



# A SYSTEMS THINKING APPROACH TO DATA GOVERNANCE

ENTERPRISE DATA WORLD

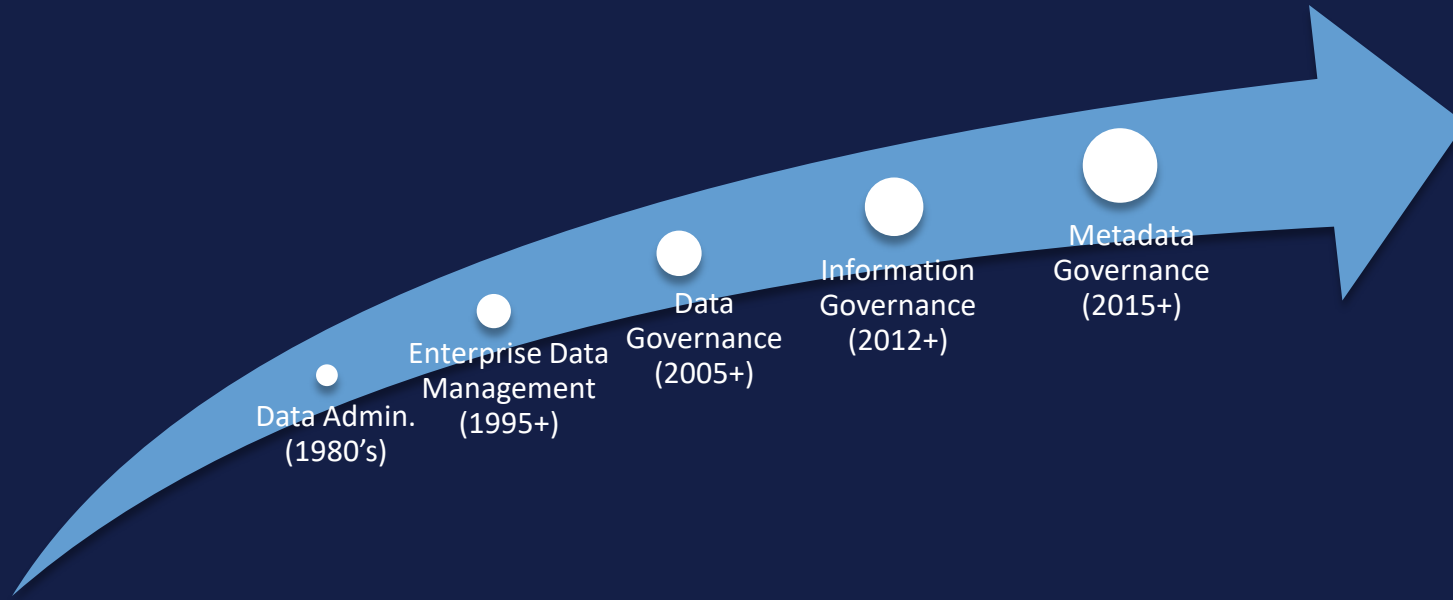
APRIL 2021

STEVEN ZAGOUDIS

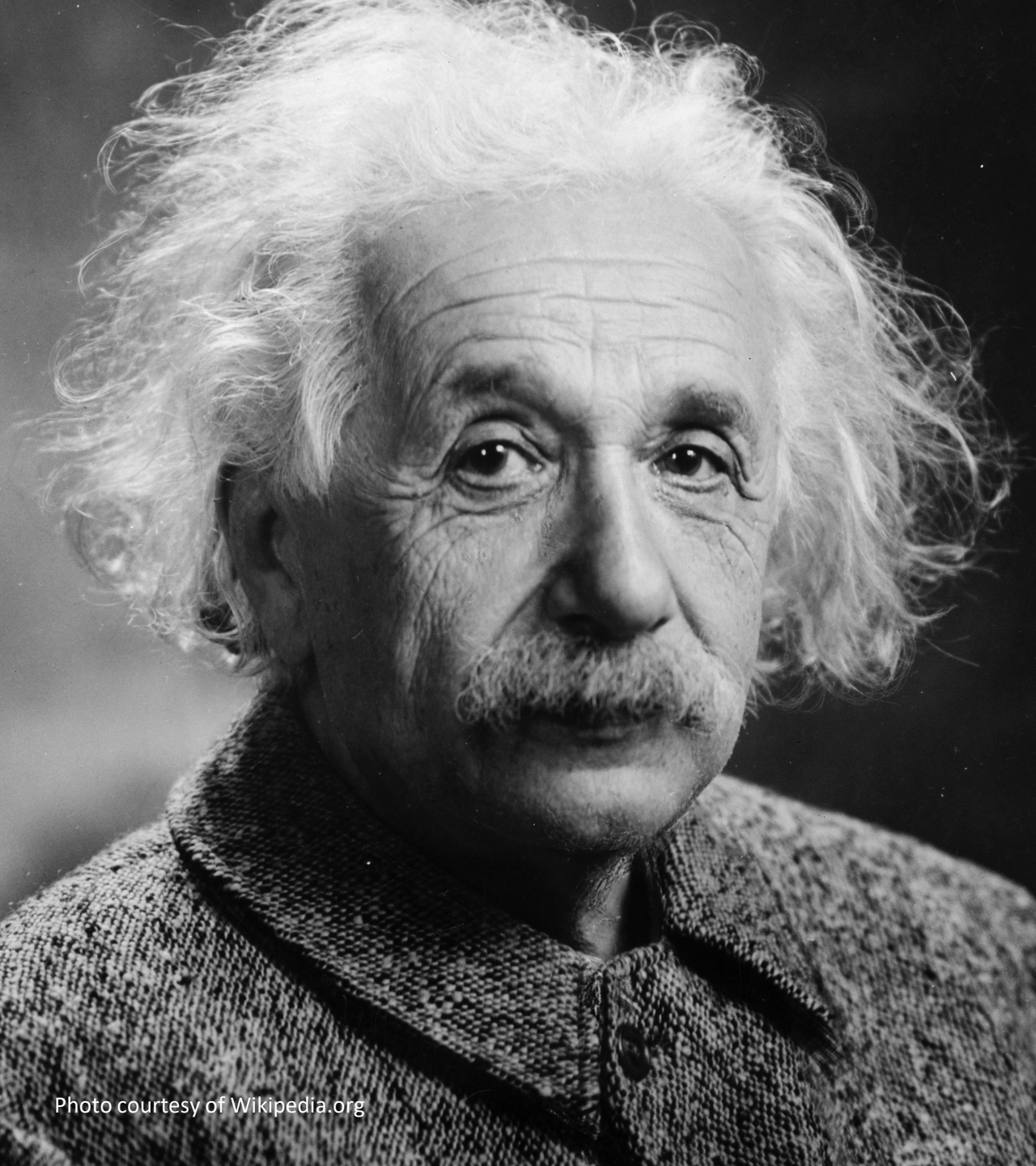
METAGOVERNANCE INC.

