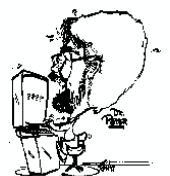Key Elements of a
Successful Data Governance Program

Peter Aiken, Ph.D.

- I've been doing this a long time
- My work is recognized as useful
- Associate Professor of IS (vcu.edu)
- Institute for Defense Analyses (ida.org)
- DAMA International (dama.org)
- MIT CDO Society (iscdo.org)
- Anything Awesome (anythingawesome.com)
- Experienced w/ 500+ data management practices worldwide
- 12 books and dozens of articles
- Multi-year immersions
  - US DoD (DISA/Army/Marines/DLA)
  - Nokia
  - Deutsche Bank
  - Wells Fargo
  - Walmart
  - HUD …

$1,500,000,000.00 USD

Program Overview

- Data's Confounding Characteristics
  - Uneven understanding
  - Has lead fractured views of data and to
  - Increasing organizational data debt
1. Keeping DG practically focused on strategy
   - This is a young profession and must
   - Directly support organizational strategy by
   - Improving data and its use in the short and long term
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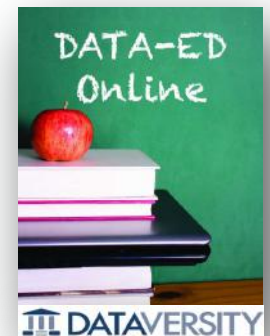3. Gradually add ingredients (practicing and getting better)
   - Digital and data are dependent on high speed automation/data processing
   - Employ a DG Frameworks to refine focus
   - Plan to evolve (PDCA)
4. Data governance in action: Storytelling
- Take Aways/References/Q&A

Key Elements of a Successful Data Governance Program

DATA-ED Online

DATAVERSITY

Data is not broadly or widely understood
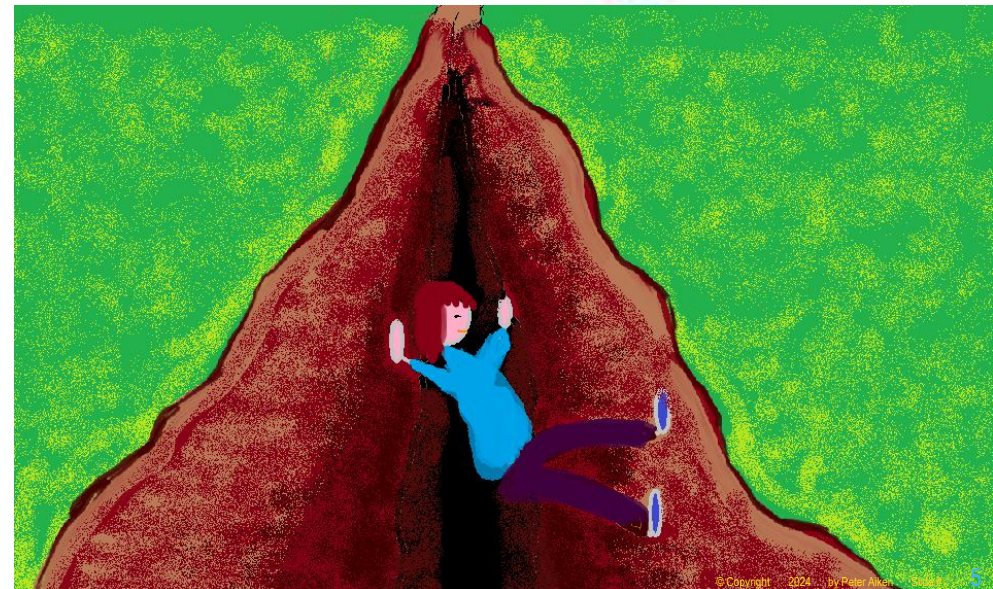

Blind Persons and the Elephant

adapted from: http://www.dailymirror.lk/print/opinion/editorial-we-need-to-become-channels-of-peace/172-27164

Confusion as to data responsibility

- IT thinks data is a business problem
  - *"If they can connect to the server, then my job is done!"*
- The business thinks IT is managing data adequately
  - *"Who else would be taking care of it?"*

# The Princess on the Pea

by
Hans Christian Andersen

Sleepless (forever?)

Doing a poor job with data governance

- Failure to understand the role of data governance re: proposed <u>and</u> existing software/services
    - Locks in imperfections for the life of the application
    - Restricts data investment benefits
    - Decreases organizational data leverage
- Accounts for 20-40% of IT budgets devoted to evolving
    - Data migration (Changing the data location)
    - Data conversion (Changing data form, state, or product)
    - Data improving (Inspecting and manipulating, or re-keying data to prepare it for subsequent use)
- Lack of data governance causes everything else to
    - Take longer
    - Cost more
    - Deliver less
    - Present greater risk (with thanks to Tom DeMarco)
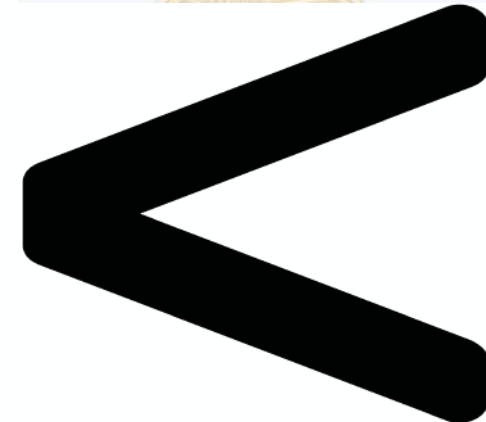
Separating the Wheat from the Chaff

Is well organized data worth more?

DATA ROT EXPLAINED
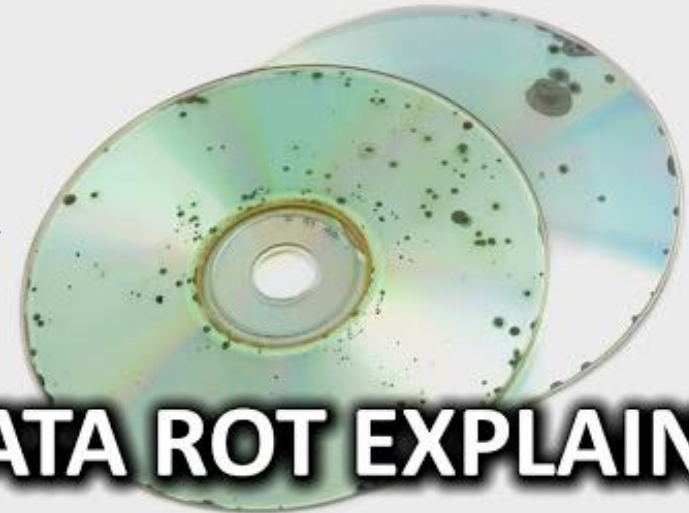
Pre-Information Age Metadata

- Examples of information architecture achievements that happened well before the information age:

  – Page numbering

  – Alphabetical order

  – Table of contents

  – Indexes

  – Lexicons

  – Maps

  – Diagrams

HOW TO MAKE SENSE OF ANY MESS

Abby Covert

"While we can arrange things with the intent to communicate certain information, we can't actually make information. Our users do that for us."

Example from: *How to make sense of any mess* by Abby Covert (2014) ISBN: 1500615994

https://www.youtube.com/watch?v=60oD1TDzAXQ&feature=emb_logo

https://www.youtube.com/watch?v=r10Sod44rME&t=1s

https://www.youtube.com/watch?v=XD2OkDPAl6s

DATA ROT EXPLAINED

Remove the structure and things fall apart rapidly

- Better organized data increases in value
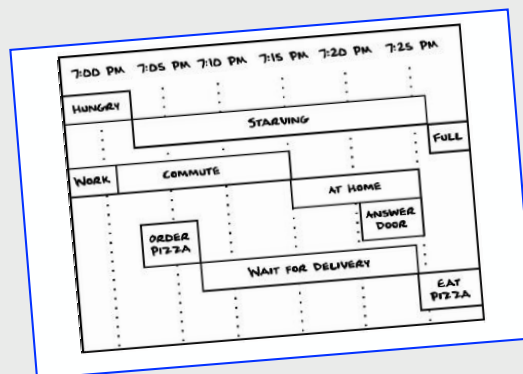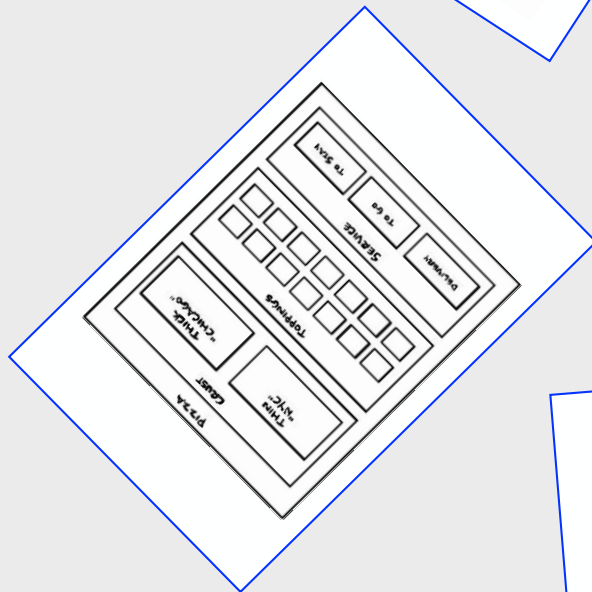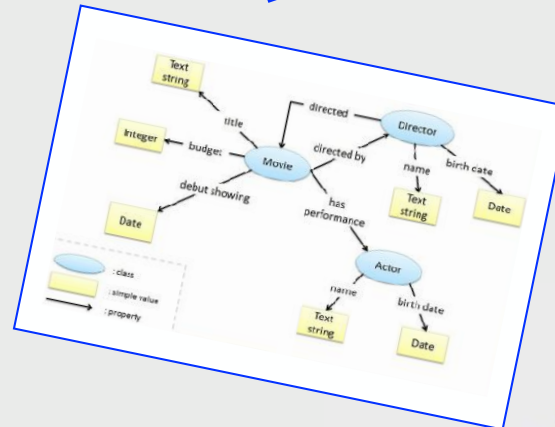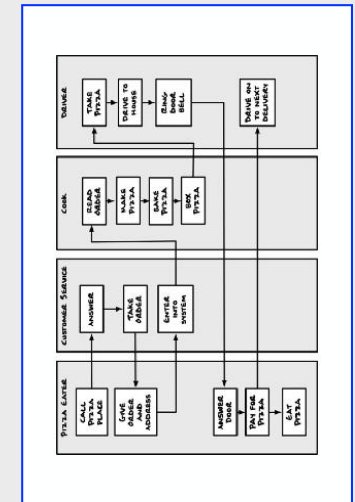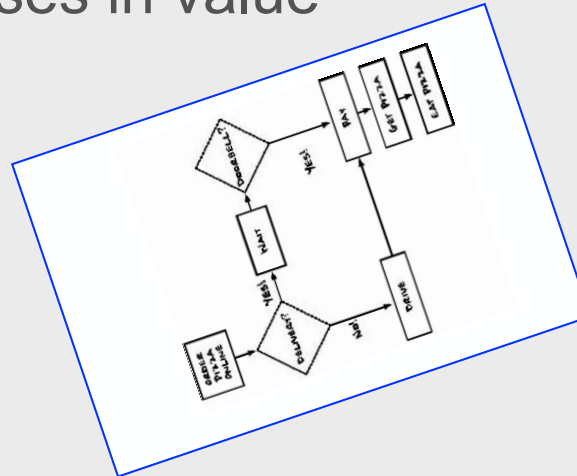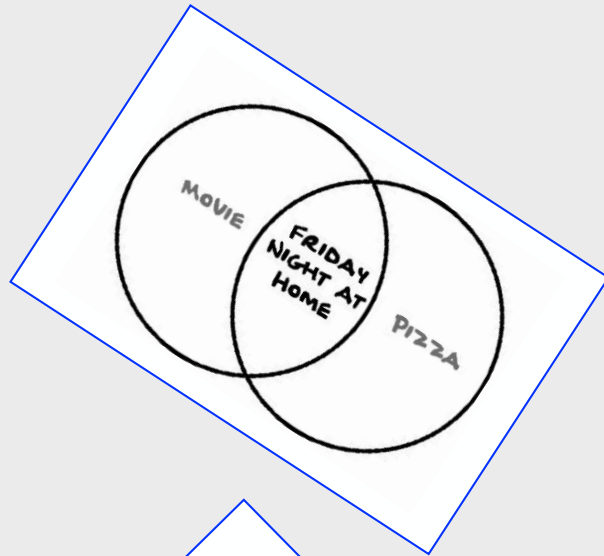
Organizing the Wheat Separated from the Chaff

- Better organized data increases in value

- Poor data management practices are costing organizations money/time/effort

- 80% of organizational data is **ROT**

  - **R**edundant

  - **O**bsolete

  - **T**rivial

- The question is which data to eliminate?

  - Most enterprise data is never analyzed

DATA ROT EXPLAINED

You must address data debt proactively

Data debt:
- Slows progress
- Decreases quality
- Increases costs
- Presents greater risks

- Data debt
  - The time and effort it will take to return your shared data to a governed state from its (likely) current state of ungoverned
- Getting back to zero
  - Involves undoing existing stuff
  - Likely new skills are required

Deliberate

2. Resistance - Data standards slow me down	4. Rationale - Business pressures require we proceed
1. Data illiterate- What's a taxonomy?	3. Realization - The cost of BI and data handling is silly

Reckless ← → Prudent

Inadvertent

How to Get Rid of Your Data Debt
Five steps to identify, classify and eliminate excess data
TACKLE YOUR DEBT
NTT DATA

https://uk.nttdataservices.com/en/blog/2020/february/how-to-get-rid-of-your-data-debt

https://johnladley.com/a-bit-more-on-data-debt/

https://www.merkleinc.com/blog/are-you-buried-alive-data-debt

It is not as easy to visualize the cost of Data Debt or that it depletes organizational resources:
- Slowing progress
- Decreasing quality
- Increasing costs
- Presenting greater risks

Keep the proper focus

- Wrong question:

  – How should we govern all this data?

- Right question:

  – Should we include this data item within the scope of our current data govenance practices?

focus target

region of focus

line of sight for autofocus sensor

chart

In-focus area on chart

- Regardless of the decision, document why!

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Key Elements of a Successful Data Governance Program

DATA-ED Online

III DATAVERSITY

How old is your profession?

The Hymn to Ninkasi, inscribed on a nineteenth-century B.C. tablet, contains a recipe for Sumerian beer.

- 8,000+ years
- formalize practices
- GAAP

GAAP
Generally
Accepted
Accounting
Principles

Rules · Standards · Procedures

Augusta Ada King
Countess of Lovelace
(1815-52)
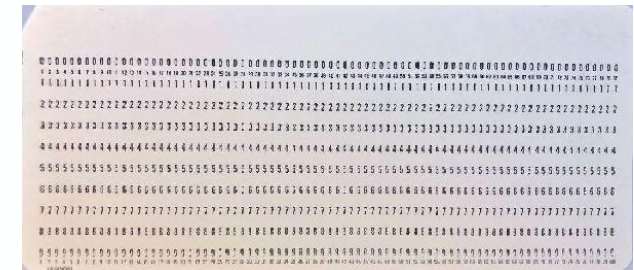
Current approaches are not and have not been working

What We Learned From Top Execs About Their Big Data And AI Initiatives

Randy Bean Contributor
CIO Network Contributor Group ⓘ
Enterprise & Cloud

Culture still eats strategy for breakfast

This aphorism is attributed to legendary management consultant Peter Drucker, and it certainly appears to hold true for data transformation efforts. Leading companies continue to identify culture – people, process, organization, change management – as the biggest impediment to becoming data-driven organizations – 92.2%. Few companies – only 30.0% – have even developed a well-articulated data strategy that culture could eat for breakfast. There is plenty of work to be done.
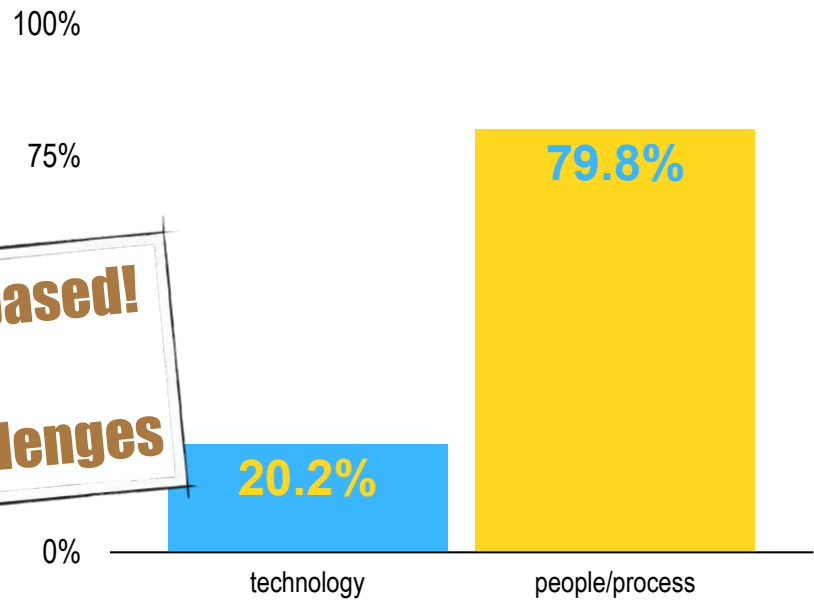
80% of data challenges are people/process based!
&
DG is the only resource to address these challenges

	technology	people/process
	20.2%	79.8%

2023

	Yes	No
Driving Innovation with Data	60%	
Competing on data and analytics	41%	
Managing data as a business asset	40%	
Created a data-driven organization	24%	
Forged a data culture	21%	

Legend: ■ Yes ■ No

25% 50% 75% 100%

Source: Big Data and AI Executive Survey by Randy Bean and Thomas Davenport: www.newvantage.com
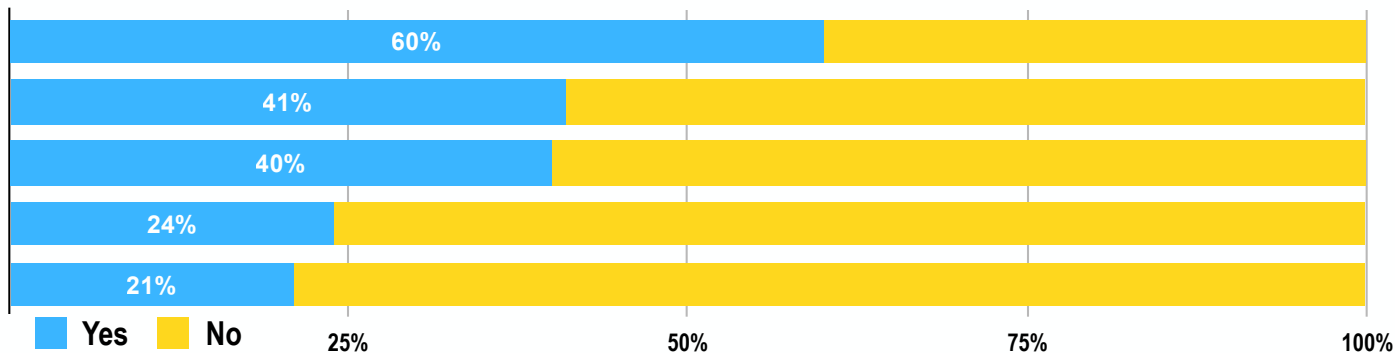
Corporate Governance

- "Corporate governance - which can be defined narrowly as the relationship of a company to its shareholders or, more broadly, as its relationship to society….",
  Financial Times, 1997.

