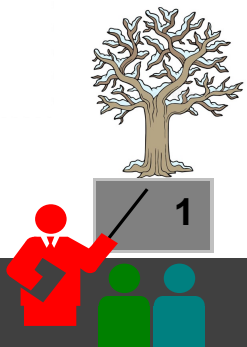# Real-World Data Governance

Why is Governing Data Quality So #$*@&! Hard?

Monthly Webinar Series Hosted by DATAVERSITY

Robert S. Seiner – KIK Consulting
December 21, 2023 – 11:00 a.m. PT / 2:00 p.m. ET

Happy Holidays

KIK CONSULTING | **DATAVERSITY**

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Why is Governing Data Quality So Hard
Introduction

Real-World Data Governance – Monthly Webinar Series

January 18, 2024: Data Governance and Data Management Untangled

Third Thursday each Month @ 2pm EST – Register at TDAN.com, KIKconsulting.com, DATAVERSITY.net

Upcoming Events

Enterprise Data Governance Online (EDGO) 2024: Dataversity Virtual Event – January 24, 2024

Enterprise Data World 2024: Dataversity Conference – Orlando, Florida – March 25 – 29, 2024

Non-Invasive Data Governance / Non-Invasive Data Governance Strikes Again Books

2014: ISBN 9781935504856 / Technics Publications / Amazon.com

May 2023: ISBN 9781634623599 / Technics Publications / Amazon.com

Non-Invasive Data Governance / Metadata Governance Online Learning Plans

Latest: Business Glossaries, Data Dictionaries and Data Catalogs
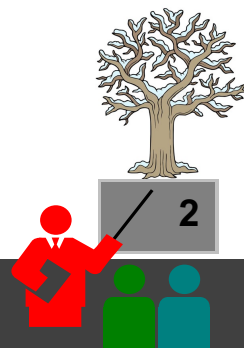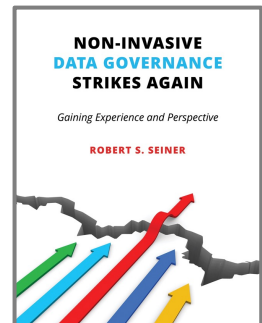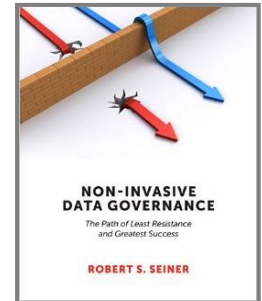DATAVERSITY Training Center – https://training.dataversity.net

KIK Consulting & Educational Services

KIKConsulting.com: Knowledge is King
The Home of Non-Invasive Data Governance™

Carnegie Mellon University (CMU)

Adjunct: Heinz College Executive Education – Chief Data Officer (CDataO) Certificate Program

Why is Governing Data Quality So Hard
Abstract

- In this webinar, I will share …
    - What It Means to Govern Data Quality
    - Dimensions of Data Quality
    - Governing Quality by Dimension
    - Making the Governing of Data Quality Easier
   - Improving Outcomes Through Data Quality

Why is Governing Data Quality So Hard
Definitions

- **Data Governance** – The execution and enforcement of authority over data.

- **Data Stewardship** – Formal accountability for data.

- **Data Steward** – A person held formally accountable for their relationship to the data.

- **Metadata** – Data, stored in IT tools, that improves both the business and technical understanding of data and data-related assets. Data about data.

- **Data Quality** - measure of the condition of data based on factors such as accuracy, completeness, consistency, reliability and whether it's up to date.
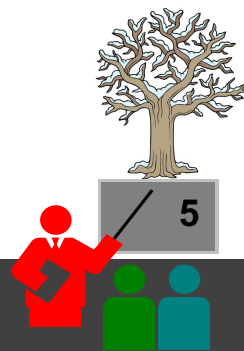
  TechTarget - https://www.techtarget.com/searchdatamanagement/definition/data-quality
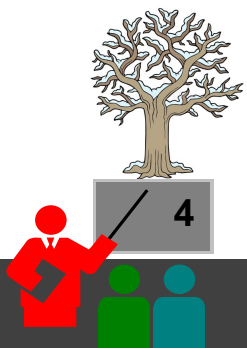
Why is Governing Data Quality So Hard
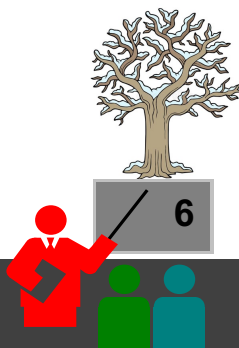## What It Means to Govern Data Quality

