the mechanisms to make decisions with data, it becomes useless. Our survey found that government professional are not using data for decision-making, thus limiting the impact of the information. Data should be used at all levels of government to manage, justify, and communicate its services to the meet the goals of the nation.

We found that federal, state and local government employees need skill enhancement to ensure understanding of the changing scope of management to a more data-driven culture. The use of analytics to shape the goals, strategy, and objectives of organizations impact the entire workforce. Departments are already using Chief Learning Officers to structure modules around data analysis. Yet, the increasing speed of technology and the culture change to data-driven requires a push to ensure continuity of competency.

The direction of management in government is evolving. Increased access and availability to data, combined with shifting budgeting constraints and focus, is forcing government to become smarter. The Third Dimension of Data Analytics is the next stage allowing leadership, executives, and managers to link data to timely, impactful decisions. Using the process, a depth in performance will be added to effectively guide more efficient management.
APPENDICES

REFERENCES


SURVEY METHODOLOGY

The Performance Institute in conjunction with Federal Managers Association conducted a web-based survey of Federal Managers. The survey was administered to a random sample of 3,000 individuals. The survey was initiated on July 23, 2013 and closed on August 26, 2013. A total of four reminders were sent out during this time, yielding a response rate of 10%.
SELECTED SURVEY DATA

What Conceptual Framework Does Your Agency Use To Develop and Implement Performance Measures?

- 39.1%: I do not know if we use a framework.
- 18.7%: We use a framework, but I am uncertain of which one used.
- 13.9%: Balanced Scorecard
- 9.5%: Logic Model
- 5.8%: Multiple Frameworks or Unlisted Framework (please specify)
- 4.4%: We don’t use a framework.
- 2.9%: Malcolm Baldrige Performance Criteria
- 1.5%: We don’t have performance measures.

What is Your GS Grade Equivalent Level?

- 23.4%: GS 13
- 23.4%: GS 14
- 14.1%: GS 11
- 16.0%: 0.4%–0.8%
- 8.2%: 1.6%–2.3%
- 7.4%: 7.4%
- 4%: GS 09
- 3%: SES
- 2%: GS 10
- 2%: GS 07
- 1%: GS 05
- 1%: GS 08
Please Indicate Your Level of Agreement With the Following Statements About Key Measures Within Your Agency.

I am fully aware of the measures used by my agency.

The key measures my organization uses closely track the priority goals of my agency.

My agency’s key measures effectively predict long term success.

The data used for my agency’s key measures are reliable.

There is clear communication from management about how measures are to be used.

Key measures are used to link activities and services around common agency goals.

Team members clearly understand what measures are most important.

The budget process in my agency allows for the use of data to re-allocate and re-position resources.

Key measures are more important in a limited resources environment.

Budget constraints have changed the way key measures are used.
Please Indicate Your Level of Agreement With the Following Statements About Program Evaluation Within Your Agency.

1. I am aware that my agency conducts program evaluations.
2. My agency uses program evaluation to make improvements to Agency processes, programs or policies.
3. My agency uses program evaluation to assess the affect of activities on the agency’s long-term results.
4. My agency’s program evaluations are widely shared with team members.
5. My agency’s program evaluations inform decision-making.
6. There is clear communication from management about how evaluations are to be utilized.
7. My agency’s evaluations are used to determine if programs produce outcomes superior to alternative policy choices.
8. Team members clearly understand how performance measurement and evaluation are integrated.
9. The budget process in my agency allows for the use of evaluation findings to re-allocate and re-position resources.
Please Rate How Well Your Agency Does the Following in Relation to Program Evaluation

- My agency conducts evaluations that span the life cycle of programs and policies
- My agency makes evaluation an integral part of program planning, development and management
- My agency’s evaluations are systematic (e.g., planned and designed to be reliable, credible and useful)
- My agency uses appropriate analytic approaches and methods for the context of the evaluation
- My agency clearly defines the level of rigor expected for each evaluation
- My agency utilizes evaluation experts (internal or external) to conduct evaluations
- My agency takes action based upon evaluation recommendations

Please Rate Your Level of Agreement With the Following Statements

- I believe there is a way to predict the likely success of new programs or policies.
- I believe my agency has the tools necessary to predict the success of new programs or policies.
- My agency uses metrics to determine whether a new program or policy should be initiated.
- My agency uses metrics to estimate the likely effect(s) of a proposed or new program or policy.
- My agency uses metrics to determine the probability of success for existing programs or policies.