


**Data Certification:  
Information Stewardship for Effective  
Information Management**

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**Andres Perez**  
**Information Quality and Information Management Consultant**



Andrés Pérez is an Information Resource Management Consultant and President of IRM Consulting, Ltd. Co., based in San Antonio, Texas. Mr. Pérez specializes in information resource management and information quality management.

He provides consulting in the disciplines of:

- Program and Project Management.
- Information Quality Management (TIQM® Certified).
- Enterprise Information Resource Management (Information Governance, Stewardship, Administration, Metadata Repository and Management)
- Information Architecture (Enterprise Information Planning, Design, Standardization, Profiling, Reverse Engineering, Movement, and Integration)
- Information Integrity audits (COBIT), Analytical Solutions (Business Intelligence, Data Warehousing, ODS, Data Marts), Customer Relationship Management and other Large Operational Solutions (OLTP)

He conceived and implemented an information management program called "Data Certification."

Mr. Pérez is a well known speaker at data management and information quality conferences in the US and Europe including DAMA International, Information Quality, ZIFA (Zachman Institute for Framework Advancement) and IAA (Insurance Application Architecture). His presentations encompass information resource management, information stewardship, information quality management, and enterprise information architecture.

He is the VP of Operations for DAMA International, past member of the Board of Directors for IAI DQ, past President of Heart of Texas DAMA Chapter, past member of the IAA Board of Directors, and past member of the Object Management Group.

Mr. Perez is a certified TIQM® consultant and has a BS in Mechanical Engineering and Business Administration from the Universidad Autónoma de Nuevo León; Monterrey, México.

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## Data Certification Learning Outcomes

- Define Data Certification
- Describe the Value Proposition of Data Certification
- Describe the Data Certification Process and its components
- Describe the relationship between Data Certification and Information Resource Management
- Describe the roles of Information Stewards in the Data Certification Process
- Describe the approach to Implementing Data Certification
- Identify Common Pitfalls and how to avoid them



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## Tutorial Outline

- The Business Case for Data Certification
- Defining Data Certification
- Managing Data Certification
- The Data Certification Process
  - Identify Opportunities
  - Define Common Information
  - Assess Impact
  - Implement Standards
  - Manage Organizational Change
- Aligning IRM & Data Certification Strategy
- Data Certification and IRM
- Next Steps
- Common Data Certification Pitfalls
- Q&A



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## The Business Case for Data Certification Understanding the Challenges of IRM

*The scary thing is how bad it is. We're betting our economy [sic] on an information world, and we don't have any idea how good the information in those databases is."*

*Robert Goldberg,  
MIT Sloan School of Management.*

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*"GartnerGroup estimates that as much as 30 percent of the costs associated with implementing a major packaged application will be consumed by the development of point-to-point application interfaces. An even higher percentage is spent on ongoing maintenance of these interfaces."  
—Gartner Group*

*Average Global 2000 company relies on 49 enterprise applications, spends 25% to 35% of IT budget on integration  
—META Group*

*Enterprises today and tomorrow will require a far higher degree of integration...to shift gears more rapidly, to change competitive formulas, and to re-organize more quickly than ever before.  
—Forbes*

*\$24 Billion spent annually to integrate enterprise applications  
—Standish Group*

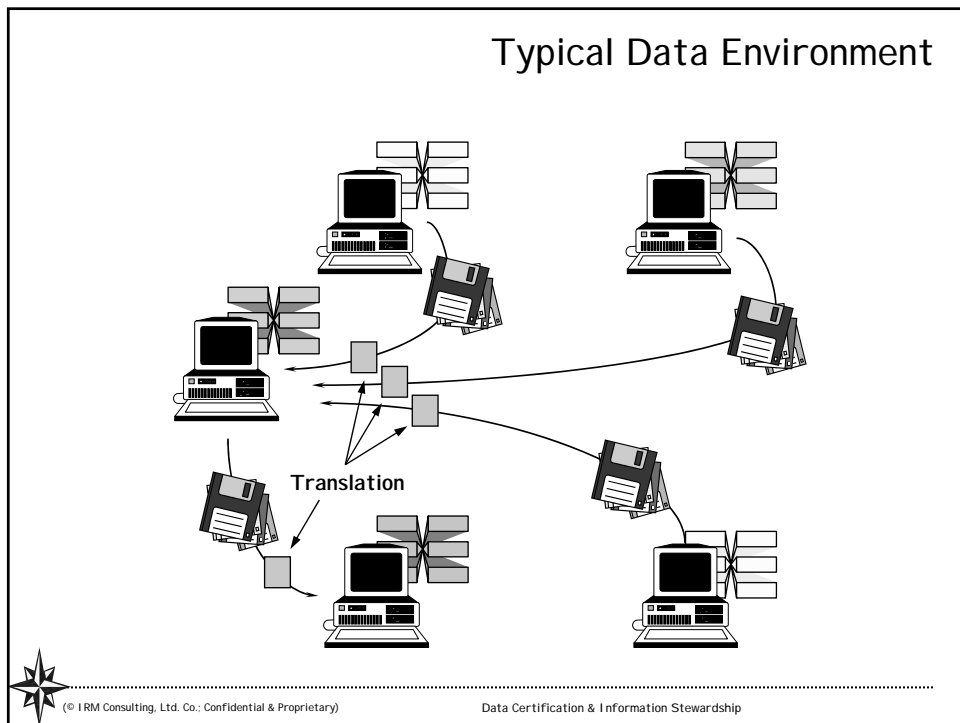
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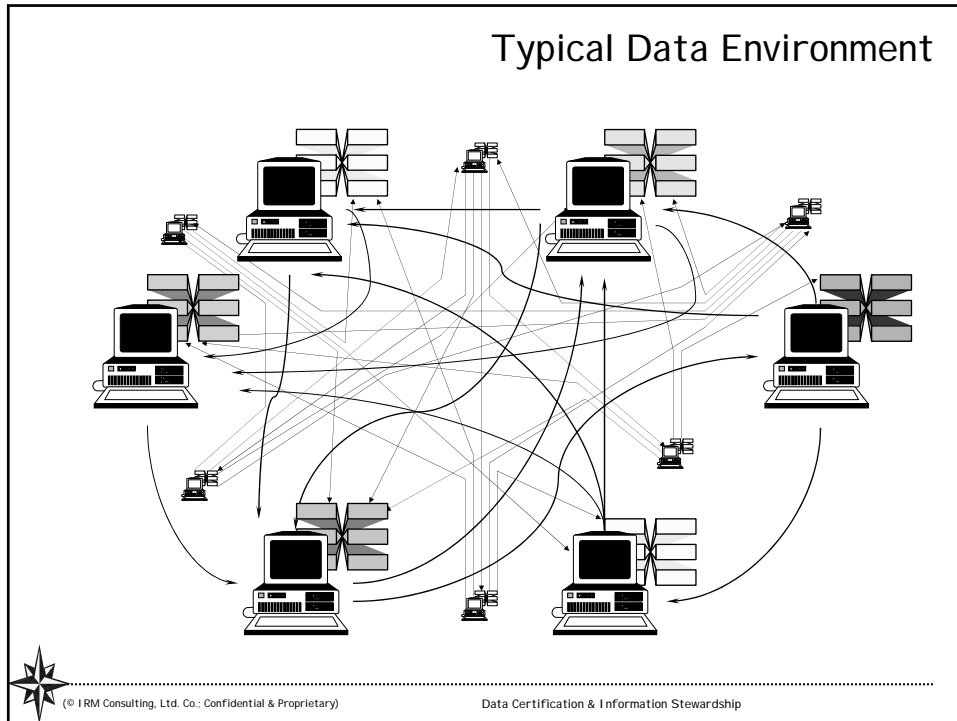
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Information Resource Management		Self Assessment		
<i>Does your Organization Suffer from:</i>		<i>Not At All</i>	<i>Some What</i>	<i>Absolutely</i>
➤ <i>Lack of Coordination: data work doesn't get finished; some groups out of step with the rest</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Excessive Conflict: relationships between groups on data activities are characterized by needless friction</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Unclear Roles: confusing responsibilities; uncertain expectations; unclear on where the job begins or ends</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Misused Resources: resources do not reach people that need them; specialized functions or skills not fully utilized</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Poor Work Flow: disruptions and cumbersome processes inhibit effective flow throughout the organization</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Reduced Responsiveness: cannot respond quickly or appropriately to changes in the business</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
➤ <i>Proliferation of extra-organizational units: excessive reliance on task forces, ad-hoc committees, special projects to deal with data management issues</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Adapted From *Competing by Design*, Nadler & Tushman, Chapter 3