- What it Means to Govern Something

- When That "Something" is Data Quality

- The Result of Governing / Not Governing Data Quality

- The Expense of Inadequate Data Quality

- Data Quality Will Not Govern Itself

Why is Governing Data Quality So Hard
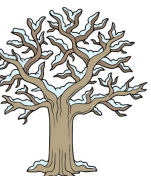## What It Means to Govern Data Quality

- What it Means to Govern Something
  - Formalize Rules and Policies
  - Formalize Compliance
  - Formalize Decision-Making Authority
  - Formalize Accountability and Responsibility
  - Formalize Improvement

Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

- When That "Something" is Data Quality
  - Formalize Rules and Policies for Data
  - Formalize Compliance for Data
  - Formalize Decision-Making Authority for Data
  - Formalize Accountability and Responsibility for Data
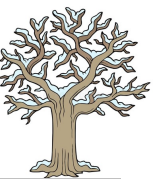 - Formalize Improvement for Data

Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

- The Result of Governing Data Quality
  - Accurate Data
  - Consistent Data
  - Relevant Data
  - Timely Data
  - Compliant Data

- The Results of Not Governing Data Quality
  - Inaccurate Data
  - Inconsistent Data
  - Obsolete Data
  - Delayed Decision-Making with Data
  - Non-Compliant Data

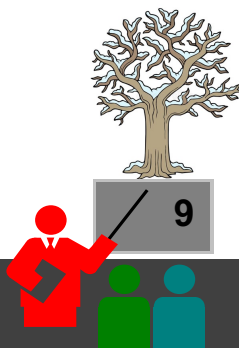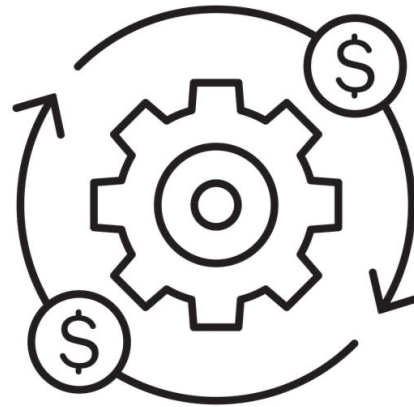TELL ME NOT TO DO SOMETHING AND I WILL DO IT TWICE AND TAKE PICTURES

Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

- **The Expense of Inadequate Data Quality**

  - **Operational Inefficiencies:** Poor data quality can lead to operational inefficiencies, as employees spend additional time correcting errors, reconciling discrepancies, and dealing with inconsistent data.

  - **Missed Business Opportunities:** Inaccurate or incomplete data can result in missed business opportunities, as decision-makers may not have the reliable information needed to identify and capitalize on emerging trends or market demands.

  - **Customer Dissatisfaction:** Inadequate data quality can lead to errors in customer records, causing dissatisfaction due to billing issues, incorrect product shipments, or other service-related problems.

Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

- The Expense of Inadequate Data Quality

 - **Regulatory Fines and Penalties:** Non-compliance with data quality standards and regulations may result in fines and penalties, as organizations could face <u>legal consequences</u> for failing to maintain accurate and secure data.

  - **Reputation Damage:** Data quality issues can harm an organization's reputation, <u>eroding customer trust and confidence</u>. Negative publicity arising from data-related incidents can have long-lasting effects on brand perception.
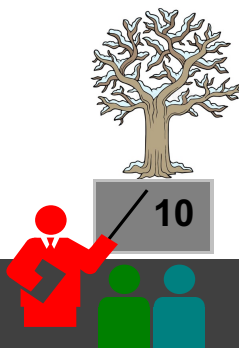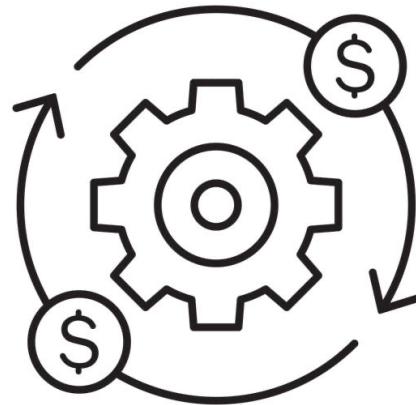
Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

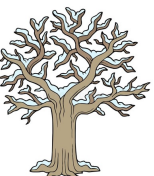- Data Quality Will Not Govern Itself

  - Human Interpretation and Context: Data requires human interpretation to derive meaningful insights. Without proper governance, there is a risk of misinterpretation or overlooking crucial contextual information that <u>human oversight can provide</u>.