# WHAT YOU WILL LEARN TODAY

- A primer in Systems Thinking
- How to apply Systems Thinking to Data Governance
- How to avoid the trap of solving the wrong problem
- How a case of Accidental Adversaries produced a high stakes failure that cost \$400 million
- How a project team transformed financial reporting



# THE DISCIPLINE OF METADATA GOVERNANCE IS THE NEW PARADIGM



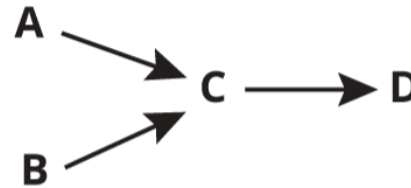
*“Without changing our patterns of thought, we will not be able to solve the problems we created with our current patterns of thought.”*

Albert Einstein

# LINEAR, EVENT - ORIENTED THINKING WILL NOT WORK

## Event Oriented Thinking

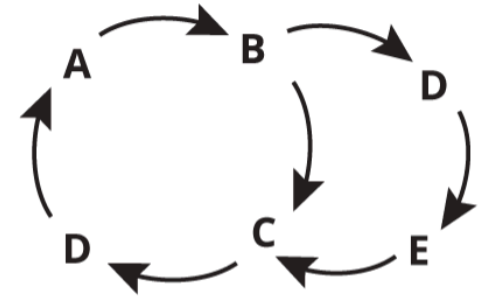
Thinks in straight lines



In event oriented thinking everything can be explained by causal chains of events. From this perspective the **root causes** are the events starting the chains of cause and effect, such as A and B.

## Systems Thinking

Thinks in loop structure



In systems thinking a system's behavior emerges from the structure of its feedback loops. **Root causes** are not individual nodes. They are the forces emerging from particular feedback loops.

Created by Thwink.org

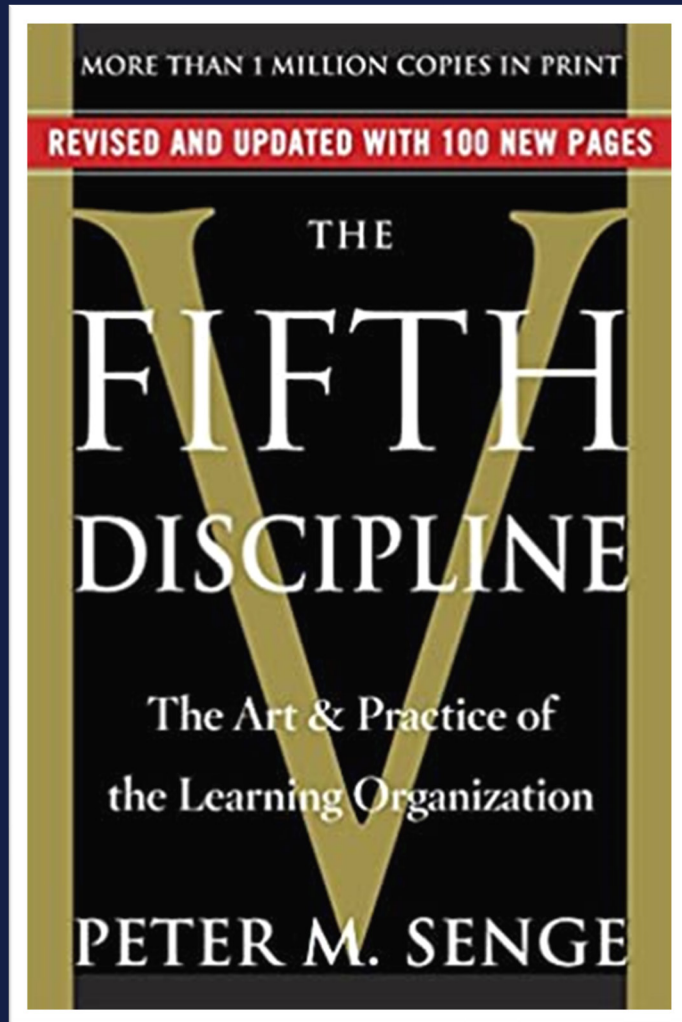


Photo courtesy of Slideshare.net

*“A system is a whole that cannot be divided into independent parts without loss of its essential properties or functions.”*

Russell Ackoff

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*“In complex systems, obvious solutions often fail to produce intended results – in fact, they often exacerbate the very problem they are trying to solve.”*