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### Avoid Unnecessary Data Movement


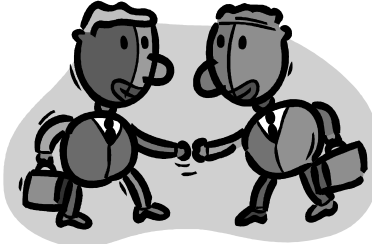
- Don't Do It!!!
  - It adds cost
  - Reduces semantic value
  - Increases information float
  - Introduces opportunity for quality defects
- "The goal of Information Management is to *avoid and eliminate unnecessary data movement* by providing well defined enterprise information models and well implemented enterprise-strength databases that *meet the information, accessibility and performance needs of all stakeholders*"

-- Larry English

A cartoon character of a young boy with a backpack, holding a large octagonal stop sign with the word 'STOP' written on it. He is standing to the right of the main text.

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## Data Certification: A Collaboration Framework for Information Stewardship

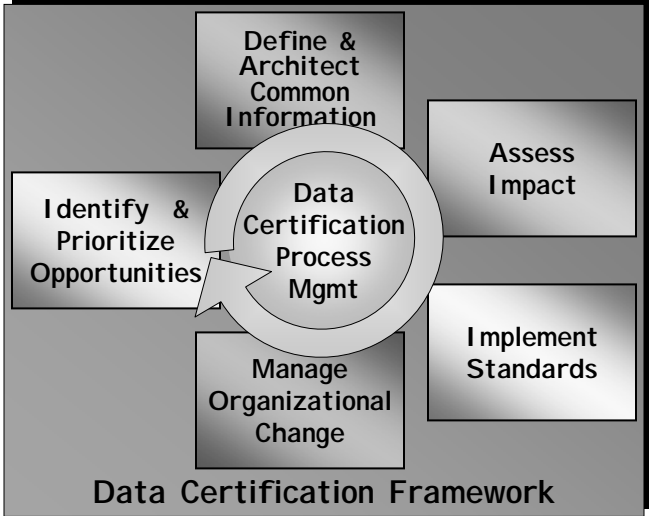
“collaborare” to labor together  
From “com-” together + “laborare” to labor

*Merriam-Webster*

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## The Data Certification Framework

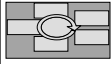
Data Certification is the collaborative process whereby *all the stakeholders* of an information group achieve:



- Common, working operational information definitions
- Known & Managed Quality of information content
- Effective content and presentation across the enterprise

**Data Certification Framework**

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### Data Certification Outcomes

- Enables a repeatable process for managing information across the enterprise
- Enables the deployment of roles and responsibilities to effectively manage *Information* across the extended enterprise
- Facilitates the deployment of policies, methods, standards, guidelines, tools and techniques to:
  - Establish the proper accountability and ensure the participation of business and information technology personnel across applications, projects and departments.
  - Augment the impact from collaboration across the enterprise (effectively breaking down *barriers*).

*Enable the enterprise to increase its information quality & value.*

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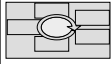


### Managing Data Certification


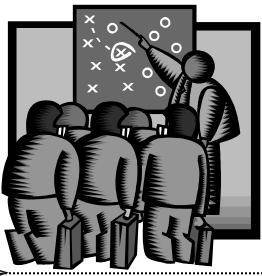
“Information Resource Management (IRM) is a function that applies sound management principles to information as a strategic enterprise resource.”

*Larry P. English*

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## Data Certification Management

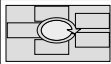
### Objectives

- ⊙ Provide a formal process to identify and implement strategies, principles, factors, decisions, functions, operations, practices and methods for Information Stewardship across the enterprise.

### Approach

- ⊙ Monitor executive and stakeholder accountability
- ⊙ Define process for information standards development and implementation
- ⊙ Create Cross-functional information stewardship teams with defined roles and responsibilities to address information standards

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## Information Steward

A **Data** Steward is a person, or group of people, responsible for defining, setting policy, and enforcing policy for data.

The **Data** Steward must

- ✓ Understand the business and technical issues
- ✓ Have the authority to take appropriate actions
- ✓ Be respected in both the business and technical communities

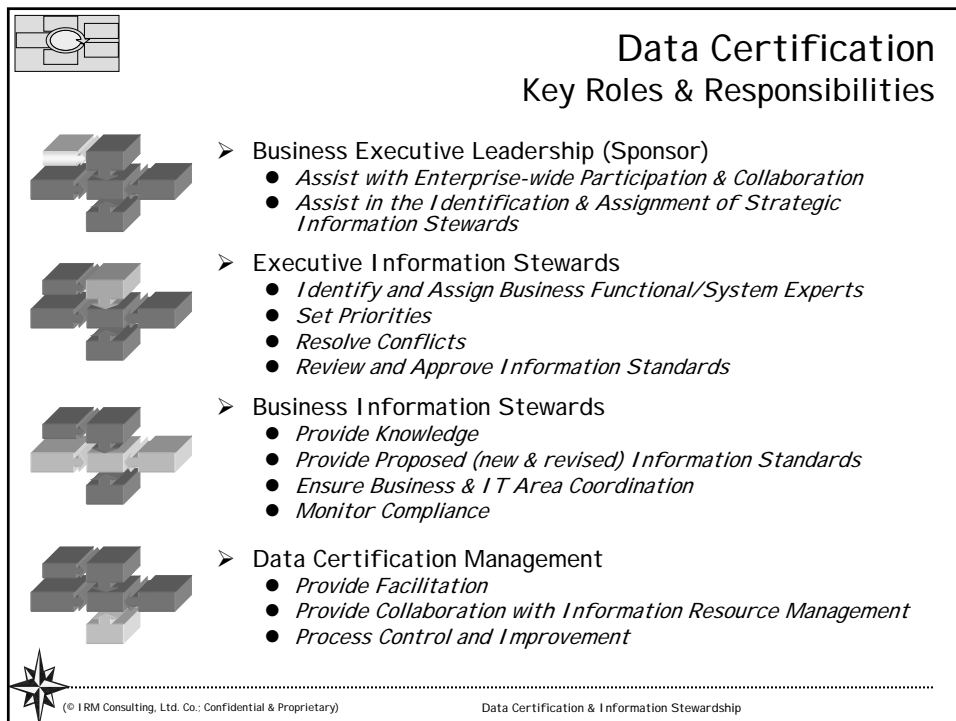
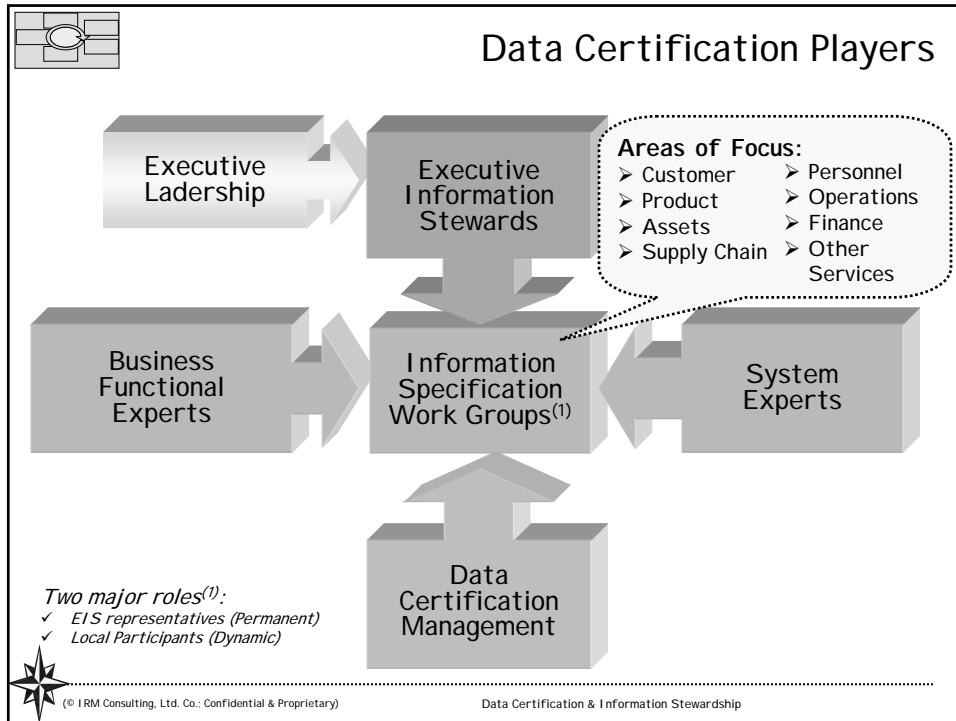
*... in other words, be a "super-person", to be effective*

