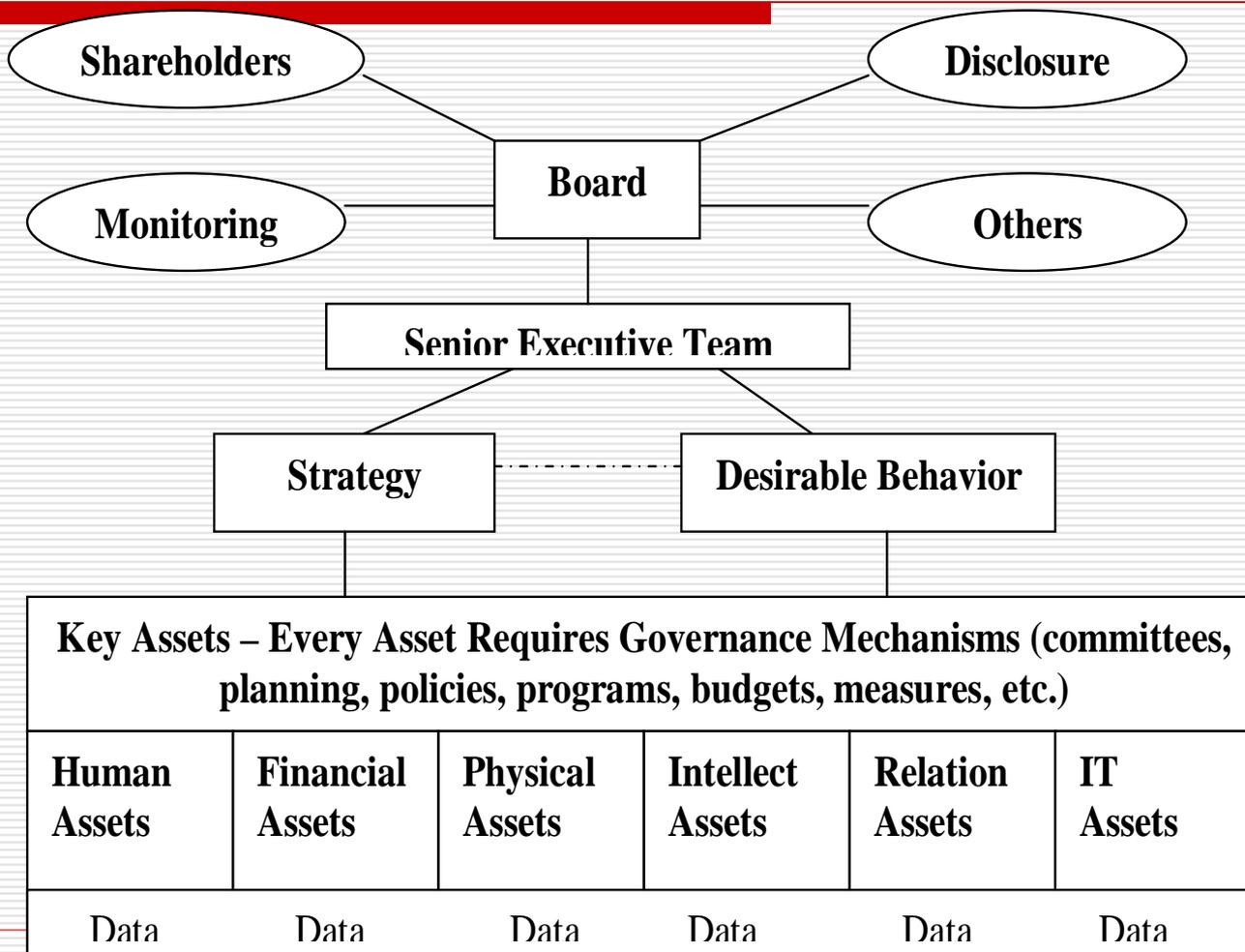# Designing a Data Governance Framework to Enable and Influence IQ Strategy

Elizabeth M. Pierce

University of Arkansas at Little Rock

Overview of Corporate and Key Asset Governance (Reproduced from 2003 MIT Sloan School CISR)

Shareholders

Disclosure

Board

Monitoring

Others

Senior Executive Team

Strategy

Desirable Behavior

Key Assets – Every Asset Requires Governance Mechanisms (committees, planning, policies, programs, budgets, measures, etc.)