Peter Senge

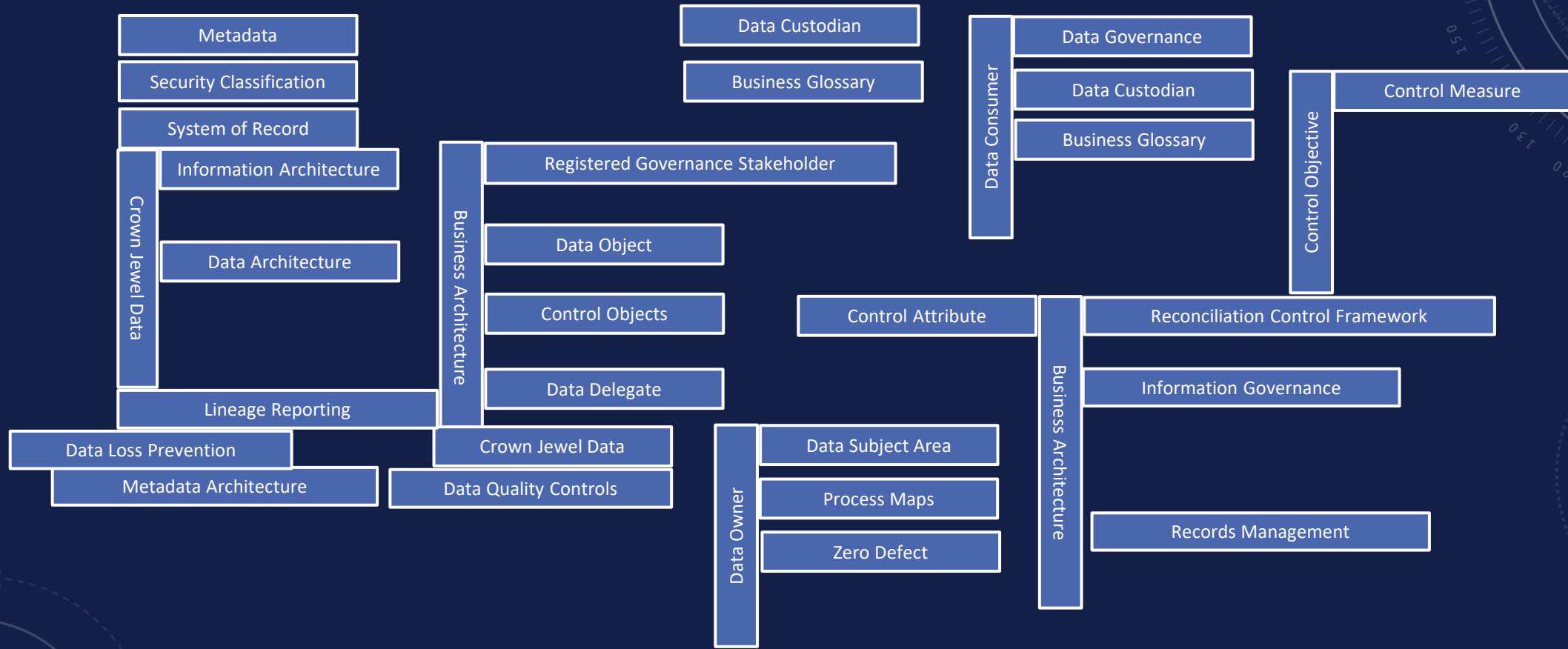
# SYSTEMS THINKING DEFINED

*Source: Systems Analysis and  
Design by Daedalean Associates*

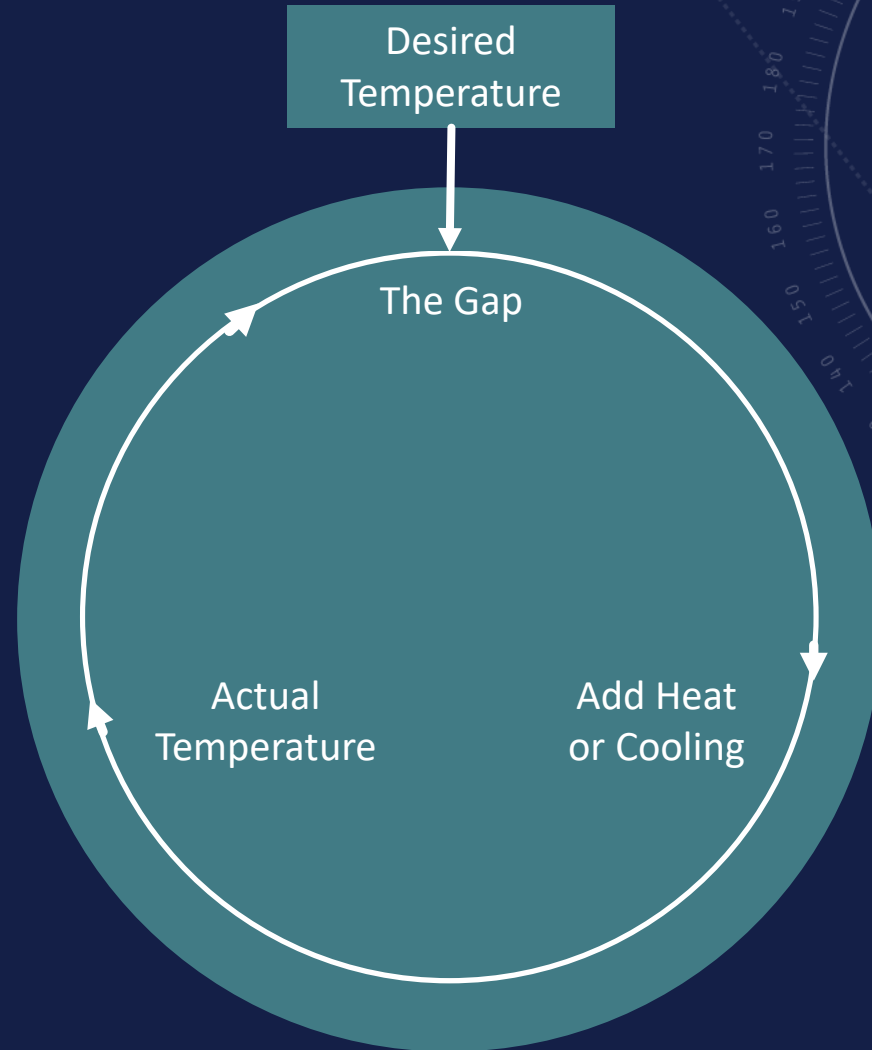
- A problem exists
- It is embedded in a situation
- It requires a solution
- The solution will have effects apart from the intended impact on the problem
- It makes sense to anticipate those effects
- The solution can be evaluated by identifying and weighing the mix of intended and unintended effects
- The solution will not stay put, since the situation will change