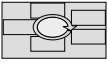
*--Data Warehousing and the Zachman Framework, by Inmon, Zachman, Gelger*

*"Information stewardship is the willingness to be accountable for a set of business information for the well-being of the larger organization by operating in service, rather than in control of those around us."*


*-- Larry P. English*

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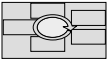
## Executive Information Stewards




- Identify and Assign Business Information Stewards
  - *Ensure proper representation for the Business Area*
  - *Provides company guidance & direction to the Business Functional/System Experts*
  - *Ensure active participation by those representatives*




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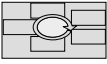
## Executive Information Stewards




- Set Priorities
  - *Establish enterprise-wide policy and direction for critical (shared) information*
  - *Based on the needs of the business area and the entire company*
  - *Coordinate the planning, budgeting, initiation, staffing, and oversight of projects to implement information standards in both business processes and supporting information systems*
  - *Recommend or initiate projects to change processes or systems*




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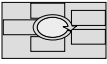
### Executive Information Stewards



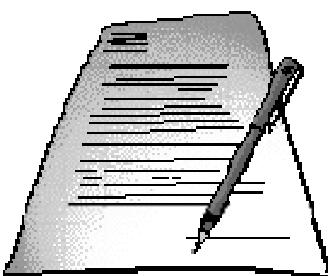
- **Resolve Conflicts (inter-Organizational)**
  - *Information is used across the enterprise in many different ways that must be reconciled*
  - *Conflicts will be elevated by the Business Functional/System Experts and must be resolved within a reasonable timeframe*
  - *Provide incentives to reward cross-organizational collaboration to achieve information integration*




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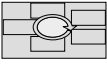
### Executive Information Stewards



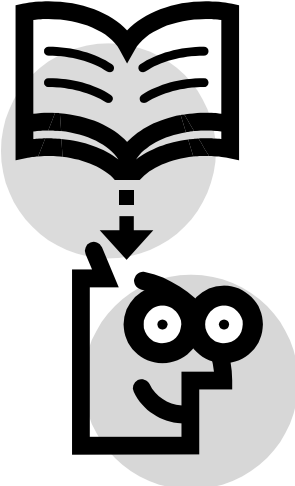
- **Review and Approve Information Standards**
  - *Final Decision Maker for Data Standards (Definition, Content, Presentation)*
  - *Sign-off on Business Concept Definitions*
  - *Sign-off on Data Sharing Agreements*
  - *Sign-off on Information Quality Improvements*
  - *Sign-off on Data correction efforts*



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## Business Information Stewards



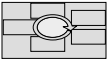
➤ Provide Knowledge

- *Classify and prioritize issues (per EIS guidance)*
- *Participate in the assigned Data Certification activities*
- *Must have in-depth knowledge of the processes and information used in their business areas*
- *Must have in-depth knowledge of the expected and actual quality of the information used in their business areas*
- *Expect to apply a percent of their time (with some variation over time)*

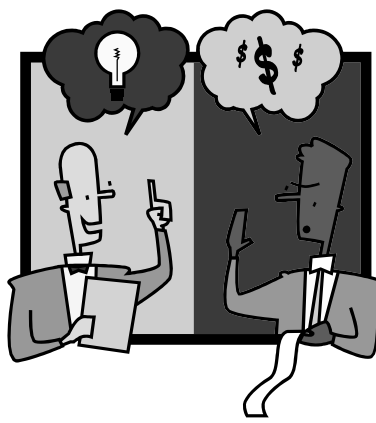


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## Business Information Stewards



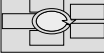
➤ Provide Proposed (new & revised) information standards

- *Identify & Prioritize Needs for Information Standards Development*
- *Play the role of "Action Agent" in the creation and adoption of information standards*
- *Establish responsibilities for information creation, provide authority to access information, and provide training and support for consistent interpretation and analysis of information.*
- *Presents the proposed Information Standards to the Executive Information Stewards for approval*





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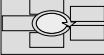


## Business Information Stewards

- **Ensure Business & IT Area Coordination**
  - *Council Representatives must ensure participation in work group by all areas in the council's scope*
  - *Build cross-organizational consensus on the process, approach and information standards*
  - *Coordinate with projects to implement information standards in both business processes and supporting information systems*
  - *Coordinate with technical information architect(s) to ensure compatibility of information structures & quality controls across the enterprise.*






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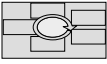


## Business Information Stewards


- **Monitor Results**
  - *Coordinate the monitoring of the application of information standards and coordinate corrective action to improve information quality.*
  - *Establish the infrastructure and process for ongoing maintenance of information standards.*


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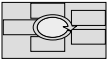


## Data Certification Management




- Provide Collaboration within Information Resource Management
  - *Information Policies and Process Management (rules of engagement for mission critical information; e.g., customer registration)*
  - *IRM Planning and Integration (common definitions for information sharing across the extended enterprise)*
  - *IRM Administration (current knowledge on the information under review, efforts underway, etc.)*
  - *Information Quality Management (assessments, improvements, opportunities, etc.)*
  - *Information Integration (conversion, integration, security, privacy considerations, etc.)*
  - *Database Management (DB design, distribution, replication, backup, etc.)*
  - *Process Improvement (statistical controls, etc.)*



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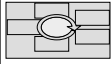


