This course book preview is provided as an opportunity to see the quality of the course material and to help you determine if the course matches your needs. The preview is provided in a PDF form that cannot be printed.

It is my goal to provide a course book that is content-rich and that is useful as a reference document after the class has ended.

This preview shows selected pages that are representative of the entire course book. The pages shown are not consecutive. The page numbers as they appear in the actual course material are shown at the bottom of each page. All table-of-contents pages are included to illustrate all of the topics covered by the course.

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Putting the Business Back in BI

A Framework for Requirements and Value Management

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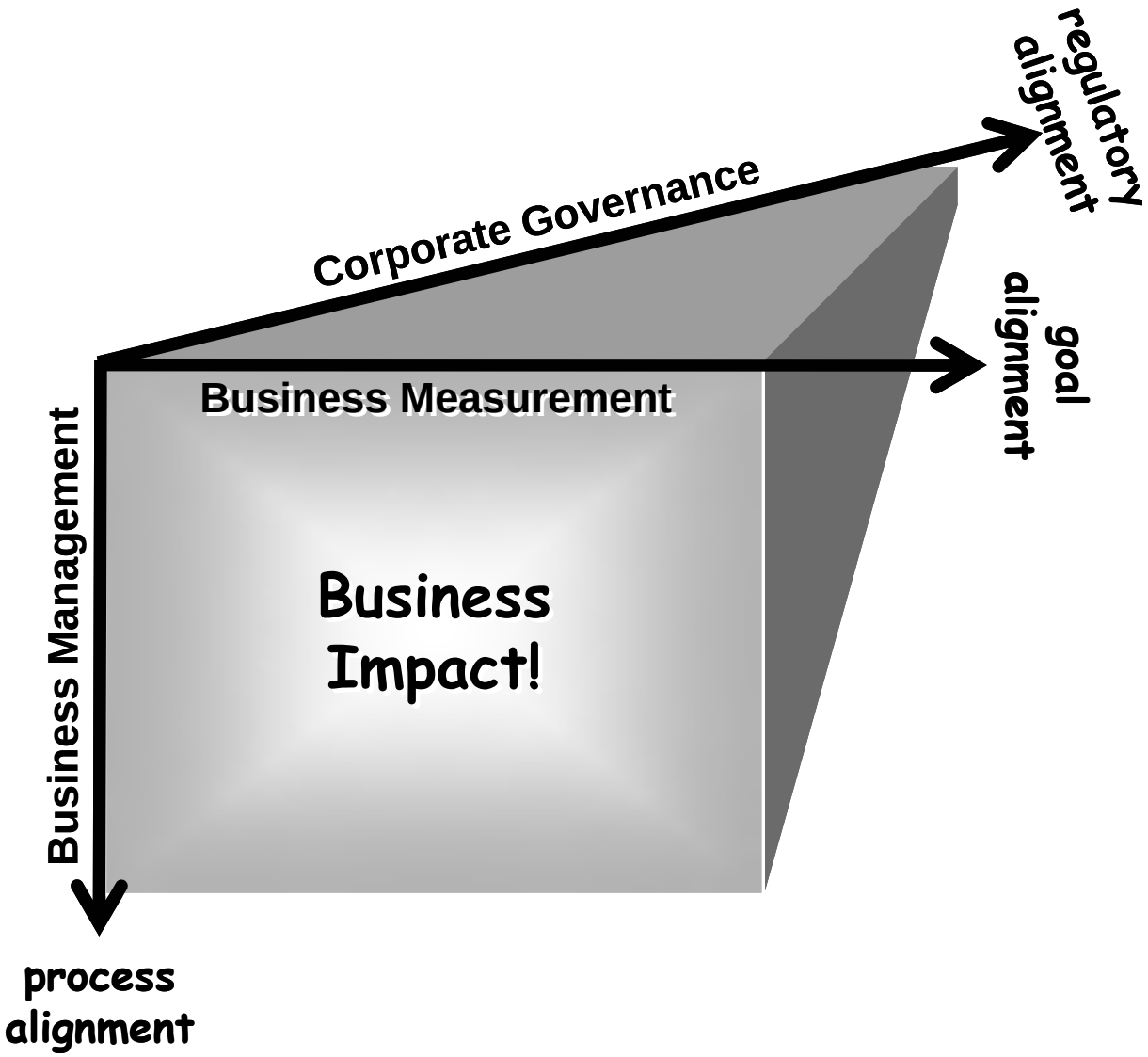
Module 1

A Business Framework for BI

Business-Aligned BI

BI for Business Impact



Business-Aligned BI

BI for Business Impact

DIMENSIONS OF ALIGNMENT

Managing big-picture BI is a challenge that demands clear relationships between business impact and information services. I use a framework to meet that challenge by intersecting concepts of business management, business measurement, and corporate governance. At a macro level the framework looks at BI program management as a multi-dimensional discipline for alignment of BI capabilities with those things that are significant to the business.

THE BUSINESS MANAGEMENT DIMENSION

Business Intelligence is, first and foremost, about business. Yet all too frequently the basics of business don't have a place in the overall structure of BI program management.

Virtually every business has processes, functions, and organizations with responsibility for each of eight business management disciplines: strategy and planning, financial management, research and development, marketing, sales, customer support, operations, and human resources.

THE CORPORATE GOVERNANCE DIMENSION

The most effective BI solutions are corporate systems that integrate across the organizational, functional, and data boundaries of the enterprise. As with any enterprise-wide resource, coordination is best achieved and value is maximized through governance.

Corporate governance is composed of seven areas: organization, ethics, legal, policies and procedures, compliance, risk, and audit. Four of these factors – policies and procedures, compliance, risk, and audit – have strong influence on BI alignment. The other three are of less concern for alignment.