# DATA IS THE BACKBONE OF ANY ORGANIZATIONAL SYSTEM

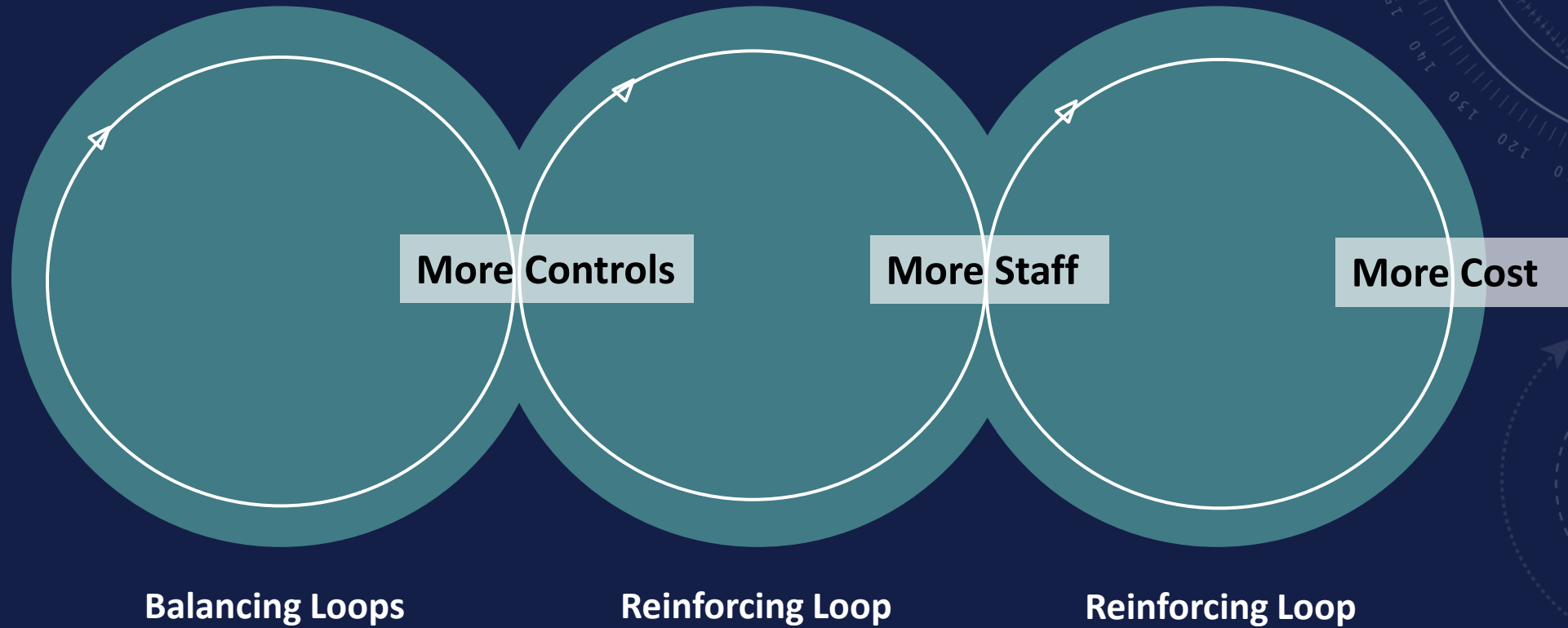


# THERMOSTAT IS AN EXAMPLE OF A FEEDBACK LOOP



# THE FUTILITY OF FIXING A DATA QUALITY PROBLEM

Problem =  
Data  
Errors

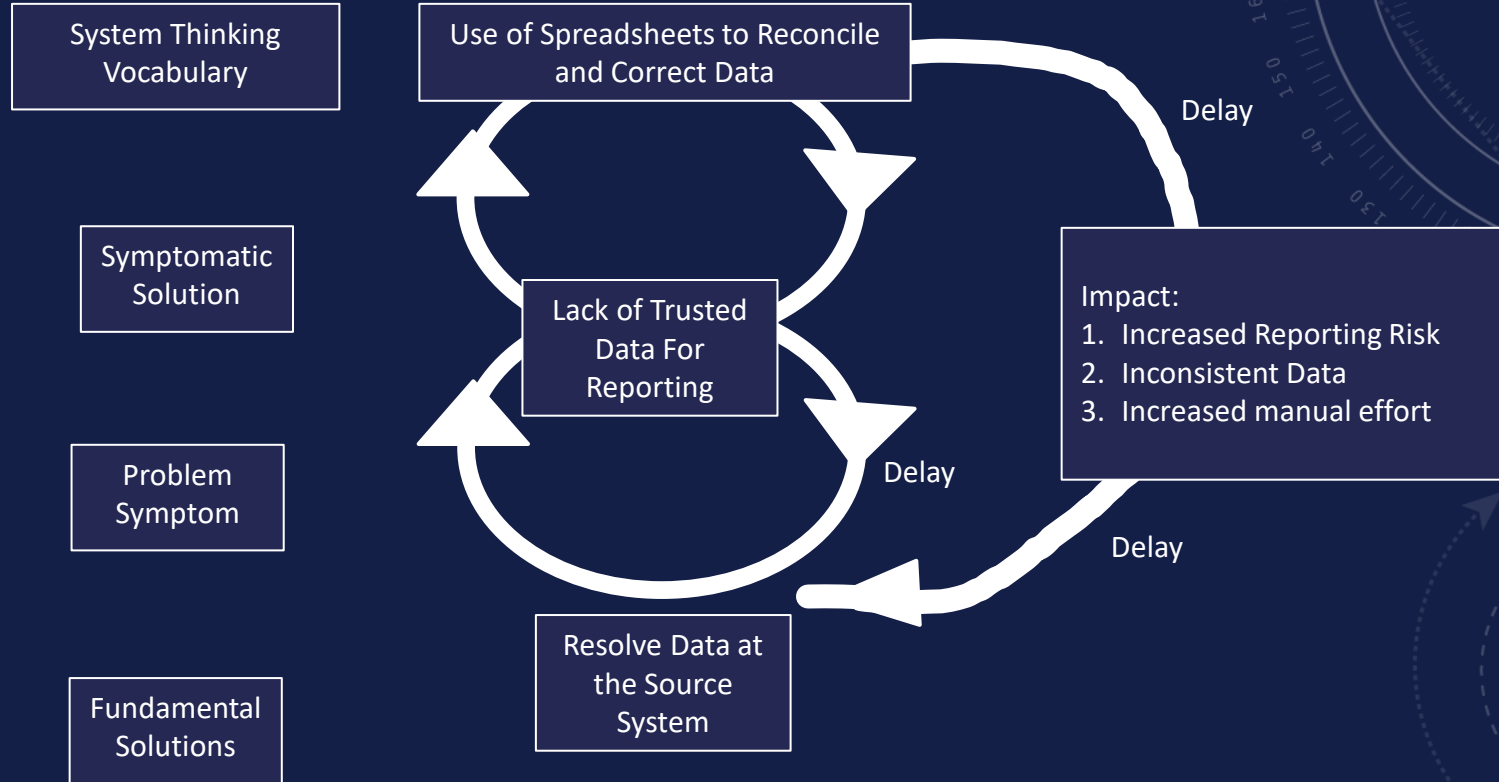


# FEEDBACK BEHAVIOR DEFINED AS SYSTEM THINKING ARCHETYPES

System Archetype	Application
Drifting Goals	<i>Stay Focused on Vision</i>
Escalation	<i>Competition</i>
Fixes that Fail	<i>Problem Solving</i>
Growth and Underinvestment	<i>Capital Planning</i>
Limits of Success	<i>Planning</i>
Shifting the Burden	<i>Break Organizational Gridlock</i>
Success to the Successful	<i>Avoid Competency Traps</i>
Tragedy of the Commons	<i>Resource Allocation</i>
Accidental Adversaries	<i>Problem Solving</i>