## Data Certification Management


- Provide Facilitation
  - *Plan Deliverables & Issue Resolution Activities*
  - *Facilitate and scribe critical sessions, provide training and coaching for other areas, etc.*
  - *Manage Issue Resolution Process*




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## Data Certification Management





➤ **Process Management, Control & Improvement**

- *Develop and implement a plan or roadmap for specific deliverables and issues*
- *Identify information quality measures (global and per subject area)*
- *Promote security and privacy guidelines compliance*
- *Provide tools and techniques for all participants*
- *Control charts of deliverables, issues, resources*
- *Keeping measurements across all working groups for immediate feedback*



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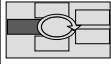
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## Data Certification Process

### Five Steps to Improved Information Management

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## Identify & Prioritize Opportunities


### Identify & Prioritize Opportunities


**Objectives**

- ⊙ Identify and prioritize information standards development based on information standardization needs
- ⊙ Roadmap and interdependencies for standardization

**Approach**

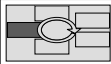
- ⊙ **Stewardship Matrix:** Mapping of shared information to application systems to identify and communicate points of integration
- ⊙ **Information Planning Model:** Top-down mapping of shared information; defines enterprise context for information standards.
- ⊙ **Issues Log:** Information integration and quality issues assessment





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## Stewardship Matrix

Sample of a section of the matrix

Subject Area		Business Area or Application					
		A	B	C	D	E	...
Asset	Equipment	CRU	RU		U		...
	Station	CRU	U		RU		...
	Plant	CRU	R	CRU	RU		...
	Warehouse	CRU	RU	CRU	CRU		...
Customer	Basic	<b>R</b>	<b>CRU</b>	CRU			...
	Account	CRU	CRU	CRU	CRU	CRU	...
	Billing	R		CRU			...
	Preferences	R					...
	Agreements	CRU	R	CRU	CRU		...
People (HR)	Prospect	R	R	CRU			...
	Position	R			R		...
	Skill	R				R	...
	License	CRU			R		...
...	...	...	...	...	...	...	



Legend C = Create; R = Read; U = Update **Bold = System of Record** Correction Needed Stewardship Issue Compliant In Process Unknown

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## Stewardship Matrix (Detail)

**Business Concept**

Subject Area	Data Topic	CRM	GIS	OPS	NEW OPS	Pricing
<b>Corporate Services</b>	Legal	R				
<b>Corporate Services</b>	Safety	R				
Customer	GIS Point	R	CRU	R	R	
Customer	Service GIS	R	CRU	CRU	R	R
Customer	Alternate GIS	R	CRU	R	R	R
<b>Finance</b>	Expense Accounts	R				
<b>Finance</b>	Statistical Accounts	R				

**Legend**

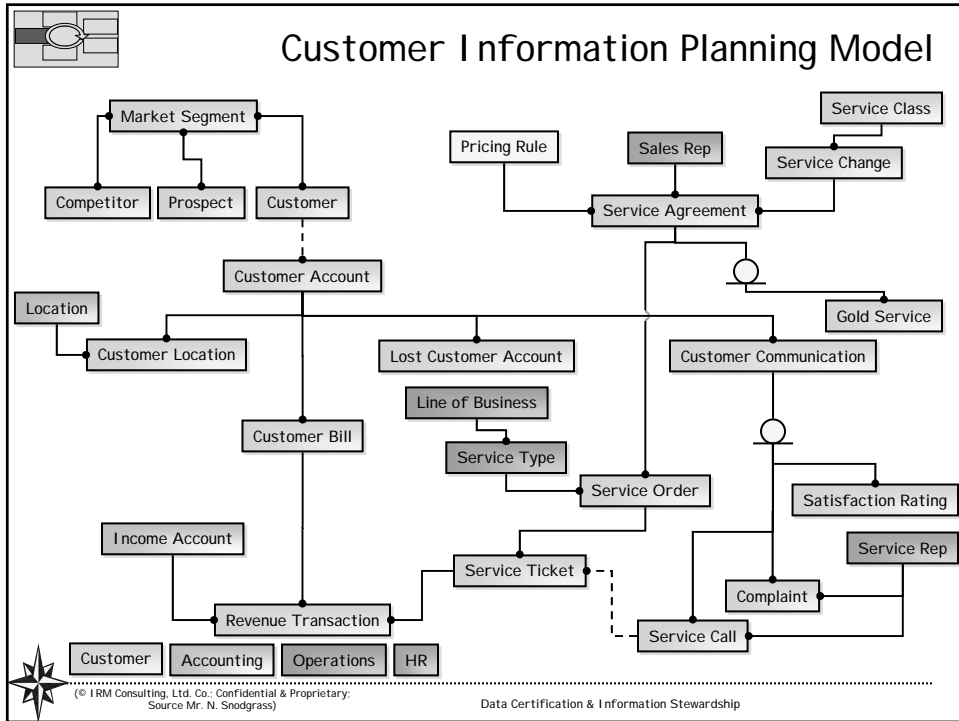
- Stewardship Conflict
- Information Cleansing/Integration Issue
- Conforms to Enterprise Standards
- Additional Input Needed
- BOLD** Data Store Of Record

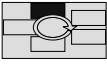
C - Create  
U - Update  
D - Delete  
R - Read

**Information Quality Issue:** Currently a customer can be recorded in multiple places (many accounts in ABC, XYZ, 123, etc.); these records must be merged to get the complete picture of the customer.

**Stewardship Conflict:** Responsibility for creating and updating GIS/Geo-Codes is in conflict between the GHI solution and the new DEF solution.


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## Define & Architect Common Information

### Define & Architect Common Information



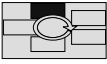
### Objectives

- ⊙ Define business concepts, information standards and implementation approaches
- ⊙ Identify critical business and technical requirements
- ⊙ Best practice for information standard within enterprise and by industry

### Approach

- ⊙ **Business Concept Definitions:** Establish cross-functional, reusable definitions
- ⊙ **Domain Specifications:** Develop logical and physical information domain definitions (Common Information Integrity Rules, Allowable Values, etc.)
- ⊙ **Information Sharing Agreements:** Establish accountability and ensure consistency in sharing information.

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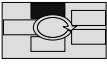


## Inconsistent Business Meaning

➤ Asking the same question from the lines of business of a Financial Organization such as "*What's the Customer Credit Rating?*" elicits different meanings from each:

- P&C Insurance: Customer's billing account status (is the customer current?) used to determine continuance of a policy.
- Banking: Customer's payment history from external sources (e.g., credit bureaus) on borrowed funds used for loan/credit card determination.
- Life Insurance: Customer's credit status used to determine non-availability of funds (i.e. IRS seizures).

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## Operational Definitions: Achieving Effective Communication

"All linguistic representations discard most of reality; just like the map is not the territory, the word is not the thing defined."

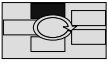
- Alfred Korzybski's  
General Semantics

"The purpose of operational definitions is to provide the worker with a clear understanding of what kind of work is acceptable and what kind of work is unacceptable thus enabling an operation to produce consistent results."

