

Creating a Business Intelligence Center of Excellence (CoE)

Presenters: **Tom Meers and Troy Gottfried, Principals, Result Data**

Created by: Joe Roberts – Sr. Principal Consultant, Result Data, BECP

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SAP BUSINESSOBJECTS BI 4.X
THE INTELLIGENCE PLATFORM

ALL INFORMATION. ALL PEOPLE. ONE PLATFORM.

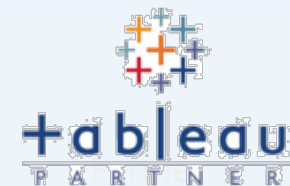
Our Background

- ✓ Located in Columbus, Ohio
- ✓ Founded in 1996
- ✓ Specialized team of 15 BI & Data Experts
- ✓ Certified Public Training for SAP, QlikView and training in other areas
- ✓ Strong background in data warehousing, business intelligence and software development

Services & Training

- ✓ BI Planning, Implementation & Assessments
- ✓ Data Management
(DW, Data Marts, ETL)
- ✓ Application Development
 - ✓ .NET Development
 - ✓ PHP/MySQL
 - ✓ SQL & Databases
 - ✓ BI Tools API's
- ✓ Training & Mentoring
- ✓ eLearning Development
- ✓ Managed Projects & Services

Partnerships



Agenda



- **What is a BI Center of Excellence (CoE)**
- **Do I need a Center of Excellence**
- **The Information Intelligence Lifecycle**
- **The 10 Deadly Sins of Poorly Planned BI**
- **The Role of the CoE**
- **The Primary Goals of the CoE**
- **The Structure of the CoE**
- **Developing Standards and Guidelines**
- **Questions?**

What is a BI Center of Excellence?

“A permanent, multi-discipline team empowered to define, develop and provide governance for Business Intelligence across the enterprise”

A Center of Excellence exists to:

- Develop and apply standards, best practices & governance
- Provide training, education, mentoring and guidance
- Enable centralized vendor relationships
- Provide a cross-departmental organization related to the deployment and existence of Business Intelligence solutions across the enterprise

Do I need a Center of Excellence?

Do any of these circumstances exist in your organization?

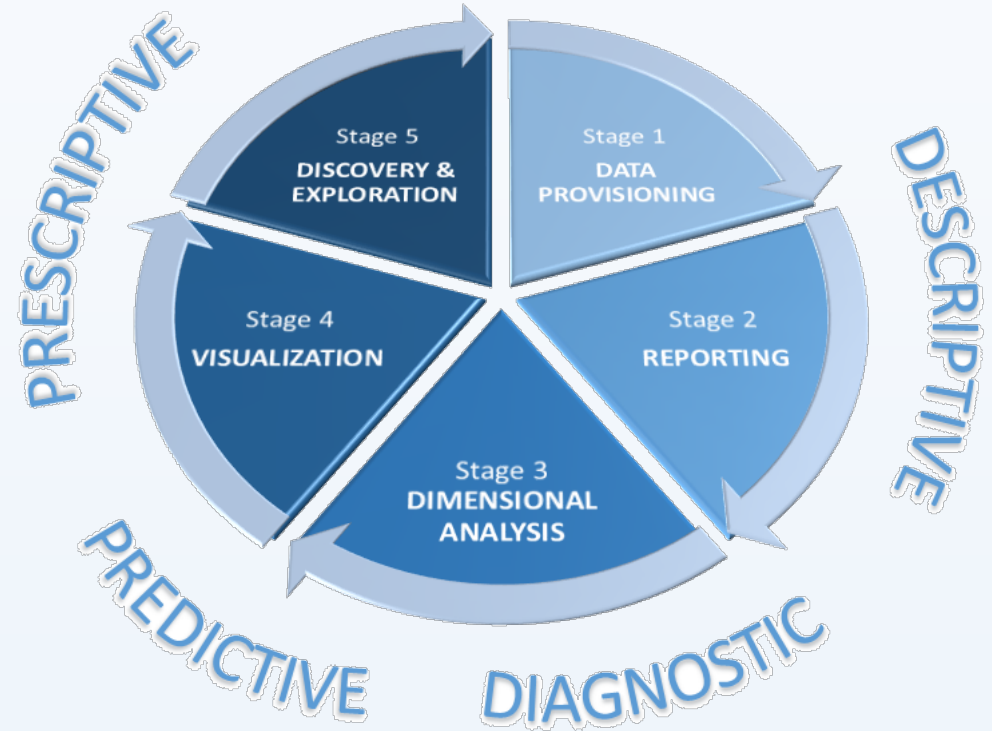
- Are you concerned that you are spending too much on BI?
- Do you have multiple, uncoordinated, on-going BI implementations?
- Do users distrust the data available or do not have the data they need to perform their analysis?
- Are you missing a formal approach to documenting processes, creating content, or facilitating ongoing maintenance or usage?
- Can you align your Business Intelligence content with your corporate objectives and strategies?
- Are you still looking for a “single version of the truth” despite the existence of BI?