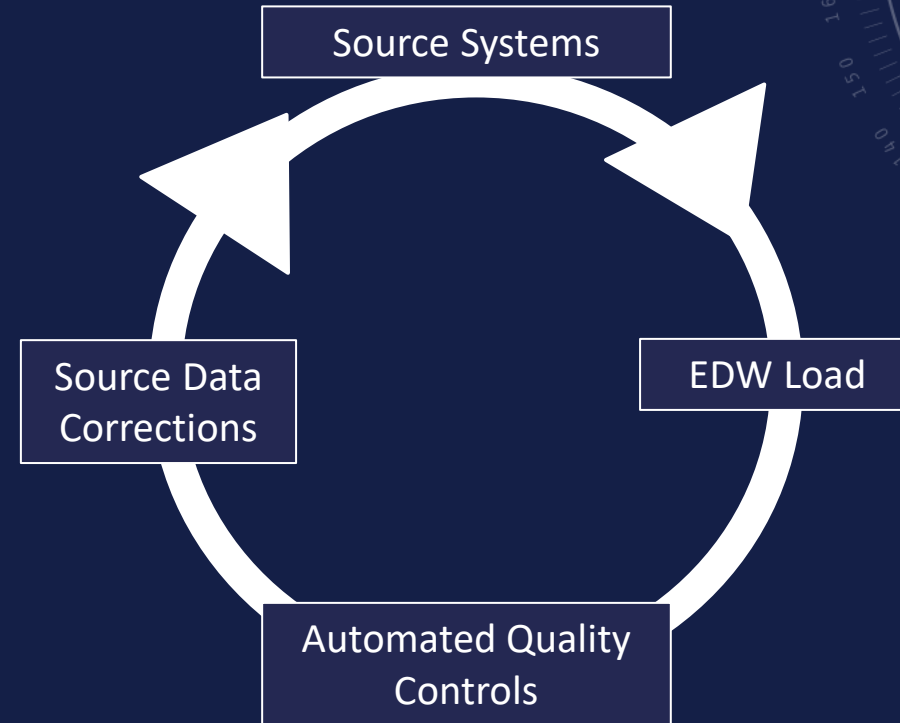
Source: *The System Thinker*, Pegasus Communications

# EXAMPLE OF SHIFTING THE BURDEN - SPREADSHEETS

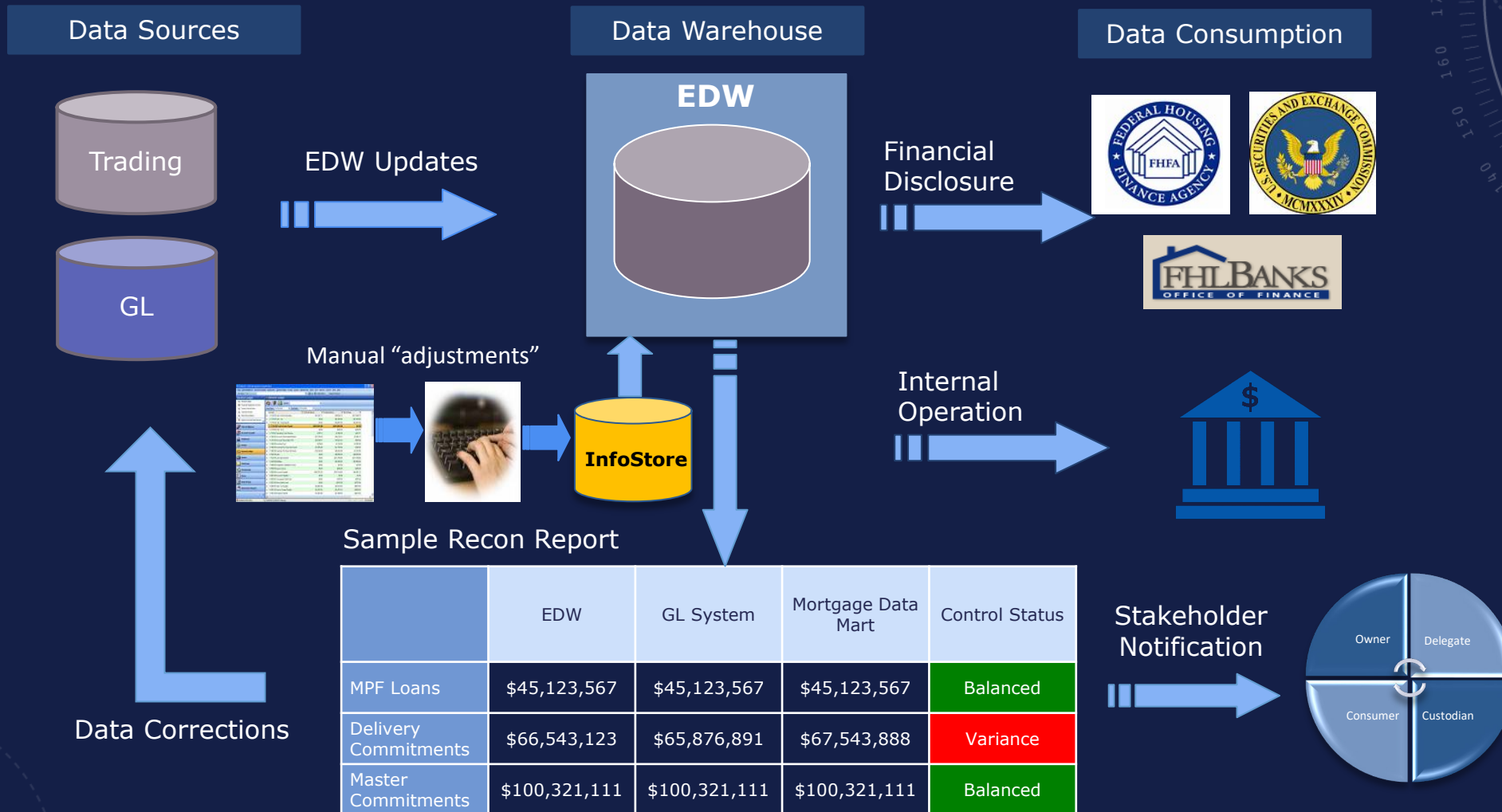


*“Successful problem solving requires **finding the right solution to the right problem**. We fail more often because we solve the wrong problem than because we get the wrong solution to the right problem.”*