- W. E. Deming

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Data Certification & Information Stewardship

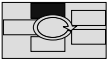


## Business Concept Definition

<b>Business Concept</b>	Template	<b>Business Concept Title (term)</b>
<b>Status</b>	XXXXX status as of x/x/xx	<b>Status (W/D/R/P)</b> <small>Legend: Working Draft Recommended Published</small>
<b>Definition</b>	A succinct, complete, business description using common terms or previously defined terms.	<b>Definition (clear, concise, succinct, declarative)</b>
<b>Related Business Concepts</b>	<ul style="list-style-type: none"> <li>A short-cut or hot-link to a previously defined term, for example: <i>Customer</i>.</li> <li>A description or annotation of an undefined term, for example: <i>Products or services</i> are pending definition.</li> </ul>	<b>Related Business Concepts (used to define this one)</b>
<b>Data Integrity Rules</b>	A bulleted list of data integrity rules.	<b>Information Integrity Rules (business rules)</b>
<b>Unique Identifier</b>	Whenever is appropriate and or necessary, this is free form text, bullets, or whatever can be used to provide insights on the appropriate way to uniquely identify occurrences of the information entities associated with the business concept.	<b>Unique Identifier (recommended keys)</b>
<b>Life Cycle</b>	Whenever is appropriate, this is free form text, bullets, or whatever can be used to provide insights on the states and transitions associated with the business concept.	<b>Life Cycle (states the Business Concept experiences)</b>
<b>Classification</b>	Whenever is appropriate, this is free form text, bullets, or whatever can be used to provide insights on the intrinsic classification necessary to understand the business concept.	<b>Classification (subtypes)</b>
<b>Domain</b>	A bulleted list of domain values. It can be all-inclusive or a sample; please indicate which approach is used. <small>Can be a diagram (see <i>Line of Business</i> as an example)</small>	<b>Domain (value constraints, ranges, value set, profile)</b>
<b>Special Usage</b>	This is free form text, bullets, etc. can be used to highlight real-life cases of the use of the business concept.	<b>Special Usage (special conditions)</b>
<b>Examples</b>	This is free form text, bullets, etc. can be used to provide real-life or mock-up illustrations of the business concept.	<b>Examples</b>
<b>Issues &amp; Concerns</b>	<ul style="list-style-type: none"> <li>Proposed definition concerns.</li> <li>A bulleted list of issues or concerns associated with the definition proposed in this document.</li> <li>Existing definition concerns.</li> <li>A bulleted list of issues or concerns associated with the existing definition, or definitions.</li> </ul>	<b>Issues &amp; Concerns</b>
<b>Background</b>	Use Free form text and bullets as needed. For specific references to existing document, use the name and date of the document.	<b>Background (research, findings)</b>

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## "Cause of Loss" Domain Specification


**Business Concept:**  
*Peril*

**Definition:**  
A specific risk or cause of loss covered by an insurance policy, such as a fire, windstorm, flood, or theft. A named-peril policy covers the policyholder only for the risks named in the policy in contrast to an all-risk policy, which covers all causes of loss except those specifically excluded ([www.iii.org/media/glossary](http://www.iii.org/media/glossary)). Also called a "Cause of Loss".

**Note:**  
The insurance industry recognizes under 50 perils. However, one P&C company has over *2,500 codes* for "Cause of Loss."

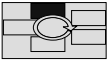
Peril or Cause of Loss

Collision
Fire
Burglary & Robbery
Theft & Disappearance
Partial Theft
Vandalism
Wind & Hail
Mechanical Breakdown
Flood
Water Damage
Breakage (Glass)
Land Movement (Sink Hole, Collapse, Slide)
...



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## Information Sharing Agreement

Information Sharing Agreement			
DSA Identifier	Numeric Identifier (can be sequential)		
Status	XXXXX status as of x/x/xx		
Consumer Initiative	The name and brief description of the consumer initiative (project, application, maintenance effort, etc.)		
Consumer Business Area	Name of the business department or staff area and the person "signing" the agreement.		
Consumer Systems Area	Name of the IT department or staff area and the person "signing" the agreement.		
Producer Initiative	The name and brief description of the producer initiative (project, application, maintenance effort, etc.)		
Producer Business Area	Name of the business department or staff area and the person "signing" the agreement.		
Producer Systems Area	Name of the IT department or staff area and the person "signing" the agreement.		
Integration Systems Area	Name of the IT department or staff area and the person "signing" the agreement.		
Executive Summary	A concise, clear and complete description of the business rationale and value proposition for the sharing of information between the producer and the consumer.		
Consumer Audience	Describes the audiences that will be served by the consumer. This is needed when the information shared is sensitive due to proprietary, ethical, regulatory or other reasons.		
Security	Describes security constraints the consumer commits to adhere to protect the shared information.		
Provisions	A set of statements indicating the rights and obligations the consumer has with regards to this agreement. Includes enterprise mandated provisions (for update, aggregation, etc.) as well as specific provisions based on the producer and the specific information.		
Triggers	For each triggering event or timeframe, describes the conditions to create a message or file.		
Filters	For each screening method, describes the conditions of messages or records that will be excluded (or included) and their rationale.		
Availability	Describes the commitment in terms of availability on the part of the producer and the potential impact to the consumer (if unavailable).		
Message/Record Description			
#	Attribute Name	Security Rules (For Special Conditions)	Business Need (For Special Conditions)

**ISA Identifier**

**Status (W/D/R/P)**    Legend: Working Draft, Recommended, Published

**Consumer Initiative & Business Area**

**Consumer Systems Area**

**Producer Initiative & Business Area**

**Producer Systems Area**

**Integration Systems Area**

**Brief Business Description**

**Consumer Audience**

**Security Constraints**


**Provisions (Terms and Conditions)**

**Triggers, Filters & Availability**

**List of Attributes (Content)**

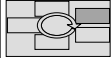
**Business Need (For Special Conditions)**

**Security Rules (For Special Conditions)**



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# Assess Impact

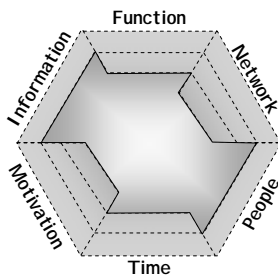
## Assess Impact

### Objectives

- ⊙ Assess the overall value & impact of implementing information standards
- ⊙ Provide specific recommendations for improvement information quality (skills, process, technology)

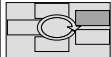
### Approach

- ⊙ Identify activities that create, update and/or use the information and supporting systems and databases
- ⊙ Specific recommendations for improvement:
  - Skills impact statements including training, organization, etc.
  - Process impact statements, including reengineering, procedures, etc.
  - System impact statements, including changes to database, inputs, integrity controls, processing logic, outputs, and documentation

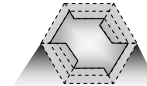


Based on the Zachman's Framework "Helix"


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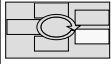
# Sample IT Application Assessment List



Framework Dimension	Information Dimension	Assessment Criteria
People	Data Certification	Are all areas that produce or consume this information identified, documented and involved in data definition, transformation (conversion), and correction?
Information	Operational Definitions	Are all critical business concepts and terms defined and coordinated? Are they scheduled for this process?
	Information Quality	Is the IQ assessment process in place? Are strategy and tactics in place for addressing quality issues?
	Metadata Management	Is the Metadata generated being managed, stored, and maintained at the conceptual, logical and physical levels?
Location	Top-Down Planning	Are the deliverables of this initiative building blocks of the Enterprise Architecture and information integration requirements defined?
	Data Stores	Are the target data stores defined in accordance with the appropriate classification of the Enterprise Information Architecture?
	Synchronized Data Movement	Are all interfaces between data stores defined? Is there a strategy and method to ensure data synchronization and integrity over time?
Time	Data Retention & Archiving	Are all the data retention requirements identified? Is a strategy and tactics in place for legacy data retention?