- "Corporate governance is about promoting corporate fairness, transparency and accountability"
  James Wolfensohn, World Bank,
  President Financial Times, June 1999.

- "Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment",
  The Journal of Finance, Shleifer and Vishny, 1997.

IT Governance

- "Putting structure around how organizations align IT strategy with business strategy, ensuring that companies stay on track to achieve their strategies and goals, and implementing good ways to measure IT's performance.

- It makes sure that all stakeholders' interests are taken into account and that processes provide measurable results.

- Framework should answer some key questions, such as how the IT department is functioning overall, what key metrics management needs and what return IT is giving back to the business from the investment it's making." CIO Magazine (May 2007)

- IT Governance Institute, 5 foci:
  - Strategic Alignment
  - Value Delivery
  - Resource Management
  - Risk Management
  - Performance Measures

7 Data Governance Definitions

- The formal orchestration of people, process, and technology to enable an organization to leverage data as an enterprise asset – **The MDM Institute**

- A convergence of data quality, data management, business process management, and risk management surrounding the handling of data in an organization – **Wikipedia**

- A system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods – **Data Governance Institute**

- The execution and enforcement of authority over the management of data assets and the performance of data functions – **KiK Consulting**

- A quality control discipline for assessing, managing, using, improving, monitoring, maintaining, and protecting organizational information – **IBM Data Governance Council**

- Data governance is the formulation of policy to optimize, secure, and leverage information as an enterprise asset by aligning the objectives of multiple functions – **Sunil Soares**

- The exercise of authority and control over the management of data assets – **DM BoK**

Managing Data with Guidance

Go Ask Anyone!™

Would you want your sole, non-depletable, non-degrading, durable, strategic asset managed without guidance?

Bad Data Decisions Spiral

NEWS FLASH!

46% of companies report they made an inaccurate business decision based on bad or outdated data. Bad data leads to bad business decisions. Companies need to be careful that their data is sound – especially when dealing with investors.

Like Comment Share

46%

Bad Data Decisions Spiral

```
Business decision          Technical decision
makers are not data        makers are not data
knowledgable               knowledgable
              ↓
        Bad data decisions
              ↓
Poor treatment              Poor
of organizational           quality
data assets                 data
              ↓
   Poor organizational outcomes
```

THIS IS WRONG
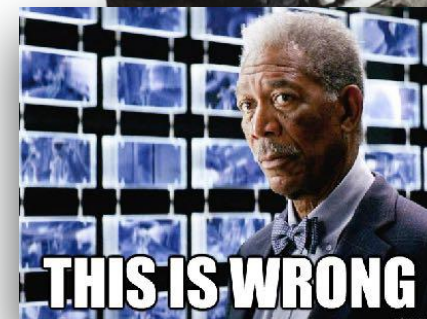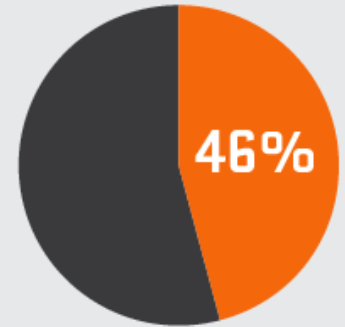
Three Key Data Governance Questions

1. Is the quality of the data in the new system forecast to be of better quality than the data in the old system?

    –   Lift and shift does not improve data quality

2. Are we able to formulate plans to obtain significant new value from this data in the new system?

    –   If not we are lacking required specificity

3. Does this afford us an opportunity to consolidate data and data types?

    –   Many system capabilities meet 'requirements' - looking at the opportunity to simplify an existing environment provides additional value
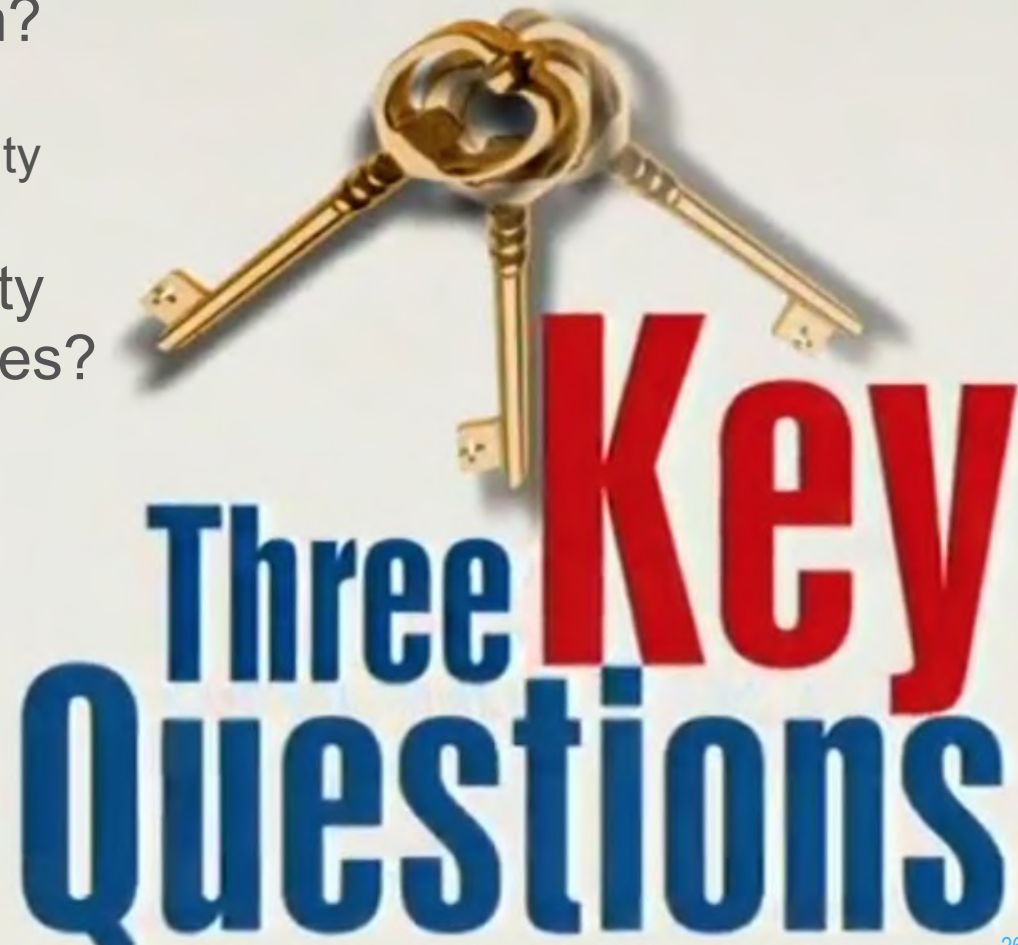
American Airlines

UNITED AIRLINES

- $6b market value
- $30b AAdvantage

- $9b market value
- $22b MileagePlus

EDITORS' PICK | Jul 15, 2020, 09:00am EDT

How Airlines Make Billions From Monetizing Frequent Flyer Programs

JT Genter Advisor Contributor
Advisor Contributor Group ⓘ
Personal Finance

How to unlock $24b and $13b in data value?

https://anythingawesome.com

https://www.forbes.com/sites/advisor/2020/07/15/how-airlines-make-billions-from-monetizing-frequent-flyer-programs/?sh=66da87a614e9

© Copyright   2024   by Peter Aiken   Slide #   27

How to determine what to manage formally?

Too much requires expensive and slow bureaucracy ←   → Too little misses opportunities

All inputs are data

The Organizational Data Machine

All outputs are data

Interoperability **is the primary value determinant**

A Data Steward's Goal/Process

Too much requires expensive and slow bureaucracy ←   → Too little misses opportunities

All inputs are data

Known

Unknown

All outputs are data

Interoperability is the primary value determinant

A Data Steward's Goal/Process

Too much requires expensive and slow bureaucracy ←

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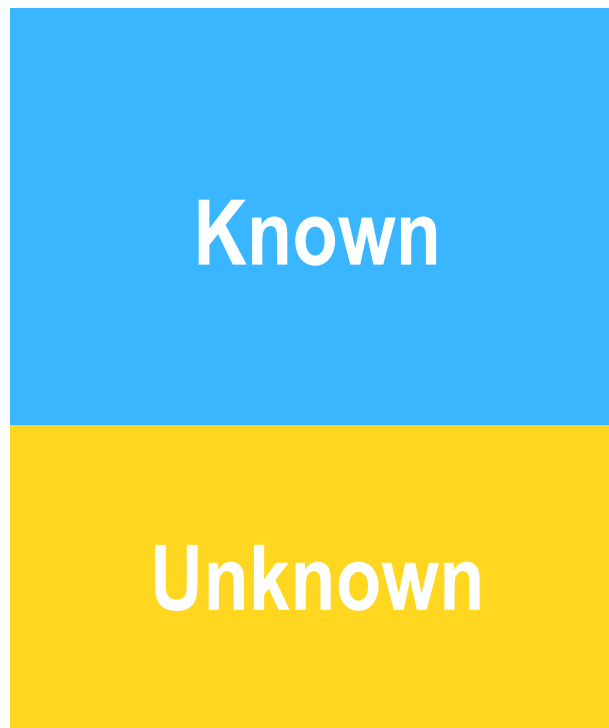
All outputs are data

Interoperability is the primary value determinant

What is Strategy?

Use over time for: Strategy

strat·e·gy
/ˈstratəjē/

noun

1. a plan of action or policy designed to achieve a major or overall aim.
   "time to develop a coherent economic strategy"
   synonyms: master plan, grand design, game plan, plan (of action), action plan, policy, program; More

A thing

- Current use derived from military
  - **a pattern in a stream of decisions**
    [Henry Mintzberg]
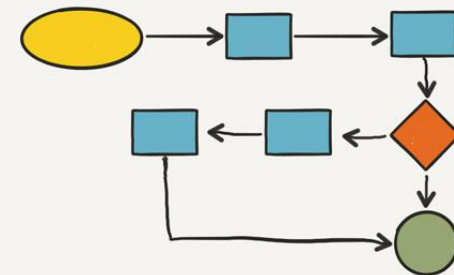
PROCESS

Every Day Low Price

Wayne Gretzky's Strategy

He skates to where he thinks the puck will be ...

Strategy Example 3

Good Guys
(Us)

Bad Guys
(Them)

Strategy Example 3

Good Guys
(Us)

Bad Guys
(Them)

Strategy Example 3

Bad Guys
(Them)

Good Guys
(Us)

A pattern in a stream of decisions

Complex Data Governance Environment

DATA COMMISSION

| EXECUTIVE |
| Region representatives |
| LEGISLATIVE |
| JUDICIAL |

Advise Governor

Data sharing and analytics
- Identify goals and objectives
- Prioritize initiatives
- Study & report
- Recommend changes to budget and code

TRUSTEE

execute

- Define, approve, and communicate data strategies, policies, standards, rules, guidelines, & best practices
- Provide a governance, policy, and technology framework
- Define agency data governance responsibilities
- Encourage & facilitate data sharing
- Facilitate coordination to prevent duplication
- Coordinate policy and technology proposals and recommendations
- Administer and manage the commonwealth data trust
- Track and enforce compliance and conformance
- Oversee dissemination of open data

Data Governance Council

- Liaise between agency operations & CDO
- Advise CDO on technology, policy, and governance strategies
- Administer data governance policies set by the board
- implement data sharing & analytics projects
- Review open data assets
- Report progress & compliance to the Board

Advise CDO

Executive data board

- Translate commonwealth goals to agency performance targets
- provide resources
- Remove organizational obstacles
- appoint data governance council members
- Oversee the data governance council
- Oversee data sharing & analytics projects

Oversee council

Your Data Strategy

- Highest level data guidance available ...

- Focusing data activities on business-goal achievement ...

- Providing guidance when faced with a stream of decisions or uncertainties

  - Data strategy most usefully articulates how data can be best used to support organizational strategy

  - This usually involves a balance of remediation and proactive measures

YOUR DATA STRATEGY

Making It Concise, Actionable, and Understandable by Business and IT!

Peter H. Aiken • Todd Harbour

Digital Literacy Series

Foreword by Micheline Casey
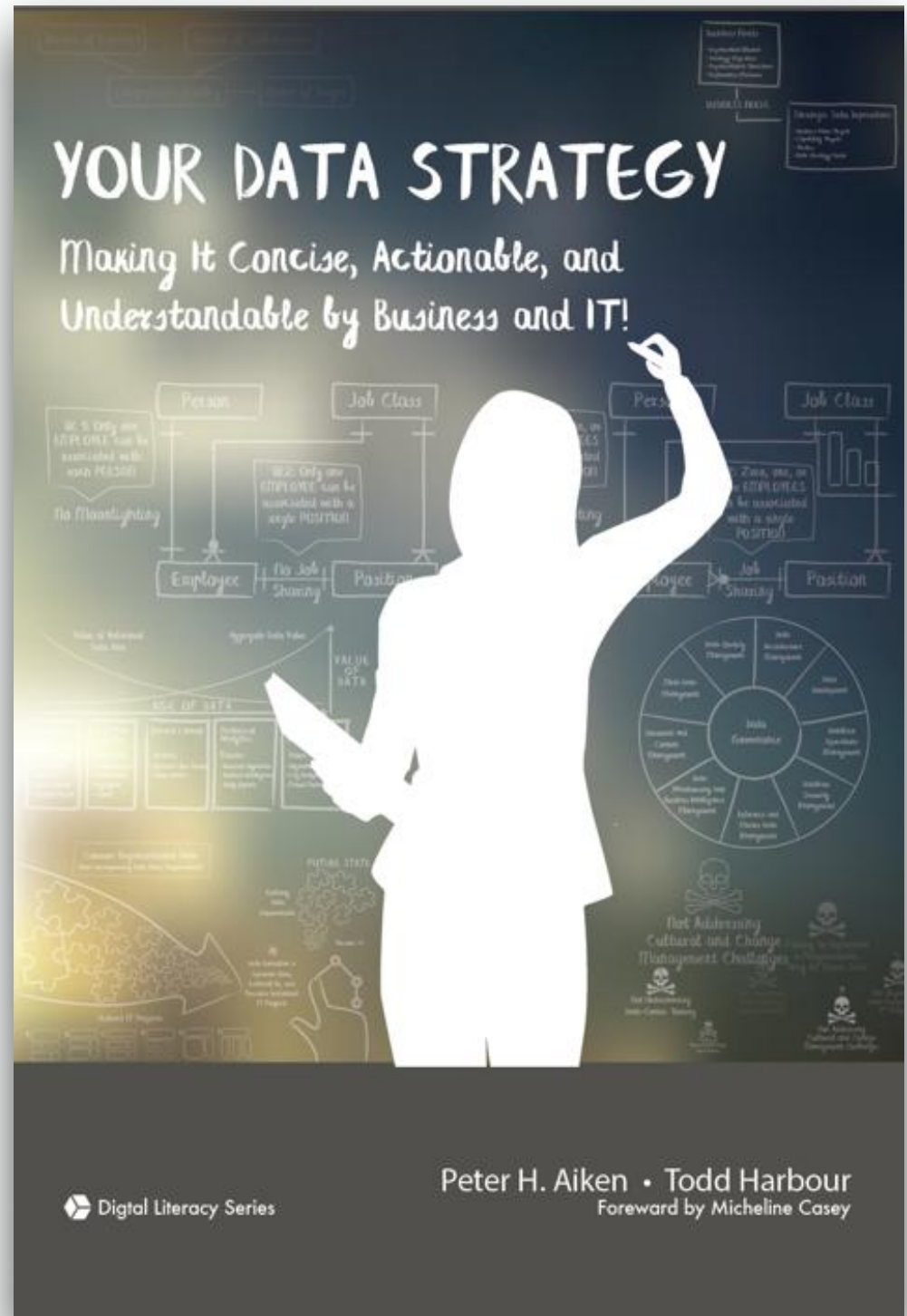
Lighthouse Metaphor Provides Focus