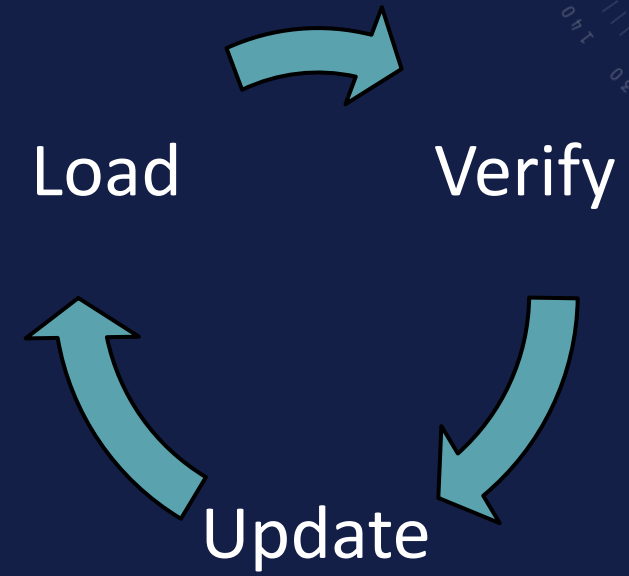
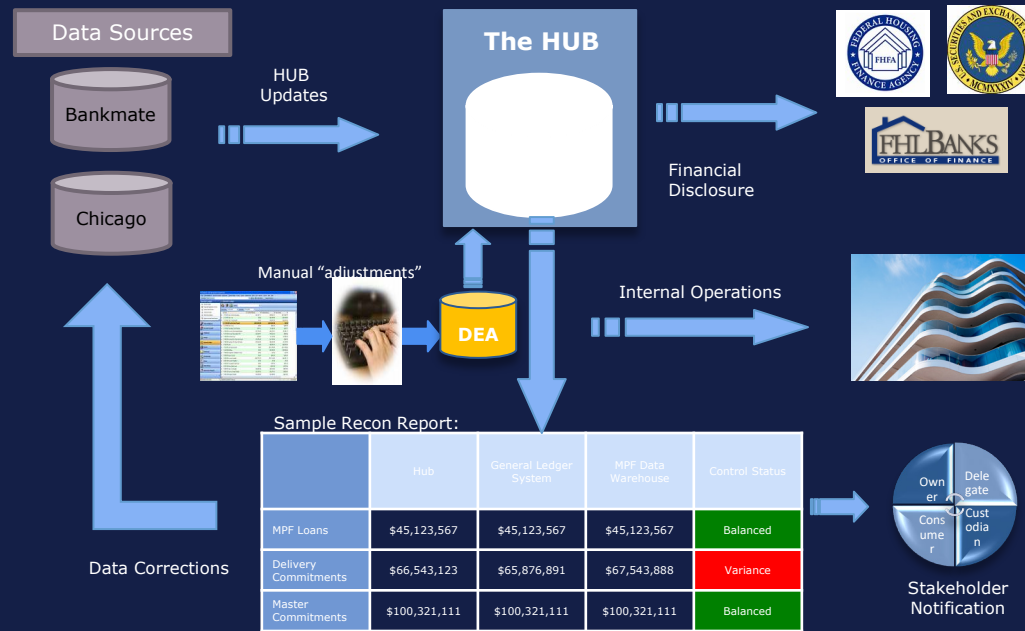
*Russell L. Ackoff*