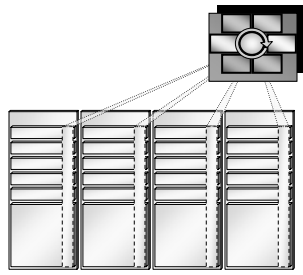


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## Implement standards

### Implement standards




**Objectives**

- ⊙ Initiate approved changes to implement information standards in business processes and systems
- ⊙ Initiate new or revised business processes
- ⊙ Initiate new or revised systems

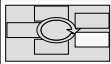
**Approach**

- ⊙ Establish information integration task within system design and implementation process (Systems Development Lifecycle)
- ⊙ Establish incremental information design and integration based on information planning model (Strategic Systems Planning)
- ⊙ Validate information design across enterprise-wide information usage requirements (Data Certification)
- ⊙ Promote information leverage and reuse across process improvement and system development projects (Data Certification)



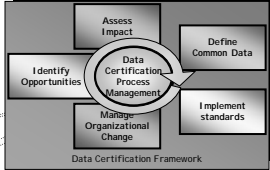
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## Data Certification & SDL

- The Systems Development Lifecycle (SDL) Focuses on the Application Delivery
- Data Certification Focuses on Data Integration and Reuse
- Both work together to ensure delivery of integrated solutions

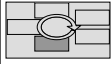


Lifecycle	Lifecycle	Lifecycle	Lifecycle
Strategy	Strategy	Strategy	Strategy
Architecture	Architecture	Architecture	Architecture
Development	Development	Development	Development
Integration	Integration	Integration	Integration
Deployment	Deployment	Deployment	Deployment
Operations	Operations	Operations	Operations
Data Architecture & Integration		Data Architecture & Integration	



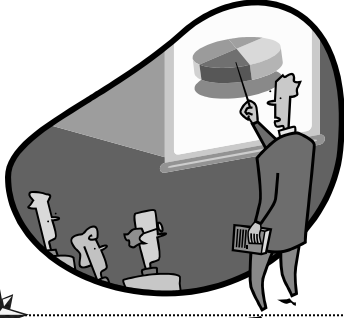
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## Manage Organizational Change

### Manage Organizational Change



### Objectives

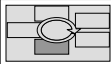
- ⊙ Manage the change process for adoption of data standards
- ⊙ Readiness assessment and roll-out recommendations
- ⊙ Communications regarding data standards and impact

### Approach

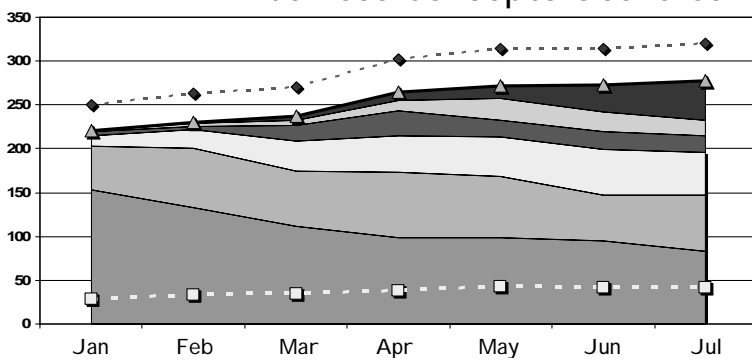
- ⊙ Measure: Know Process Capacity
- ⊙ Awareness: raise understanding
- ⊙ Education: key personnel know the underlying concepts and principles
- ⊙ Training: knowledge workers can facilitate process changes and use new systems / databases effectively

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## Business Concepts Score Card

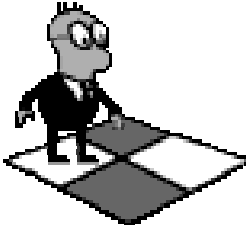



(\*) Deleted Business Concepts are the result of the elimination of duplicates or unnecessary entries or to the re-classification to Common Words.

	Jan	Feb	Mar	Apr	May	Jun	Jul
Published	0	1	4	9	14	31	45
Recommended	1	3	6	12	26	22	18
Draft	5	4	18	28	19	21	19
Working	12	22	35	42	45	52	49
Assigned	50	67	63	74	69	52	64
Unassigned	153	133	111	99	99	95	83
Active	221	230	237	264	272	273	278
Deleted (*)	29	33	34	38	43	42	42
Identified	250	263	271	302	315	315	320

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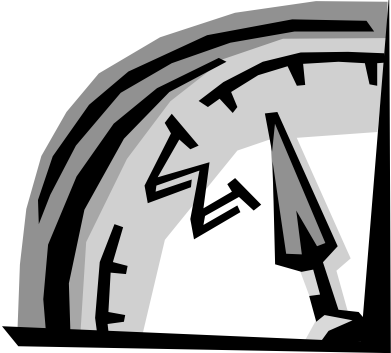
### Strategic Alignment Sample Guiding the Management of the Information Resource

"You've got to think about 'big things'  
while you are doing small things, so that all  
the small things go in the right direction."

*Alvin Toffler*


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### Corporate Mission



To meet the financial  
needs of our customers  
by providing a  
comprehensive range of  
competitive and  
complementary financial  
products and services;  
we aim to become the  
provider of choice for  
our customers.

*Sample*



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## Corporate Strategy



We desire to operate in such a manner that our customers view us as an organization dedicated to understanding their individual financial needs and providing appropriate solutions.

*Sample*

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## Barriers to Understanding Customers' Needs

- Inability to find, understand, and relate relevant information
- Data is not "fielded" (captured in text fields)
- Data is inconsistently defined and/or represented
- Information is conflicting or inaccurate
- Information is constrained to a given channel, data store, business application, etc.
- Employees are unaware of the value of sharing the information across the enterprise (lines of business)

*Sample*

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## IRM Mission

“To enable XYZ Company to manage information as an enterprise resource and to continually improve processes to create, maintain and deliver *consistent, reliable, and valuable* information to the right people, at the right time, with the right quality.



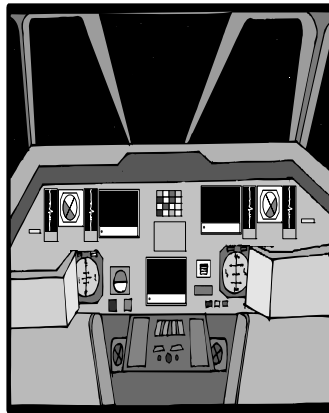
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*Sample*

## Data Certification Mission

Provide the collaboration environment to support the processes that define, acquire, use and dispose *critical* business information. This includes:




- Identify, coordinate and publish “critical business information” (area of focus)
- Define, document, coordinate and publish the necessary Policies, Practices & Standards
- Define and assign the associated Roles & Responsibilities to personnel across the enterprise to achieve this goal
- Establish, measure and document the necessary Controls & Measurements (“process charts,” “control charts,” “Pareto diagrams on defect frequencies and costs,” etc.)



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*Sample*



## Data Certification & IRM: Organizational Considerations

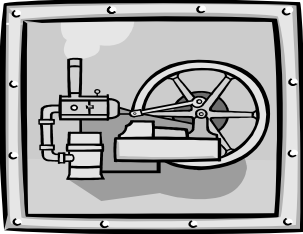
“Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has.”