(Things that further)
Organizational Strategy

(Occasions to Practice)
Needed Data Skills

(Opportunities to improve)
Data use by the business

41
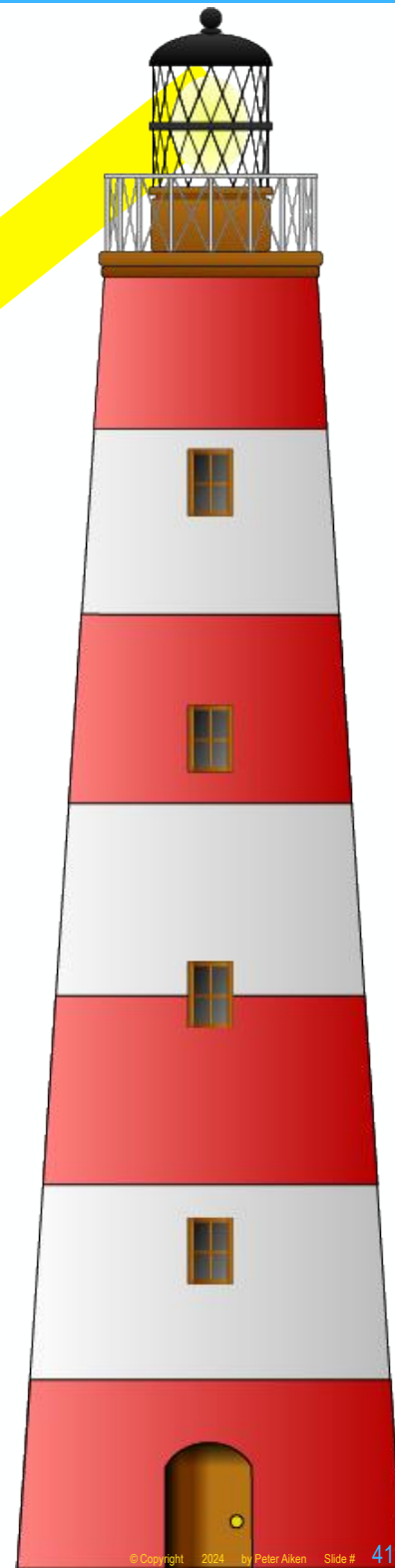
Hidden Data Factories

Department A

Work products are delivered to

Department B
1. Check A's work
2. Make any corrections
3. Complete B's work
4. Deliver to Department C

Department C
1. Check B's work
2. Make any corrections
3. Complete C's work
4. Deliver to Customer
5. Deal with consequences

Knowledge Workers
80% looking for stuff
20% doing useful work

Customers

Poor data manifests as multifaceted organizational challenges

Poor data manifests as multifaceted organizational challenges

Business Challenge

Poor results

Business Challenge

Business Challenge

IT System

Business Process

IT System

Business Challenge

IT Process

Business Process

Business System

IT Process

Root cause analysis is part of data governance

Business Challenge

Business Challenge

Business Challenge
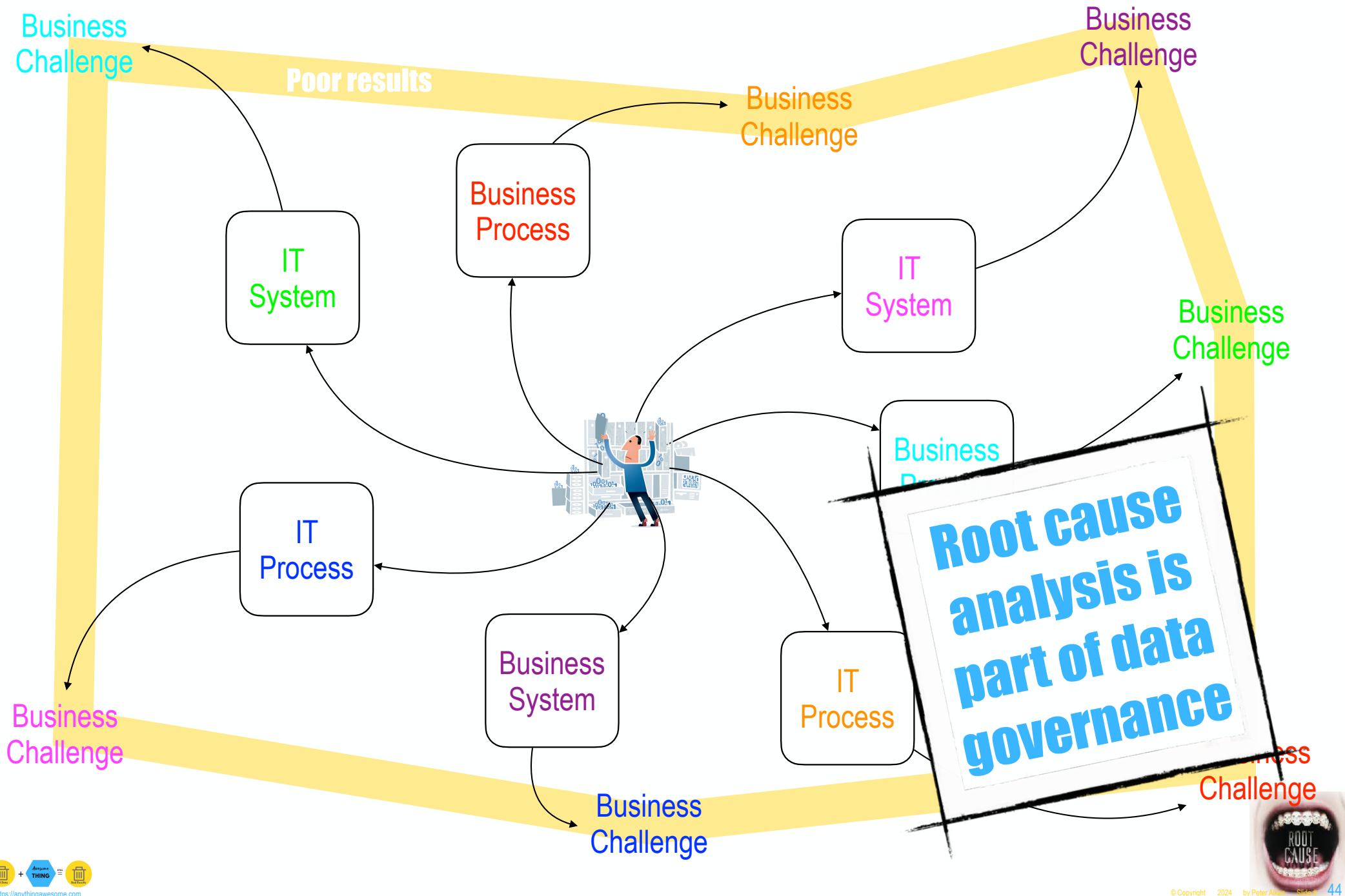
Consistency Encourages Quality Analysis

Business Challenge

Business Challenge

Business Challenge

Eliminating data debt requires a team with specialized skills deployed to create a repeatable process and develop sustained organizational skillsets

Business

IT System

Business Challenge

Business Process

IT Process

Business Challenge

Business Challenge

Data Strategy and Governance in Strategic Context

Organizational Strategy

Data Strategy

Data Governance

Data Stewards

Data asset support for organizational strategy

What the data assets do to better support strategy
(Business Goals)

How well the data strategy is working
(Metadata)

Progress, plans, problems

What is the most effective use of steward investments?
(Metadata/ Business Goals)

Trusted Catalog
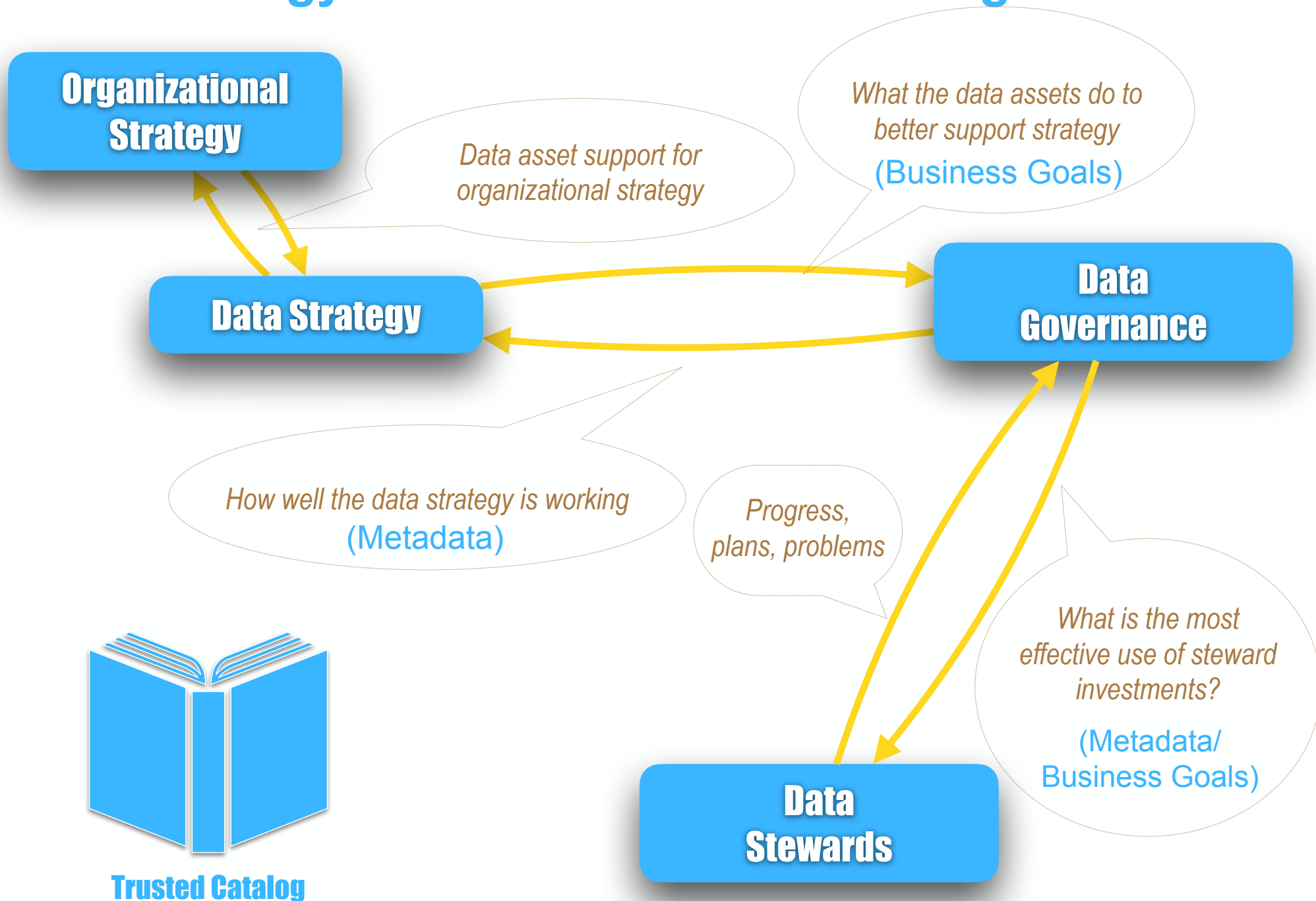
Data Governance Role: Produce systemic organizational changes that impact data and work practices over time
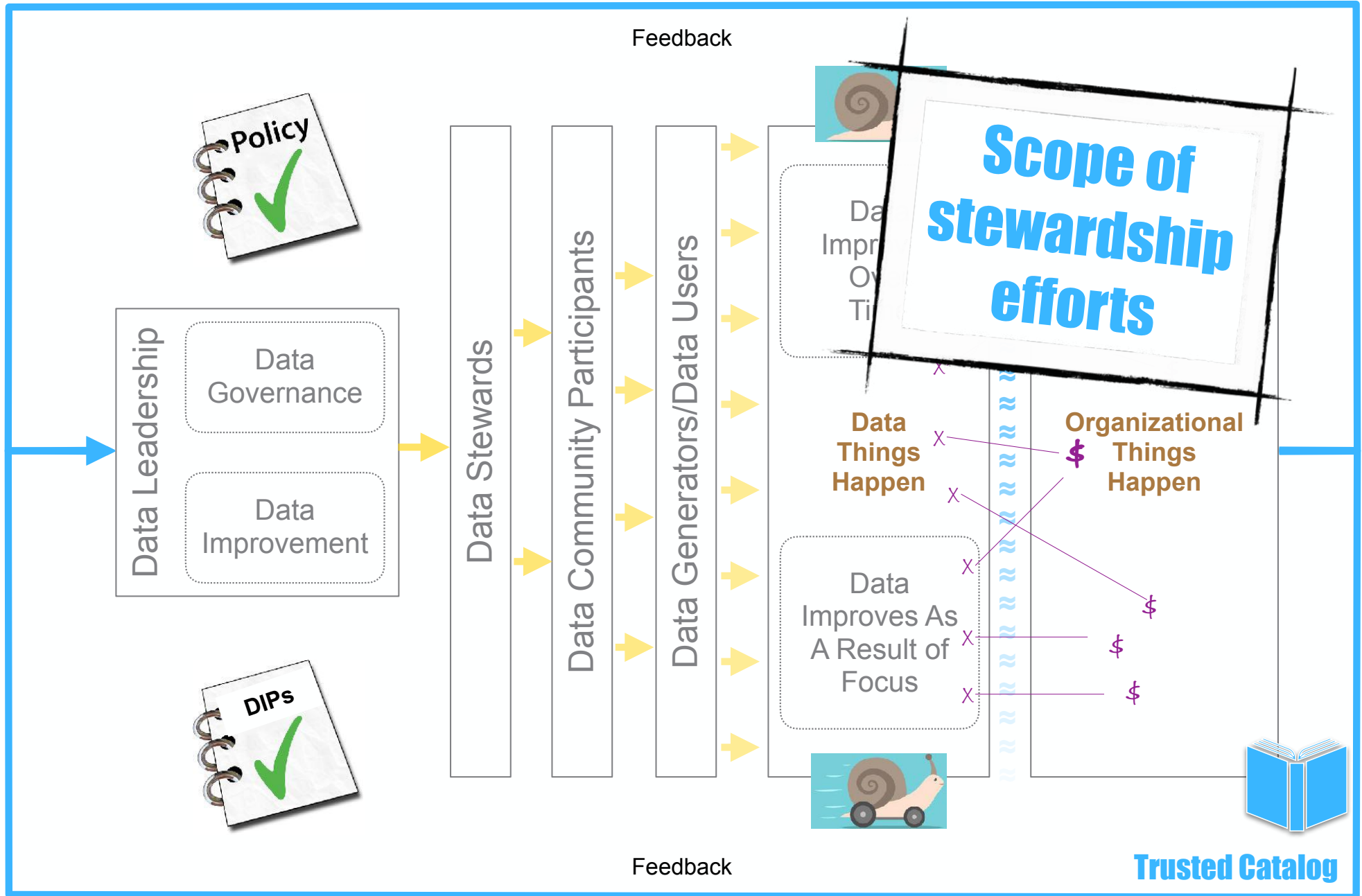
The MacGyver approach to DG uses paperclips and duct tape

Why is Data Governance important?

- Cost organizations millions each year in

  – Productivity

  – Redundant and siloed efforts

  – Poorly thought out hardware and software purchases

  – Delayed decision making using inadequate information

  – Reactive instead of proactive initiatives

  – 20-40% of IT spending can be reduced through better data governance

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Key Elements of a Successful Data Governance Program

DATA-ED Online

DATAVERSITY

Data is not a Project

Common Organizational Data
(and corresponding data needs requirements)

Future State

Evolve

(Version +1)

Data evolution is separate from, external to, and precedes system development life cycle activities!

Data programmes drive IT programs

Systems Development Activities

Create

New Organizational Capabilities

Data **programmes** drive IT programs

Data evolution is separate from, external to, and precedes system development life cycle activities!

What is the Difference Between?