If you answered “yes” to any of these questions, you might need a CoE!

The Information Intelligence Lifecycle

II Lifecycle Background

- Created by principal consultants at Result Data to help customers understand their analytic capabilities, goals and roadmap.
- A maturity model that represents how organizations typically evolve data analysis capabilities
- Maps to the Gartner® BI Maturity model for descriptive, diagnostic, predictive and prescriptive analysis¹.
- Based on five stages that represent how organizations prepare for and execute on data analysis & reporting.

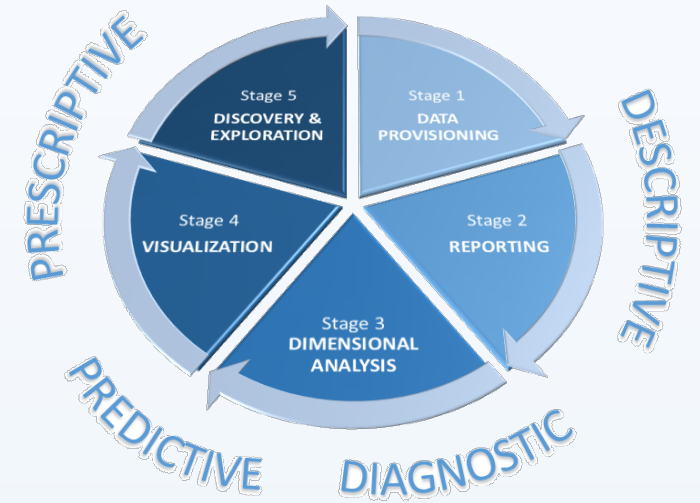


1) Gartner® BI Maturity Model is the property of Gartner® and part of their BI Magic Quadrant analysis

The Information Intelligence Lifecycle

II Lifecycle Stages

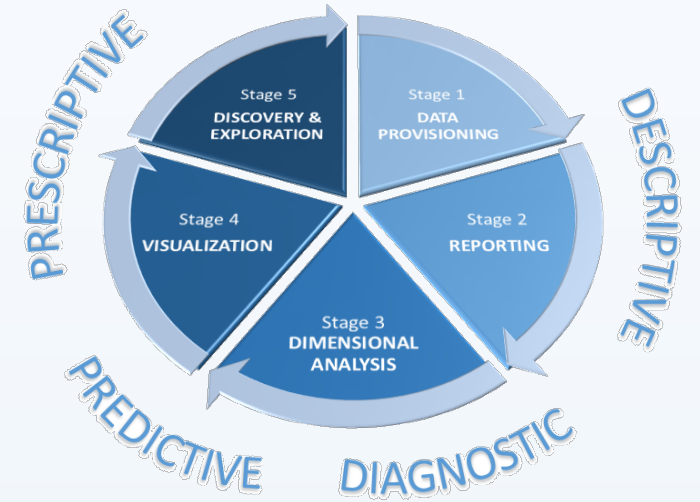
- **Stage 1, Data Provisioning:** Data is collected from one or more source systems and organized for use in reporting and analysis
- **Stage 2, Reporting:** Online reports are developed and provide parameter driven reporting to users as well as reporting distribution via email and other mechanisms
- **Stage 3, Dimensional Analysis:** Semantics and meta data is created to allow users to self-serve their analysis needs (e.g. pivot tables and data cubes)
- **Stage 4, Visualization:** Dimensional Analysis often drives to the development of dashboards and interactive charting.
- **Stage 5, Discovery & Exploration:** Inherent limitations in dimensional-ization and pre-aggregation of data drive users to consider data discovery tools