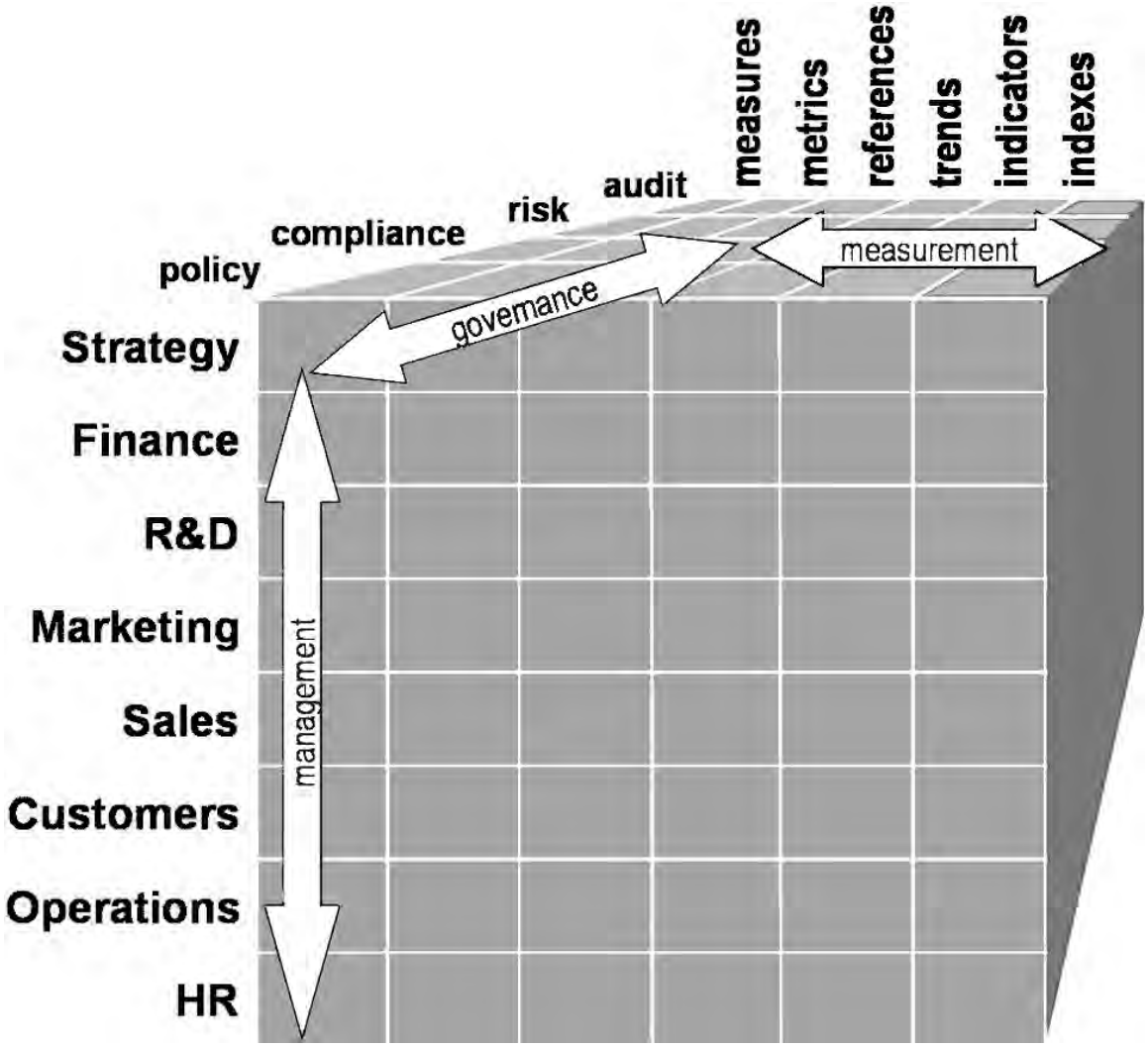
THE BUSINESS MEASUREMENT DIMENSION

BI delivers business measures; that is the essence of dashboards and scorecards. But measures alone don't assure success or value. This truth is effectively illustrated in a statement that I heard from Aaron Walz, a Business Architect at the University of Illinois – *"You can't make a pig fat by weighing it."*

This short quote makes two important points. Measures aren't useful unless they are actionable; and they aren't valuable unless they are acted upon. Getting from measures to value demands attention to six principles of measurement: measures, metrics, references, trends, indicators, and indexes.

The Business Framework

Business in BI



The Business Framework

Business in BI

PUTTING IT ALL TOGETHER

Intersecting the eight disciplines of business management, the seven elements of corporate governance, and the six principles of business measurement yields a 360° view of BI that is business-oriented and business-aligned. Each point of intersection provides an opportunity to build strong connections, and the right connections, between business value and BI programs.

When examining the intersection of business management with corporate governance – financial management with compliance, for example – ask questions such as:

- What dependencies exist here?
- What decision processes need to be supported?
- What information is needed here?
- What information is created here?

When looking at the intersection of business management with business measurement ask questions such as:

- What are the related strategies and what information supports them?
- What information track achievement of goals?
- What information discovers opportunity?

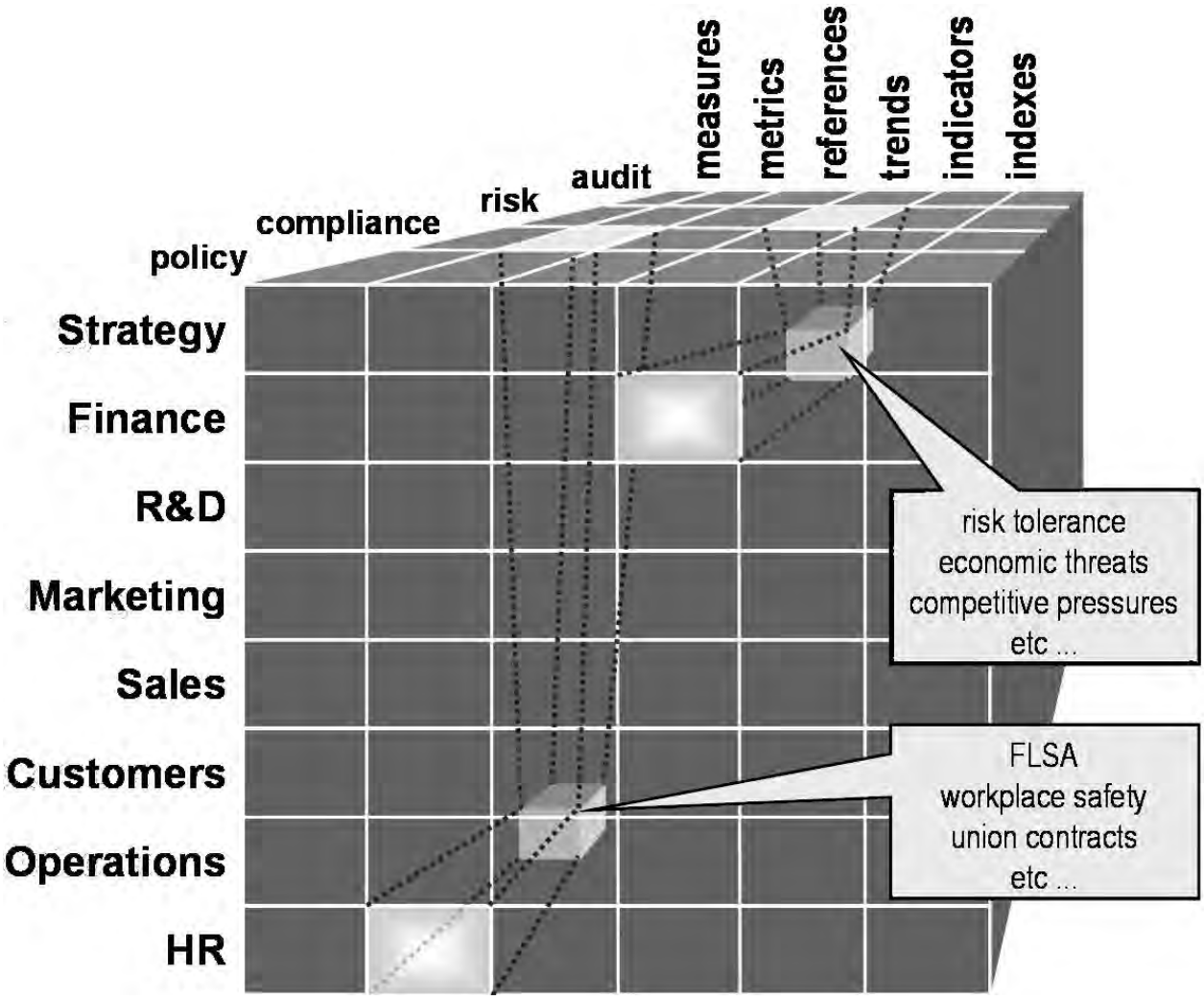
At the intersection of corporate governance with business measurement explore questions such as:

- What information exposes risk?
- How does information enable compliance?
- How does information support business policies and procedures?

Systematic attention to business management and corporate governance first, followed by consideration of business measures, and finally the technology to deliver measures will build BI systems that are truly business driven – putting the business back into business intelligence.

The Business Framework

Drilling In



The Business Framework

Drilling In

IN THE LANGUAGE OF THE BUSINESS

When you

- focus upon a specific domain of business function or process (finance, marketing, sales ...),
- for a specific management purpose (performance, compliance, risk),
- with understanding of the measurement objectives (metrics, trends, indicators, ...)

it becomes possible, practical, and productive to work in the language of the business.

EXAMPLES

The facing page illustrates two examples:

- At the intersection of finance, risk, and trends the business interests are about strategically important issues such as tolerance for risk, economic threats, and competitive pressures.
- At the intersection of HR, compliance, and metrics there are more tactical concerns such as the Fair Labor Standards Act (FLSA), workplace safety regulations and practices, union contracts and collective bargaining, etc.

These are but two of 192 intersections within the framework. Somewhere among them are the opportunities to really get close to the ground with what matters to your business and your BI consumers.

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Module 2

Business Management and BI

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Scope of Business Management

An Overview

FINANCIAL MANAGEMENT
CUSTOMER RELATIONSHIP MANAGEMENT (CRM)
OPERATIONS MANAGEMENT
HUMAN CAPITAL MANAGEMENT (HCM)
SUPPLY CHAIN MANAGEMENT (SCM)
BUSINESS ACTIVITY MONITORING (BAM)
BUSINESS PERFORMANCE MANAGEMENT (BPM)
and more …

Scope of Business Management

An Overview

MANAGEMENT METHODS AND FRAMEWORKS

A variety of different management methodologies and frameworks are used in business today. These various management approaches influence the behavior and culture of an organization, and thus influence the metrics and the measurement practices of that organization.

Among the alphabet soup of popular management methods you'll find:

- Business Activity Monitoring (BAM)
- Business Performance Management (BPM)
- Business Process Management (also known as BPM)
- Customer Relationship Management (CRM)
- Enterprise Resource Management (ERM)
- Enterprise Risk Management (also known as ERM)
- Human Capital Management (HCM)
- Operational Risk Management (ORM)
- Supply Chain Management (SCM)

And equally important but without a popular acronym are:

- Financial Management
- Operations Management

Then there are the quality-focused disciplines such as:

- ISO9x
- Six SIgma
- Total Quality Management (TQM)

I'm sure that there are many more of which I am not yet aware. And new ones will doubtless emerge in the future.