Human Assets	Financial Assets	Physical Assets	Intellect Assets	Relation Assets	IT Assets
Data	Data	Data	Data	Data	Data

Governance of Data Assets

☐ For most companies, financial and physical assets are the best governed

☐ Information assets are often the worst governed, least understood, and most poorly utilized key asset in most firms because data

- Is increasingly easy to collect and digitize
- Has increasing importance in products and services
- Is very hard to value or price
- Has a decreasing half-life
- Has increasing security and privacy risk exposure
- Is a significant expense in most enterprises

What is Data Governance?

- ☐ Data Governance is about specifying the decision rights and accountability framework to encourage desirable behaviors in the use of Data

- ☐ Data Governance design lays out the decision-making structures, alignment processes, and communication approaches that enables the strategic objectives for data and its quality to be implemented and to monitor how well these strategic objectives are being achieved

- ☐ Note: Governance is about determining <u>who</u> inputs and makes the decisions and how. Management is the <u>process</u> of making and implementing the decisions

Governance vs. Management

Governance	Corporate Governance (Top Mgmt, BOD, SH)	Determine how firm is directed and controlled
	IT Governance	Provide Oversight, Design Governance Framework and Arrangements to promote good behaviors
	Data Governance	
Management	(Master or Enterprise) Data Management	Develop and Support Data per Governing Policies and Standards
	☐ Data Requirements & Modeling ☐ Data Administration ☐ Metadata Management ☐ Data Quality (Enterprise and Local) ☐ Privacy and Security	

Linking IQ Strategy with the Data Governance Framework

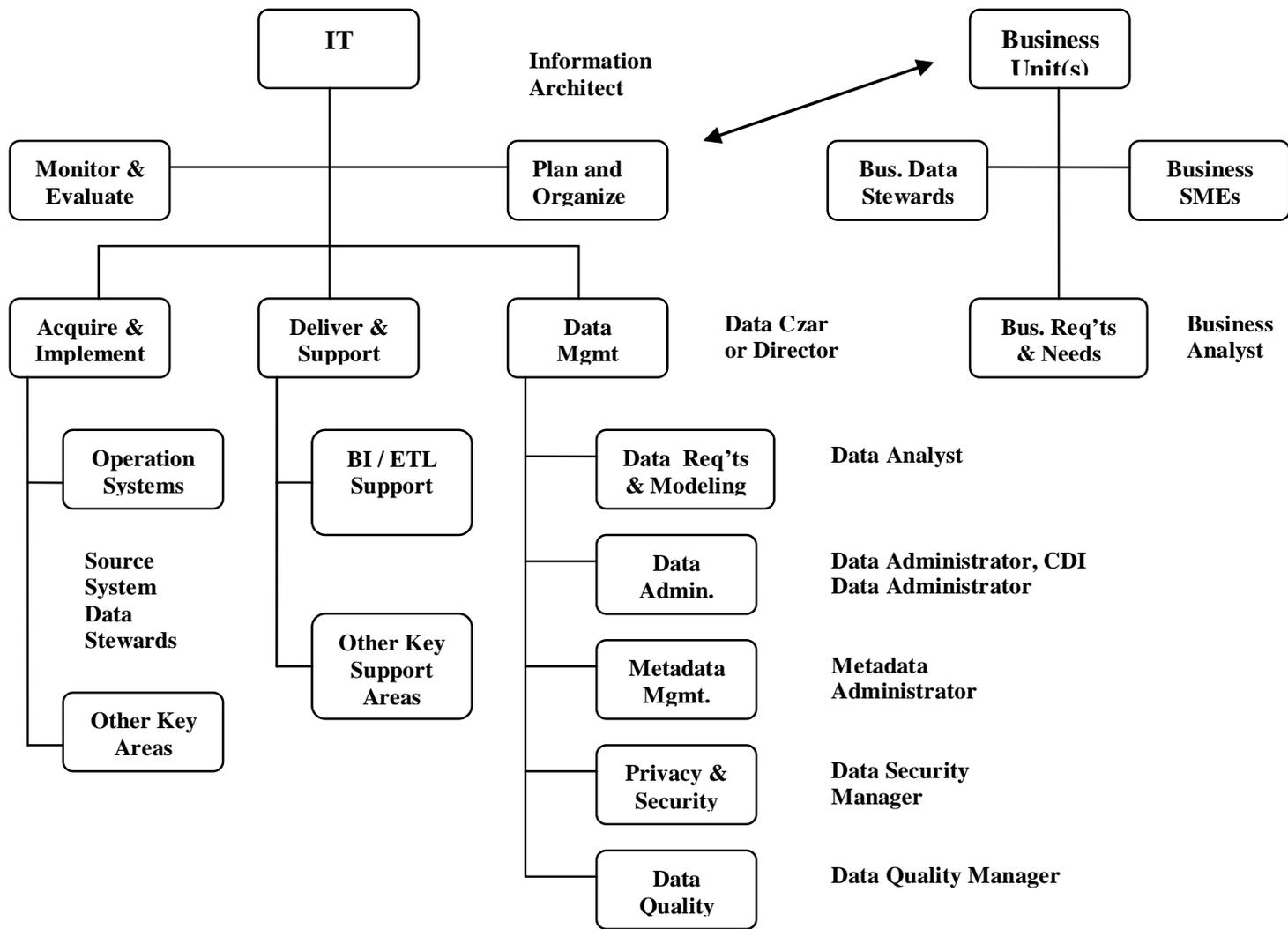| Enterprise IQ Strategy and Organization	Data Governance Arrangements Decision rights via monarchies, federal, feudal, duopolies, etc.	Business Performance Goals
Data Organization (IT, Business) and Desirable Behaviors for Data	**Data Governance Mechanisms** **(Committees, budgets, etc.)** **<u>Key Data Decisions</u>** • **Strategy and Principles** • **Architecture** • **Infrastructure & Technology** • **Applications & Processes** • **Investment**	**Data Metrics and Accounta-bilities**