The Information Intelligence Lifecycle

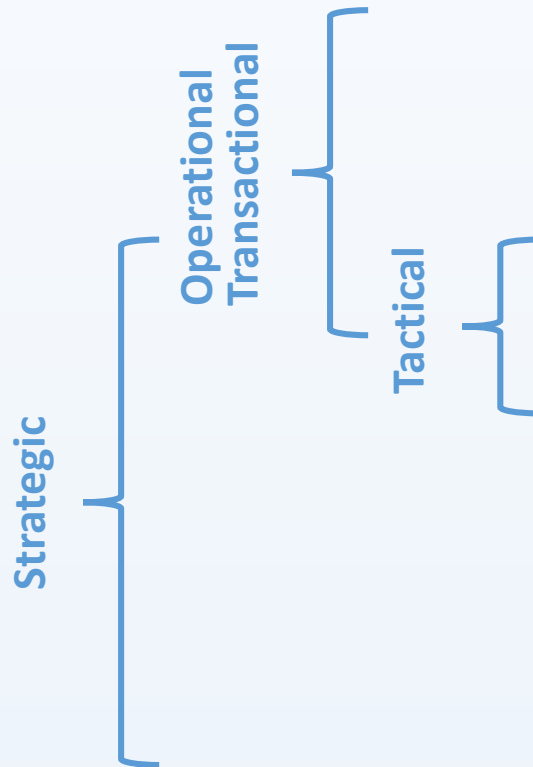
II Lifecycle Use Case Categories

- **Transactional:** Real Time or Near Real Time Data
 - Reporting is based on live data from source systems
 - Examples: Checks, Work Orders, Warehouse Pick Lists etc.
- **Operational:** Low Latency Data (hours or days)
 - Reporting and Analysis based on frequently refreshed data (i.e. ODS)
 - Examples: Sales Reporting, Accounting Reports
- **Tactical:** Medium Latency Data (days or weeks)
 - Analysis based on data that is a week or so old
 - Examples: Marketing Campaign Analysis, Web Statistics, Call Center Data
- **Strategic:** Monthly or Quarterly Data Latency
 - Analysis used to review and plan business over months and quarters
 - Examples: Sales Performance Trends, Product Performance Trends, Seasonal Analysis

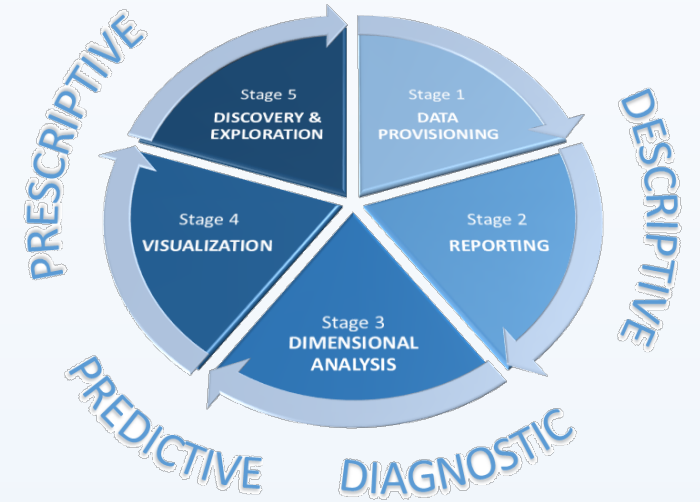


The Information Intelligence Lifecycle

II Lifecycle Use Cases



- **Descriptive Analysis**¹: What happened in the past?
 - Data Provisioning
 - Reporting
 - Initial use of dimensional analysis
- **Diagnostic Analysis**¹: Why did it happen?
 - Dimensional Analysis
 - Initial use of Visualization
- **Predictive Analysis**¹: What will happen in the future?
 - Visualization
 - Data Discovery
- **Prescriptive Analysis**¹: How do we make what we want happen?
 - Data Discovery
 - Data Exploration

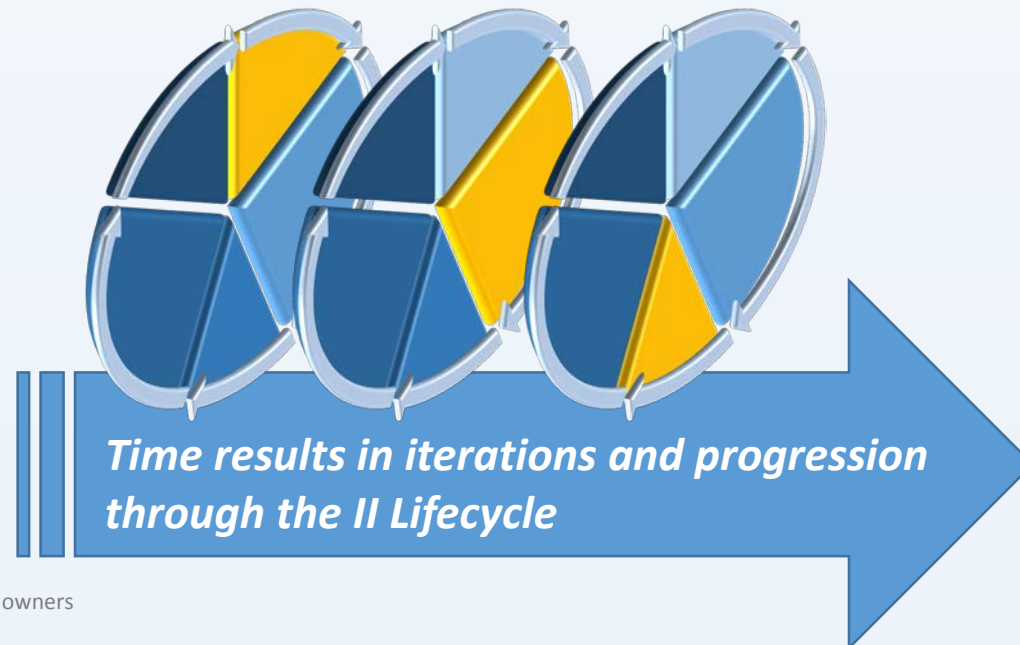


Note: Often more advanced use case (i.e. predictive analysis) are used in operational or tactical efforts within an organization, this breakdown is a generalization.