  - Quality Assurance and Validation: Effective governance involves quality assurance processes to ensure data accuracy and reliability. Automated systems can help, but <u>human intervention is essential</u> to validate data, identify anomalies, and correct errors that automated tools may not catch.

  - Decision-Making and Strategy Alignment: Governance ensures that data aligns with organizational strategies and objectives. <u>Humans are necessary</u> to make informed decisions based on data, ensuring that it supports the overall goals of the organization. automated systems alone may not fully address.

Why is Governing Data Quality So Hard
What It Means to Govern Data Quality

- Data Quality Will Not Govern Itself

  - Adaptation to Changing Business Needs: As business environments evolve, data governance needs to adapt. Humans are essential for assessing the changing needs of the organization, adjusting governance policies, and ensuring that data remains relevant and valuable.

  - Ethical Considerations and Compliance: Governance involves ethical considerations and compliance with regulations. Human oversight is crucial to navigating complex ethical dilemmas, ensuring responsible data use, and complying with legal requirements that automated systems alone may not fully address.

Why is Governing Data Quality So Hard
Dimensions of Data Quality

- What Are the Dimensions of Data Quality?

- Why Are the Dimensions Important?

- Challenges Associated With Governing Quality Dimensions

- Demonstrating Data Governance Value By Dimension
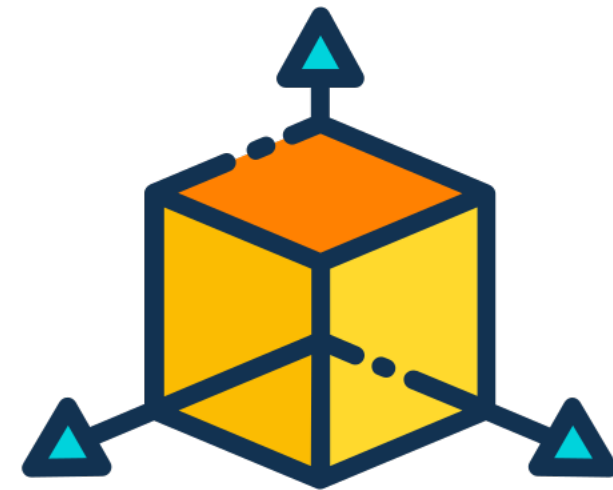
Why is Governing Data Quality So Hard
Dimensions of Data Quality

- What Are the Dimensions of Data Quality?
  - Traditional
    - Accuracy
    - Completeness
    - Consistency
    - Timeliness
    - Validity
    - Uniqueness
    - Integrity
  - Not as Traditional
    - Relevancy
    - Granularity
    - Accessibility
    - Interpretability
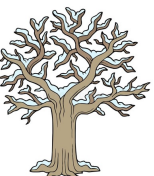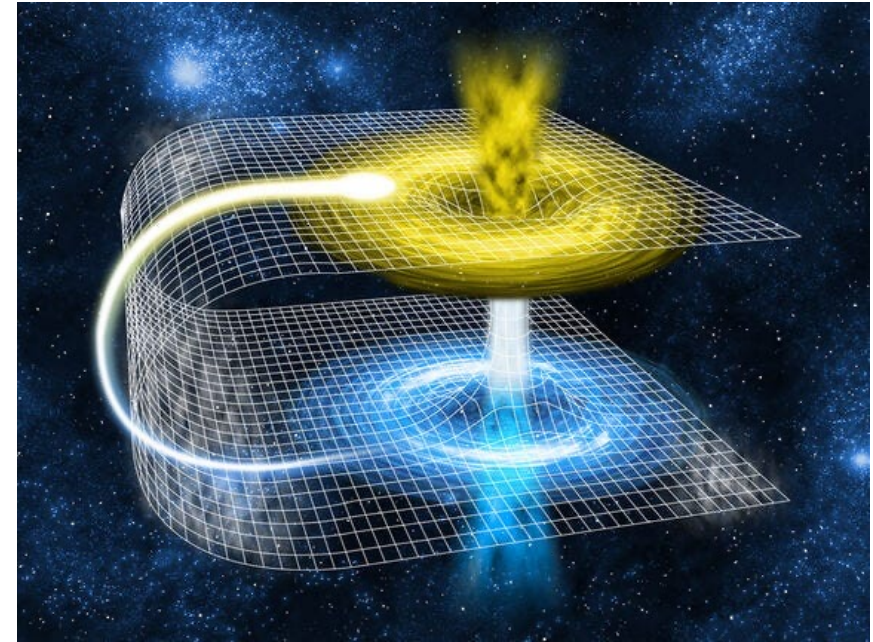
Why is Governing Data Quality So Hard
Dimensions of Data Quality