Margaret Mead  
Posted at the Naval Academy, Annapolis, MD

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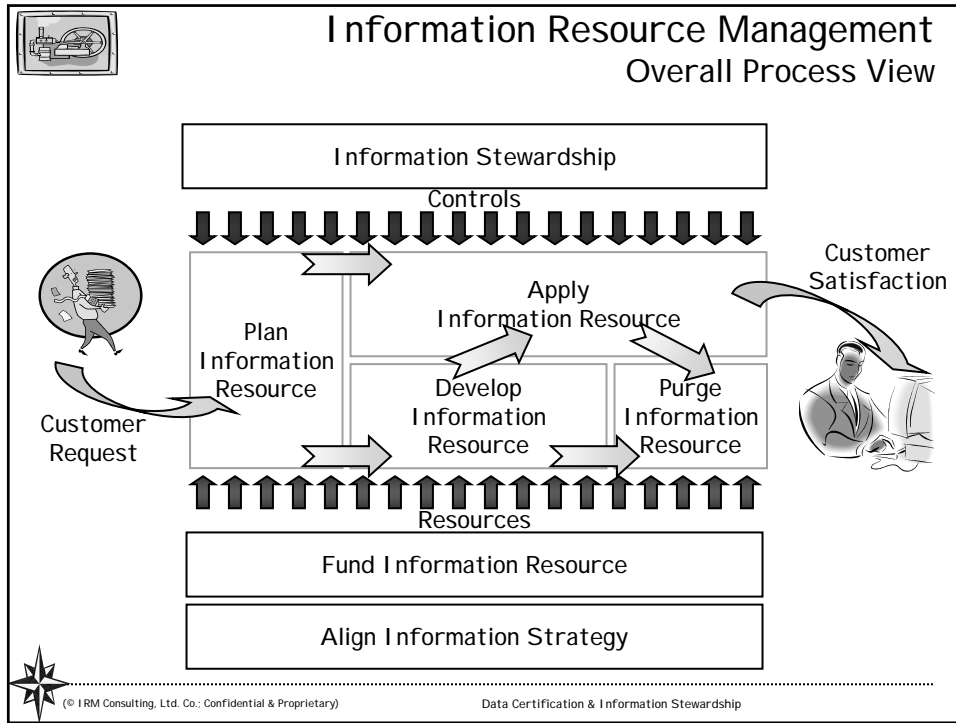
## Information and the Organization

“If one thought about organizations as information processing systems -mechanisms that moved *information* to people so that they could do their work and accomplish tasks- it would be possible to develop some general rules for thinking about organizational design.”



*Jay Galbraith (c. 1970)  
Organizational Design Theorist*

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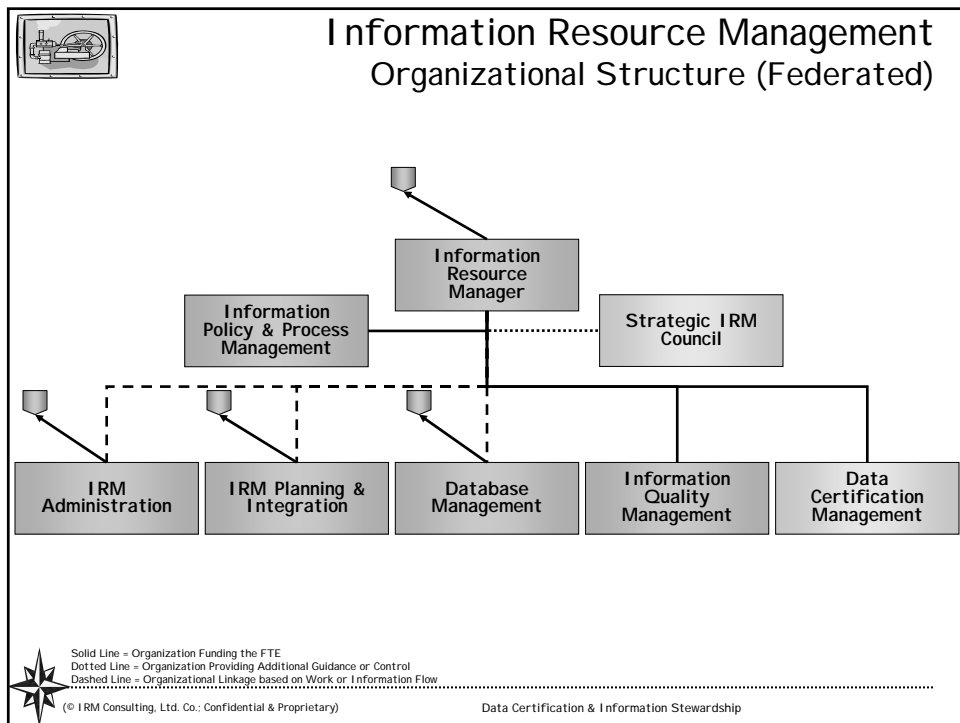
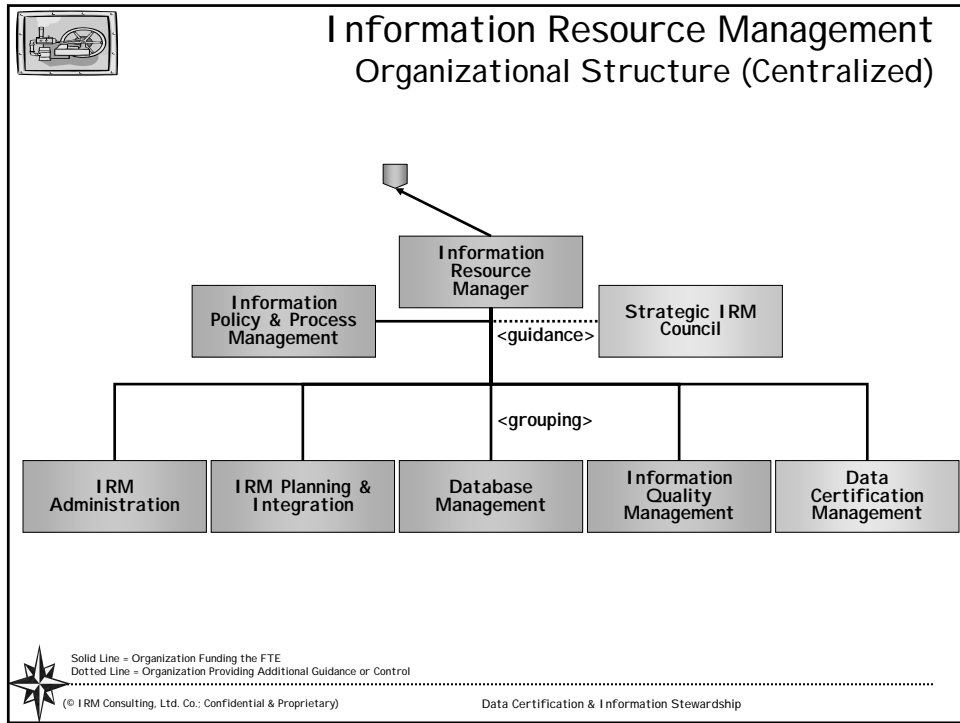