Steps in Establishing Data Governance to Enable IQ Strategy

1. Identify Key Enterprise Data Processes
2. Articulate a Governance Structure for these Processes
   A. Who will be responsible, accountable, consulted and/or informed for decisions regarding these key enterprise data processes?
   B. How will these decisions be made and monitored?
3. Track achievement of data objectives, data process performance, and data process capability

Step 1- Identify Your Key Enterprise Data Processes

- ☐ Business Data Requirements
- ☐ Info architecture/Data Models/SoA/SoR
- ☐ Data (Quality) Management & Admin
- ☐ Structured Data Issues
  - ◼ Data Synchronization
  - ◼ Meta Data
  - ◼ Data Retention/ Archiving/Aging
- ☐ Data Security/ID Mgmt
- ☐ Data Privacy

- ☐ Application Processes
  - ◼ Data Origination / Authorization Controls
  - ◼ Data Input Controls
  - ◼ Data Processing Controls
  - ◼ Data Output Controls
  - ◼ Boundary Controls
- ☐ Unstructured Data Issues
  - ◼ Document Repository
  - ◼ Email

Where in Your Organization are Your Key Data Processes and Players?


```
                          IT                                                        Business
                                        Information                                 Unit(s)
                                        Architect

   Monitor &              Plan and                         Bus. Data        Business
   Evaluate               Organize                         Stewards         SMEs

   Acquire &      Deliver &      Data          Data Czar        Bus. Req'ts      Business
   Implement      Support        Mgmt          or Director      & Needs          Analyst

   Operation      BI / ETL       Data  Req'ts          Data Analyst
   Systems        Support        & Modeling

   Source                        Data              Data Administrator, CDI
   System                        Admin.            Data Administrator
   Data
   Stewards       Other Key      Metadata           Metadata
                  Support        Mgmt.              Administrator
                  Areas
   Other Key                     Privacy &          Data Security
   Areas                         Security           Manager

                                 Data               Data Quality Manager
                                 Quality
```

