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WHAT TO LOOK FOR IN AN AGENCY-WIDE DATA ANALYTICS PLATFORM

by Ankit Mittal – August 12, 2019

The [President's Management Agenda](#) (PMA) provide guidelines on [Data, Accountability, and Transparency](#), CAP goal #2, for federal agencies to utilize data as a strategic asset to increase the efficiency & effectiveness of the federal government and promote oversight & transparency. Hence, agencies are increasingly determining their needs to modernize their data management, business intelligence and analytics capabilities. After conducting a self-assessment and building an agency-wide data strategy ([Modernizing Business Intelligence via Data Analytics](#)), agencies then need to build a data analytics platform. The agency's Chief Data Officer (CDO) should use a governance framework to ensure that:

- The solution will cater to the agency's variety of business needs
- The solution will support different user sophistication levels

The Business Need

Whether it be grants management, acquisitions, case management, customer relationship management, etc., each agency has a variety of core business needs. For example, in the grants context, an agency needs to answer questions like:

- How to reconcile funds from planning to closeout?
- How are grantees performing?
- Which grantees present the most risk?

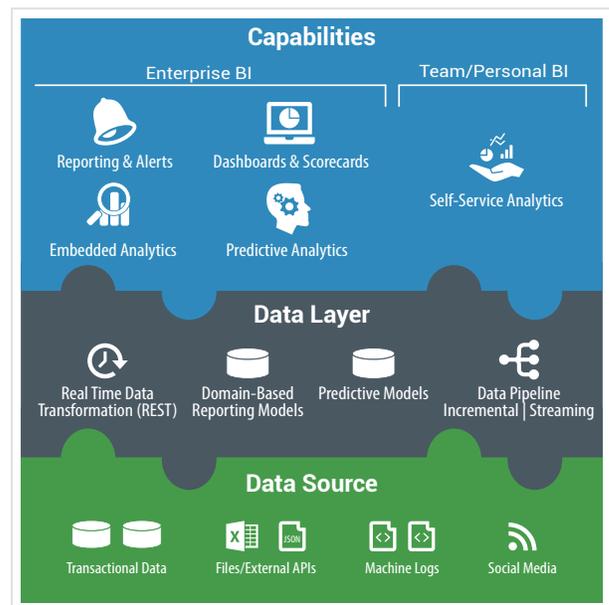
Supporting Different User Roles

Different roles within the agency have different needs and types of question they need to ask in order to support decision making. Staff need to access direct

dashboards and reports, analysts and evaluators will want a self-service capability to generate insights for their team or supervisors, while developers help in integrating data from multiple sources and continuously enhance reporting models. The solution needs to offer executives and managers the big picture about past and current operations for planning and evidence-based decision-making.

Attributes of a Data Analytics Platform

An analytics platform that will support agency-wide data exploration, analysis, & insight generation will have multi-tier structure (see Figure 1, below).



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Data Source: The platform should be tool-agnostic, accepting inputs from different source systems throughout the organization, handling both structured and semi-structured data. This may include data from legacy or modern systems (e.g. financial, grants, case

management systems, etc.) and external sources (e.g. social media, audit reports, surveys, federal data etc.), preferably through efficient API data imports or automatic file imports. Adding the ability to provide search-based analytics in near real-time of machine logs and application error logs offers value for customer support, infrastructure and security management staff. Finally, the addition of social media data, that can then be used for sentiment analysis, offers insights to agencies who may need external information, for example, to prioritize resource deployments and recovery funds after a natural disaster.

Data Layer: This is the area of the platform where the 'data mashups' happen: data fetched from multiple sources gets cleaned, transformed, and stored in easy-to-use formats. The ideal platform should enable these models to be organized by business domains, such as financial, risk, workload, and performance, mapped around organization structure and corresponding to the agency's business lifecycle (planning, application, review, etc.). Adding the ability to transform data in near real time via a microservice-based architecture provides high reusability and cost savings for an agency. Such microservices enable this platform to be easily replicated across other agencies or to incorporate new/unanticipated data sources in future. Such architectures are most suitable & aligned with [DataOps practices](#) that inculcates encourage a culture of continuous integration and deployment within data pipeline and report development process.

Capabilities Layer: The data analytics platform should offer a variety of capabilities that can span across an agency and meet varying business needs. These include intuitive and actionable dashboards and strategic scorecards, powerful analytics embedded in tools used for daily operations (such as a case management system), robust yet nimble self-service analytics, and predictive analytics (perhaps leveraging artificial intelligence). By balancing agility with enterprise grade structures and capabilities, the same platform should be able to scale easily, offering:

- **Enterprise BI:** Bureau/agency-wide dashboards, reports and predictive insights for long-term use cases
- **Team BI:** Reusable insights which are shared with team or interested business users
- **Personal BI:** Self-service analysis and training where sharing may not be required.

The Benefits of an Agency-Wide Data Analytics Platform

The most important outcome of the effort to implement this kind of platform is empowered staff. This tool democratizes the power of insight generation and decision making among the agency staff. They can make evidence-based decisions and, as a result, eliminate the traditional dependency on IT staff. Evidence of this benefit is the case of the [New Data Analytics Platform adopted by HHS' Health Resources and Services Administration](#), which facilitated an increase from six self-service analytics users before the platform was introduced to more than 240 regular users within the 12 months following the platform's introduction.

Another important benefit is that agency leadership can provide increased transparency for their strategic goals, priorities, and results to agency staff as well as OMB, Congress and other stakeholders, through agency-wide dashboards and scorecards. Furthermore, operational dashboards will provide insights into key business process areas for the agency, helping managers identify bottlenecks.

Effective planning will also occur as a result of the combination of diagnostic and predictive analytics. Front-line managers will be able to manage staff workload more effectively, using predictive models to visualize the peaks in the future workload across the year and, accordingly, improve planning and achieve better results with greater efficiency.

This article can be viewed at: <https://www.i360gov.com/government-technology-news/2019/aug/12/what-to-look-for-in-an-agency-wide-data-analytics-platform>



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