Data Governance

- Policy level guidance

- Setting general guidelines/direction

- Example: All information not marked public should be considered confidential

- Keep in mind "firehouse" metaphor

Data Management

- The <u>business</u> function of

  - Planning for,

  - Controlling and

  - Delivering

  - Data/information assets

- Examples: Delivering data to solve business challenges

External Comprehension

Everything Else Data

Data Management

Data Governance Program

Data (blah blah blah)

Most do not appreciate the difference between Data Governance and the other data stuff that needs to be done

Data Program

Differences between Programs and Projects

- Programs are Ongoing, Projects End
  - Managing a program involves long term strategic planning and continuous process improvement is not required of a project
- Programs are Tied to the Financial Calendar
  - Program managers are often responsible for delivering results tied to the organization's financial calendar
- Program Management is Governance Intensive
  - Programs are governed by a senior board that provides direction, oversight, and control while projects tend to be less governance-intensive
- Programs Have Greater Scope of Financial Management
  - Projects typically have a straight-forward budget and project financial management is focused on spending to budget while program planning, management and control is significantly more complex
- Program Change Management is an Executive Leadership Capability
  - Projects employ a formal change management process while at the program level, change management requires executive leadership skills and program change is driven more by an organization's strategy and is subject to market conditions and changing business goals

Program Management
- Group of Related Projects
- Application of Knowledge, Skills, Tools, Controls and Techniques to Project Activities

Project Management
- Creates a product, service or result
- Application of Knowledge, Skills, Tools, Controls and Techniques to Project Activities

Adapted from http://top.idownloadnew.com/program_vs_project/ and http://management.simplicable.com/management/new/program-management-vs-project-management

Data Management Body of Knowledge (DM BoK V2)

DATA GOVERNANCE
- › *Strategy*
- › **Organisation & Roles**
- › **Policies & Standards**
- › *Issues*
- › *Valuation*

DATA QUALITY MANAGEMENT
- › Specification
- › Analysis
- › Measurement
- › Improvement

DATA ARCHITECTURE MANAGEMENT
- › Value Chain Analysis
- › Related Data Architecture
- › Lifecycle Management

DATA MODELLING
- › Enterprise, Conceptual & Logical Data modelling
- › Analysis
- › Database Design
- › Implementation

META DATA MANAGEMENT
- › Architecture
- › Integration
- › Control
- › Delivery

DATA STORAGE & OPERATIONS MANAGEMENT
- › Acquisition
- › Recovery
- › Tuning
- › Retention
- › Purging

DATA WAREHOUSE & BUSINESS INTELLIGENCE MANAGEMENT
- › DW Architecture
- › Implementation
- › Training & Support
- › Monitoring & Tuning
- › Big Data

DATA SECURITY MANAGEMENT
- › Standards
- › Classifications
- › Administration
- › Authentication
- › Auditing

REFERENCE & MASTER DATA MANAGEMENT
- › External Codes
- › Internal Codes
- › Customer Data
- › Product Data
- › Dimension Management

DOCUMENT & CONTENT MANAGEMENT
- › Acquisition & Storage
- › Backup & Recovery
- › Content Management
- › Retrieval
- › Retention

DATA INTEGRATION & INTEROPERABILITY
- › Integration Patterns
- › Applicability
- › Data in motion
- › Challenges

Practice Areas

Iteration 1

Perfecting operations in 3 data management practice areas

Iteration 2

Perfecting operations in 3 data management practice areas

Iteration 3

Perfecting operations in 3 data management practice areas

Data Strategy
- Data Governance
- BI/ Warehouse
- Reference & Master Data

DATA GOVERNANCE
- › Strategy **3X**
- › Organisation & Roles
- › Policies & Standards
- › Issues
- › Valuation

DATA QUALITY MANAGEMENT
- › Specification
- › Analysis
- › Measurement
- › Improvement

DATA ARCHITECTURE MANAGEMENT
- › Value Chain Analysis
- › Related Data Architecture
- › Lifecycle Management

DATA MODELLING
- › Enterprise, Conceptual & Logical Data modelling
- › Analysis
- › Database Design
- › Implementation

META DATA MANAGEMENT
- › Architecture
- › Integration
- › Control
- › Delivery

DATA WAREHOUSE & BUSINESS INTELLIGENCE MANAGEMENT 3X
- › DW Architecture
- › Implementation
- › Training & Support
- › Monitoring & Tuning
- › Big Data

DATA STORAGE & OPERATIONS MANAGEMENT
- › Acquisition
- › Recovery
- › Tuning
- › Retention
- › Purging

REFERENCE & MASTER DATA MANAGEMENT 1X
- › External Codes
- › Internal Codes
- › Customer Data
- › Product Data
- › Dimension Management

DATA SECURITY MANAGEMENT
- › Standards
- › Classifications
- › Administration
- › Authentication
- › Auditing

DOCUMENT & CONTENT MANAGEMENT
- › Acquisition & Storage
- › Backup & Recovery
- › Content Management
- › Retrieval
- › Retention

DATA INTEGRATION & INTEROPERABILITY
- › Integration Patterns
- › Applicability
- › Data in motion
- › Challenges

Strategy

IT Projects

Data/Information

THIS IS WRONG

Original articulation from Doug Bagley @ Walmart

This is the wrong way to think about data strategy

THIS IS WRONG
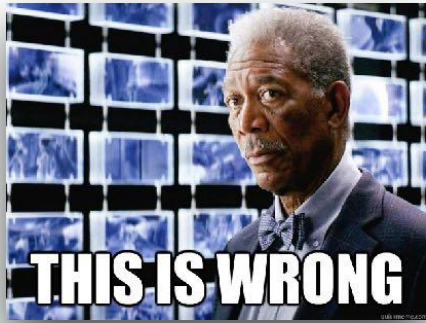
Organizational Strategy

IT Strategy

Data Strategy

This is correct …

Organizational Strategy

IT Strategy
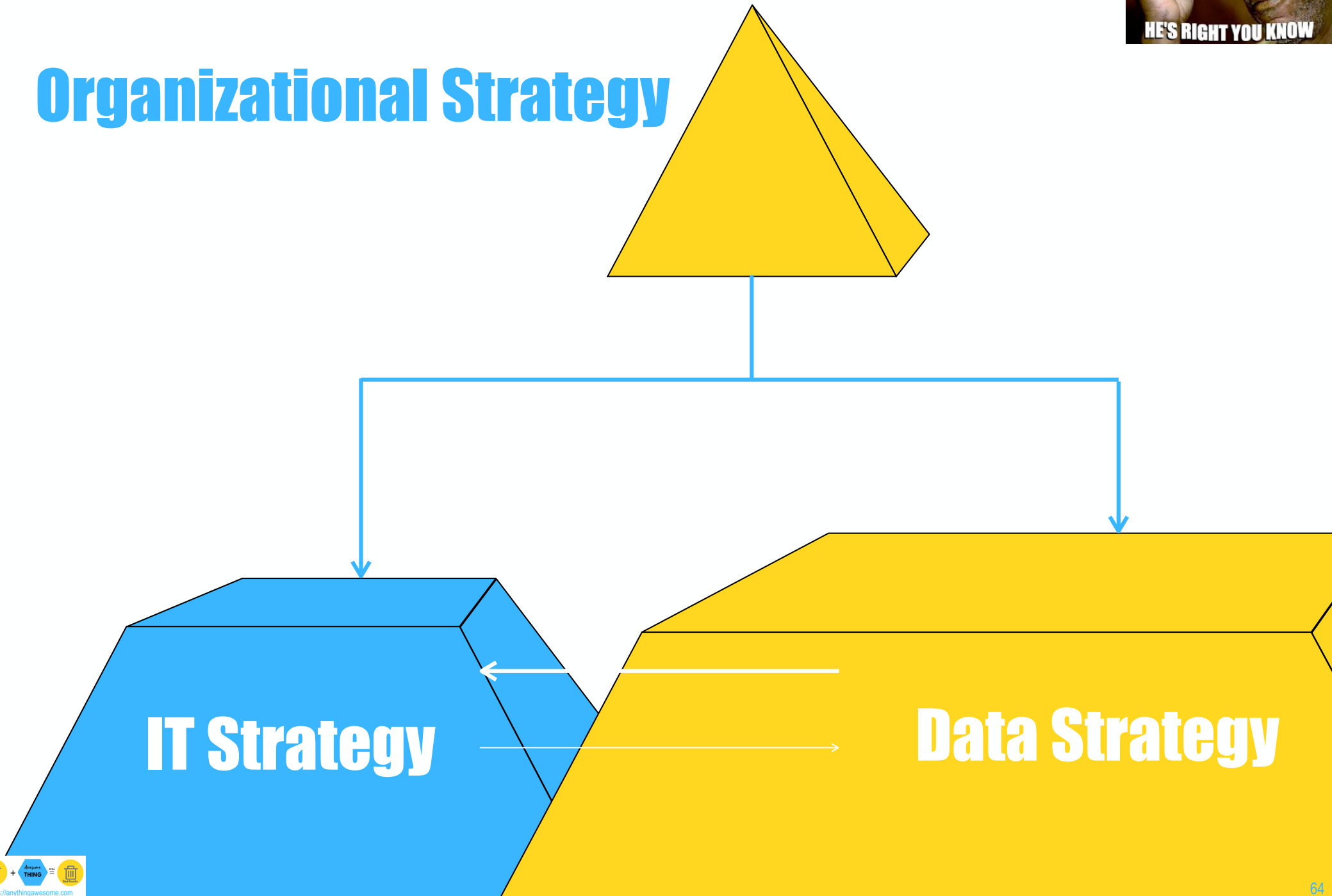
Data Strategy

IT Project or Application Centric Development

Strategy

↓

IT Projects

↓

Data/Information

https://anythingawesome.com

Data Centric Development

Strategy

Data/Information

IT Projects

HE'S RIGHT YOU KNOW

Program **Overview**

- Data's Confounding Characteristics
  - Uneven understanding
  - Has lead fractured views of data and to
  - Increasing organizational data debt
1. Keeping DG practically focused on strategy
   - This is a young profession and must
   - Directly support organizational strategy by
   - Improving data and its use in the short and long term
2. DG must exist at the same level as HR
   - In order to achieve effectiveness,
   - DG is central to DM (and central to digitization efforts)
   - Must be de-coupled from IT strategy
3. Gradually add ingredients (practicing and getting better)
   - Digital and data are dependent on high speed automation/data processing
   - Employ a DG Frameworks to refine focus
   - Plan to evolve (PDCA)
4. Data governance in action: Storytelling
- Take Aways/References/Q&A

Key Elements of a Successful Data Governance Program

DATA-ED Online

DATAVERSITY

Digital Insight

DIGITAL
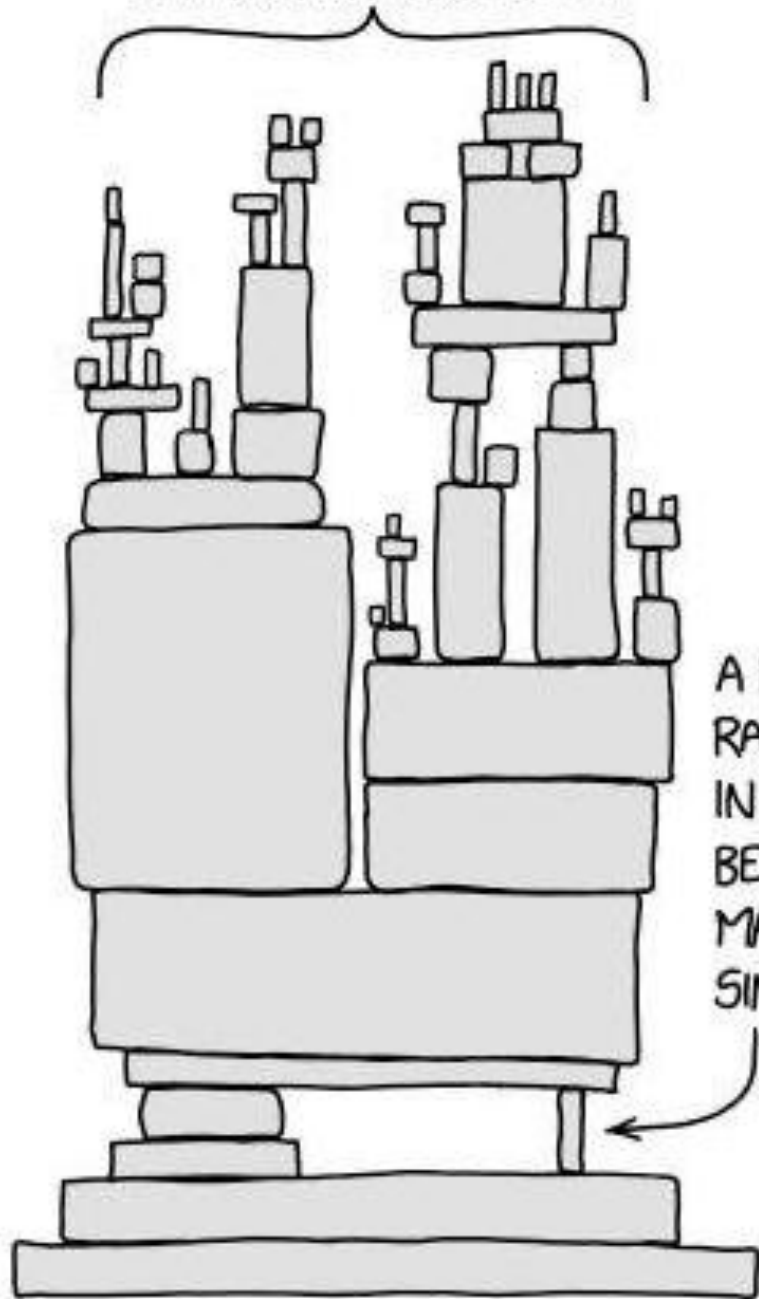− DATA
─────
?

DATA
− DIGITAL
─────
DATA

- Subtract data from digital and what do you have?
- Subtract digital from data and you still have data

Digital

It isn't possible to go digital

ALL MODERN DIGITAL INFRASTRUCTURE

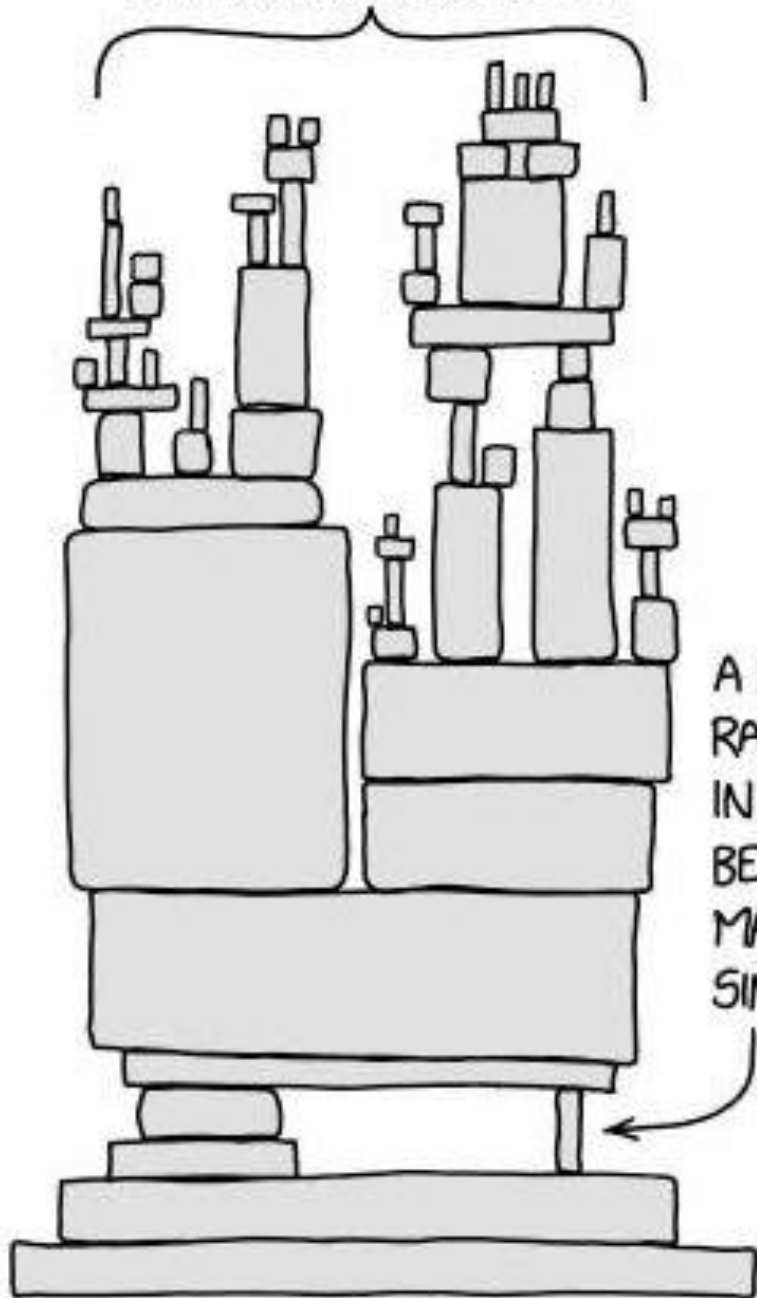A PROJECT SOME RANDOM PERSON IN NEBRASKA HAS BEEN THANKLESSLY MAINTAINING SINCE 2003

Dat

By just spelling 'data'

GI➜GO!

Garbage Data

Technology

Garbage Digital Results

Garbage In ➜ Garbage Out!

GI➜GO!

Quality Data ➜ Data Warehouse / Business Intelligence / Block Chain / Machine Learning / Data Governance / Analytics / MDM / AI / Technology ➜ Garbage Digital Results

GI→GO!

Quality Data → Data Warehouse Business Intelligence Block Chain Machine Learning Data Governance Analytics MDM AI Technology → Garbage Digital Results

GI➜GO!

Quality Data

Data Warehouse Business Intelligence Block Chain Machine Learning Data Governance Analytics MDM AI Technology

Garbage Digital Results

QI➡QO!