- **Why Are the Dimensions Important?**

  - **Improved decision-making:** High-quality data leads to better decision-making. <u>When data is accurate, complete, consistent, timely, valid, and unique, it can be used</u> to identify trends, understand patterns, and make informed decisions. Poor-quality data, on the other hand, can lead to flawed decisions that can have negative consequences for organizations.

  - **Increased efficiency:** Data quality <u>dimensions can help to identify and address problems</u> with data early in the process. This can save time and money by preventing errors and rework. Additionally, high-quality data can automate processes and improve efficiency by reducing the need for manual data cleaning and manipulation.

  - **Enhanced customer experience:** High-quality data can help organizations to <u>provide a better customer experience</u>. For example, accurate and complete customer data can be used to personalize marketing campaigns, improve customer service interactions, and develop targeted loyalty programs.
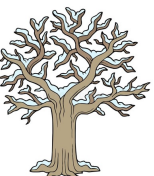
Why is Governing Data Quality So Hard
Dimensions of Data Quality

- Why Are the Dimensions Important?

  - Increased compliance: Many industries have regulations that require organizations to maintain data quality. By using data quality dimensions, organizations can ensure that their data meets these regulations and avoid fines or other penalties.

  - Improved data governance: Data quality dimensions can be used to develop data governance policies and procedures. This can help to ensure that data is managed effectively and that it is used in a reliable and ethical manner.

  - Reduced risk: Poor-quality data can lead to a variety of risks, such as financial losses, operational problems, and reputational damage. By using data quality dimensions, organizations can identify and mitigate these risks.

  - Improved data sharing: High-quality data is more likely to be shared and used across an organization. This can lead to better collaboration, innovation, and decision-making.
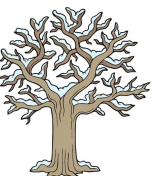
Why is Governing Data Quality So Hard
Dimensions of Data Quality

- Why Are the Dimensions Important?

  - Increased ROI: Investing in data quality can lead to a significant return on investment (ROI). This is because high-quality data can lead to <u>improved efficiency, increased sales, and reduced costs</u>.

  - Competitive advantage: In today's data-driven economy, organizations that have access to high-quality data have a competitive advantage. By using data quality dimensions, organizations can ensure that they are <u>making the most of their data and are well-positioned for success</u>.

  - Building trust: High-quality data can help to <u>build trust with customers, stakeholders, and regulators</u>. This is because it demonstrates that the organization is committed to data accuracy, integrity, and security.

Why is Governing Data Quality So Hard
Dimensions of Data Quality

- Challenges Associated With Governing Quality Dimensions
  - Defining Quality Dimensions
  - Measuring and Monitoring Quality Dimensions
  - Balancing Competing Priorities
  - Enforcing Data Quality Standards
  - Adapting to Change

Why is Governing Data Quality So Hard
Dimensions of Data Quality

- Demonstrating <u>Data Governance Value</u> By Dimension
  - Accuracy:
    - Demonstrate that data is accurate by conducting regular data quality audits against defined standards.
    - Implement data quality controls at the point of data entry, such as data validation and input masking.
    - Use data profiling tools to identify and correct data anomalies.
  - Completeness:
    - Define and document the required data fields for all data sets.
    - Implement data quality checks to identify and flag missing data.
    - Develop and implement processes for capturing and completing missing data.

