Use Data Better, Faster, and Cheaper to Drive Public Value

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SAP SAPPHIRE May 16, 2013
Public sector organizations can’t solve complex horizontal problems with vertical solutions, nor by simply accomplishing bureaucratic activities better.

The role of the public sector is being transformed from direct service provider to generator of public value.

We won’t get the results taxpayers deserve, nor citizens require, until we figure out how to better manage a public sector that uses data better to hold itself and third parties accountable.
Problems Are No Longer Vertical
The Perfect Technology Storm

Possible & Practical

Everyone has mobile devices

Cloud computing reduces startup costs

Proliferation of data and advanced tools to integrate

Maturity in techniques to mine unstructured data

Budgetary pressures require efficiency improvements

Analytics success in public & private sectors
Proliferation of Mobile Devices

- Handheld devices can provide decision support to field workers and real-time supervision to managers.
- Constituents as sensors: everyone has mobile devices, allowing access to information and GIS-stamped reports and Tweets.
Cloud Computing

• Even smaller organizations can access high-quality technology through SaaS

• Organizations can get out of the infrastructure business and into the solution business
Data Mining: HR as an Example

- Electronic time and attendance systems produce more than compliance information.
- Field workers—teachers, bus drivers, street and public works employees, public safety, child welfare—are the backbone of our society.
- Connecting digital time and attendance to work flow systems allows insights into information.
  - Overtime scheduling
  - Time on task
  - Productivity analysis
  - Route and labor assignments
  - Time on task by division, area and worker
Grade.DC.Gov

- Distills various forms of customer feedback into a letter grade for each agency

- Uses an algorithm that takes into account comments submitted through the website, texts, and via social media

- Social media mining captures input from a broader set of customers.
Data Analytics

• **Predictive Analyses**
  By highlighting common issues before they occur

  *Question*: What factors make a building most at risk for fires?

• **Root Cause Analyses**
  By providing insights that explain common incidents

  *Question*: Why are there frequent accidents at certain intersections? Which individuals best benefit from job training?

• **Increased Accountability**
  By monitoring areas for improvement

  *Question*: Which inspectors are behind schedule?

• **Improved Operational Management**
  By providing data-driven solutions to promote more effective business processes

  *Question*: What are the best routes for vehicles to take?
Using Data Analytics: Spend Management / Do Not Pay
# Using Data Analytics: Revenue Discovery

## Adaptive Search - PA Dept. Of Revenue

**Advanced by SAP In-Memory Computing.**

### Search History

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### Top 10 Results

- Map data ©2017 Google

### Reference Data: 99111

**Result Data:** 8

**Search Data:** 18375251
Using Data Analytics: Fraud Waste and Abuse
The University of Kentucky uses a real-time data platform from SAP to integrate data sources, improve student retention through earlier intervention, and gain insight into finances and resource use.
Child Welfare Example

Data Mining - HANA
- Automated Voice Response
- Internet/Web
- Mobile phone/data/picture
- Bar Code/GPS
- Point of Service Device

Alerts/Dashboards/Decision Support for Outcomes
- Caseworker
- Court/law enforcement
- Supervisor
- Caregiver

Billing/Epayment/EBT

Decision Support

Device Agnostic

Caseworker

Guardian

Previous Cases

School

Police

Medical

Counselor

Child Welfare Example
Goals

1. Reduce risks and improve outcomes for children in need of services
   - Monitor required daily events
   - Provide immediate alerts for potentially dangerous situations
   - Increase the integrity of visits
   - Increase the quality of discretionary decisions through the application of decision support

2. Improve caseworker tools, processes, and efficiency
   - Simplify and automate communication and documentation in the field
   - Provide caseworkers “exception reports” when ordered events did not occur
   - Engage network of community stakeholders
   - Reduce inefficiency and red tape by eliminating millions of pieces of paper
Frequent, reportable events
- Account for every child every day (via school, daycare, etc.)
- Verify monthly caseworker visits
- Minimize time child is unaccounted for
- Enlist help of stakeholders throughout the community
- Report monthly tracking results to caseworkers

Proactive alerting and intervention
- Respond to irregularities and missed events before crises occur
- Automate escalation to management and stakeholders
- Disseminate immediate risk alerts to appropriate responders

Visit verification
- Track date, time, and GPS location for every contact
- Photograph child during each visit
- Identify in-home individual

Enhanced data collection and use
- Maximize federal funding
- Replace millions of pieces of paper with secure electronic data
The Newly Empowered Worker

- The routine is automated—the smart field worker
- Discretion and accountability both possible
- Work vertically; think horizontally
- In Rem memory increases problem solving
- Predictive analytics allow problem preemption
- Performance measurement, transparency, and stat programs at a new level
- The 20% rule—everything can be improved 20%:
  - Children’s well-being
  - Tax revenue recognized
  - Risks cured, accidents prevented
  - Waste, fraud and abuse reduced
Learn more at
www.datasmartcitysolutions.org