Quality Data ➡ **Data Warehouse Business Intelligence Block Chain Machine Learning Data Governance Analytics MDM AI Technology** ➡ **Quality Digital Results**

Today

Quality Data

Machine Learning

Quality Digital Results

Our barn had to pass a foundation inspection

- **Before further construction could proceed**
- **It makes good business sense**
- **No IT equivalent**

Data Governance Frameworks

- A system of ideas for guiding analyses
- A means of organizing project data
- Priorities for data decision making
- A means of assessing progress
  - Don't put up walls until foundation inspection is passed
  - Put the roof on ASAP
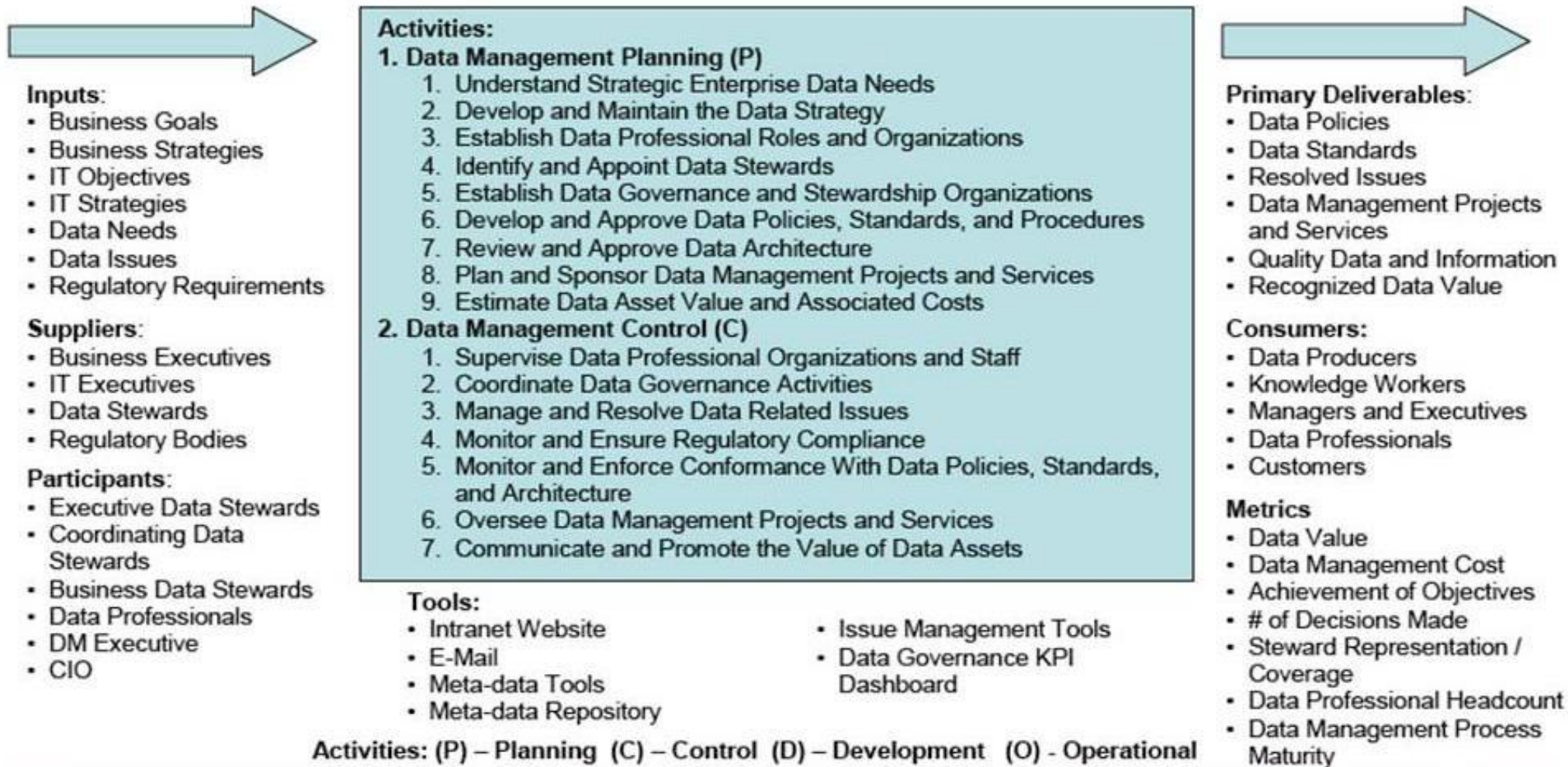- Make it all dependent upon continued funding

Data Governance from the DMBOK

Definition: The exercise of authority and control (planning, monitoring, and enforcement) over the management of data assets.
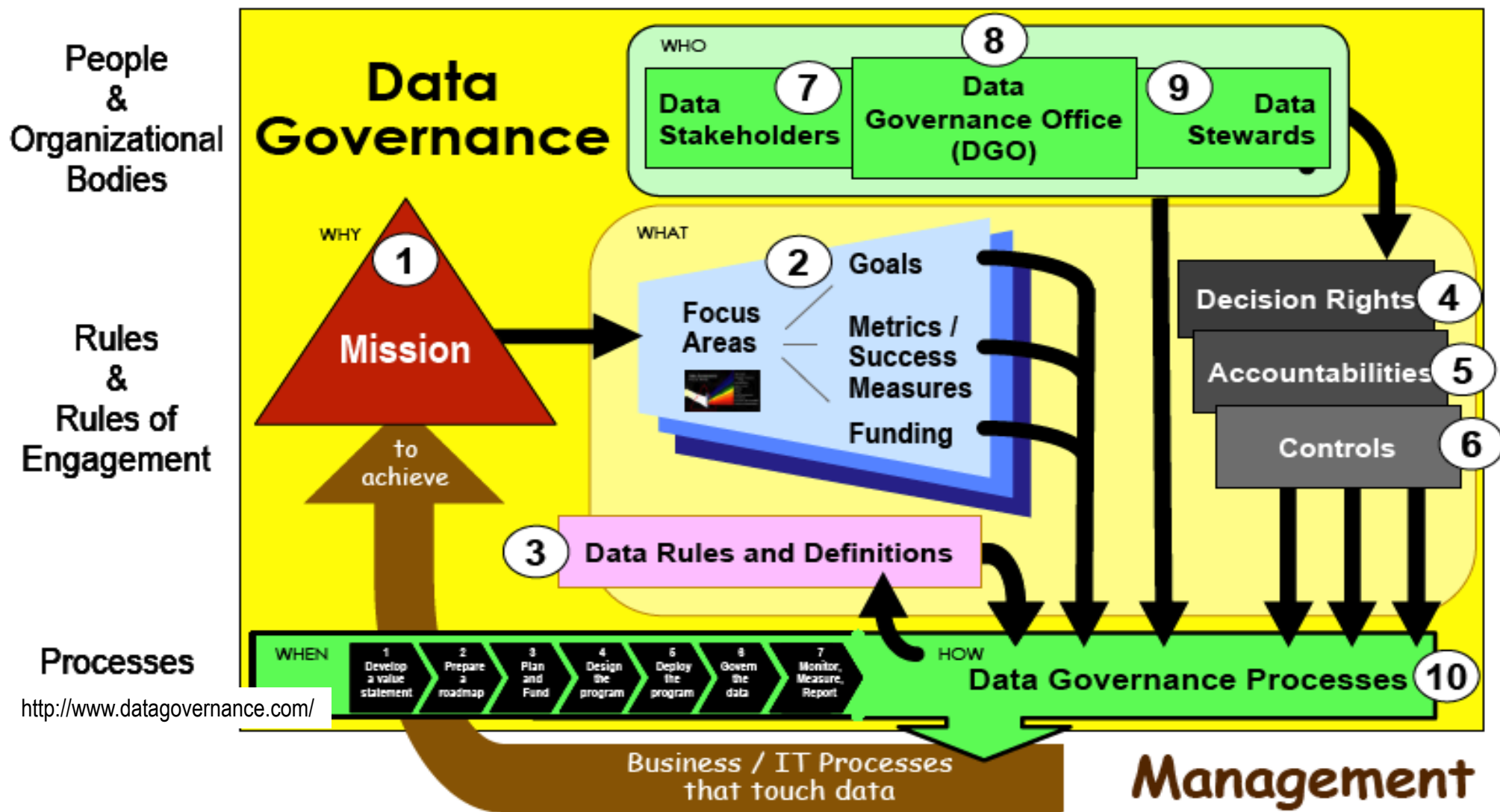
Goals:
1. To define, approve, and communicate data strategies, policies, standards, architecture, procedures, and metrics.
2. To track and enforce regulatory compliance and conformance to data policies, standards, architecture, and procedures.
3. To sponsor, track, and oversee the delivery of data management projects and services.
4. To manage and resolve data related issues.
5. To understand and promote the value of data assets.

Inputs:
- Business Goals
- Business Strategies
- IT Objectives
- IT Strategies
- Data Needs
- Data Issues
- Regulatory Requirements

Suppliers:
- Business Executives
- IT Executives
- Data Stewards
- Regulatory Bodies

Participants:
- Executive Data Stewards
- Coordinating Data Stewards
- Business Data Stewards
- Data Professionals
- DM Executive
- CIO

Activities:
1. Data Management Planning (P)
   1. Understand Strategic Enterprise Data Needs
   2. Develop and Maintain the Data Strategy
   3. Establish Data Professional Roles and Organizations
   4. Identify and Appoint Data Stewards
   5. Establish Data Governance and Stewardship Organizations
   6. Develop and Approve Data Policies, Standards, and Procedures
   7. Review and Approve Data Architecture
   8. Plan and Sponsor Data Management Projects and Services
   9. Estimate Data Asset Value and Associated Costs
2. Data Management Control (C)
   1. Supervise Data Professional Organizations and Staff
   2. Coordinate Data Governance Activities
   3. Manage and Resolve Data Related Issues
   4. Monitor and Ensure Regulatory Compliance
   5. Monitor and Enforce Conformance With Data Policies, Standards, and Architecture
   6. Oversee Data Management Projects and Services
   7. Communicate and Promote the Value of Data Assets

Tools:
- Intranet Website
- E-Mail
- Meta-data Tools
- Meta-data Repository
- Issue Management Tools
- Data Governance KPI Dashboard

Activities: (P) – Planning (C) – Control (D) – Development (O) - Operational

Primary Deliverables:
- Data Policies
- Data Standards
- Resolved Issues
- Data Management Projects and Services
- Quality Data and Information
- Recognized Data Value

Consumers:
- Data Producers
- Knowledge Workers
- Managers and Executives
- Data Professionals
- Customers

Metrics
- Data Value
- Data Management Cost
- Achievement of Objectives
- # of Decisions Made
- Steward Representation / Coverage
- Data Professional Headcount
- Data Management Process Maturity

Data Governance Institute

The DGI Data Governance Framework from The Data Governance Institute

10 Components of a Data Governance Program

http://www.datagovernance.com/
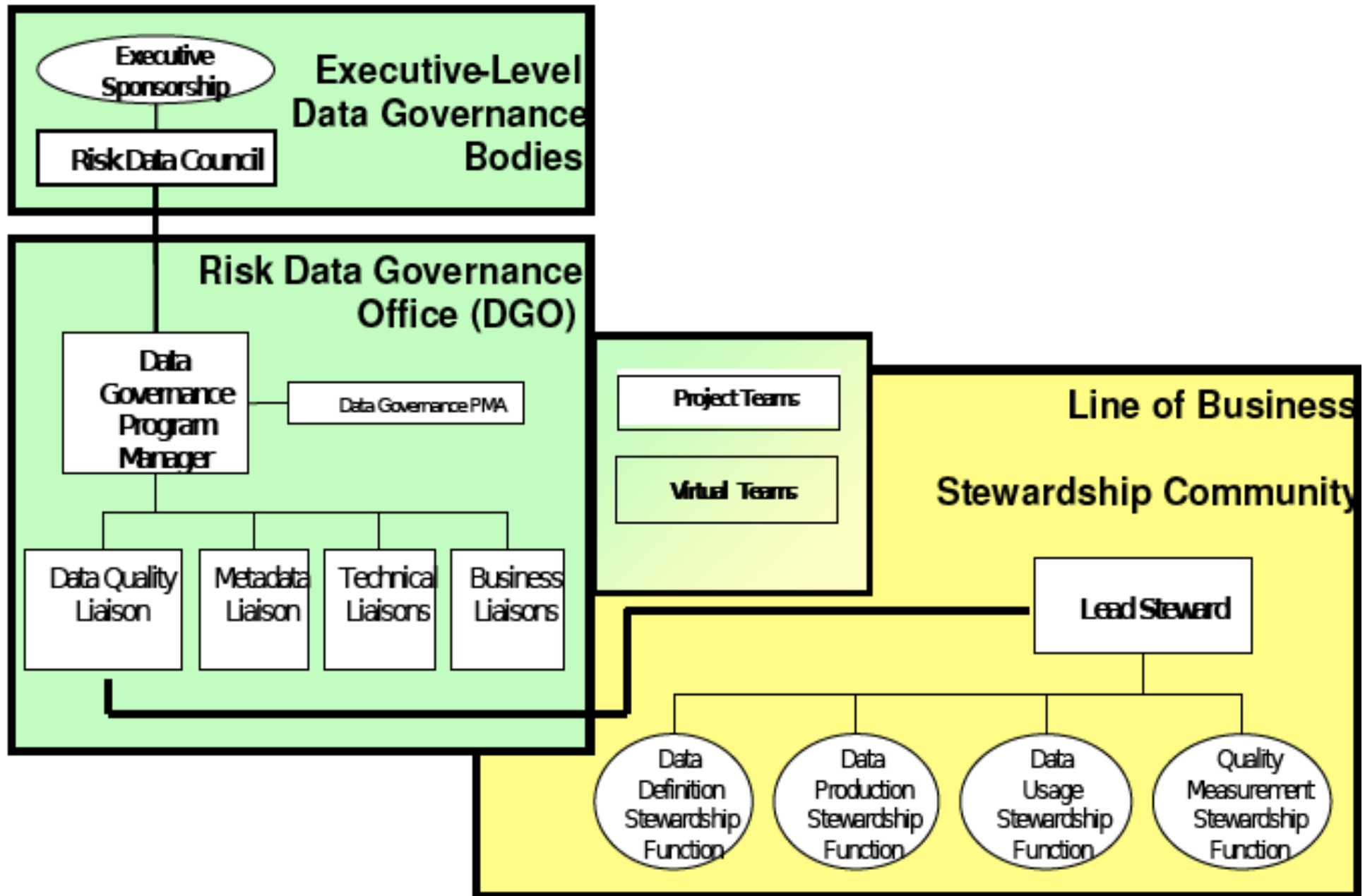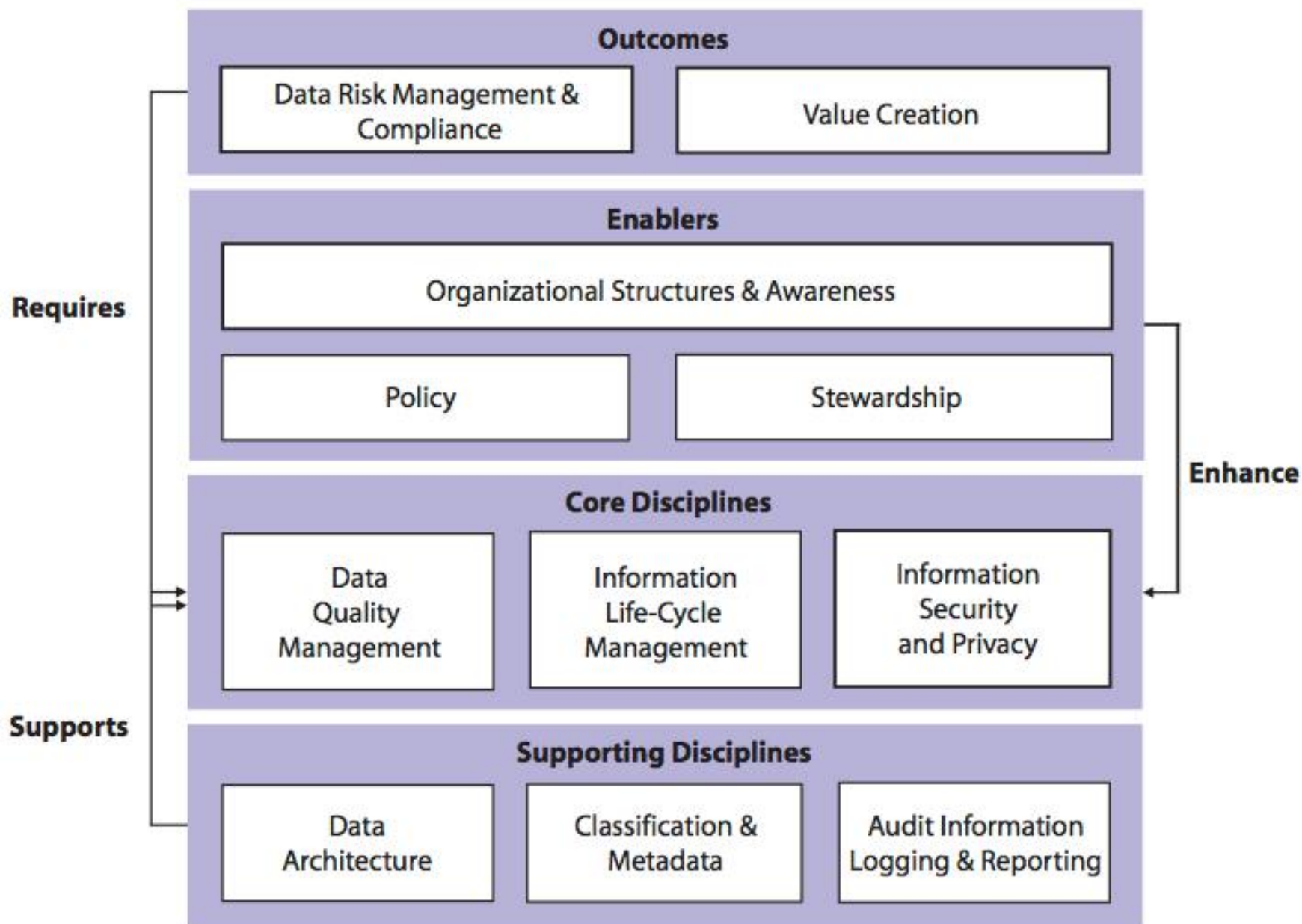
KiK Consulting

NON-INVASIVE DATA GOVERNANCE™ FRAMEWORK

Components

COMPONENTS

DATA – ASSETS BEING GOVERNED
ROLES – FORMAL ACCOUNTABILITY
PROCESSES – APPLICATION / ENFORCEMENT
COMMUNICATIONS – EDUC, TRN, AWARENESS
METRICS – MEASUREMENTS and KPIs
TOOLS – ARTIFACTS PURCHASED / DEVELOPED

LEVELS

EXECUTIVE – SENIOR LEADERSHIP TEAM
STRATEGIC – BUSINESS & TECHNOLOGY MGMT
TACTICAL – SUBJECT MATTER EXPERTISE
OPERATIONAL – DAILY JOB FUNCTION
SUPPORT – FUNCTIONAL MANAGEMENT

Levels	DATA	ROLES	PROCESSES	COMMUNICATIONS	METRICS	TOOLS
EXECUTIVE	Leadership Dashboard KPIs	Leadership Steering Committee	Endorse Enforce Authorize	Support Sponsor Understand	Approve Act	Policy Directive Audit
STRATEGIC	Enterprise Performance	Preside DG Program DG Council	Direct Approve Prioritize Resolve	Status Evaluate Commend	Acceptance Participation Performance	Charter Best Practices Guidelines Roadmap
TACTICAL	Subject Area X-Business Unit	Domain Stewards Data Owners SMEs	Facilitate Mediate Promote	Standards Subject Area Project	Subject Quality Metrics	Standards Requirements Workflows
OPERATIONAL	Business Unit Function	Operational Data Stewards Users	Operate Manage Handle	Orientation Onboard Ongoing	Accountability Efficiency Effectiveness	Glossary Dictionary Catalog Repository
SUPPORT	Accountability Inventory Metadata	Prog Mgmt Admin Work Groups Partners	Formalize Adhere Enforce	Plan Develop Deliver	Collect Report	DG Tools Metadata Tools KIK Artifacts