1) Gartner® BI Maturity Model is the property of Gartner® and part of their BI Magic Quadrant analysis

The Information Intelligence Lifecycle

- **The lifecycle is iterative:** organizations progress through the lifecycle stages over time
- **Iteration:** Use of data by users illustrates omissions and problems with data provisioning, which restarts the cycle.
- **Progression is not always sequential:** many organizations skip stages and jump into more advanced capabilities right away. This can have consequences, but is common.



The 4 Laws of the Information Intelligence Lifecycle

In conjunction with the four stages there are also four laws that govern the Information Intelligence Lifecycle.

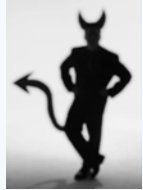
1st Law: Stages Are Usually Additive – Attempting to ignore or skip a stage will result in a longer and more expensive process in some cases because more advanced results are built on the elements of earlier stages. However, data discovery tools are beginning to alter this paradigm.

2nd Law: Technology Must Align to Growth – Failure to maintain technology as you move to more advanced stages will retard your progress resulting in weak realization of your goals.

3rd Law: Everything Must Align to Strategy – If you fail to see how something relates on a strategic level, it probably isn't important and may be a distraction from what really matters.

4th Law: Strategy Drives Iteration – It's inevitable that as you plan for the future by analyzing the past, you will find that you don't have all of the information you need. This must be addressed by returning to the first stage and re-evaluating points and methods of collection.

The 10 Deadly Sins of Poorly Planned BI



There are 10 consistent mistakes or “sins” that organizations commonly make related to the implementation of Business Intelligence.

- 1. Multiple Versions of the Truth:** An over-used term for sure, but a real problem. If data is not properly mapped using a system-of-record concept this will happen. Also beware of “a single version of a lie” where there is only one answer, but it’s wrong.
Result: Chaos and arguing over “who’s right” and significant reduction in decision maker productivity
- 2. Un-Verifiable Data (no lineage):** All too often there is either no way to verify a number in a report, analysis query or dashboard or the process to verify is prohibitive.
Result: Reduced Adoption of BI and Low Return on Investment

25% (15 min)

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The 10 Deadly Sins of Poorly Planned BI



There are 10 consistent mistakes or “sins” that organizations commonly make related to the implementation of Business Intelligence.

- 3. No Data: Delayed Decisions:** If it takes a long time to make a decision then in all likelihood the decision maker doesn't have a way to get the data needed to make the decision.
Result: Perception that decisions take too long and management is slow to respond resulting in loss of faith by employees and investors
- 4. Bad Data: Poor Decisions** If poor decisions are made regularly then in all likelihood the data used to make the decision is incomplete or simply wrong.
Result: Perception that management doesn't know what it's doing. This can also result in very costly mistakes.

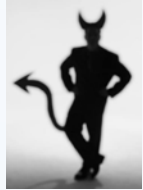
The 10 Deadly Sins of Poorly Planned BI



There are 10 consistent mistakes or “sins” that organizations commonly make related to the implementation of Business Intelligence.

- 5. Poor Design: Redundant Effort:** The same people doing the same thing over and over in different parts of the organization usually means no thought or planning has been given to how data is collected and managed or how information should be extracted.
Result: Lower productivity, conflicting data and higher error rates.
- 6. High & Hidden Cost of Ownership:** Limiting initial technology and services investment usually means slower turnaround time, more effort and higher operating costs. It doesn't matter if you spend \$100K in January or \$10K per month, you still spend the money. The only difference is that under capitalizing your BI solution means you'll spend more next year and get even worse results. Don't waste money on unnecessary technology but don't go cheap either.
Result: Lost opportunity and high hidden costs from inefficiencies. More difficulty in standardizing information and business rules as time goes on. Also, greater difficulty and higher cost to grow the company.

The 10 Deadly Sins of Poorly Planned BI



There are 10 consistent mistakes or “sins” that organizations commonly make related to the implementation of Business Intelligence.

- 7. Poor or No high level indicators (no KPI's):** Knowing key measures and trends is only half the battle. Being able to measure performance requires the development of Key Performance Indicators and a way to evaluate them.
Result: Greater difficulty in planning for the future and inability to identify what is causing poor performance. Inability to see how decisions affect the big picture.
- 8. Inability to measure against goals (no scorecards):** You don't know how fast you should go if you don't know the speed limit and what time you should arrive. Predefining goals and having a system to measure against them is the best way to manage performance.
Result: Inability to bring performance into “control” and make results predictable. Also, inability to increase competitiveness on a regular basis.

