

# Data Strategy

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# Data Strategy

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- ◆ Module 1 – Introduction to Data Strategy
- ◆ Module 2 – Data Quality
- ◆ Module 3 – Meta Data
- ◆ Module 4 – Organization, Roles & Responsibilities
- ◆ Module 5 – Security & Privacy
- ◆ Module 6 – Business Intelligence
- ◆ Module 7 – Information Integration
- ◆ Module 8 – Software/Products
- ◆ Module 9 – Performance & Measurement

## Module 1 – Introduction to Data Strategy

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- ◆ Components of a data strategy
- ◆ Why have a data strategy
- ◆ Do these problems exist in your organization?
- ◆ Gain control
- ◆ Support the IT strategy
- ◆ Data in the Dark Ages
- ◆ Enlightened data strategy
- ◆ Critical success factors
- ◆ How to implement a data strategy
- ◆ Best Practices

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## Components of a Data Strategy +

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- ◆ RDBMS - Relational Database Management System
- ◆ Data Quality
- ◆ Meta Data
- ◆ Performance
- ◆ Data Distribution
- ◆ Organization
- ◆ Data Ownership

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## Components of a Data Strategy +

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- ◆ Security and Privacy
- ◆ Total Cost of Ownership
- ◆ Subject area databases
- ◆ Data modeling
- ◆ Data sharing
- ◆ Business Intelligence
- ◆ Information integration

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## Components of a Data Strategy +

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- ◆ Legacy/operational data
- ◆ Standards
- ◆ Data migration
- ◆ Application packages
- ◆ Software/products
- ◆ Personal/departmental databases

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## Components of a Data Strategy

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- ◆ Categorization of data
- ◆ Communicating and selling the data strategy
- ◆ Measurement

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## Why Have a Data Strategy

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- ◆ Capitalize on the data asset
- ◆ Support the IT Strategy
- ◆ Gain control

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## Do these problems exist in your organization? +

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- ◆ Uncontrolled redundant data
- ◆ Data not easily accessible by the user
- ◆ Lack of knowledge of available data
- ◆ Poor data quality
- ◆ Each new application designs, builds and populates its own data base
- ◆ Inconsistent reports

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## Do these problems exist in your organization?

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- ◆ Private databases
- ◆ No central meta data repository
- ◆ Management unclear on the importance of data
- ◆ No responsibility for data
- ◆ Data standards non-existent, not understood or not followed

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## Gain Control

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- ◆ Consistent security implementation
- ◆ Understand, define and assign ownership
- ◆ Understand, define and assign stewardship
- ◆ Minimize redundancy
- ◆ Inventory data
- ◆ Develop consistent terminology

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## Support the IT Strategy

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- ◆ Provide departments, projects and personnel with guidelines for storing and accessing data
- ◆ Minimize the number of RDBMSs
- ◆ Establish, disseminate and maintain standards for shared data resources
- ◆ Deliver a high level of service
  - performance
  - Availability
  - response time
  - responsiveness to user requests

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## Data in the Dark Ages

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- ◆ Data is kept locked by each application or department
- ◆ Users do not trust the data
- ◆ Data is not well understood either by users or by IT
- ◆ Data is difficult to access
- ◆ Senior Management does not understand the value of data

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## Enlightened Organization

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- ◆ Data is shared
- ◆ Users trust the accuracy of the data
- ◆ Data is inventoried and terminology is clear
- ◆ Data is easily accessed by IT and by the users
- ◆ Senior Management view data as an asset that is critical to the organization and to decision making

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## Critical Success Factors

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- ◆ Data Strategy supports IT plans
- ◆ Quality data
- ◆ Support of legacy data
- ◆ Support of development efforts
- ◆ Infrastructure
  - Organization
  - Skills
  - Tools
- ◆ Achieve short-term successes

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## How to Implement a Data Strategy

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- ◆ Data environment assessment
- ◆ Establish a target data environment
- ◆ Develop an implementation plan
- ◆ Sell Data Strategy within the organization
- ◆ Evaluate progress and justify your existence
- ◆ Revisit the plan

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## Best Practices

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- ◆ Don't get into the details too soon
- ◆ Don't be seen as a theorist -- your actions must be pragmatic
- ◆ Don't lead with long-term deliverables
- ◆ Don't commit more than you can deliver
- ◆ Avoid unproven technology

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## Module 1 Workshop

### Assessment of Existing Organization

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## Module 4 Organization – Data-related Roles & Responsibilities

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- ◆ Database Administrator
- ◆ Data Administrator
- ◆ Data Quality Administrator
- ◆ Security
- ◆ Architect
- ◆ Data ownership

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## Database Administrator

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- ◆ Database design
- ◆ Backup and recovery
- ◆ Reorganization
- ◆ Monitoring
- ◆ Tuning
- ◆ Index creation

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## Data Administrator

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- ◆ Data modeling
- ◆ Source data evaluation
- ◆ Enterprise data integration
- ◆ Data quality analysis
- ◆ Meta data responsibility