IBM Data Governance Council

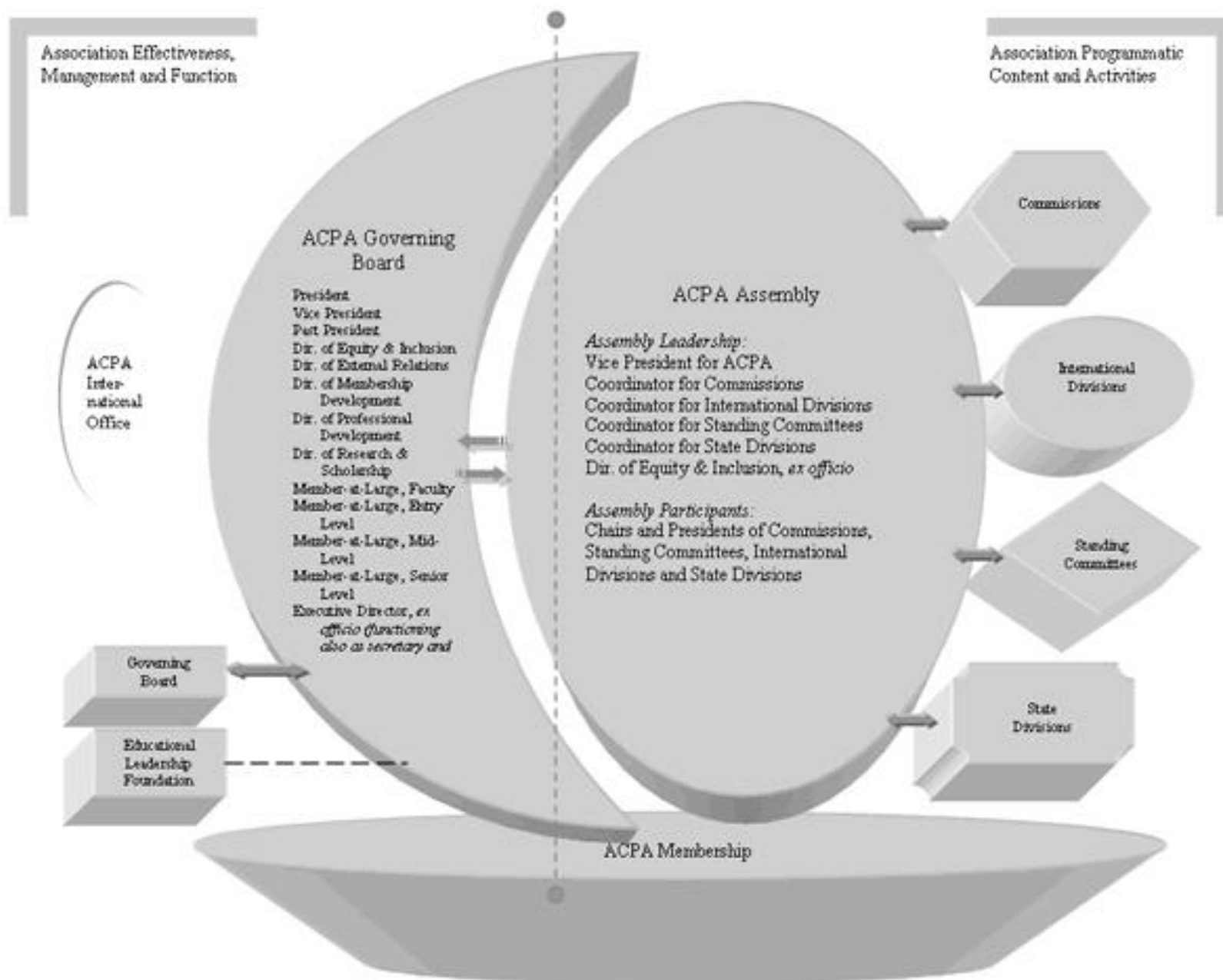# Elements of Effective Data Governance

See IBM Data Governance Council, http://www-01.ibm.com/software/tivoli/ governance/servicemanagement/ data-governance.html.
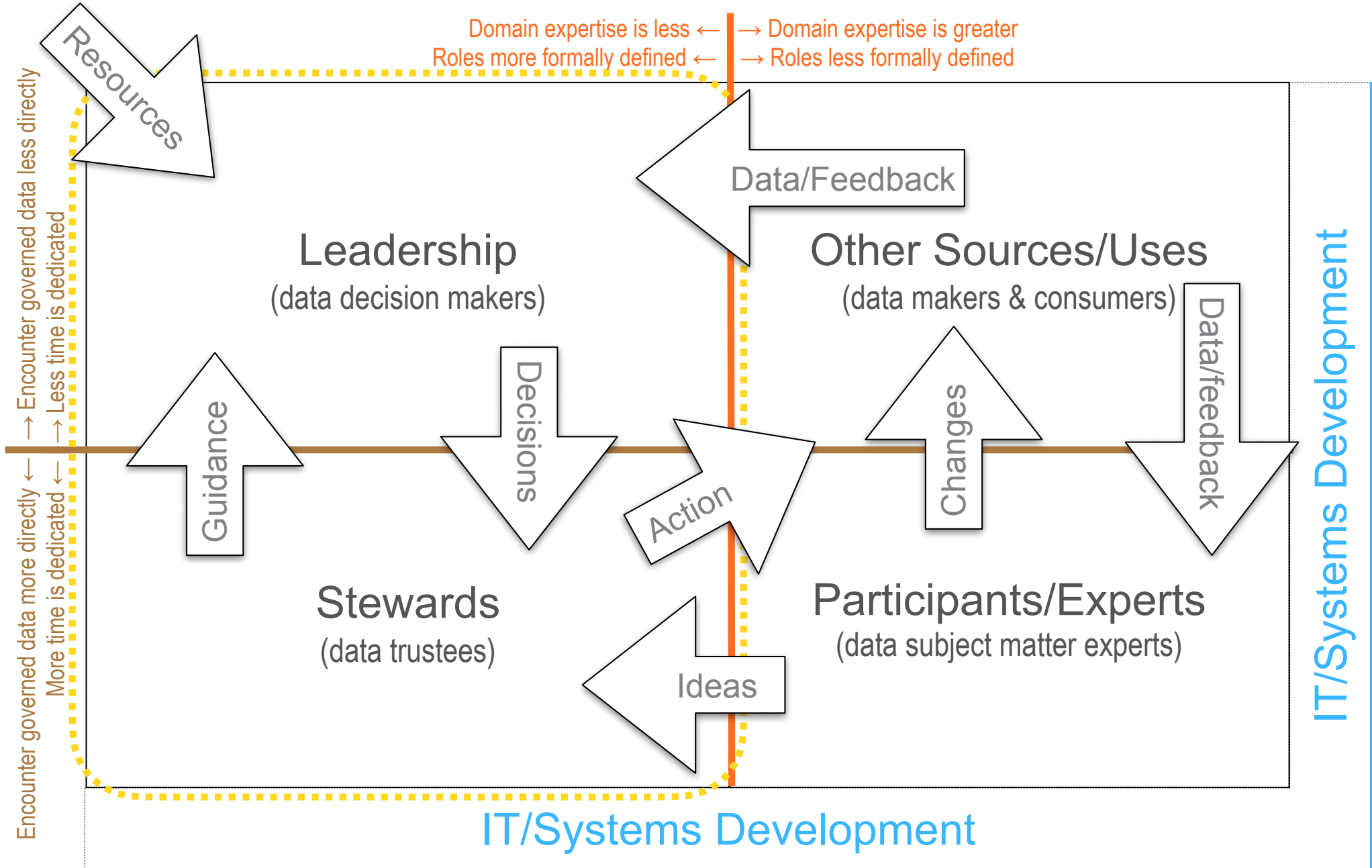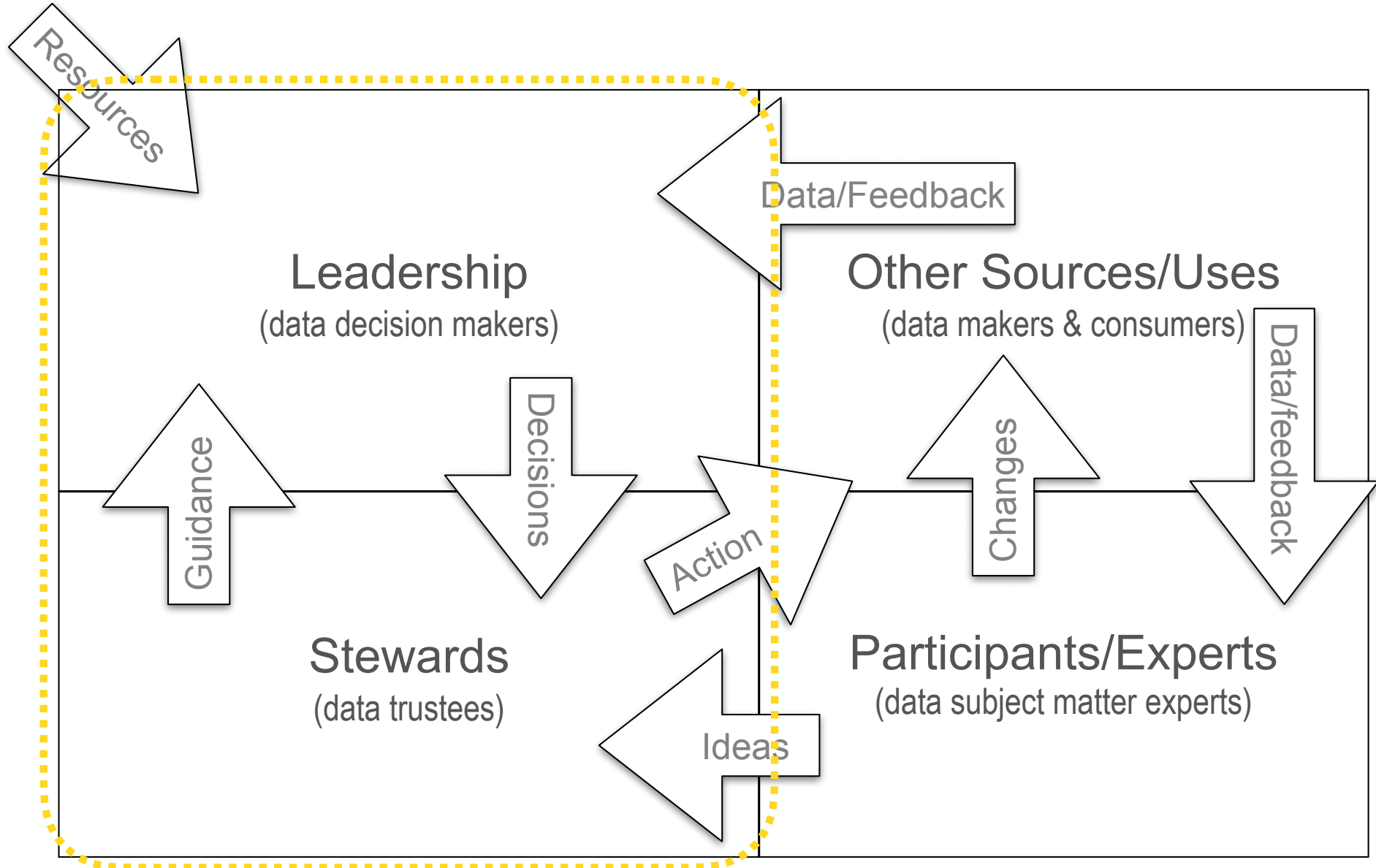
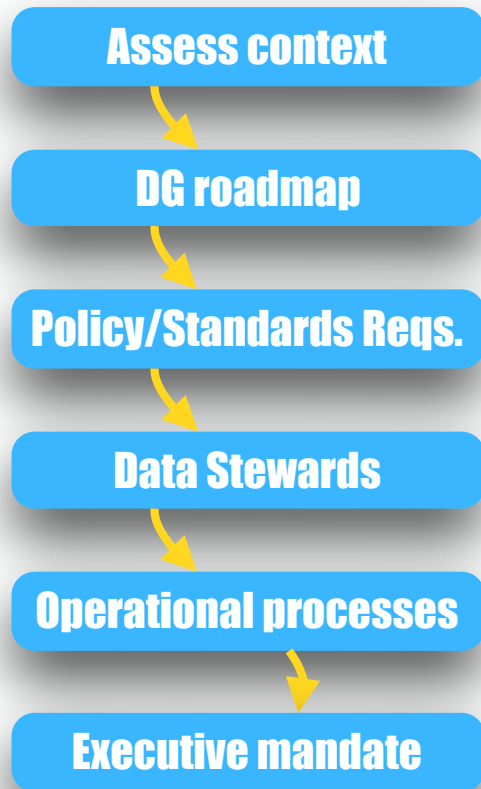# Baseline Consulting (sas.com)
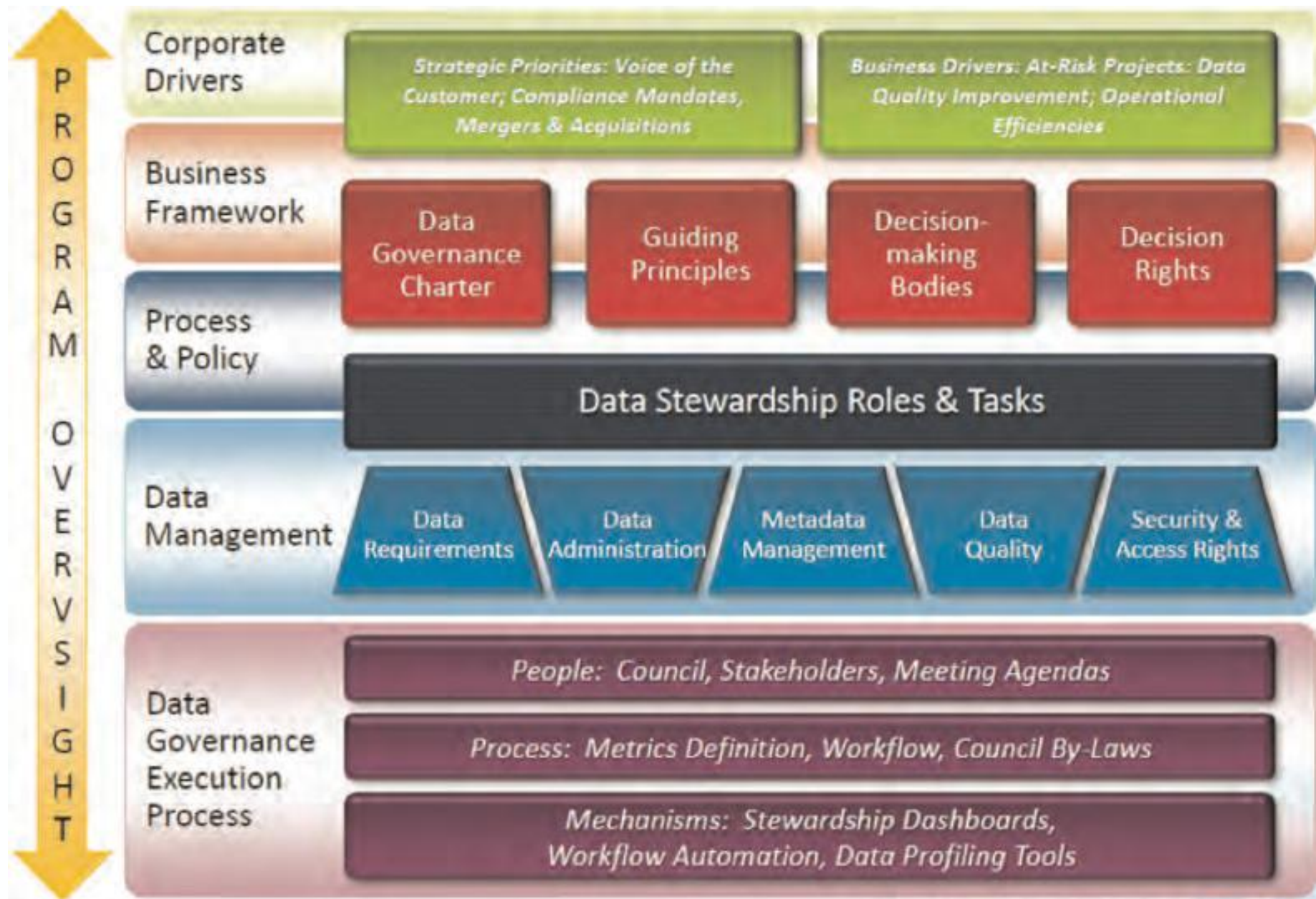
American College Personnel Association

Components comprising the data community

Domain expertise is less ← | → Domain expertise is greater
Roles more formally defined ← | → Roles less formally defined

← Encounter governed data less directly →
← Less time is dedicated →

Encounter governed data more directly →
More time is dedicated →

Resources

Leadership
(data decision makers)

Data/Feedback

Other Sources/Uses
(data makers & consumers)

Guidance

Decisions

Action

Changes

Data/feedback

Stewards
(data trustees)

Ideas

Participants/Experts
(data subject matter experts)

IT/Systems Development

IT/Systems Development

Components comprising the data community

Getting Started with Data Governance

```
Assess context
      ↓
DG roadmap
      ↓
Policy/Standards Reqs.
      ↓
Data Stewards
      ↓
Operational processes
      ↓
Executive mandate
```

Goals and Principles

- To define, approve, and communicate data strategies, policies, standards, architecture, procedures, and metrics.

- To track and enforce regulatory compliance and conformance to data policies, standards, architecture, and procedures.

- To sponsor, track, and oversee the delivery of data management projects and services.

- To manage and resolve data related issues.

- To understand and promote the value of data assets.

