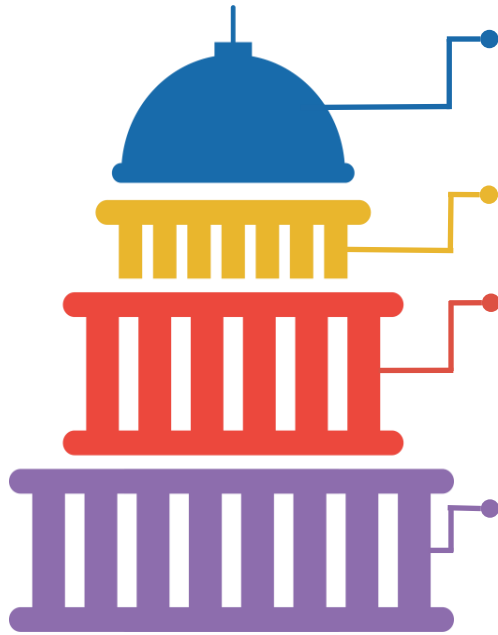# Lean Data Governance, Analytics and Visualization

Discussion Outline

- ✓ OST Background

- ✓ Current State

- ✓ Data Lifecycle

- ✓ Governance, Analytics & Visualization

- ✓ Lean Approach

- ✓ Conclusion

Who We Are

WHO WE SERVE

80% Federal Government

20% State and Local Government

TOP SECRET

Facility Clearance

CERTIFICATIONS & APPRAISALS

CMMI DEV Level 5 | CMMI Service Level 3

ITIL V3-1 | SAFe/Agile/DevSecOps | AWS Cloud

ISO:9001:2008 | ISO standards 27001, 20000, 10002

OUR KEY POINTS

- 550+ Employees, 2000+ Total Staff
- Incorporated in 1999

- Supporting Federal, State, Local
- Transformational and innovative solutions

AI/Machine Learning

Data Fusion, Correlation & Visualization

Anomaly Detection

Cyber Security

Asset/Resource Management

DATA is EVERYTHING & EVERYTHING is DATA

Too Much Data…

224 billion emails are sent/day

50 billion messages/day

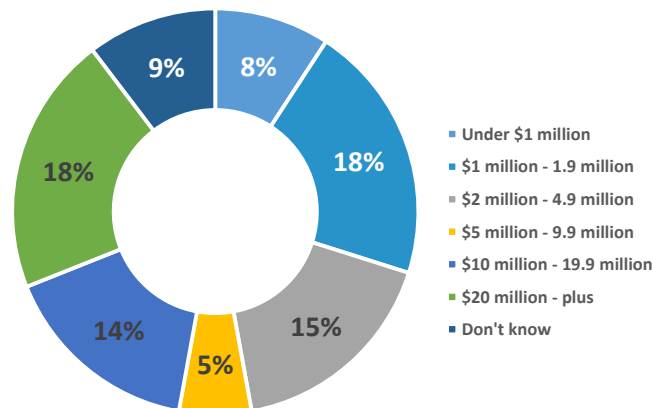**23** billion SMS/day

5 billion searches/day

1.5 billion people on Facebook daily

90% *of all data has been created in the last two years…*

Too Many Data Issues…

Typical annual cost of Data related Issues

Unmanageable
Governance
Static
Overlapping Inaccurate
Disparate Obsolete
Too-much Quality
Silos Data
Issues
Unbalanced Context
Inconsistent
Inefficient

- Under $1 million
- $1 million - 1.9 million
- $2 million - 4.9 million
- $5 million - 9.9 million
- $10 million - 19.9 million
- $20 million - plus
- Don't know