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## Data Quality Administrator

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- ◆ Uncovering data quality problems
- ◆ Communicating data quality problems
- ◆ ETL verification
- ◆ Responsibility for some cleansing

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## Security

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- ◆ Responsibility for who can do what to the data
  - Data access
  - Data create/update/delete
- ◆ Working with those administering the tools that have security capabilities

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## Architect

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- ◆ Knowing what the enterprise needs
- ◆ Evaluating technical options
- ◆ Developing an appropriate architecture
- ◆ Selling the architecture

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## Data Ownership +

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- ◆ Creation
- ◆ Access
- ◆ Determine requirements for performance
- ◆ Determine requirements for availability
- ◆ Determine historical requirements

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## Creation

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- ◆ Data Entry process
  - Training
  - Incentives for quality
- ◆ Quality of data
- ◆ Data edits

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## Access

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- ◆ Need to know
- ◆ Opt in/Opt out
- ◆ Level of granularity
- ◆ By department
- ◆ By role
- ◆ External access by people outside the organization

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## Performance Requirements

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- ◆ Response time
- ◆ What is excellent response time worth?
- ◆ Timeliness

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## Availability Requirements

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- ◆ How many hours and days does the system need to be available?
- ◆ What is the availability requirement during scheduled hours?

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## Historical Requirements

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- ◆ How far back to keep the data
- ◆ How detailed does old data need to be?
- ◆ Impact of code changes and organizational changes over time

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## Organization – Best Practices

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- ◆ Establish the appropriate organization for your enterprise
- ◆ Enumerate roles and responsibilities
- ◆ Gain concurrence for roles and responsibilities
  - Management
  - Those performing the functions

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## Module 4 Workshop Organization

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## Module 5 Security & Privacy

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- ◆ Categorization for security
- ◆ Responsibility for determining
- ◆ Mechanism for establishing procedures
- ◆ Security audit
- ◆ Regulatory issues
- ◆ Data sharing

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## Categorization for Security/Privacy

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- ◆ Does all data have the same security/privacy requirements?
- ◆ Who determines security/privacy requirements of data?
- ◆ What are the regulatory requirements for security and privacy?
- ◆ Does your organization have a Security Office? What authority do they have?

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## Responsibility

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- ◆ Security Office
- ◆ Internal auditors?
- ◆ Data Owners
- ◆ Responsibility for administering
- ◆ Testing security and privacy

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## Mechanism for Establishing Procedures

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- ◆ Security requirements
  - Internal
  - Regulatory
- ◆ Tools that implement security
- ◆ Communicating security requirements to those who implement

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## Security Audit

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- ◆ Validating procedures
- ◆ Validating training
- ◆ Testing and probing
- ◆ Recommending mitigation
- ◆ Frequency of audits

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## Regulatory Issues

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- ◆ Health Care – HIPPA
- ◆ Finance
- ◆ Brokerage - SEC
- ◆ Insurance
- ◆ Media – FCC

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## Data Sharing

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- ◆ Inhibitors
- ◆ Motivation/incentives to share
- ◆ Management directives on sharing

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## Inhibitors

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- ◆ Power
- ◆ Fear of others
- ◆ Fear of boss micromanaging

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## Motivation/incentives to share

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- ◆ Are there any?

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## Management Direction on Sharing

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- ◆ Direction to share must come from the CEO
  - Need to know
  - Reason for withholding access must be documented
  - Access only given when directed

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## Security & Privacy – Best Practices

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- ◆ Raise the consciousness of security and privacy requirements
- ◆ Connect with your Security Office
- ◆ Determine security capabilities of tools
- ◆ Assign responsibilities
- ◆ Test and validate

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## Module 5 Workshop Security & Privacy

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## Module 6 Business Intelligence

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- ◆ Goals and Objectives
- ◆ Architecture
- ◆ Data Mining
- ◆ Tools
- ◆ Methodology

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## Goals and Objectives

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- ◆ Why have a data warehouse?
- ◆ Have goals and objectives been identified
- ◆ Have they been communicated?
- ◆ Are they measured post-implementation

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## Architecture

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- ◆ Platform
- ◆ Tools/products
- ◆ How the data flows

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## Data Mining

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- ◆ Discovery versus hypothesis testing
- ◆ Different tools
- ◆ Different people mining the data

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## Tools

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- ◆ RDBMS
- ◆ Data Modeling
- ◆ ETL
- ◆ Access and Analysis
- ◆ Cleansing
- ◆ Measurement

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## Methodology

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- ◆ Spiral versus waterfall
- ◆ Phasing more appropriate
- ◆ Tasks more difficult to estimate

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## Business Intelligence – Best Practices

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- ◆ Set goals and objectives
- ◆ Set expectations early and often
- ◆ Establish cost justification
- ◆ Find a terrific sponsor (sugar daddy/momma)

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## Module 6 Workshop Business Intelligence

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## Summary

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- ◆ Pitch the importance of a data strategy to your CIO and CTO
- ◆ Ask to either lead the effort or to be a permanent member of the team