About NASCIO

- National association representing state chief information officers and information technology executives from the states, territories and D.C.
- Founded in 1969 – we’re a legacy system
- NASCIO's mission is to foster government excellence through quality business practices, information management, and technology policy.
Characteristics of Big Data

Volume
Variability
Velocity
Complexity
Variety
The Reality of State Data Today
## Government Data Landscape

- Data stored across multiple systems from multiple agencies in multiple formats
- Data quality issues: dirty and messy
- Lack of standards, consistency
- Data sharing is difficult – format, language, access, culture, myths
- Security concerns and privacy issues
- Little insightful, usable data on “customers”
Major Changes in State Data

- Structured
- Semi-structured
- Unstructured

Sources and Format Changing Dramatically
Data mining to identify undiscovered patterns and establish hidden relationships

Data analytics seeks to uncover insights and provide understanding quickly

Using these tools with Big Data sources offers new capabilities and insights

High potential for improved service delivery, cost savings, operational improvement
Few states are “highly invested” in data analytics and big data capabilities today.

Tactical and successful implementations in agencies.

Primary focus on fraud, abuse, improper payments, recovery.

General lack of strategic focus, enterprise orientation, data architecture, privacy impacts.
• **Substantial budget cuts:** detecting improper healthcare payments before they occur

• **Lifesaving potential:** aggregate information about healthcare outcomes to reveal patterns

• **Crime reduction:** Police using Big Data technology to develop predictive models about when and where crimes are likely to occur

• **Enhanced quality of life:** gaining insight into huge volumes of data across agencies, the government can provide improved, personalized services to citizens

Source: Big Data and the Public Sector, TechAmerica Foundation, 2012
Data Analytics and use of Big Data: High Value Targets

1. Human Services
2. Healthcare
3. Revenue and Taxes
4. Finance, Administration, Procurement
5. Transportation
6. K-12 Education
7. Labor and Unemployment
8. Justice and Law Enforcement
9. Economic Development
10. Higher Education
Big Data: Insights from State CIOs
**Figure 19**
What is the current utilization and deployment of BI/BA within your state government?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>State is already highly invested in BI/BA and has substantial capabilities</td>
</tr>
<tr>
<td>65%</td>
<td>State has some BI/BA capabilities in certain agencies</td>
</tr>
<tr>
<td>15%</td>
<td>State is still investigating BI/BA solutions</td>
</tr>
<tr>
<td>6%</td>
<td>State has no investment in BI/BA</td>
</tr>
<tr>
<td>4%</td>
<td>Other</td>
</tr>
</tbody>
</table>

- State is already highly invested in BI/BA and has substantial capabilities
- State has some BI/BA capabilities in certain agencies
- State is still investigating BI/BA solutions
- State has no investment in BI/BA
- Other
Status of Big Data in the States

- Still investigating opportunities for big data: 41%
- Big data project underway in one agency: 8%
- Several big data projects underway: 12%
- Big data project underway involving multiple agencies: 14%
- No activity at this time: 21%
- Don't know: 4%
Indiana: Can Big Data Reduce Infant Mortality?

- Gov. Pence executive order creating a Management and Performance Hub (MPH) for all agencies
- Coordinated effort among the state's agencies, the Indiana OIT and state OMB
- MPH will provide centralized data sharing, correlation and analysis for the state in areas where multiple agencies must work together
- Initial focus: a major public health issue in Indiana
Pilot: Reduce infant mortality; data from multiple state agencies

Combine 50-60 disparate databases for analytics and new insights

Answer the questions: What? Where? Why?
Demonstrating Outcomes: State Examples

- KY uses data mining and analytics to track controlled substance usage patterns and develop predictive geographic models to focus resources on “hot spots”
- MI uses data analytics and case management to reduce unemployment fraud and overpayments
- NC uses mining and analytics to combat Medicaid abuse and netted more than $20 million in just five months
- NY state has saved more than $1 billion in 10 years with an analytics program designed to spot tax cheats
States Need Intent, Architecture, Policies, Processes and Methods to be Successful
Big Data and States: Looking Ahead...

- Need enterprise imperative and governance
- Focus: start small with confined target and scale
- Understand security and privacy implications
- Power of visualization and dashboards for transparency
- Challenges with state skill sets, competencies, recruiting
- Expect surprises and unintended consequences!
Technology is neither good nor bad; 
*nor is it neutral.*

Melvin Kranzberg