Step 2 – Identify your Governance Arrangements and Mechanisms

A. Who has Decision and/or Input Rights for the Decisions that must be made concerning your Key Data Processes?

B. What will be the Data Governance Mechanisms (i.e. How will Decisions be Made and Monitored)?

- Decision-Making Structures
- Alignment Processes
- Communication Approaches

Step 2 Cont.: Forming a Data Governance Council

- ☐ Its members come from multiple organizations from both IT and business areas
- ☐ It meets on a regular basis
- ☐ Key lines of business are represented
- ☐ There is a list of sanctioned standards that serve as operating principles for handling exceptions, conflicts, investments, metrics and reporting regarding data and its quality
- ☐ The council communicates to executive management, data stewards, project managers, and other stakeholders

Step 2 Cont.: Data Governance Council Objectives

- ☐ To provide common processes and policies for information on behalf of the company
- ☐ To enforce the adoption of data standards on every IT project
- ☐ To guide the management of enterprise data across subject areas
- ☐ To reduce scrap and rework associated with poor, missing, inaccurate, unavailable, or hard to find data, and to measure that reduction

Step 2 Cont.: Additional Data Governance Council Objectives

- ☐ To be accountable for the ongoing improvement of the quality and value of the corporate data asset

- ☐ To support individual project teams in the access and use of common corporate data

- ☐ To establish a common vocabulary and culture around the deployment of company data

Step 3: Track Data Metrics and the Value of Data to the Business

- ☐ Business Data Measures: These measures define what the business expects from its data processes (i.e. outcomes) and what the business would use to determine if its data needs are being met

- ☐ Data Process Measures: These measures gauge the efficiency and effectiveness of the performance (i.e. execution) of the data process

- ☐ Benchmark Measures: These measures assess the data process capability expressed as maturity models, derived from the Software Engineering Institute's Capability Maturity Model

Step 3 Cont.: Devising a Balanced Data Quality Scorecard
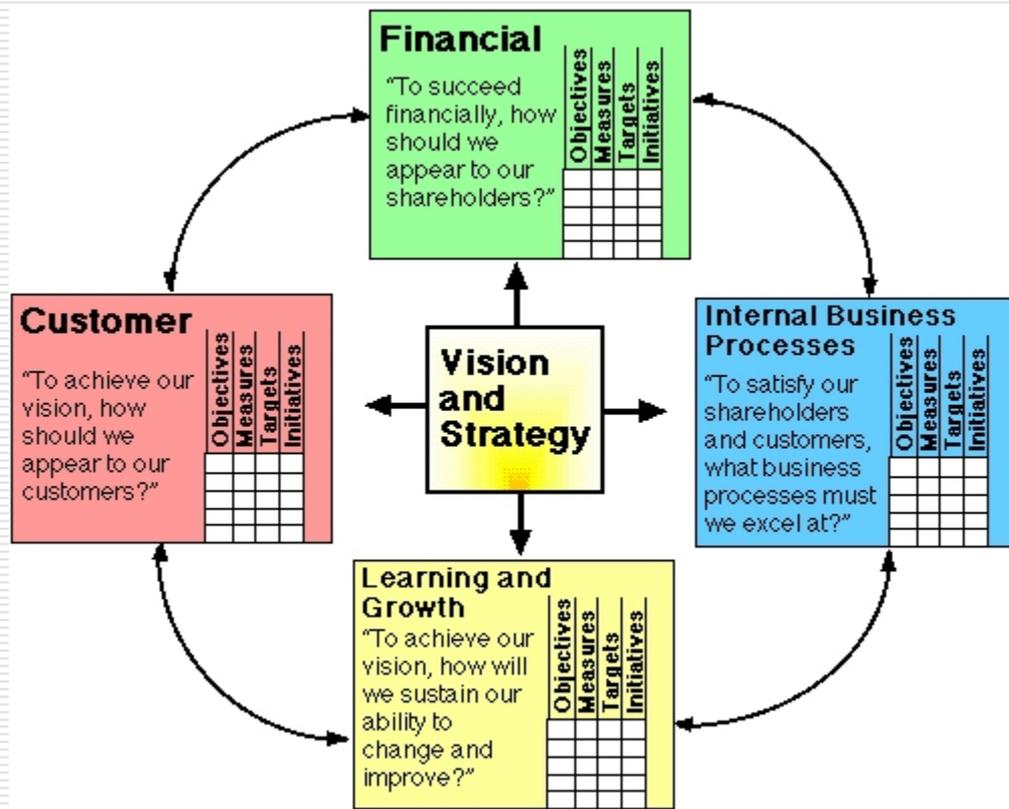
Step 3 Cont.: Benchmarking Process Capability against a Maturity Model