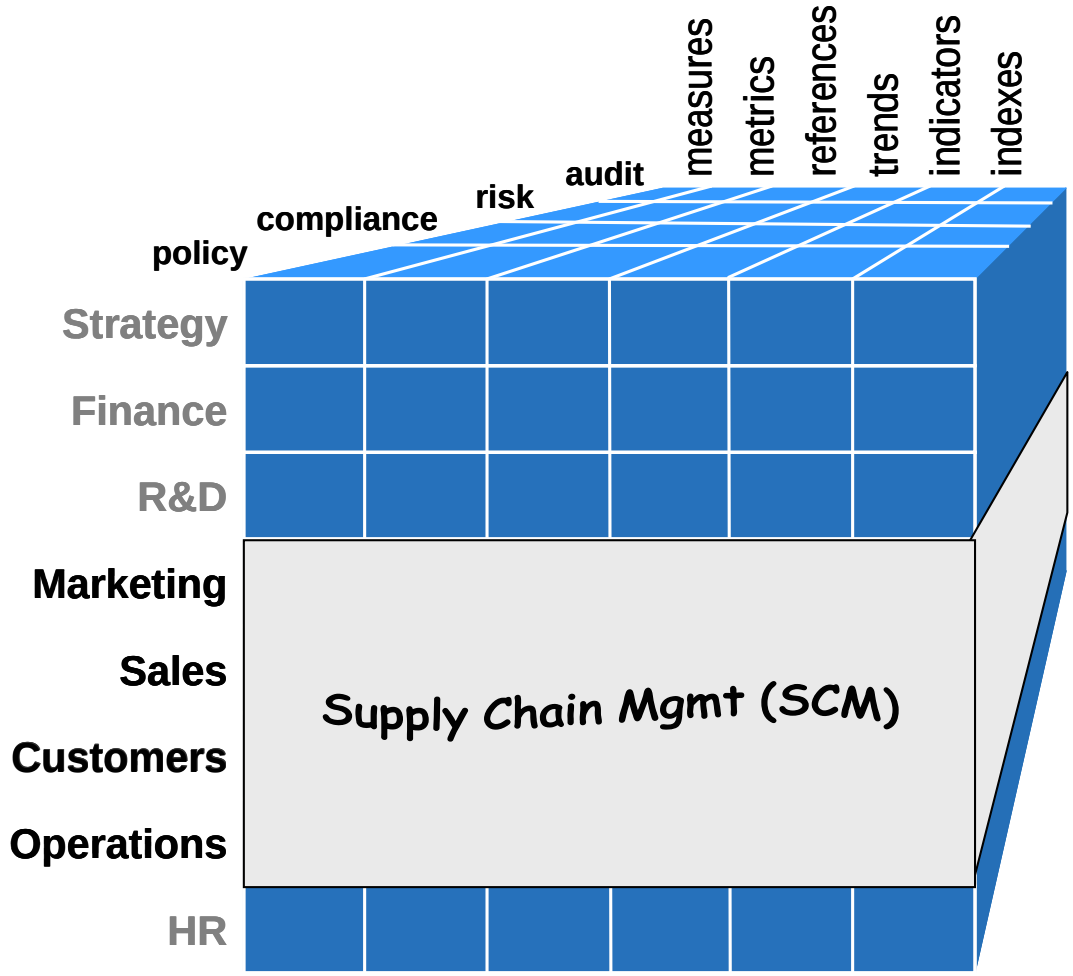
ALIGNING WITH MANAGEMENT PRACTICES

Regardless of which of these methods and practices your organization has adopted, they make a difference when implementing and operating BI systems. The language of a management method becomes part of your business language. The measures and metrics of a management method define some of the requirements for your measurement systems.

To make the framework as effective as possible for your BI program, you need to be able to see the methods of your organization inside the framework. The next several pages illustrate examples of some of the popular management approaches that are widely practiced today.

Business Management and the Framework

Supply Chain Management (SCM)



Business Management and the Framework

Supply Chain Management (SCM)

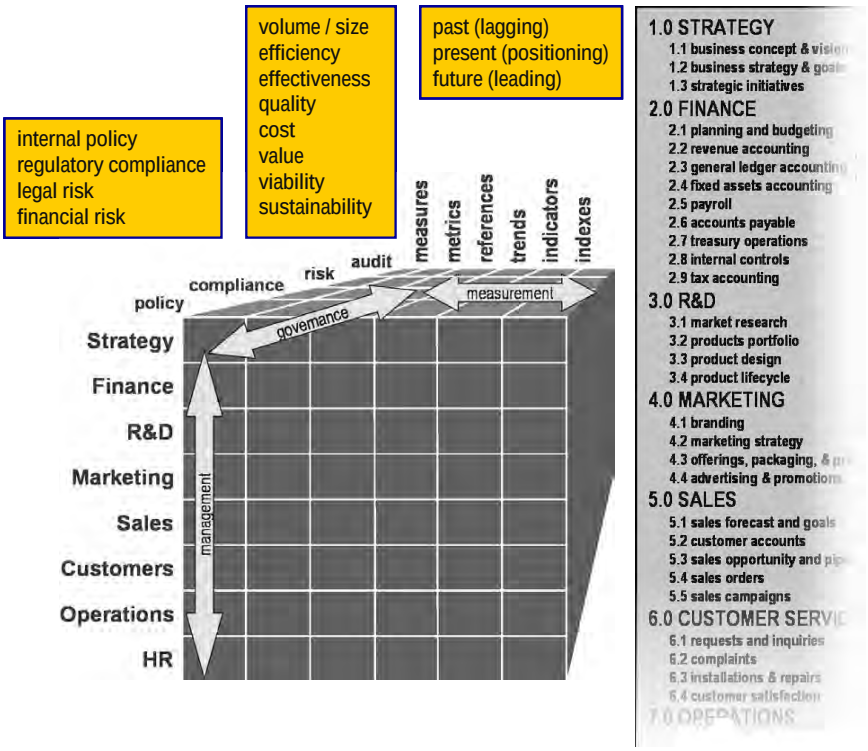
SUPPLY AND DEMAND PERSPECTIVE

Supply Chain Management (SCM) addresses the entire sequence of processes and activities that begins with procurement of raw materials and ends with delivery of goods and services to customers. It encompasses planning and management of all activities involved in sourcing, procurement, work-in-process, finished goods inventory, transportation, logistics, and delivery. The primary objectives of SCM are supply-and-demand balancing, and efficiency and effectiveness of cross-functional and cross-organizational activities and processes.

SCM management is found in the framework as four horizontal slices determined by the marketing, sales, customer, and operations segments of the business dimension. It encompasses 96 cells or 50% of the entire framework.

Using the Framework

An Overview



SCOPING

What is in scope for a BI project?
What is out of scope?

REQUIREMENTS GATHERING

What business domain? (strategy, compliance, finance, …)
What analytics are needed? (trends, indicators, indexes)
For what time periods? (leading, positioning, lagging)
What measures are needed? (volume, cost, quality …)

INVENTORY

What analytics do we have?
Where do we have gaps?

PORTFOLIO MANAGEMENT

How do analytics support strategy?
How are the aligned functionally?

CHANGE MANAGEMENT

Where is the business changing?
What are the analytic implications?

Using the Framework

An Overview

PUTTING IT TO WORK

This concludes a detailed look at the framework with all of it dimensions, perspectives, and variations. The rest of this course explores how to use it as a tool to achieve business-aligned BI:

- Module Three describes techniques to define the business scope of BI projects.
- Module Four shows how to collect and define business requirements for BI systems.
- Module Five describes the framework as a value management tool including techniques for BI inventory, BI portfolio management, and change management.