Why is Governing Data Quality So Hard
Dimensions of Data Quality

- Demonstrating Data Governance Value By Dimension

  - Consistency:

    - Establish data formatting standards and conventions for all data sets.
    - Implement data quality checks to identify and correct inconsistencies in data formatting and values.
    - Use data reconciliation tools to ensure that data across different systems is consistent.

  - Timeliness:

    - Define and document the target data refresh times for all data sets.
    - Implement data quality checks to identify and flag data that is not timely.
    - Develop and implement processes for accelerating data refresh and delivery.

Why is Governing Data Quality So Hard
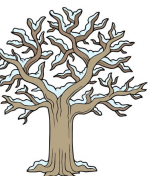## Dimensions of Data Quality

- Demonstrating Data Governance Value By Dimension

  - Validity:

    - Define and document the valid values for all data fields.
    - Implement data quality checks to identify and correct invalid data values.
    - Use data validation tools to ensure that data values entered into systems are valid.

  - Uniqueness:

    - Implement data quality checks to identify and correct duplicate data entries.
    - Use data normalization techniques to ensure unique data values are consistent across data sets.
    - Develop and implement processes for preventing duplicate data entries.

  - Integrity:

    - Implement data security measures to protect data from unauthorized access, modification, or deletion.
    - Conduct regular data backup and recovery procedures.
    - Monitor data access and usage patterns to detect and prevent suspicious activity.

Why is Governing Data Quality So Hard
Governing Quality by Dimension

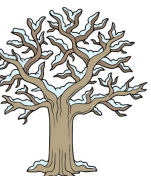- Data Definition Quality Dimensions

- Data Production Quality Dimensions

- Data Usage Quality Dimensions

- Metadata Quality by Dimension

- Data Quality Will Not Improve on Its Own

Why is Governing Data Quality So Hard
Governing Quality by Dimension

- Data Definition Quality Dimensions
    - Accurate Representation
    - Valid Values
    - Uniqueness
    - Completeness
    - Consistency

Why is Governing Data Quality So Hard
Governing Quality by Dimension

- Data Production Quality Dimensions
  - Data Integrity
  - Timeliness
  - Completeness
  - Consistency
  - Accessibility
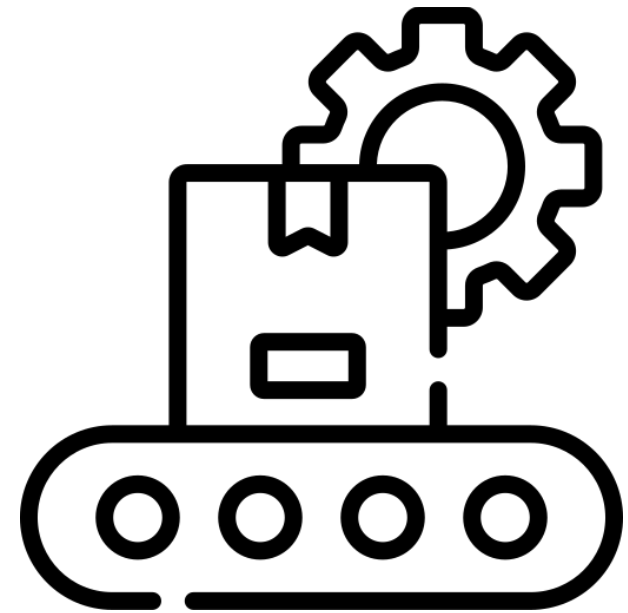
Why is Governing Data Quality So Hard
Governing Quality by Dimension

- Data Usage Quality Dimensions
  - Relevance
  - Transparency
  - Security
  - Interpretability
  - Efficiency

Why is Governing Data Quality So Hard
Governing Quality by Dimension

- Metadata Quality by Dimension
  - Completeness
  - Accuracy
  - Consistency
  - Timeliness
  - Accessibility

Why is Governing Data Quality So Hard
Governing Quality by Dimension

- Data Quality Will Not Improve on Its Own

    - Data value and trust are directly related to formal data governance. Organizations that invest in data governance see higher quality and trust in their data, leading to better decision-making and efficiency.

    - Siloed data resources hinder AI and data-centricity. When data quality is not governed and managed as a cross-enterprise asset, it becomes difficult to integrate, share, and leverage across the organization, ultimately hindering AI and data-centric initiatives.

    - Data quality governance requires formal execution and enforcement. Effective data governance requires a top-down approach with clear authority and accountability for defining, producing, and using data.