- ☐ **0 Non-existent**: Complete lack of any recognizable processes. The enterprise has not even recognized that there is an issue to be addressed

- ☐ **1 Initial**: There is evidence that the enterprise has recognized that the issues exist and need to be addressed. There are; however, no standardized processes; instead there are ad hoc approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganized

- ☐ **2 Repeatable**: Procedures have developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors are likely

- ☐ **3 Defined**: Procedures have been standardized and documented, and communicated through training. It is; however, left to the individual to follow these processes, and it is unlikely that deviations will be detected. The procedures themselves are not sophisticated but are the formalization of existing practices

- ☐ **4 Managed**: It is possible to monitor and measure compliance with procedures and to take action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way

- ☐ **5 Optimized**: Processes have been refined to a level of best practice, based on the results of continuous improvement and maturity modeling with other enterprises. It is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt

References

☐ COBIT 4.1 published by the IT Governance Institute. Available at www.isaca.org/cobit

☐ IT Governance: How Top Performers Manage IT Decision Rights for Superior Results by Peter Weill and Jeanne Ross (Harvard Business School Press, 2004)

☐ Concepts in Strategic Management and Business Policy by Thomas Wheelen and J. David Hunger (Pearson/Prentice Hall, 2006)

☐ Customer Data Integration: Reaching a Single Version of the Truth by Jill Dyche and Evan Levy (John Wiley & Sons, 2006)

Appendix: COBIT-IT Processes are Organized into 4 Categories

- ☐ **Plan and Organize**: This domain covers strategy and tactics, and concerns the identification of the way IT can best contribute to the achievement of the business objectives

- ☐ **Acquire and Implement**: To realize the IT strategy, IT solutions need to be identified, developed, or acquired, as well as implemented and integrated into the business process

- ☐ **Deliver and Support**: This domain is concerned with the actual delivery of required services, which includes service delivery, management of security and continuity, service support for users, and management of data and the operational facilities

- ☐ **Monitor and Evaluate**: All IT processes need to be regularly assessed over time for their quality and compliance with control requirements

Plan and Organize Processes

- ☐ PO1: Define a strategic IT plan
- ☐ PO2: Define the information architecture
- ☐ PO3: Determine technological direction
- ☐ PO4: Define the IT processes, organization and relationships
- ☐ PO5: Manage the IT investment
- ☐ PO6: Communicate management aims and directions
- ☐ PO7: Manage IT human resources
- ☐ PO8: Manage quality
- ☐ PO9: Assess and manage IT risks
- ☐ PO10: Manage projects

Acquire and Implement Processes

- ☐ AI1: Identify automated solutions
- ☐ AI2: Acquire and maintain application software
- ☐ AI3: Acquire and maintain technology infrastructure
- ☐ AI4: Enable operation and use
- ☐ AI5: Procure IT resources
- ☐ AI6: Manage changes
- ☐ AI7: Install and accredit solutions and changes

Deliver and Support Processes

- ☐ DS1: Define and manage service levels
- ☐ DS2: Manage third-party services
- ☐ DS3: Manage performance and capacity
- ☐ DS4: Ensure continuous service
- ☐ DS5: Ensure systems security
- ☐ DS6: Identify and allocate costs
- ☐ DS7: Educate and train users
- ☐ DS8: Manage service desk and incidents
- ☐ DS9: Manage the configuration
- ☐ DS10: Manage problems
- ☐ DS11: Manage data
- ☐ DS12: Manage the physical environment
- ☐ DS13: Manage operations

Monitor and Evaluate Processes

- ☐ ME1: Monitor and evaluate IT performance
- ☐ ME2: Monitor and evaluate internal control
- ☐ ME3: Ensure regulatory compliance
- ☐ ME4: Provide IT governance