Illustration from *The DAMA Guide to the Data Management Body of Knowledge* © 2009 by DAMA International

Primary Deliverables

- Data Policies

- Data Standards

- Resolved Issues

- Data Management Projects and Services

- Quality Data and Information

- Recognized Data Value

Illustration from *The DAMA Guide to the Data Management Body of Knowledge* © 2009 by DAMA International

Roles and Responsibilities

- Suppliers:
    - Business Executives
    - IT Executives
    - Data Stewards
    - Regulatory Bodies
- Consumers:
    - Data Producers
    - Knowledge Workers
    - Managers and Executives
    - Data Professionals
    - Customers

- Participants:
    - Executive Data Stewards
    - Coordinating Data Stewards
    - Business Data Stewards
    - Data Professionals
    - DM Executive
    - CIO

Illustration from *The DAMA Guide to the Data Management Body of Knowledge* © 2009 by DAMA International

Scorecard: Data Governance Practices/Techniques

- Data Value

- Data Management Cost

- Achievement of Objectives

- # of Decisions Made

- Steward Representation/Coverage

- Data Professional Headcount

- Data Management Process Maturity

from *The DAMA Guide to the Data Management Body of Knowledge* © 2009 by DAMA International

Data Governance Checklist

✓ Decision-Making Authority

✓ Standard Policies and Procedures

✓ Data Inventories

✓ Data Content Management

✓ Data Records Management

✓ Data Quality

✓ Data Access

✓ Data Security and Risk Management

DG Components

- Practices and Techniques

  – Data Value

  – Data Management Cost

  – Achievement of Objectives

  – # of Decisions Made

  – Steward Representation/Coverage

  – Data Professional Headcount

  – Data Manag[...] Maturity

- What do I include in my Data Governance Program?

  – Security and Privacy of Data

  – Quality of Data

  – Life Cycle Management

  – Risk Management

  – Content Valuation

  – Standards (Data Design, Models and Tools)

  – Governance Tool Kits and Case Studies

Illustration from *The DAMA Guide to the Data Management Body of Knowledge* © 2009 by DAMA International

Goals and Principles
- To define, approve, and communicate data strategies, policies, standards, architecture, procedures, and metrics.
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Primary Deliverables
Deliverables
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- Consumers:
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  - Know...ers
  - Manag... Executives
  - Data P...als
  - Custom...
- Participants:
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  - Business Data Stewards
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  - DM Executive
  - CIO...

Scorecard: Data Governance Practices/Techniques
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- Data Management Cost
- Achievement of Objectives
- ...isions Made
- Stew... presentation... verage
- Data P... onal Hea...
- Data M... ent Pro... Maturity

...Governance...
- ✓ Decision-Making Auth...
- ✓ Standard Policies and Procedures
- ✓ Data Inventories
- ✓ Data Content Management
- ✓ Data Records Management
- ✓ Data Quality
- ✓ Data Access
- ✓ Data Security and Risk Management
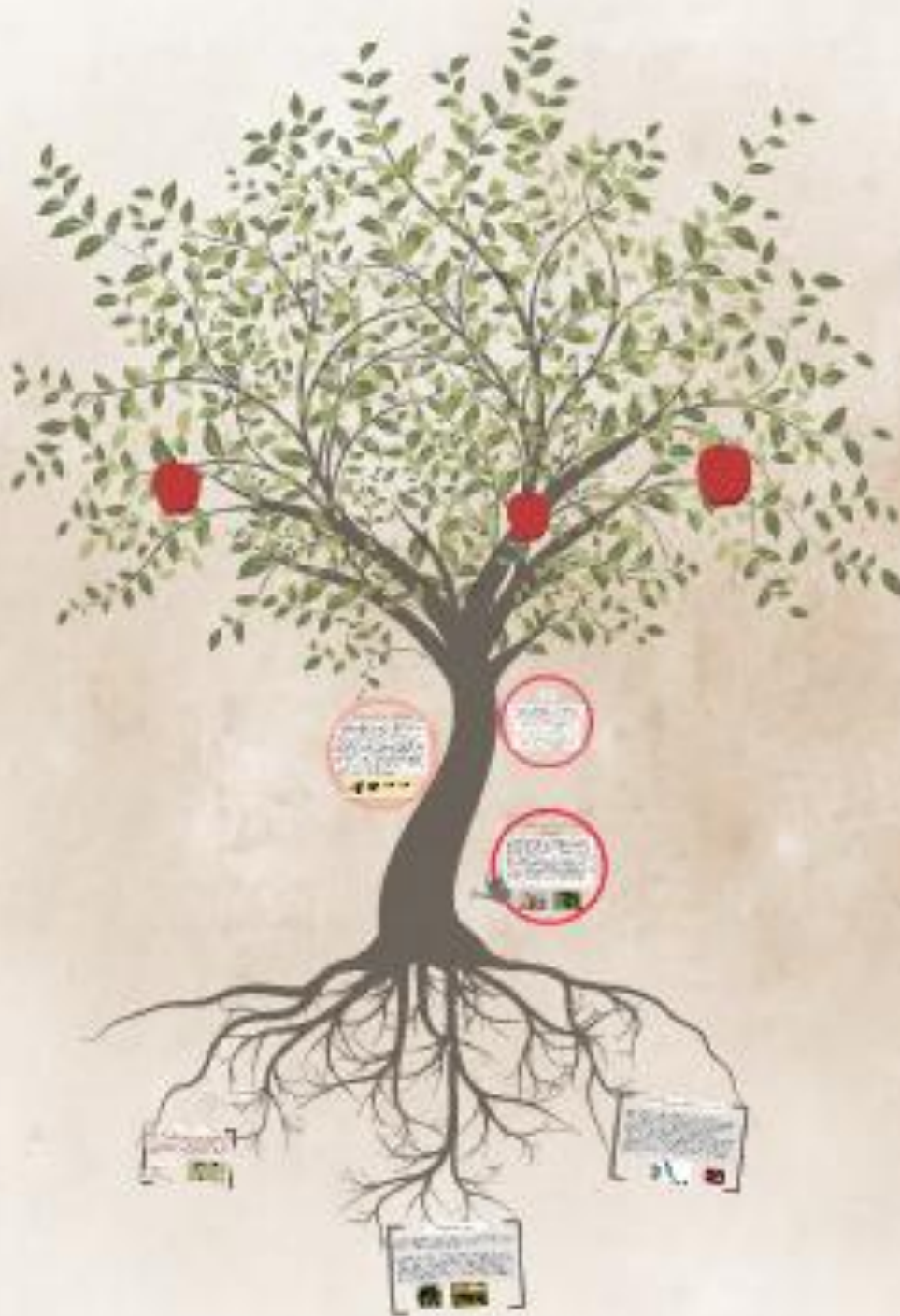
...es and Technique...
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What do I include... Governance Progra...
- Security and Privacy of Data
- Quality of Data
- Life Cycle Management
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- Content Valuation
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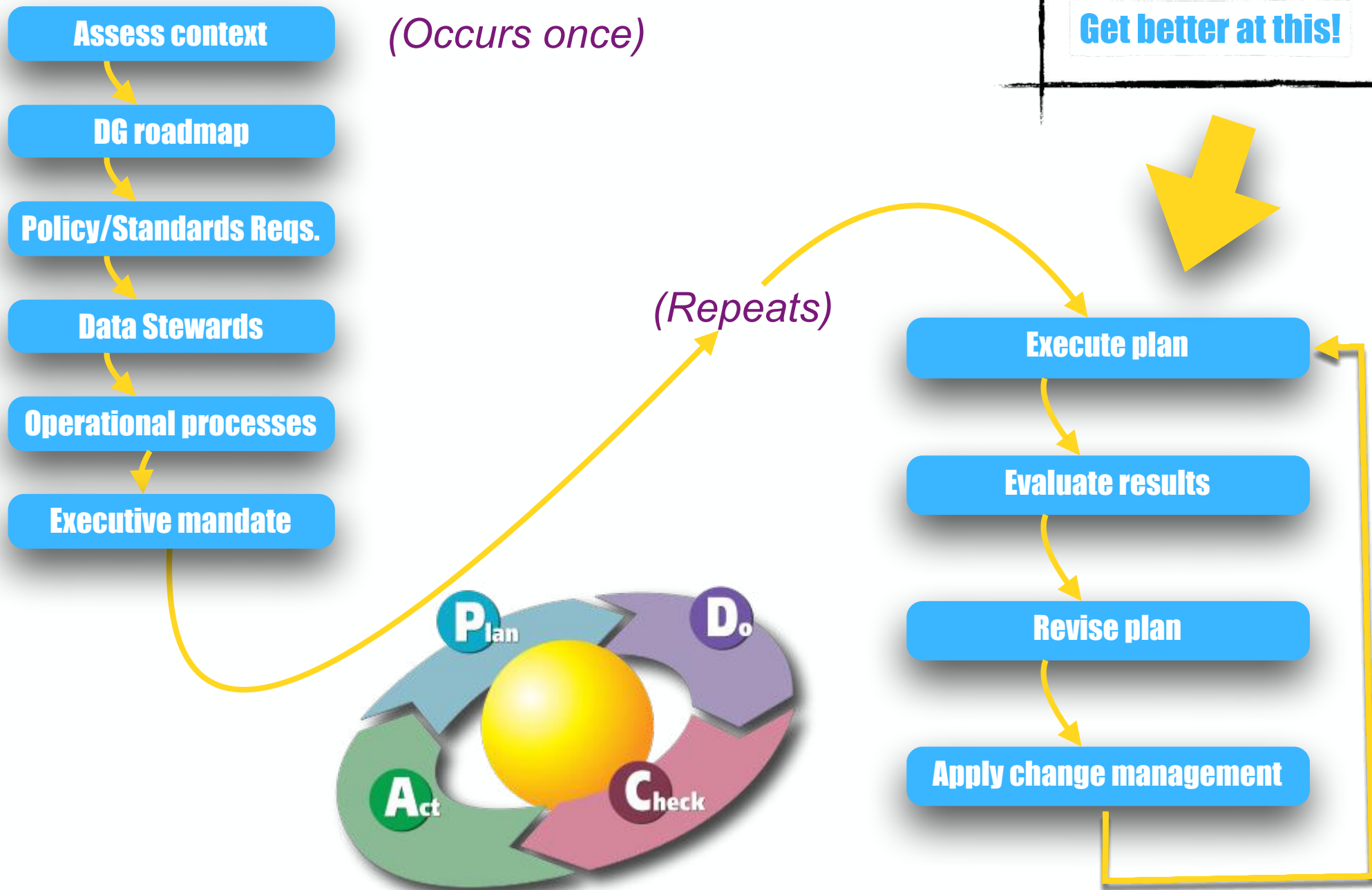- Governance Tool Kits and Case Studies

https://anythingawesome.com

Evolution is not goal oriented

Evolve

Getting Started with Data Governance

Assess context *(Occurs once)*

Get better at this!

DG roadmap

Policy/Standards Reqs.

Data Stewards

Operational processes

Executive mandate

(Repeats)

Execute plan

Evaluate results

Revise plan

Apply change management

Plan **D**o **A**ct **C**heck

https://en.wikipedia.org/wiki/PDCA

"Should I-thinking" must replace "Can I-thinking"

(First level capable of being bound by defined behaviors)
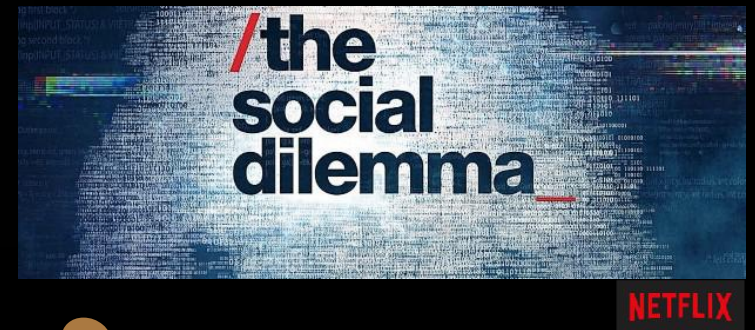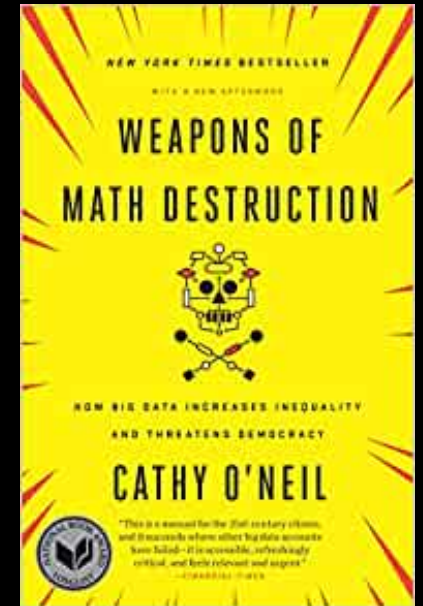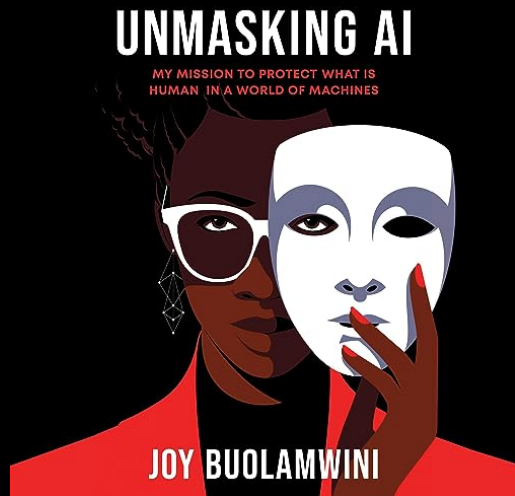
Data Ethics

Program **Overview**

- Data's Confounding Characteristics
    - Uneven understanding
    - Has lead fractured views of data and to
    - Increasing organizational data debt
1. Keeping DG practically focused on strategy
    - This is a young profession and must
    - Directly support organizational strategy by
    - Improving data and its use in the short and long term
2. DG must exist at the same level as HR
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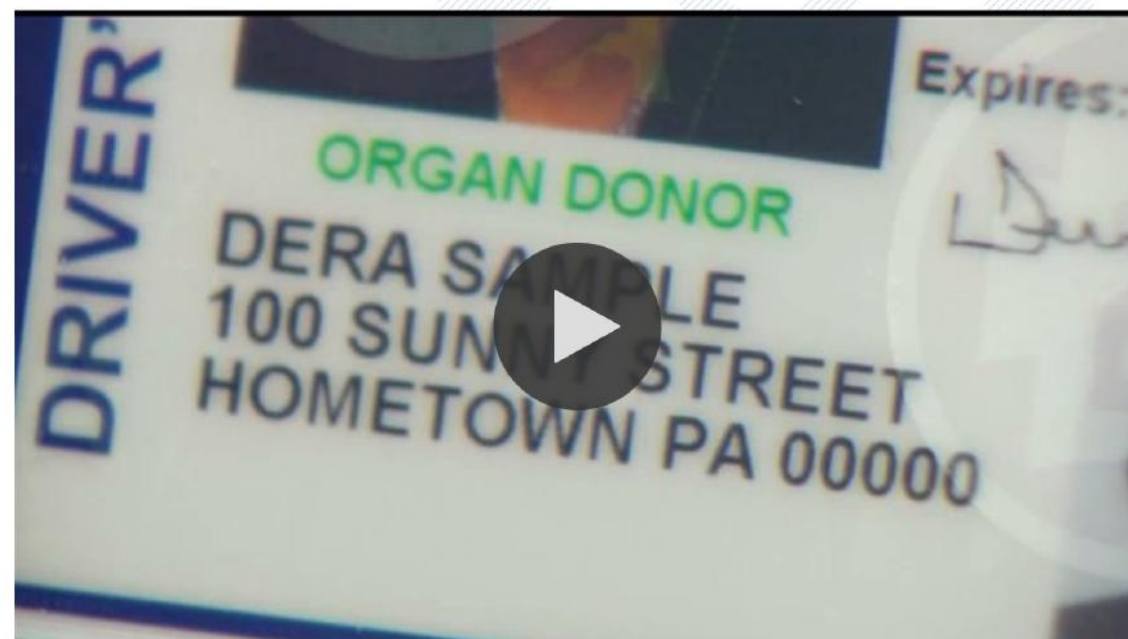4. Data governance in action: Storytelling
- Take Aways/References/Q&A

Key Elements of a Successful Data Governance Program

DATA-ED Online

III DATAVERSITY

PennDOT makes millions selling your personal data, is it safe?

—

HARRISBURG, Pa — For years, the Pennsylvania Department of Transportation has been selling drivers information. That information is bought by seven differ...

1. **PennDOT gets caught selling $40,000,000 worth of your data to insurance companies**

2. **PennDOT saves taxpayers $40M selling data legally derived from your data**

Author: Jackie De Tore (FOX43)
Published: 10:21 PM EDT May 4, 2016
Updated: 10:27 PM EDT May 4, 2016

HARRISBURG, Pa -- For years, the Pennsylvania Department of Transportation has been selling drivers information.

That information is bought by seven different companies.

"Under the law, PennDOT is allowed to charge $9 for each record that is accessed. This is a way Pennsylvania pays for critical transportation services," says Rich Kirkpatrick, a PennDOT ...n.

https://www.fox43.com/article/news/local/contests/penndot-makes-millions-selling-your-personal-data-is-it-safe/521-be4956dc-73a9-4595-ad19-de842f6e769c

News Release 2020-132 | October 7, 2020

OCC Assesses $400 Million Civil Money Penalty Against Citibank

SHARE THIS PAGE:

WASHINGTON—The Office of the Comptroller of the Currency (OCC) today assessed a $400 million civil money penalty against Citibank, N.A, of Sioux Falls, South Dakota, related to deficiencies in enterprise-wide risk management, compliance risk management, data governance, and internal controls.

The OCC took these actions based on the bank's unsafe or unsound banking practices for its long-standing failure to establish effective risk management and data governance programs and internal controls. This failure also resulted in a violation of 12 CFR Part 30, Appendix D, "OCC Guidelines Establishing Heightened Standards for Certain Large Insured National Banks, Insured Federal Savings Associations, and Insured Federal Branches."

The agency also issued a cease and desist order requiring the bank to take broad and comprehensive corrective actions to improve risk management, data governance, and internal controls. The order requires the bank to seek the OCC's non-objection before making significant new acquisitions and reserves the OCC's authority to implement additional business restrictions or require changes in senior management and the bank's board should the bank not make timely, sufficient progress in complying with the order.