The 10 Deadly Sins of Poorly Planned BI



There are 10 consistent mistakes or “sins” that organizations commonly make related to the implementation of Business Intelligence.

9. **Organic Data Management (no ETL tool):** Hand coding your data management processes seems cheap and easy, but the proverbial bus awaits your super programmer assuring you find yourself with an unsupported solution.
Result: High cost of ownership and high risk. Idiosyncratic code makes modifications and support very difficult as complexity increases. Loss of key personnel results in catastrophe when a system fails.
10. **No Definitions or Consensus of Definitions:** You don't take the time to predefine key business terms, measures and dimensions. Predefining terms and rules are critical. Equally important is to obtain consensus on terms and rules.
Result: Low adoption of BI exacerbates pre-existing tension and conflict. BI is seen as a failure because no-one agrees on how information should be organized.

The Role of the COE

“The role of the COE is to provide a strong centralized authority to guide and govern users in the production of accurate, scalable, corporate Business Intelligence”

The primary focus of the COE is:

- BI Standardization: Standards and Best Practices Definition and Promotion
- Training, Education and Mentoring
- Continuous Process Improvement
- BI Project Oversight, Governance and Management
- Platform Architecture Establishment, Maintenance and Administration
- Data Architecture & Data Quality
- Meta Data and Semantic Layer Development and Management
- Centralized Support and Vendor Management
- Formalized BI Platform(s) Administration

50% (30 min)

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The Primary Goals of the CoE

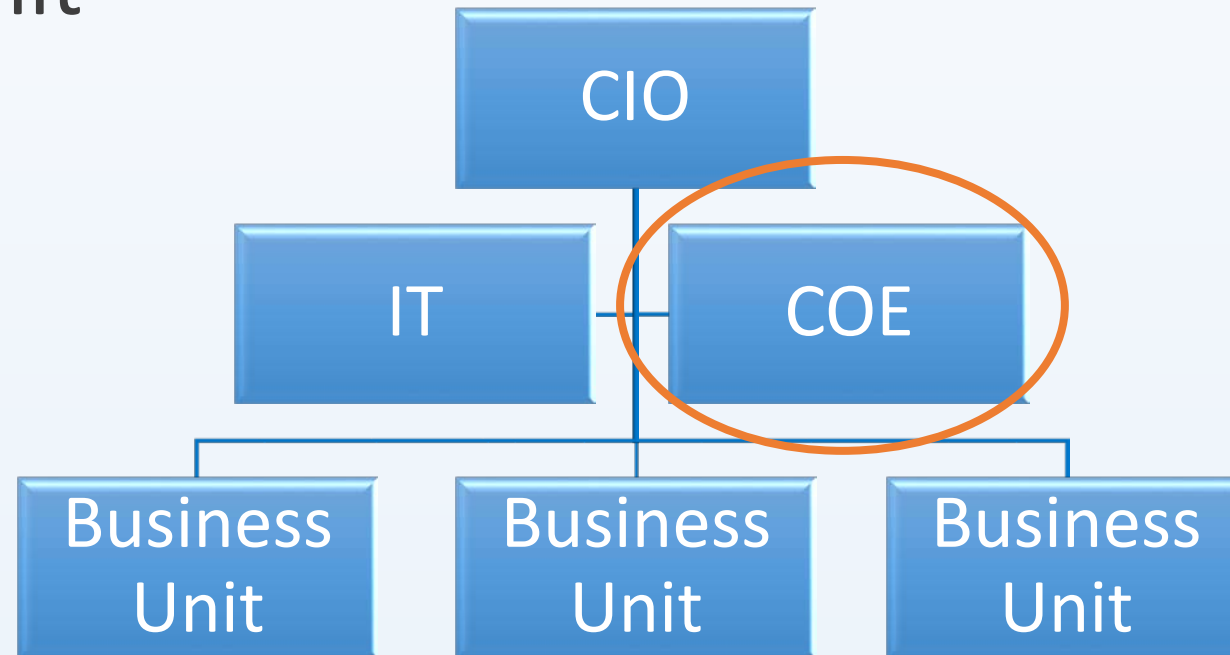
- Ensure that Business Intelligence & Analytics is aligned with corporate strategy
- Drive success and adoption of BI&A content
- Ensure the consistent application of standards and best practices for all BI&A initiatives
- Provide a standardized, sustainable and scalable, enterprise wide environment for BI&A delivery