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Module 3

Defining Project Scope

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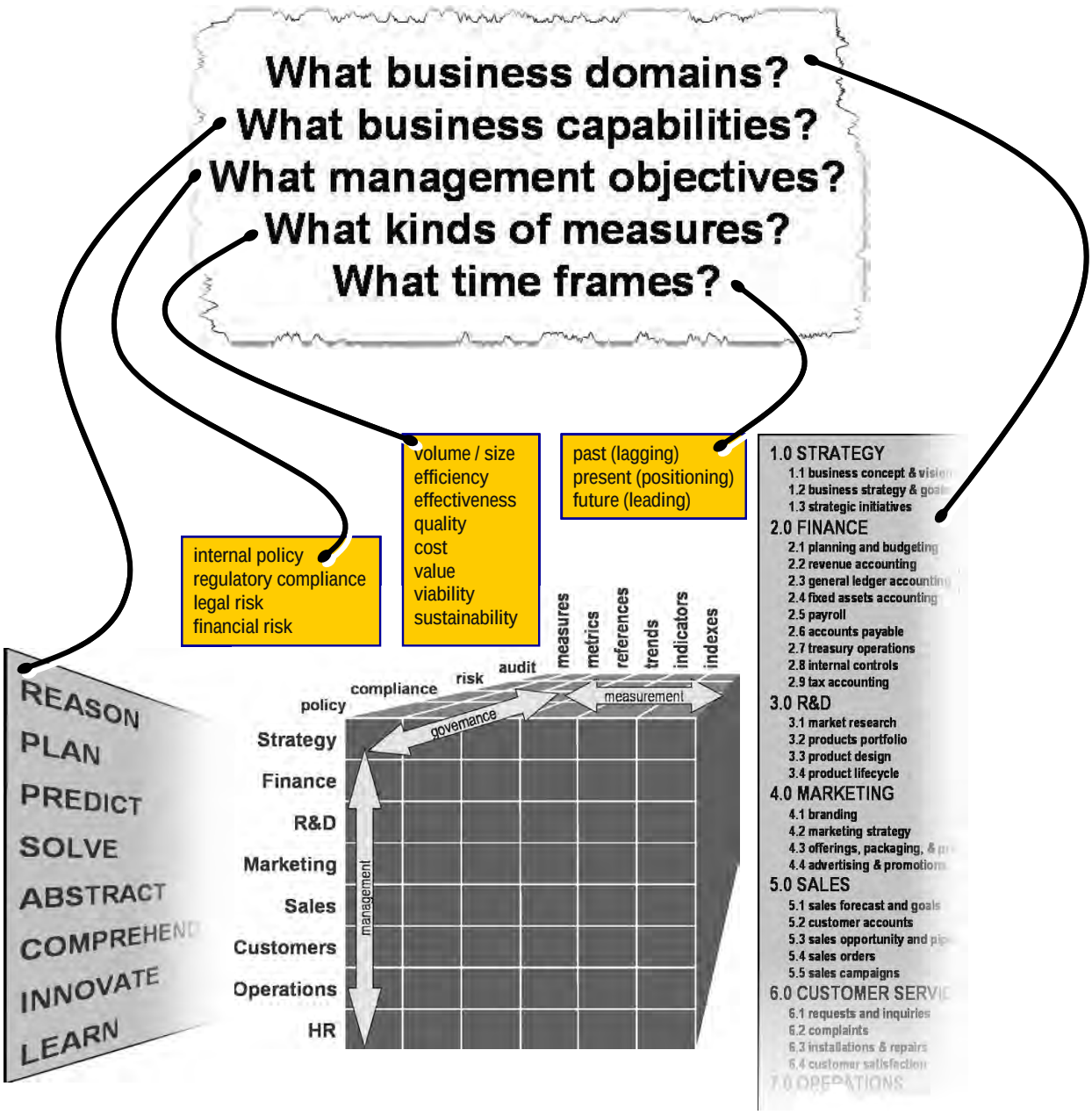
Using the Framework to Define Scope

The "What's" of Project Scoping



Using the Framework to Define Scope

The "What's" of Project Scoping

THE BUSINESS DIMENSION

Project scope begins by determining which functional domains of the business need to have the project, which business processes within those domains are affected, and who among those areas will use the products. These people are the project's primary stakeholders. The business dimension of the framework serves as a sort of checklist to be sure all functional areas and business processes are considered.

THE GOVERNANCE DIMENSION

The governance dimension provides the focus to identify why the project is needed: What management objectives must the project support? At the project scope level this is not a detailed question seeking a lengthy list of management goals. It is better expressed in brief and simple terms such as manage performance, manage compliance, and manage risk.

THE BUSINESS CAPABILITIES

Once you know who has needs (the stakeholders) and what the want to accomplish (the management objectives) you are ready to discuss capabilities. The facing page lists some of the typical BI capabilities – reason, plan, predict, etc. Many others are certainly possible including collaborate, automate, analyze, communicate, monitor, and more.

THE MEASUREMENT DIMENSION

The measurement dimension provides a guiding structure to answer two kinds of questions:

- What kinds of measures are needed:
  This question begins with the kinds of quantities that are needed – volume, size, cost, value, efficiency, etc. But don't stop there. Also ask about the subject of the measurement to get answers such as "value of accounts, cost of sales, and frequency of complaints."
- For what time frames are the measures needed:
  You already have some clues to these answers from the business capabilities that are needed. Forecasting is sure to require some leading indicators. Monitoring is difficult without indicators of present position. Understanding and learning typically imply a need to look at the past.

PRODUCT DESCRIPTION

When you put the answers to the questions together with your technical knowledge you have enough information to begin defining products. The need to analyze, for example, might suggest an OLAP solution; a monitoring requirement is more likely to be satisfied with a scorecard or a dashboard; and communication may be best satisfied using a published report.

When products are identified, named, and described in terms of their uses (capabilities) and their users (stakeholders) you can define the product breakdown structure. Starting from the kinds of measures, develop a hierarchy of indexes, indicators, metrics, and measures that describe the product components.

Using the Framework to Define Scope

A Scope Definition Checklist

Business Domains

- ☐ Strategy & Planning
- ☐ Finance
- ☐ Research & Development
- ☐ Marketing
- ☐ Sales
- ☐ Customers
- ☐ Operations
- ☐ Human Resources
- ☐ Information Technology
- ☐ Other _____

Business Capabilities

- ☐ Reason & Decide
- ☐ Plan
- ☐ Predict & Forecast
- ☐ Solve
- ☐ Abstract
- ☐ Comprehend / Understand
- ☐ Innovate
- ☐ Learn
- ☐ Other _____

Management Objectives

- ☐ Manage Performance
- ☐ Manage Compliance
- ☐ Manage Risk
- ☐ Other _____

Kinds of Measures

- ☐ Volume, Size, Count
- ☐ Efficiency
- ☐ Effectiveness
- ☐ Quality
- ☐ Cost
- ☐ Value
- ☐ Viability
- ☐ Sustainability
- ☐ Other _____

Time Frames

- ☐ Past / Lagging
- ☐ Present / Positioning
- ☐ Future / Leading

Using the Framework to Define Scope

A Scope Definition Checklist

QUICK REFERENCE

The checklist on the facing page illustrates a quick-reference tool that is useful when collecting the broad and high-level requirements that define the scope of a project. The checklist summarizes the main scope-setting aspects of the framework. It is useful for interviewing, brainstorming, facilitation, and other requirements gathering techniques.