The Federal Reserve Board took a separate but related action against Citigroup, the bank's holding company.

The OCC penalty will be paid to the U.S. Treasury.

Media Contact

Bryan Hubbard
(202) 649-6870

https://www.occ.gov/news-issuances/news-releases/2020/nr-occ-2020-132.html

'Jack Dorsey's First Tweet' NFT Went on Sale for $48M. It Ended With a Top Bid of Just $280
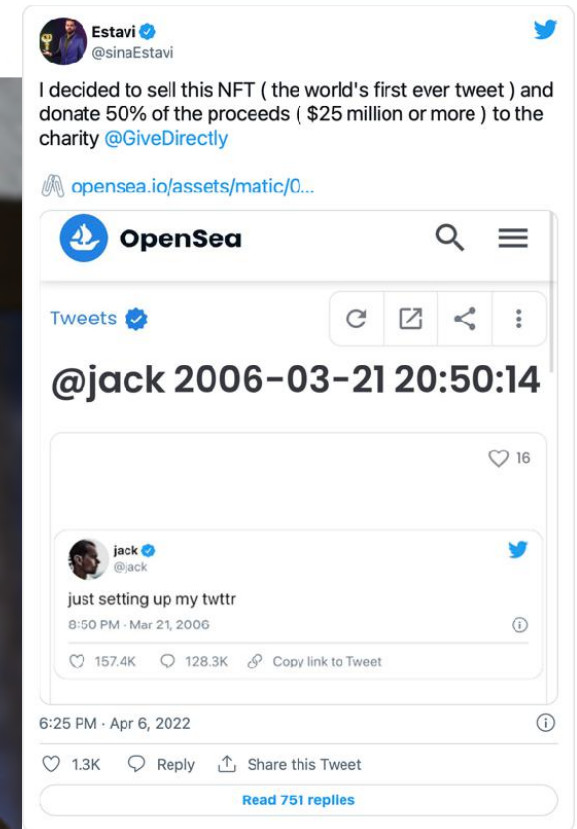
CoinDesk

Crypto entrepreneur Sina Estavi bought Twitter founder Jack Dorsey's first-ever tweet as an NFT for $2.9 million last year. He listed the NFT for sale again at $48 million last week.

By Sandali Handagama · �🕐 Apr 13, 2022 at 2:48 p.m. EDT · Updated Apr 16, 2022 at 10:12 a.m. EDT

Twitter founder Jack Dorsey's tweet NFT was briefly on sale again. (CoinDesk archives)

Estavi ✓
@sinaEstavi

I decided to sell this NFT (the world's first ever tweet) and donate 50% of the proceeds ($25 million or more) to the charity @GiveDirectly

opensea.io/assets/matic/0...

OpenSea

Tweets ✓

@jack 2006-03-21 20:50:14

♡ 16

jack ✓
@jack

just setting up my twttr
8:50 PM · Mar 21, 2006

♡ 157.4K   ⟲ 128.3K   🔗 Copy link to Tweet

6:25 PM · Apr 6, 2022

♡ 1.3K   💬 Reply   ⬆ Share this Tweet

Read 751 replies

Use Their Language ...

- *Getting access to data around here is like that Catherine Zeta Jones scene where she is having to get thru all those lasers …*

Barclays Excel Spreadsheet Horror

- Barclays preparing to buy Lehman's Brothers assets.

- 179 dodgy Lehman's contracts were almost accidentally purchased by Barclays because of an Excel spreadsheet reformatting error

- A first-year associate reformatted an Excel contracts spreadsheet
  - Predictably, this work was done long after normal business hours, just after 11:30 p.m...

- The Lehman/Barclays sale closed on September 22nd, 2008

- the 179 contracts were marked as "hidden" in Excel, and those entries became "un-hidden" when when globally reformatting the document …

- … and the sale closed …

https://www.businessinsider.com/2008/10/barclays-excel-error-results-in-lehman-chaos

Hidden spreadsheet rows hit Barclays with toxic Lehman contracts

by AccountingWEB

Lehman Excel snafu could cost Barclays dear

Hey, whoa, we never meant to buy that bit

Excel error leaves Barclays with more Lehman assets than it bargained for

Law firm says spreadsheet reformatting error added 179 contracts to bankruptcy buyout deal

Excel spreadsheet error blamed for UK's 16,000 missing coronavirus cases

The case went missing after the spreadsheet hit its filesize limit
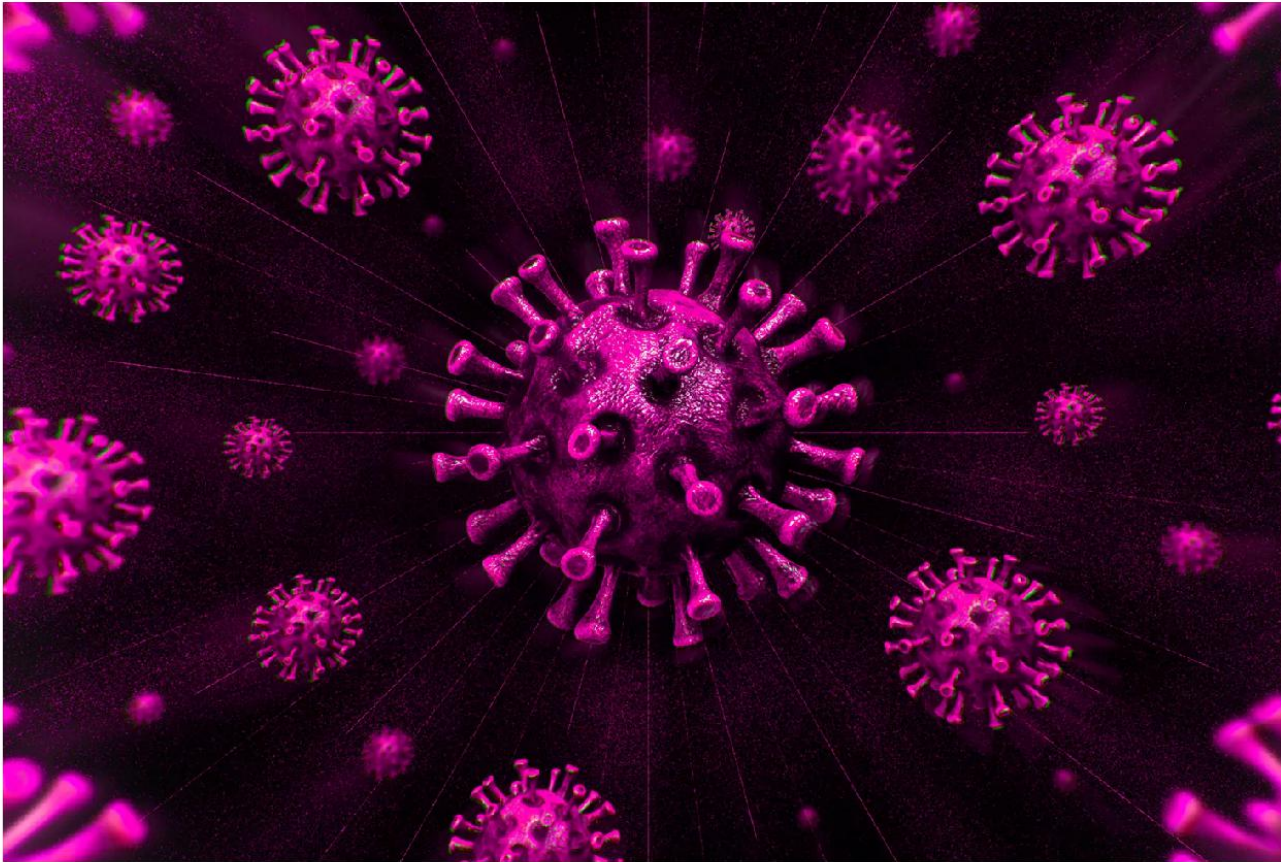
By James Vincent | Oct 5, 2020, 9:41am EDT

Illustration by Alex Castro / The Verge

The UK failed to add nearly 16,000 confirmed cases of coronavirus to its national track and trace system due to an Excel error. A number of reports, including from The Guardian, Sky News, and The Daily Mail, say the mistake was caused when an Excel spreadsheet used to track confirmed cases of the virus reached its maximum file size and failed to update.

"Failure to upload these cases to the national database meant anyone who came into contact with these individuals was not informed. It's an error that may have helped spread the virus further through the country as individuals exposed to the virus continued to act as normal."

Program **O**verview

- Data's Confounding Characteristics
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  - Has lead fractured views of data and to
  - Increasing organizational data debt
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   - Plan to evolve (PDCA)
4. Data governance in action: Storytelling
- Take Aways/References/Q&A

Key Elements of a Successful Data Governance Program

Take Aways

- Need for DG is increasing
  - Increase in data volume
  - Lack of rigorous practice improvement
- DG is a new discipline
  - Must conform to constraints
  - No one best way
- DG must be driven by 4 key elements
  1. Keep DG practically focused on strategy
  2. Implement DG (and data) as a program not a project
  3. Gradually add ingredients
  4. Learn the value of stories/storytelling
- The goal is to improve DG effectiveness and efficiencies (and the data itself) over time
- The more data literate the organization, the easier the transformation

By the book

- Data Governance: How to Design, Deploy, and Sustain an Effective Data Governance Program

- John Ladley

- Amazon Best Sellers Rank: #641,937 in Books (See Top 100 in Books)

  – #242 in Management Information Systems

  – #209 in Library Management

  – #380 in Database Storage & Design

DATA GOVERNANCE

HOW TO DESIGN, DEPLOY, AND SUSTAIN AN EFFECTIVE DATA GOVERNANCE PROGRAM

SECOND EDITION

JOHN LADLEY
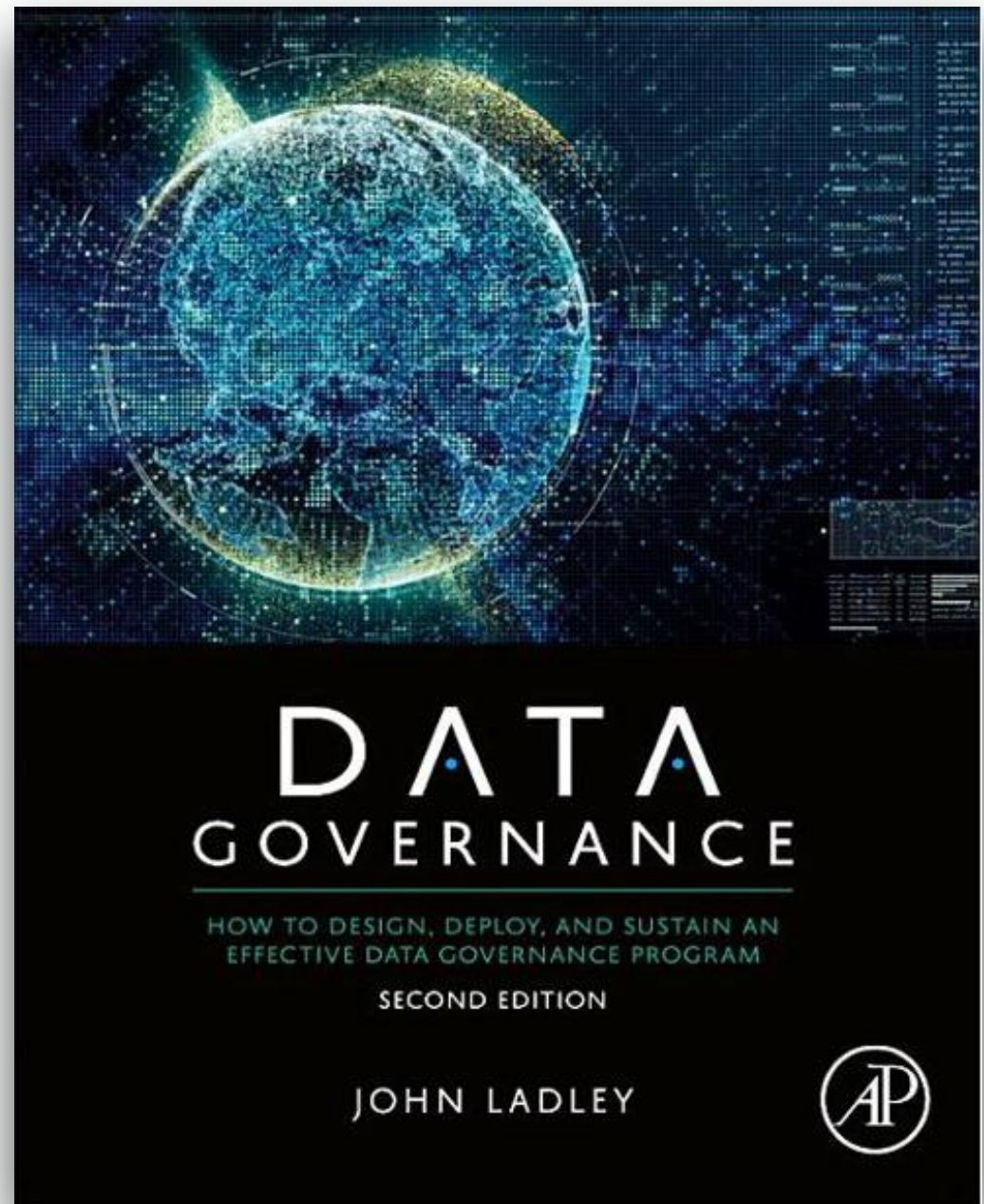
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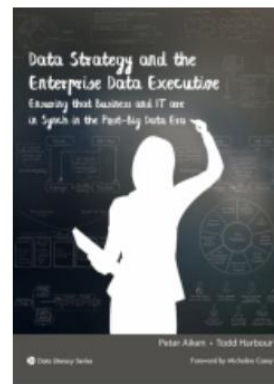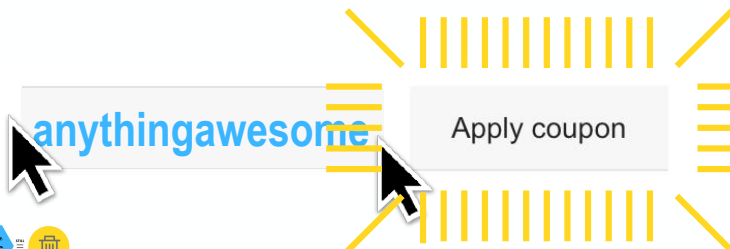
Data Strategy and the Enterprise Data Executive

Ensuring that Business and IT are in Synch in the Post-Big Data Era
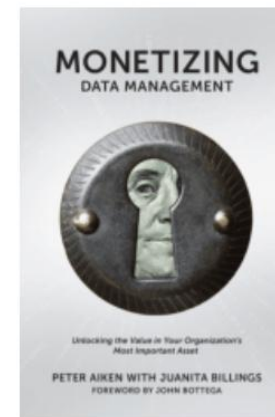
Learn More of Data Strategy

The Case for the Chief Data Officer

Recasting the C-Suite to Leverage Your Most Valuable Asset

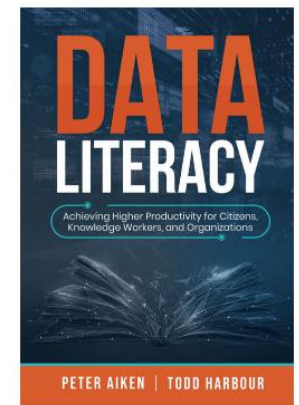(The Chinese Translation Title is: Chief Data Officer Combat)

Learn More of the Case for Data Leadership

Monetizing Data Management

17 Case Studies Illustrating How Data Leveraging (Big and Small) Can Produce Quantifiable Results That Are of Keen Interest to C-Suite Occupants

Learn More of Monetizing Data

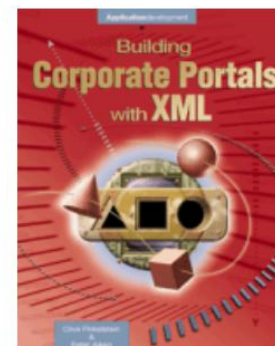**Data Literacy: Achieving Higher Productivity for Citizens, Knowledge Workers, and Organizations**

Citizens and organizations need to improve their data literacy to 'do more with data'
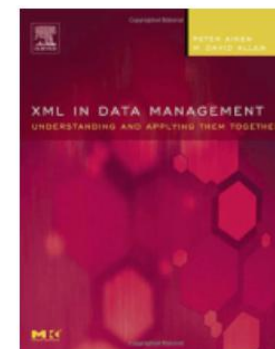
Learn More of Data Literacy

Data Reverse Engineering

Learn More of Data Reverse Engineering

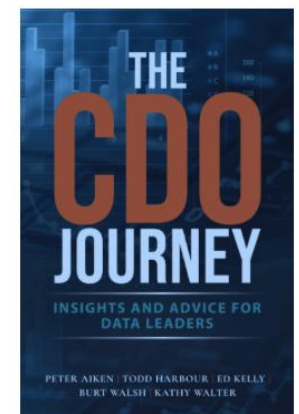**Building Corporate Portals with SML**

Learn More Corporate Portals (& XML)

XML in Data Management

Learn More of XML and Data Management

The CDO Journey: Insights and Advice for Data Leaders

Learn More of the CDO Journey

Upcoming Events

Conceptual vs. Logical vs. Physical Data Modeling
9 July 2024

The Importance of Metadata: 3 Leveraging Strategies
13Aug 2024

Time: 19:00 UTC (2:00 PM NYC) | Presented by: Peter Aiken, PhD

Getting Data Quality Right
10 September 2024

PUT THIS on YOUR CALENDAR!

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DATAVERSITY

Critical Design Review?

Mentoring?

Collaboration?

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Executive Data Literacy Training?

Bad Data + Awesome THING STILL = Bad Results

Peter.Aiken@AnythingAwesome.com +1.804.382.5957

Reverse Engineering Expertise?

Hiring Assistance?

Thank You!

Use your data more strategically?

Tool/automation evaluation?

Book a call with Peter to discuss anything - https://anythingawesome.com/OfficeHours.html