The Structure of the CoE

A Center of Excellence can take many forms

The CoE as an IT Unit

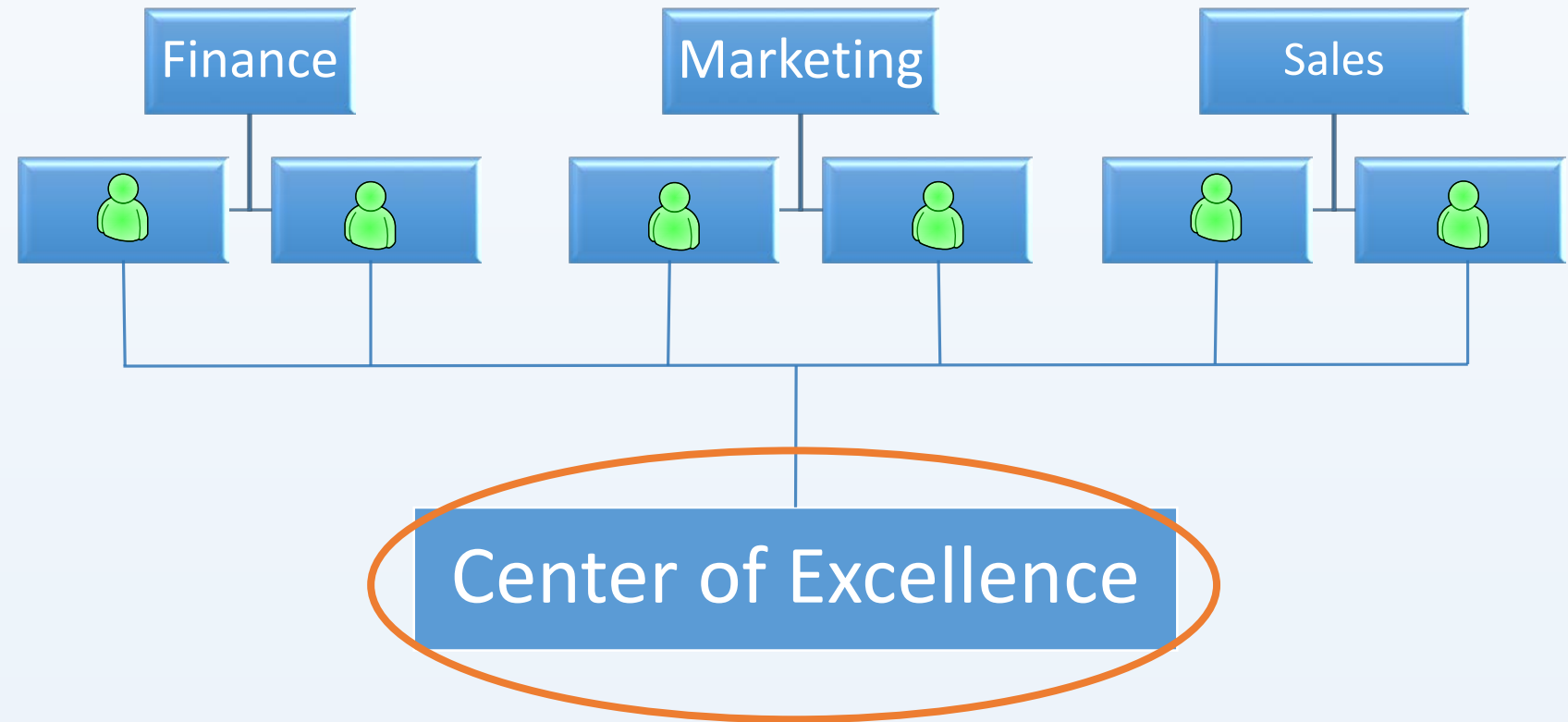


The Structure of the COE

A Center of Excellence can take many forms

A Virtual COE

Shared by Departments

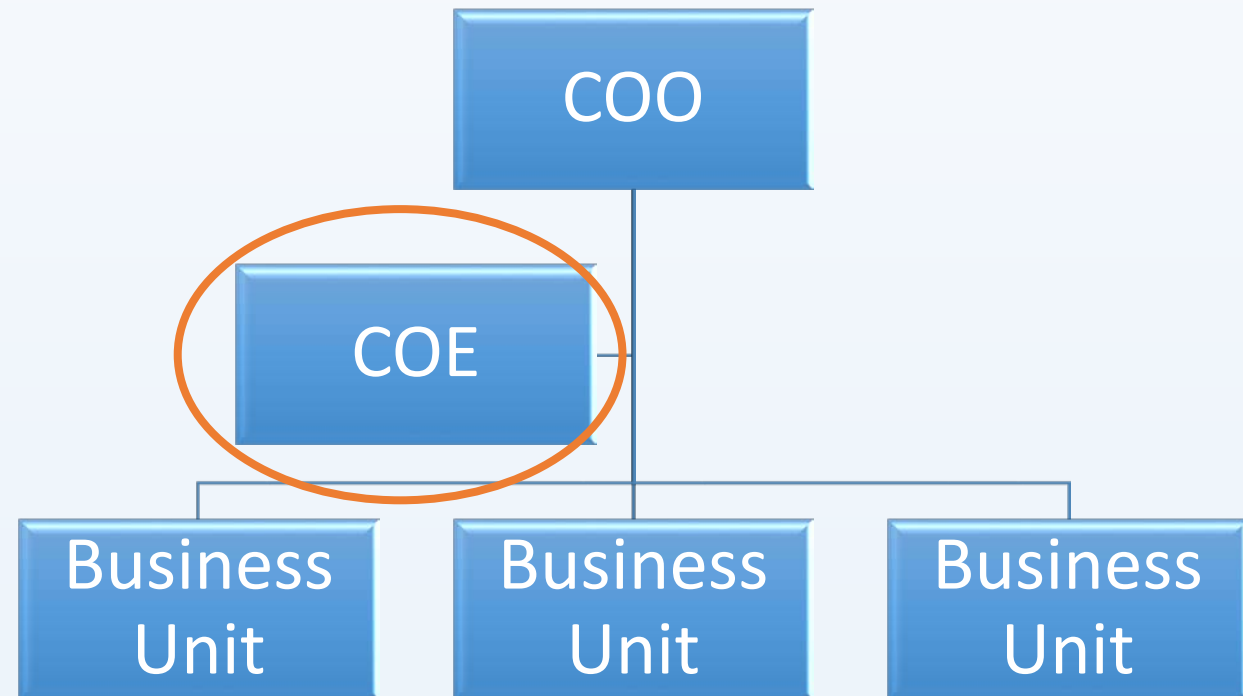


The Structure of the COE

A Center of Excellence can take many forms

An Independent COE

As part of Business Operations



The Structure of the COE

A Center of Excellence can take many forms

Distributed COE

Shared by Business Units



The Structure of the COE

Regardless of the form the COE takes, consider these points

- A COE must have executive sponsorship and authority
- You must be able to communicate a clear value to the customer (users)
- Speak the language of the business user (he who is closest to the end user wins)
- Self-Service is not self-sufficient
- BI is a process NOT an event
- Cultivate a rapid deployment model (an Agile methodology)
- Create more Guidelines and Best Practices than Rules or Standards
- Be consultative rather than dictatorial
- Stress standardized, repeatable solutions but be flexible

Creating Standards, Best Practices and Guidelines

Subject areas to consider when creating Standards, Best Practices and Guidelines for a **general CoE benefits**

- BI Requirements Development Methodology
- Data Warehouse/Data Store Structuring and Methodology
- Data Dictionaries and Meta Data Documentation
- User/Developer Roles and Enablement (training)
- Developer Best Practices and Version Control
- Content Testing & Deployment Best Practices
- Tool Alignment Matrix
- Vendor Management

Creating Standards, Best Practices and Guidelines

Subject areas to consider when creating Standards, Best Practices and Guidelines for a **SAP BusinessObjects CoE**

- Data Connectivity
- Crystal Reports
- Semantic (Universe) Design
- Web Intelligence
- SAP Dashboards, Lumira
- BusinessObjects Enterprise Platform

75% (45 min)

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Creating Standards, Best Practices and Guidelines

SAP BusinessObjects Data Connectivity