9% | 8%
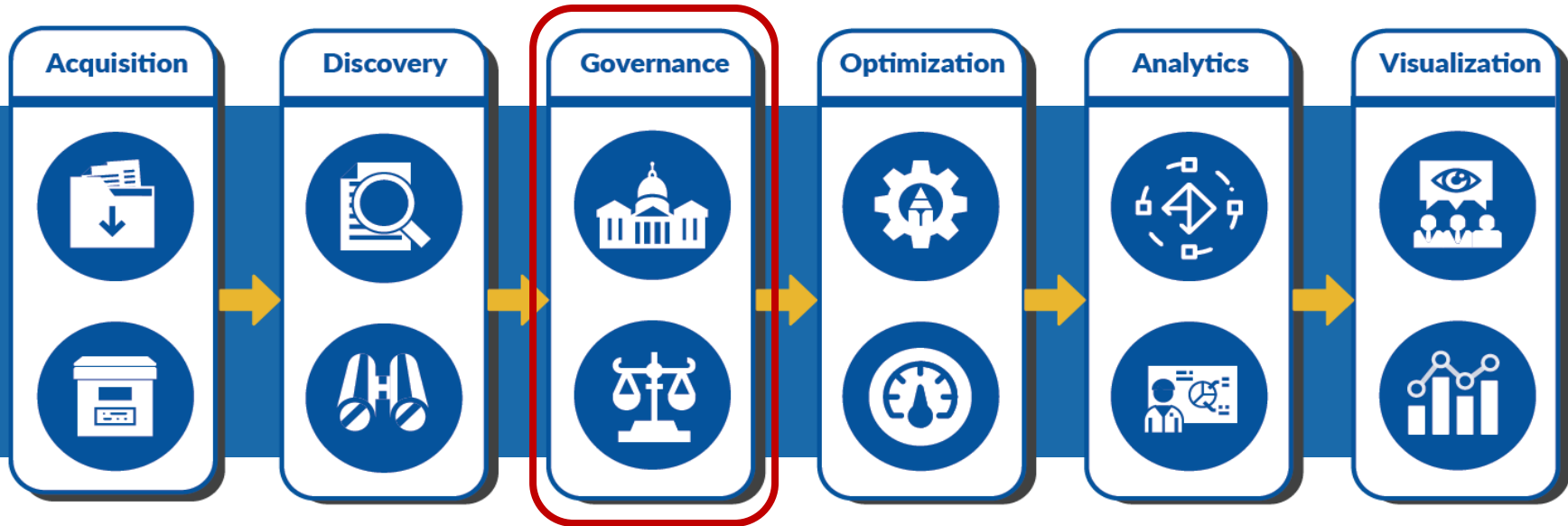18%
18%
14% | 5% | 15%

Source: https://www.forbes.com

Data-related problems cost the majority of companies more than $5 million annually…

HOW DO WE CONVERT DATA INTO ACTIONABLE INSIGHTS

Data Lifecycle

Data Lifecycle
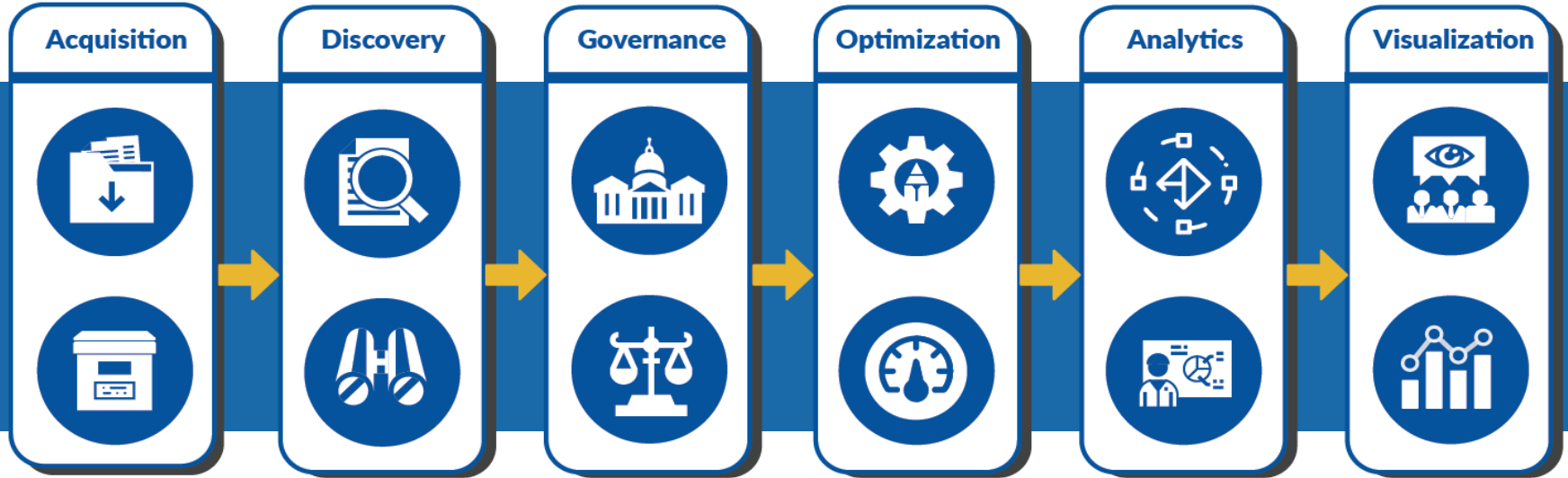
An effective data governance can be the difference between SUCCESS and FAILURE