    - People govern data quality. The behavior of people directly impacts the quality, value, and trust in data. Data governance is essentially "people governance" focused on encouraging the right actions with data.

    - Metadata is crucial for improving data quality and trust. Metadata provides people with the knowledge they need to understand, access, and use data effectively. However, many organizations struggle with incomplete, inconsistent, and inaccessible metadata, hindering their data quality efforts.

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier

- Record Data Quality Challenges and Opportunities

- Prioritize Data Quality Challenges and Opportunities

- Resource the Action of Addressing the Challenges and Opportunities

- Govern Team to Address the Challenge or Opportunity

- Measure and Report the Value of the Action

- This appears so simple … Why is it so difficult?

Why is Governing Data Quality So Hard
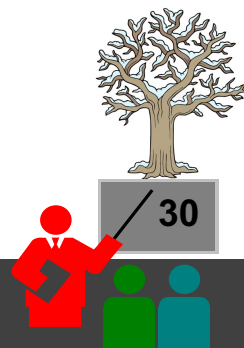## Making the Governing of Data Quality Easier

- Record Data Quality Challenges and Opportunities
  - Define Data Quality Dimensions
  - Implement Data Collection Mechanisms
  - Develop a Data Quality Repository
  - Standardize Data Quality Reporting
  - Empower Stakeholders to Identify and Address Data Quality Issues

Why is Governing Data Quality So Hard
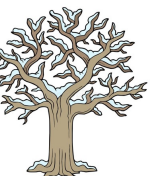## Making the Governing of Data Quality Easier

- Prioritize Data Quality Challenges and Opportunities
  - Assess Impact
  - Analyze Feasibility
  - Align With Strategic Objectives
  - Leverage Data Quality Metrics
  - Collaborate and Communicate

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier

- Resource the Action of Addressing the Challenges and Opportunities
  - Allocate Budget
  - Secure Technology and Tools
  - Build a Skilled Team
  - Establish a Data Quality Governance Framework
  - Develop a Continuous Improvement Mindset

Why is Governing Data Quality So Hard
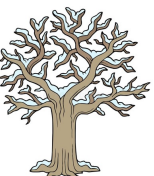## Making the Governing of Data Quality Easier

- Govern Team to Address the Challenge or Opportunity
  - Establish Clear Roles & Responsibilities
  - Implement Data Quality Standards and Policies
  - Promote Transparency and Communication
  - Monitor and Evaluate Data Quality Efforts
  - Provide Ongoing Training and Support

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier
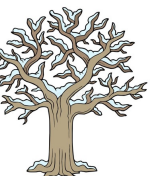
- Measure and Report the Value of the Action
  - Define Value Metrics
  - Establish Baselines
  - Implement Measurement and Reporting Tools
  - Regularly Report and Communicate Results
  - Refine and Adapt Based on Insights

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier

- **This appears so simple … Why is it so difficult?**
  - **Complexity of Data Landscape:**
    - Silos and fragmentation: Data often resides in disparate systems and formats, making it difficult to manage and ensure consistent quality across the organization.
    - Variety: Data types and sources vary greatly, requiring diverse approaches to cleaning, validation, and integration.
    - Volume and velocity: The sheer volume and velocity of data growth can overwhelm existing data quality processes and tools.

Why is Governing Data Quality So Hard
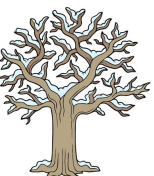## Making the Governing of Data Quality Easier

- This appears so simple … Why is it so difficult?
  - Organizational Challenges:
    - Lack of awareness and buy-in: Not everyone in the organization understands the importance of data quality, leading to resistance to change and inadequate support for initiatives.
    - Competing priorities and resource constraints: Data quality initiatives often compete with other priorities for funding and resources, making it difficult to allocate sufficient support.
    - Lack of clear roles and responsibilities: Unclear ownership and accountability for data quality can lead to confusion, inefficiency, and gaps in effort.

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier

- This appears so simple … Why is it so difficult?
  - Technology and Tools:
    - Limited or outdated technology: Many organizations lack the necessary technology and tools to effectively manage and analyze data quality.
    - Integration challenges: Integrating data quality solutions with existing systems and platforms can be complex and costly.
    - Data privacy and security concerns: Implementing data quality initiatives must comply with data privacy and security regulations, adding another layer of complexity.