- Database Middleware Standardization
 - ODBC, OLEDB, Native Client, Other
- Naming Conventions
 - DSN's, DNS aliases, TNS Names
- Database Drivers and Driver versions
- Database Authentication Requirements
 - Likely to be database specific
- Processes and Procedures for Client Implementation

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects Crystal Reports

- Allowed Data Objects
 - Commands, Stored Procedures, Views, Tables
- Data Filtering Requirements (especially with Commands and SP's)
- Semantic Layer Requirements (Universes vs. Business Views)
- Prompt Usage
 - Static vs. Dynamic, Prompt Text, Binding to parameters
- Sub-report Usage
- Data Volume Considerations
- Report Configuration
 - Summary Info, Report Options, Page Setup
- Report Layout Considerations
 - Totals placement, Page N of M, Sub-report placement
- Report Design Considerations
 - Fonts, Images/Charts/Logos, Colors, Color Usage, Branding Considerations

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects Universe Design

- Naming Conventions
 - Universe Naming, Connection Naming, Class and Object Naming
- Meta Data Considerations
 - Requirements and guidelines for including comments and descriptions
- Universe Parameters
 - Descriptions, Controls, SQL, Links and SQL Parameters
- Universe Structure Requirements
 - Table Joins, Handling Loops and Traps, Alias and Context usage, documentation
- Object Creation
 - Dimensions, Measures, Conditions, Where Clause Usage, Hidden Objects
- Data Security Requirements
 - Restriction Sets

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects Web Intelligence

- Developer Tools
 - Which development tools are allowed, under what circumstances
- Saving Documents
 - Where to save, responsibility for personal or “in-development” documents
- Report Design
 - Document Naming
 - Variable Usage (including when to push variables back to the Universe)
 - Merge Dimension Usage
 - Queries (What types are allowed, data filtering)
- Report Layout
 - Required standard fields (Refresh Date, Descriptive Comments)
 - Colors, Fonts, Images/Charts/Logos