OST Data Governance Framework

Data Warehouse & Business Intelligence Management
- Architecture
- Implementation
- Monitoring
- Training & Support
- Data Mining
- Predictive Analytics

Data Architecture Management
- Value Chain Analysis
- Enterprise Architecture
- Related Architectures

Data Development
- Data Analysis
- Data Modeling
- Database Design
- Implementation

Data Security Management
- Standards
- Classifications
- Administration
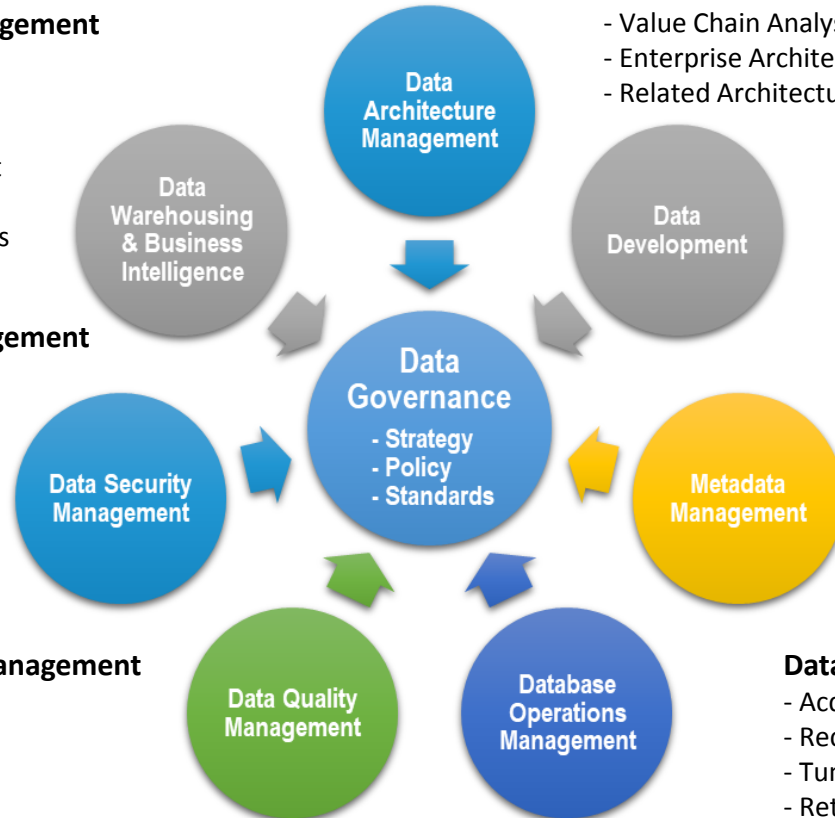- Authentication
- Auditing

Metadata Management
- Architecture
- Integration
- Control
- Delivery

Data Quality Management
- Specification
- Analysis
- Measurement
- Improvement

Database Operations Management
- Acquisition
- Recovery
- Tuning
- Retention

Data Architecture Management

Data Warehousing & Business Intelligence

Data Development

Data Governance
- Strategy
- Policy
- Standards

Data Security Management

Metadata Management

Data Quality Management

Database Operations Management

OST
CONVERGING MISSION, INNOVATION, AND TECHNOLOGY

Citation: https://dama.org/

The Lean Way

- ✔ Start with defining the Business Impact
- ✔ Acquire the data you really need – Actively reduce data volumes
- ✔ Implement right data and analytics governance
- ✔ Flexible architecture for greater consistency, reuse, and adaptability
- ✔ Automation and embedded rules to ease data governance
- ✔ Promote self-organizing and self-governing teams
- ✔ Ongoing learning and refinement based on real data

One Size Does Not Fit ALL

Complexity / Maturity

Autonomous — AI Algorithms, Real-Time OT, Information Markets, Blockchain, IoT, Real-Time Auditing