# AUTOMATED FINANCIAL REPORTING FROM A CONTROLLED DATA WAREHOUSE

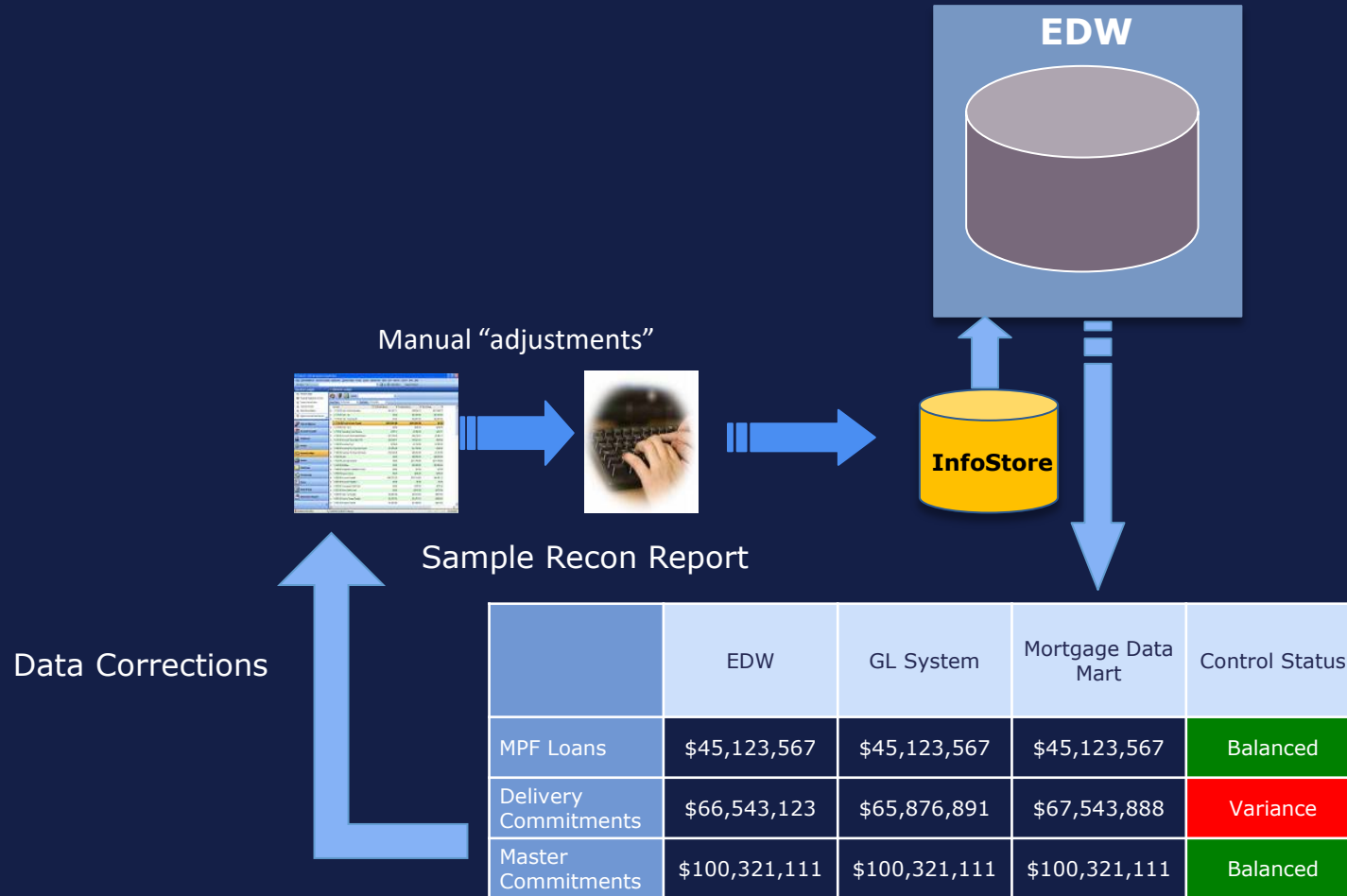


# A FEEDBACK LOOP DELIVERS TRUSTED DATA





# SECONDARY FEEDBACK LOOP TO ELIMINATE SPREADSHEETS



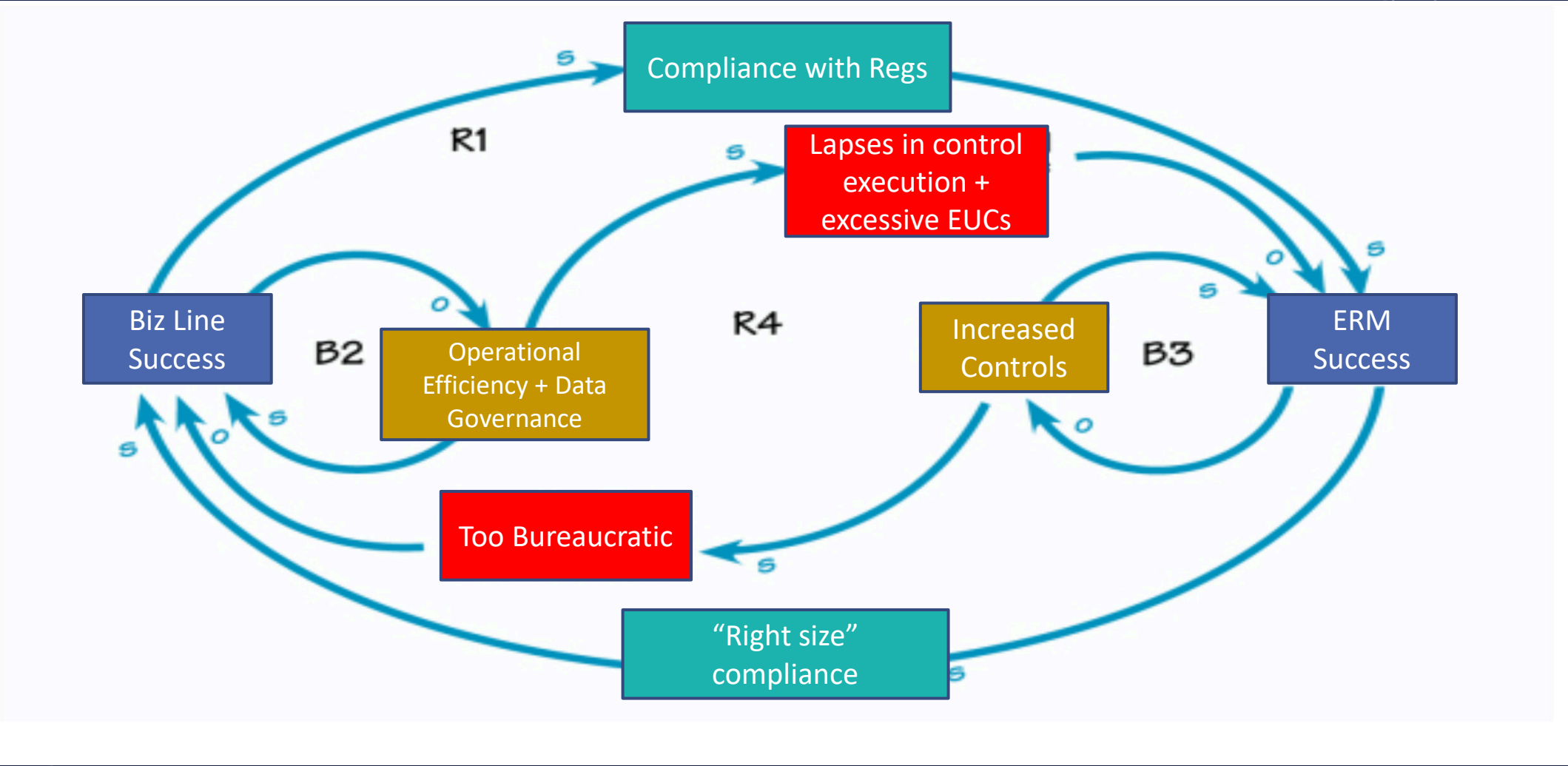


## ACCIDENTAL ADVERSARIES

*“Inside every company, people work across functions to meet their own goals and their firm’s priorities. But relationships that start out well often become adversarial over time.”*