The purpose of the checklist is to be sure that the right questions, and all of the questions, are asked when defining the scope of a project. When more detail or depth is needed, refer to the fully described framework.

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Module 4

Gathering Business Requirements

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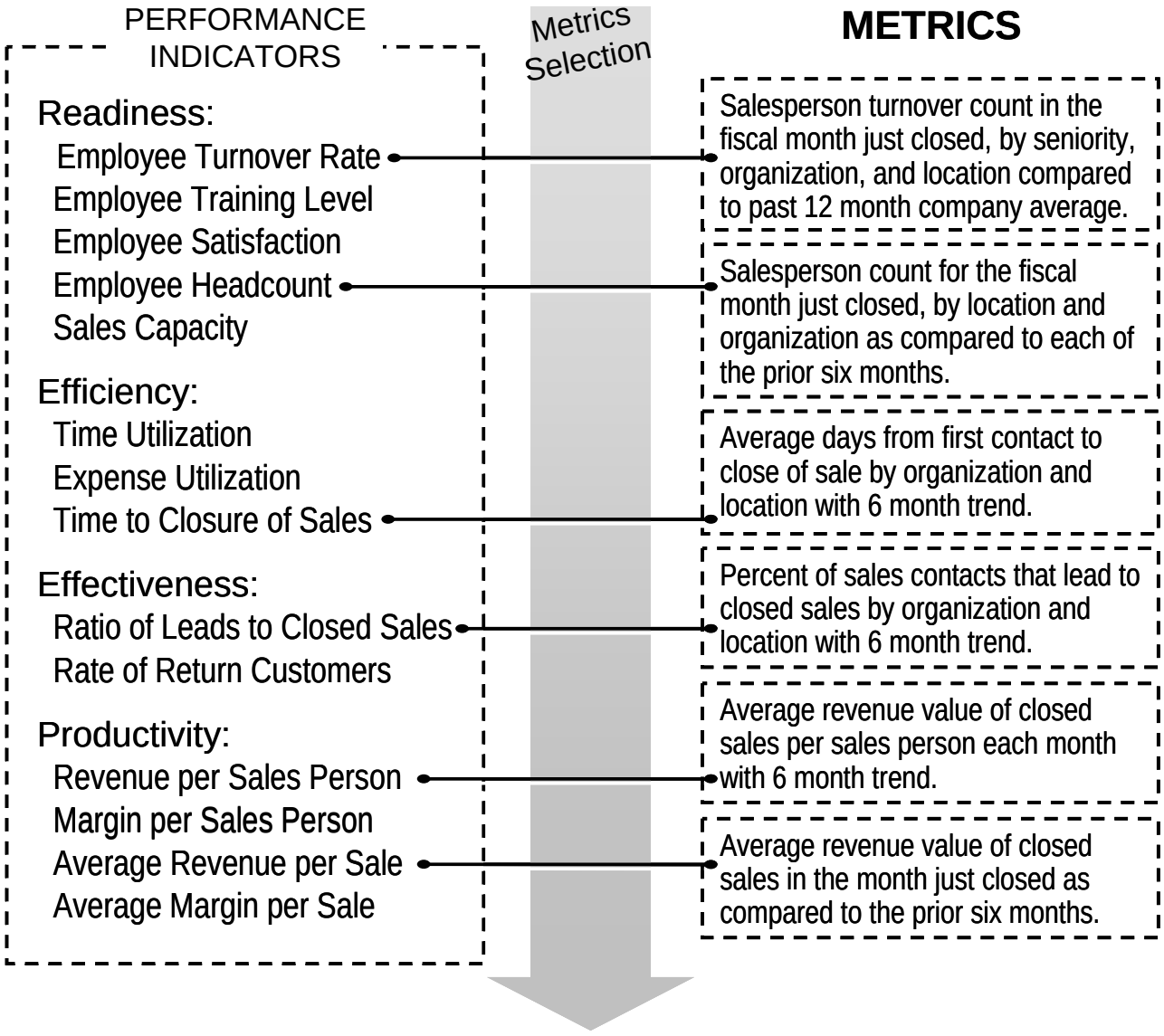
Business Requirements Example

The Metrics



can be measured cost-effectively
can be directly affected by management

Business Requirements Example

The Metrics

THE EXAMPLE

The requirements process continues by selecting from among candidate metrics a subset that is deemed to be the best fit for the dashboard. To meet the best-fit qualification, each metric is tested against these criteria:

- It is a meaningful way to quantify one of the performance indicators.
- It directly supports the stated business goals for the project.
- Sales management has the ability to affect it through their actions.
- It is observable and can be measured cost-effectively.
- References such as targets, thresholds, and industry benchmarks exist or can be readily defined.
- Collectively the metrics support all of the performance indicators.

Based upon these criteria, six metrics are selected. The six are deemed by the stakeholders to be valuable and actionable. Though all four indicators are represented, the metrics are biased toward:

- Productivity - the primary goal of the project.
- Readiness – the most actionable of the four indicators.