Agility — Data Science Labs, Machine Learning for Data Quality, Self-Service Models, Information Product Management

Outcomes — Predictive Analytics, Multichannel Customer Experience, Customer 360, Supply Chain Analytics

Control — Regulatory and Compliance, Master Data Management, Application Data Management

Source: https://www.gartner.com

Adaptive Data and Analytics Governance should be based on organizational capability that will deliver required business outcomes…

Visualization – Learn From the BEST
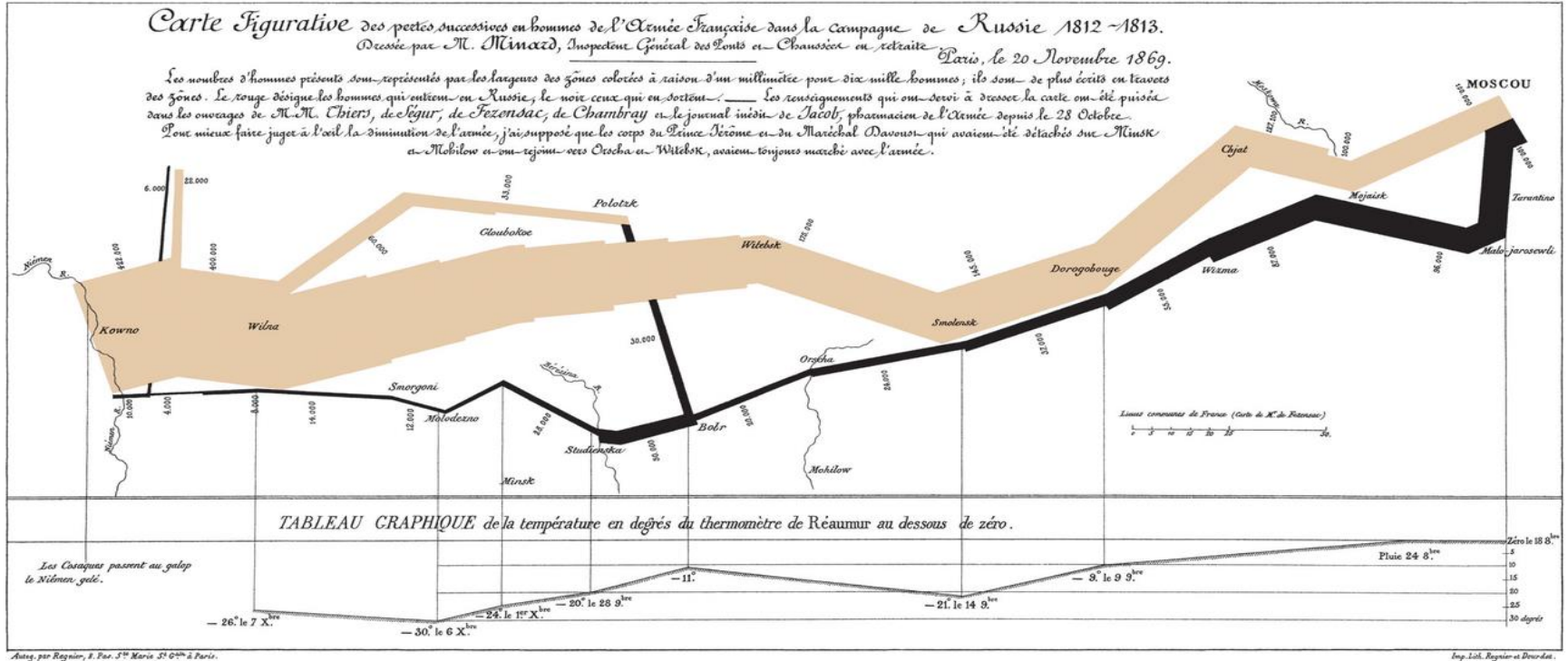
The famous (well, geek famous) infographic depicting Napoleon's disastrous campaign into (and out of) Russia in the War of 1812, created by Charles Joseph Minard

Bottom Line

Data is our most valuable asset

To avoid the cost of inaccurate decisions and drive successful business outcomes, organizations need to implement the right data governance, analytics and visualization…

"In God we trust. All others must bring data."

– W. Edwards Deming

Thank You

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