*Source: PwC, strategy+business, 2018.*

# A REGULATORY FILING VIEWED AS AN ARCHETYPE



# ONGOING FRUSTRATION AFTER QUARTERLY REPORTS

**I can't believe we're still using spreadsheets for reporting given all the money we spend on data solutions!**



**The use of spreadsheets is adding increased risk!**



# RISK MANAGEMENT MANDATES ADDING CONTROLS

**These controls are killing our productivity. I have deadlines to meet!**



**We need additional internal controls over your process due to data fixes!**



# THE INTERNAL PRESSURE INCREASES

**We are peddling as fast as we can. These controls are too bureaucratic. We need help!**

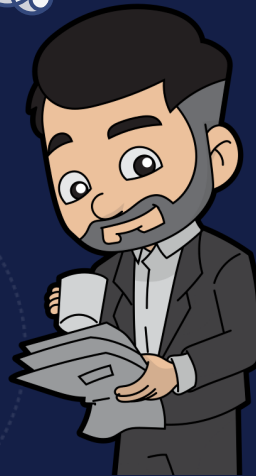


**Business Lines are having increased lapses of control. We cannot meet our commitments to the regulator!**



# OUTSIDE PRESSURES NOW COME TO BEAR

**We just need good DATA.  
Why do our attempts to fix  
things keep failing?**



**The situation is in the  
hands of the regulator.  
Now we face large fines  
for failing to do what we  
committed to do!**



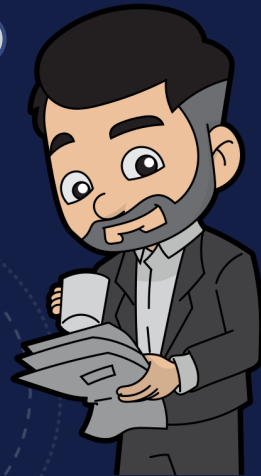
# APPLY SYSTEM THINKING TO THE PROBLEM





# SOLVING THE RIGHT PROBLEM WORKS EVERY TIME

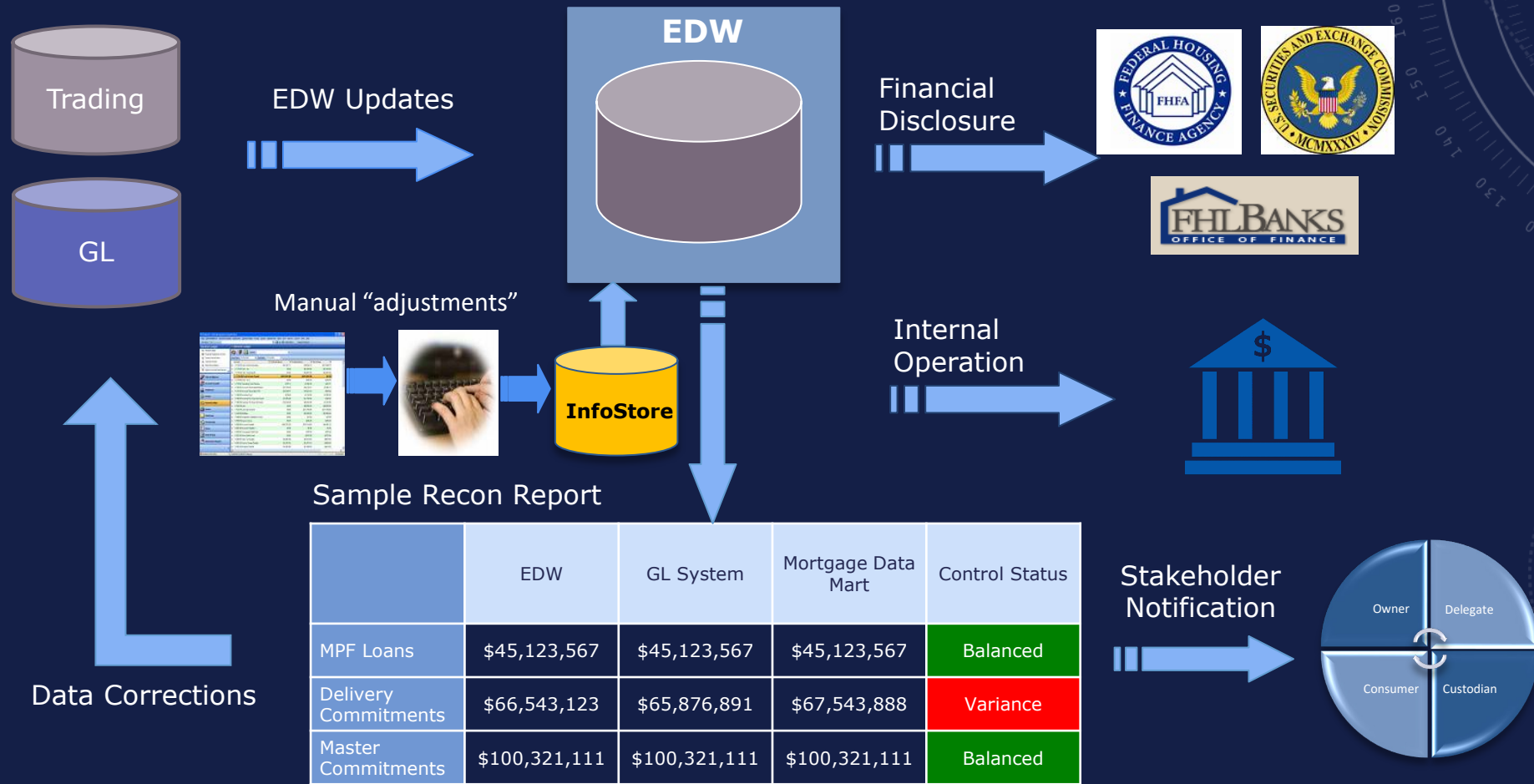
**Our data specialists helped us solve our real problem by fixing the data!**



**Now we can eliminate many costly manual controls and achieve compliance!**



# A REAL-LIFE SYSTEM THINKING APPROACH



# LET SYSTEMS THINKING DRIVE YOUR DATA GOVERNANCE

- Always view data in the context of organizational processes and issues.
- Avoid data “fixes that fail” by looking beyond individual business lines.
- Identify the interactions between Risk, Compliance, and Business Units.
- Data is constantly in motion and used in multiple, overlapping feedback loops.
- Understanding the System Archetypes enables you to solve the right problem.

# RECOMMENDED READING

- Principles of Systems (Jay Forrester)
- Fifth Discipline (Peter Senge)
- Creating the Corporate Future (Russell Ackoff)
- Navigating to the Future (J.R. Gilson)
- Systems Thinker (Pegasus Communications)
- Introduction to General Systems Thinking (Gerald Weinberg)
- Add more.....



# THANK YOU FOR THIS OPPORTUNITY

PLEASE CONTACT US FOR NOTES ON THE PRESENTATION.

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