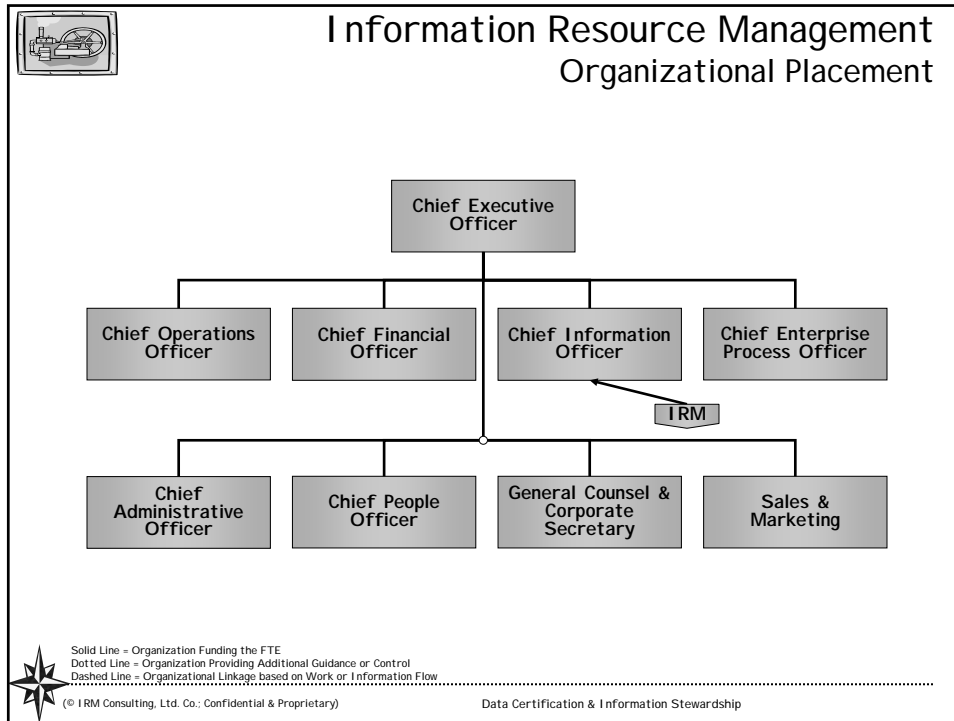
### Enterprise Information Resource Management Organizational Components

Component	Work	People	Formal Organization	Informal Organization
<b>Definition</b>	Basic and inherit activities to accomplish the IRM mission	Characteristics such as IRM skills, abilities, and attitudes	IRM organizational structures, linkages, processes & procedures, methods, systems	IRM Culture (Values, Beliefs), Operating Environment (Practices, Norms)
<b>Critical Features</b>	<ul style="list-style-type: none"> <li>Degree of uncertainty</li> <li>Skills and knowledge required</li> <li>Inherent rewards</li> <li>Inherent constraints on performance (from strategy)</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge and skills possessed</li> <li>Needs and preferences</li> <li>Perceptions and expectations</li> <li>Background</li> <li>Demography</li> </ul>	<ul style="list-style-type: none"> <li>Grouping of functions, structure of units</li> <li>Coordination and control mechanisms</li> <li>Job design</li> <li>Environment (e.g., physical location)</li> <li>HR system (e.g., rewards)</li> </ul>	<ul style="list-style-type: none"> <li>Leader behavior</li> <li>Norms &amp; values</li> <li>Intra-group &amp; Inter-group relations</li> <li>Informal working arrangements</li> <li>Communication &amp; Influence Patterns</li> <li>Key roles</li> <li>Climate</li> <li>Power, politics</li> </ul>

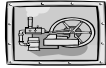
Adapted from *Competing by Design*, Nadler & Tushman, Chapter 2

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- ### Considerations for Federated Environment
- Use Federated Model for Enterprise or Departmental Critical Information
  - Dotted lines require strong organizational discipline
  - The Information Resource Manager must provide:
    - Actionable Guidance to Sponsors and Project Managers of development or maintenance efforts that impact the information resource
  - Sponsors & Project Managers need:
    - To know their responsibilities in how to handle the Information Resource ACROSS the enterprise
    - Clear, actionable "rules of engagement"
    - Rigor, consistency (definition & repeatability)
    - Upper Management Accountability
    - Enforceability
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## Considerations for Centralized Environment

- Use Centralized Model for tightly integrated enterprise information
- Centralized Team can suffer from “bloated-ness” and become too Bureaucratic
  - Avoid Excessive paperwork
    - ◆ Excessive Paper Work results in less real work
  - Guidance Based on Information Value
    - ◆ Avoid “dictatorial” guidance
    - ◆ Information Value Chain Participants Must Determine Standards
  - Customer Based Success
    - ◆ Use Customer Assessments
    - ◆ Do not use “internal” measures



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## Considerations for Combined Environment

- Offers the strength and weaknesses of both models
- Use Centralized Components for Enterprise Critical Information Management (e.g., Customer)
  - Can suffer from “bloated-ness” and become too Bureaucratic
- Use Federated Components for Departmental Critical Information Management (e.g., Production Planning)
  - Require Dotted lines with strong organizational discipline
  - Information Resource Manager must provide Actionable Guidance
  - Sponsors & Project Managers need to know their responsibilities in how to handle the Information Resource ACROSS the enterprise



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## Next Steps


“The beginning is the most important part of any work”

*Plato*

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## Data Certification Action Plan

- First: Assess Your Organization's Current Situation
  - Create a baseline to use as the “starting point”
- Second: Focus on an area critical to the organization
  - Ensures that all Council members will be engaged from the start
  - Assist each business area involved in understanding the target environment and how their individual needs will be met
- Third: Begin Developing Organizational Infrastructure
  - Develop information resource management policies and standards for use by project sponsors and managers
  - Establish metrics and begin measurement of information resource (definition, quality, and value)
  - Become the point of coordination and conflict resolution for Enterprise information issues
  - Identify and analyze gaps and overlaps in business projects and make recommendations for corrective action
  - Develop (or revise) your meta-data management strategy


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## Common Pitfalls


"Those who cannot remember the past are condemned to repeat it."

-George Santayana  
(or *Jorge Agustín Nicolás Ruiz de Santayana y Borrás*)

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## Common Data Certification Pitfalls

1. *Starting implementation without management accountability (Commitment)*
2. *Starting with procedures and guidance only*
3. *Avoiding difficult or complex but critical impact issues*
4. *Creating (or attempting to create) a large inflexible organization*
5. *Staffing the core team without proper skills*
6. *Assuming that the process will work "fine" (no need for improvement)*



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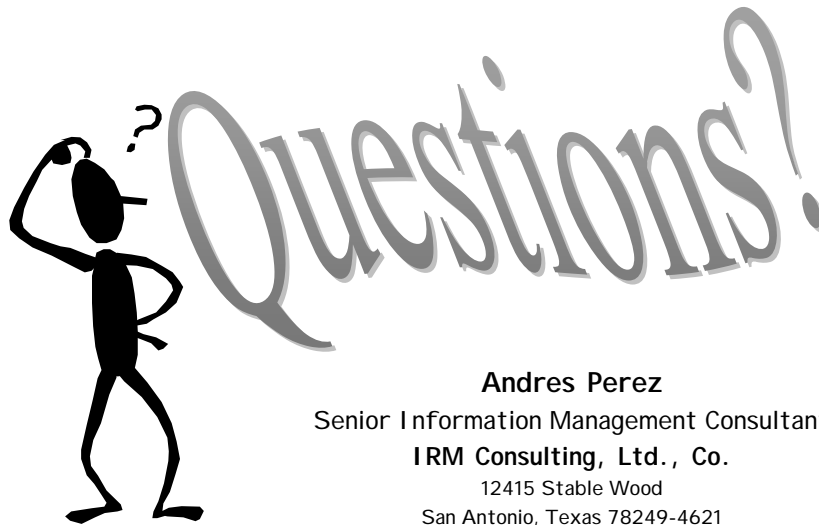
### Common Data Certification Pitfalls

- 7. *Failing to manage the participants' time effectively*
- 8. *Limiting Participation to IT Areas only*
- 9. *Limiting Participation to Business Areas only*
- 10. *Focusing on tools, techniques, or mechanics instead of process & business value*
- 11. *Waiting for (or building) the Repository*
- 12. *Using "Slogans" or "Speeches" -- Instead, set specific Objectives, Measure and Communicate*



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