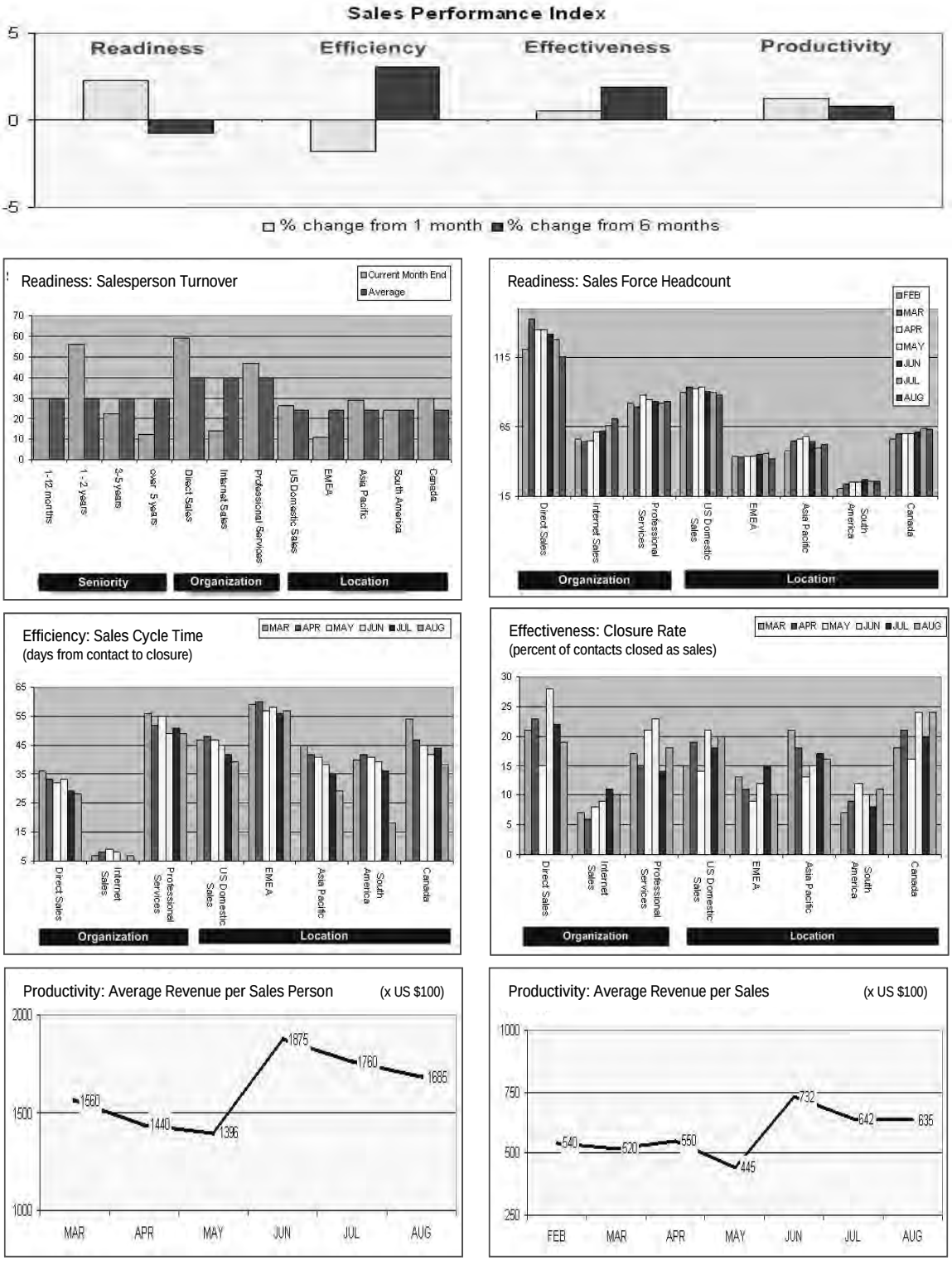
LOOKING BACK TO PROJECT SCOPE

With metrics identified (and formally named) the product breakdown structure is easily be extended with further details. Adding detail to the breakdown structure is an effective way to confirm that the identified metrics are within the defined scope, and that “scope creep” has not occurred. The expanded breakdown structure is:

1. Sales Performance Dashboard
- *1.1 Sales Performance Indicator*
  - *1.1.1 Sales Force Readiness*
    - *1.1.1.1 Salesperson Turnover Counts*
    - *1.1.1.2 Salesperson Headcount*
  - *1.1.2 Sales Process Efficiency*
    - *1.1.2.1 Sales Cycle Time*
  - *1.1.3 Sales Process Effectiveness*
    - *1.1.3.1 Closure Rate*
  - *1.1.4 Sales Force Productivity*
    - *1.1.4.1 Revenue per Sales Person*
    - *1.1.4.2 Average Revenue per Sale*

Business Requirements Example

Information Delivery – The Performance Dashboard



Business Requirements Example

Information Delivery – The Performance Dashboard

THE EXAMPLE

Delivery requirements are not complete until all indexes, indicators, and metrics have been consolidated as products. In this example that means bringing together one index, four indicators, and the six metrics to measure those indicators as a *sales performance dashboard.*

Some of the visual elements to observe:

- The sales performance index is presented first because it is the big picture view.
- Each metric is labeled as relating to one of the four performance indicators – readiness, efficiency, effectiveness, and productivity.
- The metrics that relate to a single performance indicator are grouped and presented side-by-side.

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Module 5

Managing Business Value

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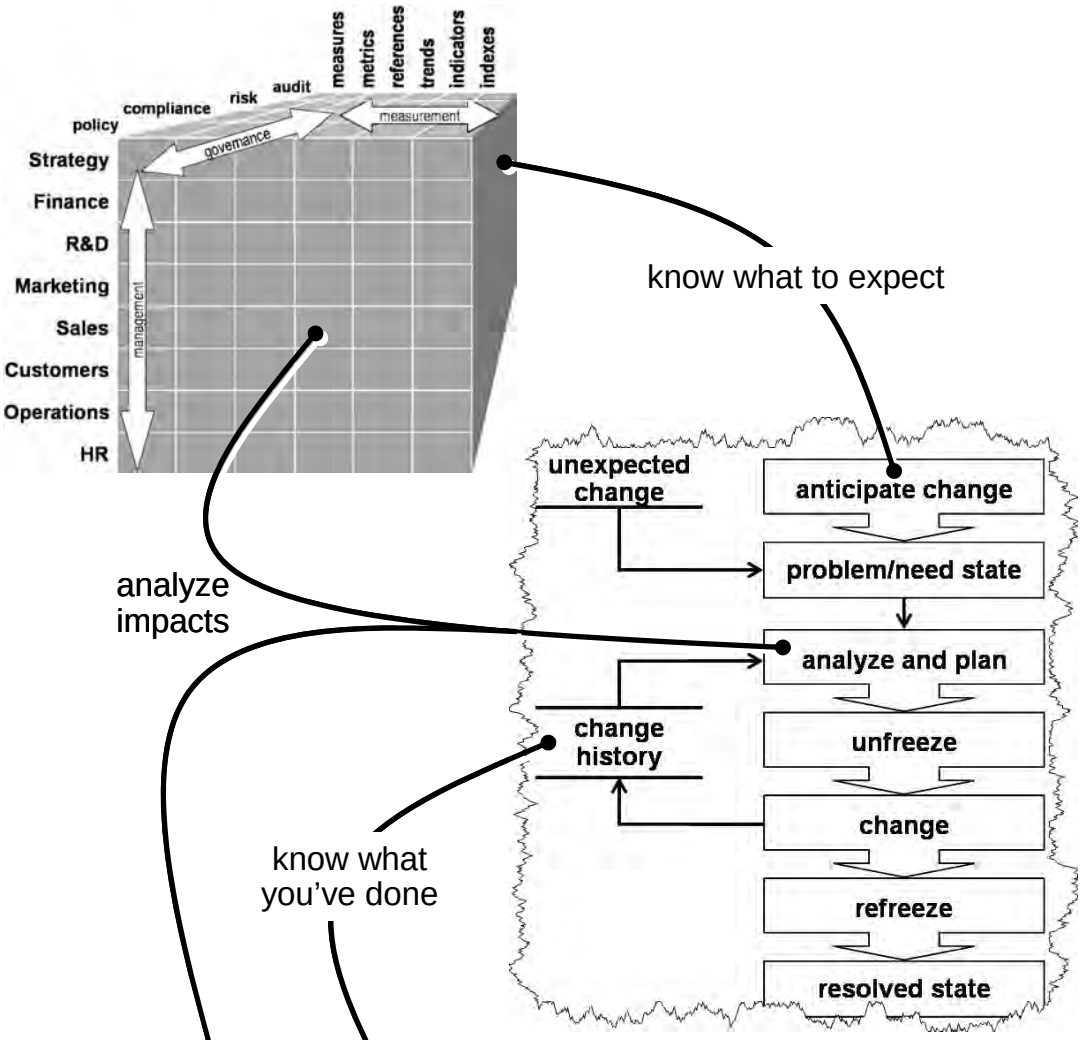
Change Management