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects SAP Dashboards

- Data Connectivity
 - QaaWS, Live Office, BI Web Services, Static Data
- QaaWS Folder and Security Structure
- Connection Embedding
 - Methodology and Standards (include consideration for promotion of dashboards)
- Data Manipulation Structure and Considerations
 - Excel Tab Layout, Colorization, Location, Usage of Static Data
- Excel Functions and Logic
 - What functions to use and what functions to avoid and why
- Data Volume Considerations and Limits
- Design Considerations and Requirements
 - Fonts, Colors, Images (size and usage)
- Color Highlighting Considerations

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects SAP Lumira

- Data Connectivity
 - Local Data, Database Servers, HANA, Data Sharing with Explorer
- Style Guide
 - Screen Resolution, Layout, Fonts, Colors, Logos
- Data Volume Considerations and Limits (1GB Limit per user on Lumira)
- Deployment Considerations (Lumira Server, Data Sourcing from Server)

Creating Standards, Best Practices and Guidelines

SAP BusinessObjects Enterprise Platform

- Installation and Configuration Documentation
- Administrative Processes and Procedures
 - Service Pack Application, Special Configurations, Landscape and Architecture Requirements
- Platform Structure and Security
 - Folder Structure Standards
 - Security Concepts
 - Authentication Standards
- Platform Functionality
 - Scheduling, Categories, Personal Folders, Inboxes, Report Modification and Design
- Production Issue Resolution Process and SLAs
- Change Management Process and SLAs
 - Lifecycle Manager & other CM methods

Center of Excellence Development and Consulting Engagements from Result Data

- Cost Effective: Flat Rate Basis
- Provides a CoE document and roadmap
- Facilitated Sessions with key stakeholders
- Kick Starts the CoE process
- Ensures best practices are known and followed

Your Result Data Folders have **Discount Coupon**
for COE Planning engagements!

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Business Intelligence Specialists

BI&A CENTER OF EXCELLENCE

*A PROFESSIONAL APPROACH TO ESTABLISHING A CENTER OF EXCELLENCE
FOR YOUR BUSINESS INTELLIGENCE & ANALYTICS DEPLOYMENT*



Business Intelligence & Analytics (BI&A) deployments grow fast. Managing the rapid growth can be overwhelming for your IT and BI teams. A BI&A Center of Excellence (CoE) can reduce risk, lower ongoing cost and increase the value you receive from your investment.

What happens without a BI&A Center of Excellence?

As your analytics and reporting deployments grow, it is inevitable that your organization will experience challenges in the areas of data management, development costs, system availability and maximizing the return on investment.

Without the benefits of established best practices and guidelines most organizations experience a combination of the following problems:

- **Multiple Versions of the Truth:** Inconsistencies in how summary and calculated values are derived
- **Stale Data:** data refresh cycles may not be managed properly
- **Data Duplication:** Data is duplicated unnecessarily, resulting in higher cost of ownership (i.e. need for more servers and storage)
- **No Leverage:** Little or no leveraging of previous efforts result in duplication of effort
- **Sloppy Work:** Poorly designed content is expensive to maintain, we call this "technical debt"
- **Lost Work:** No standards for version control results in lost work and extra time and effort to re-create lost content
- **Downtime:** Lack of administrative processes results in unnecessary downtime
- **Crisis Costs:** Reactive administration results in costly and unplanned consulting engagements
- **Poor Adoption:** Lack of standards and process results in reluctance to rollout the technology and reduces the ROI.

What Does a BI&A CoE Provide?

- **Role Structuring:** Content Development Role Definitions, Administrative & Troubleshooting Role Definitions, Data Sourcing & Metadata Management Role Definitions
- **Enablement Planning:** Role based Learning Plans, Mentoring Guidelines, Reference Materials Planning
- **Content Development Standards:** Requirements Methodology, Development and Style Guides, Data Provisioning Best Practices, Semantics Development & Data Modeling Best Practices
- **Tool Selection:** Development of tool/use matrix to guide business users through the best process for choosing the right tool for the right job.
- **Content Management Standards:** Change Control Process Recommendations, Content Documentation Templates, Source Control and Release Management Guidelines
- **Platform Administration Standards:** Deployment Methodology and Process Recommendations, Dev/Test/Production Deployment Strategy, Governance Best Practice Recommendations, Preventative Practice Checklists & Recommendations
- **Technology & Vendor Management:** Feature Map & Usage Guidelines, Vendor Communication and Management Guidelines, License Recommendations,

Result Data is among the recognized consulting and certified training center & experience making us an ideal partner for your CoE. Our process includes:

- Interviews with key business analysts,
- Development of a roadmap and timelines)
- Technical Review of
- Development of a
- Development of a
- Facilitated Sessions

Call us for a FREE initial consultation

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Creating a Business Intelligence Center of Excellence

Questions ?



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