The fundamental challenge to an information society is to turn information fragmentation overload into actionable intelligence to support real-time decision-making.

Xiaoyan Zhang, Ph.D.

Today, federal, state and local governments are being forced to "do more with less." This philosophy, though sound in its underlying purpose to be more effective and efficient with limited resources, cannot be properly executed without meaningful, useful information.

In an effort to alleviate information fragmentation overload, we must first analyze the current environment. With the passage of the Government Performance and Results Act (GPRA) in 1993, agencies were forced to implement procedures for data collection so they would be compliant with the new legislation. One of the biggest concerns among decision-makers since then has been maintaining compliance, especially in the field of Health and Human Services. However, a critical error is to design data systems and data collection procedures based upon this mandate alone. The result of this error is that federal, state and local government agencies are now data-rich; however, without thought into cross-agency data utilization, performance and outcomes measurement and monitoring, and the impact on effectively allocating resources, these agencies are in fact information-poor. Data that is collected to satisfy the GPRA mandate alone will not provide the basis for data-driven decision support.

One strategy to meet this challenge was to implement a web-based, real-time, data-driven decision support system that encompasses data collection, management, integration, consolidation, analysis and presentation. During the process, data is organized to become information, and information is processed to form actionable intelligence for decision-making. Government management agencies at all levels are in desperate need of such a system.

When managing federal program funding, a decision-maker needs two essential tools: a Dashboard report for monitoring program implementation, resource allocation and service

provision in real time; and a Scorecard report for evaluating the effectiveness and impact of the funded programs. A web-based reporting service that leverages data from multiple sources is an effective way to modernize the decision- making process. Thus, the Dashboard provides the when and where and to whom of the process; and the outcomes, which are essential to program management, are related back to be processed by the Scorecard.[1]

Web-based, data-driven decision support has been widely utilized by the private industry for a number of years. As a result, many new web technologies for integrating electronic data sources from multiple formats, locations, structures and sizes became mature and well-tested. Two of the most significant technologies are: SOA (Service Oriented Architecture), and Data Mashups. SOA enables custom-developed data systems to retain their own characters while providing their utilities over a common service platform over the Internet. Taking advantage of Web 2.0 technology, Data Mashups combines similar types of media and information from multiple sources into a single representation. It is now the time to combine these new, but mature, IT technologies with government decision-making methodologies to implement an effective, intuitive, agency-wide, or even department-wide, real-time data reporting system in a cost-effective manner.

The following case study provides insight into the actual application of this strategy which is applicable to both federal and state governments.

At KIT Solutions, we had become adept at identifying inefficiencies and gaps in data because of background research and analysis, as well as our willingness to adopt a unique problem-solving approach with customers. For these reasons, we received a phone call from the Director of the Center for Substance Abuse Prevention (CSAP) within the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2005, asking for our help in developing an online process that would allow two federal agencies to jointly manage the Drug Free Communities Program.

Over the years, CSAP had become familiar with our data collection and management methodology, and asked us to get involved with an existing project with the Office of National Drug Control Policy (ONDCP). Through a subcontracting agreement with then Macro International (currently ICF International), we developed a system for the two agencies to help them manage over 700+ Drug Free Community grantees across the country. This system, Coalition Online Management and Evaluation Tool (COMET), further developed our federal relationships and carried us into a second subcontract with Constella Group, LLC., who was then acquired by SRA International.

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[1] Promising Practices in Behavioral Health Quality Improvement: Summary of Key Findings and Lessons Learned http://www.mhsip.org/PromisingPracticesin%20BehavioralHealth082007.pdf

This project subsequently paved the way for other opportunities within HHS, and our relationships with SAMHSA and ONDCP continued to strengthen as we continually evaluated the system for possible efficiencies and improvements. In 2007, after being awarded a "prequalified entity" contract through SAMHSA, their management identified a need to provide a single platform to grantees, the public, CSAP and SAMHSA, whose function was to locate and retrieve prevention-related information, prevention web tools and prevention data in what is now known as the Information Technology Infrastructure Contract — ITIC. The ITIC is today considered by SAMHSA to be an important component of its data- driven decision-making process.

Because of our demonstrated experience in data-driven management support, we were uniquely poised to approach this solicitation in a different manner and took the bold step of proposing our problem-solving approach to amend the statement of work to expand the scope, simplify the contract, and save SAMHSA time and money.

We proposed to not only develop a single, web-based sign-on for stakeholders, but to consolidate 11 legacy data collection and reporting systems that would be utilized to collect and maintain the data that would drive the project and provide management with data-driven decision support.

In 2007, we were awarded the contract, renamed Data Information Technology Infrastructure Contract (DITIC). After we successfully transitioned and stabilized all legacy systems, we proposed to pause and conduct a comprehensive assessment of all inherited IT assets in order to set a new vision and bring the entire data management system to a new level of data-driven decision support aligned with SAMHSA's mission. The result of this assessment led to a refinement of the original scope of work and a successful implementation of an integrated web service portal in two years, greatly exceeding customers' expectations. Since the start of this project in late 2007, we have continued to assess our work and adapt to the needs of SAMHSA. Not surprisingly, data-driven decision-making is now the lynchpin of CSAP's premier best practice in the Strategic Planning Framework.[2]

In summary, eleven legacy data systems developed in different generations of technology over the last decade were modernized and consolidated into an integrated web portal with a Single Sign On (SSO) access management. This platform is really an interface that translates what was formerly fragmented data from many systems into one integrated data system needed for modern decision-making. Thus, the legacy systems retain their look and feel, but can be used to report uniform actionable results accessible by:

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[2] SAMHSA's Strategic Prevention Framework Supports Accountability, Capacity and Effectiveness
http://www.evaluatod.org/resources/SPFSIGEvaluationMaterials/ADAD%20Tools/SPF_Handout.pdf

- CSAP Director and Division Directors
- Branch Chiefs and Project Officers
- CSAP Contractors (Evaluation and TA)
- State and Local Grantees, and
- General Public

The framework below summarizes the concept of Data-Driven Decision Support.