Why is Governing Data Quality So Hard
Making the Governing of Data Quality Easier

- This appears so simple … Why is it so difficult?
  - Cultural and Behavioral Factors:
    - Resistance to change: People naturally resist changes to their workflows and processes, even when those changes are intended to improve data quality.
    - Lack of data literacy: Many individuals lack the skills and knowledge to understand and utilize data effectively, hindering their ability to contribute to data quality efforts.
    - Fear of blame: A culture of fear and blame discourages people from reporting data quality issues, hindering the identification and resolution of problems.

Why is Governing Data Quality So Hard
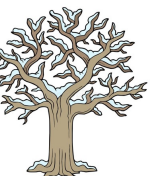## Making the Governing of Data Quality Easier

- This appears so simple … Why is it so difficult?

  - Continuous Process:

    - Data quality is never perfect: It requires ongoing effort to maintain/improve data quality over time.

    - Adapting to change: The data landscape and organizational needs constantly evolve, requiring data quality initiatives to adapt and evolve accordingly.

    - Long-term commitment: Governing data quality requires a long-term commitment from leadership and sustained investment in resources, technology, and training.

Why is Governing Data Quality So Hard
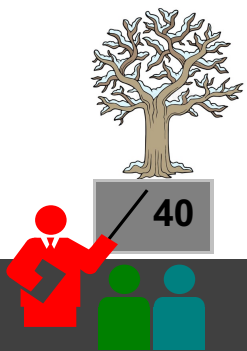## Improving Outcomes Through Data Quality

- Ways to Improve Business Outcomes Through Governed Data Quality

  – Enhanced Decision-Making

  – Increased Operational Efficiency

  – Improved Customer Satisfaction

  – Regulatory Compliance

  – Cost Reduction

  – Trust and Credibility

  – Effective Risk Management

  – Business Intelligence

  – Innovation Enablement

  – Competitive Advantage

- How to Get Started Today

Why is Governing Data Quality So Hard
Improving Outcomes Through Data Quality

- **Enhanced Decision-Making:** Reliable data quality provides a foundation for informed and accurate decision-making.

- **Increased Operational Efficiency:** High-quality data streamlines processes, reducing errors and operational bottlenecks.

- **Improved Customer Satisfaction:** Accurate data contributes to personalized and efficient customer interactions.

Why is Governing Data Quality So Hard
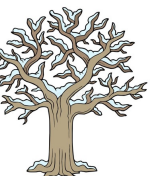## Improving Outcomes Through Data Quality

- **Regulatory Compliance:** Ensuring data quality aids in meeting regulatory requirements and avoiding penalties.

- **Cost Reduction:** Mitigating data errors and inconsistencies minimizes the need for costly corrections and rework.

- **Trust and Credibility:** Reliable data builds trust among stakeholders, enhancing the organization's credibility.

Why is Governing Data Quality So Hard
Improving Outcomes Through Data Quality

- **Effective Risk Management:** Quality data enables better identification/mitigation of potential risks.

- **Business Intelligence:** Accurate and consistent data enhances the effectiveness of business intelligence and analytics.

- **Innovation Enablement:** Quality data serves as a reliable foundation for innovative initiatives and technological advancements.

- **Competitive Advantage:** Organizations w/superior data quality gain a competitive edge in the market.

Why is Governing Data Quality So Hard
Improving Outcomes Through Data Quality

- **How to Get Started Today**

  – Build Awareness and Gain Buy-In

  – Define Data Quality Goals and Priorities

  – Conduct a Data Quality Assessment

  – Implement a Data Governance Framework

  – Foster a Data-Driven Culture

  – Monitor and Track Data Quality Metrics

  – Continuously Improve and Adapt

  – Leverage Analytics and AI

  – Build Strong Data Partnerships

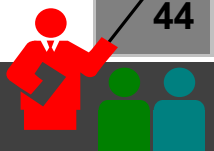 – Celebrate Success and Share the Value

Why is Governing Data Quality So Hard
Summary

- In the webinar, I shared …
    - What It Means to Govern Data Quality
    - Dimensions of Data Quality
    - Governing Quality by Dimension
    - Making the Governing of Data Quality Easier
    - Improving Outcomes Through Data Quality

SUMMARY

Why is Governing Data Quality So Hard

Q & A - Contact Information

- Robert S. Seiner

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