Using the Framework



Analytic Object	Object Type	Business Domain	Measurement Type	Management Objective	Measurement of	Time Frame
Salesperson Turnover Count	Metric	Sales	Readiness	Performance	Employees	Past/Present
Sales Force Headcount	Metric	Sales	Readiness	Performance	Employees	Past/Present
Sales Cycle Time	Metric	Sales	Efficiency	Performance	Process	Past/Present
Closure Rate	Metric	Sales	Effectiveness	Performance	Process	Past/Present
Average Revenue per Sales Person	Metric	Sales	Productivity	Performance	Revenue	Past/Present
Average Revenue per Sale	Metric	Sales	Productivity	Performance	Revenue	Past/Present
Net Promoter Score	Metric	Marketing	Effectiveness	Performance	Customer	Future
Opt-Out Error Frequency	Metric	Marketing	Effectiveness	Compliance	Communications	Past
Opt-Out Error Threshold	Reference	Marketing	Effectiveness	Compliance	Communications	Present
Capital Projects Net Present Value (NPV)	Metric	Finance	Efficiency	Risk	Investment	Past/Present
Capital Projects Time to Payback	Metric	Finance	Effectiveness	Performance	Investment	Future
Customer Complaint Frequency	Metric	Customer	Satisfaction	Performance	Customer	Past
Customer Conversion Rate	Metric	Customer	Effectiveness	Performance	Process	Past

Change Management

Using the Framework

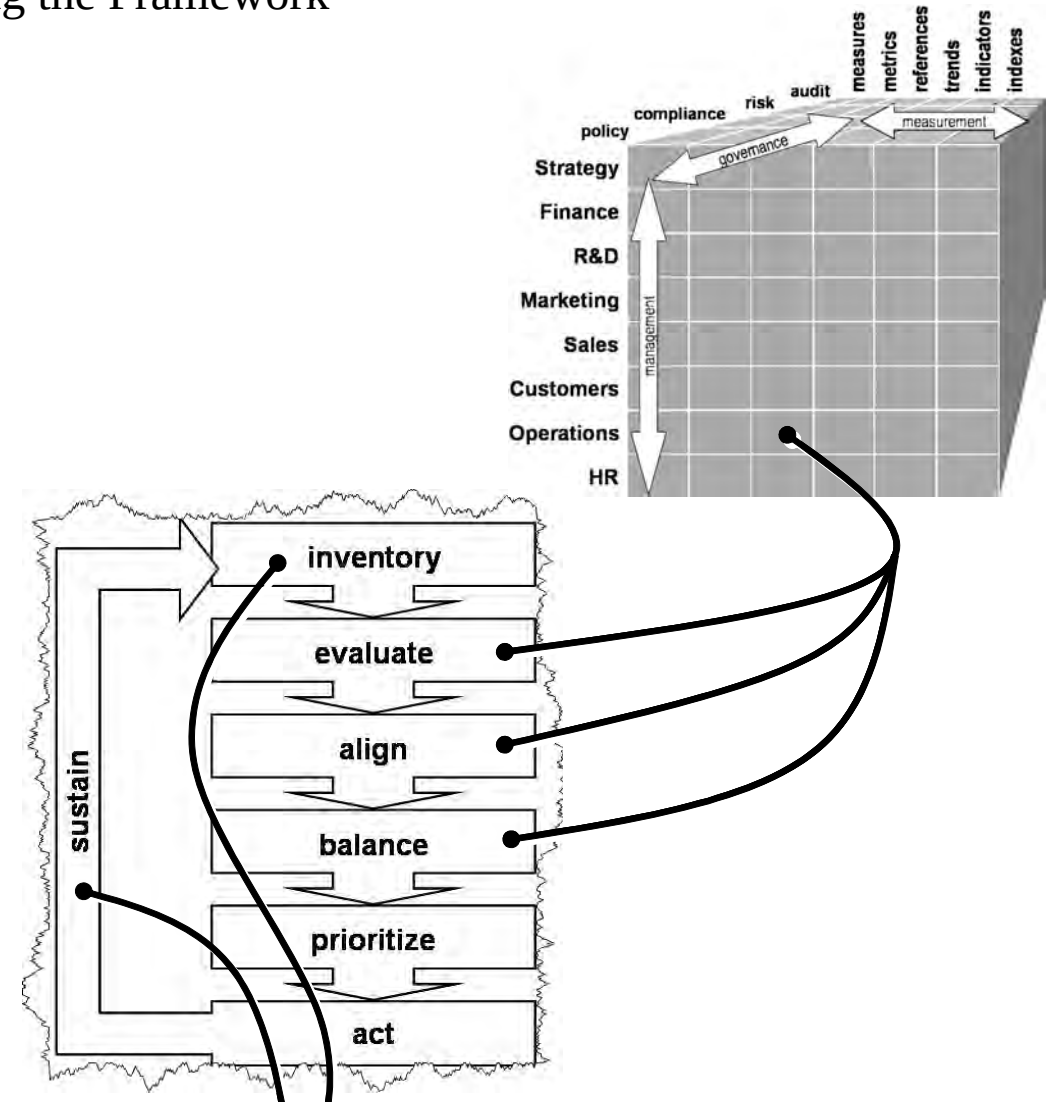
A CHANGE MANAGEMENT TOOL

BI tends to be more susceptible to change than other kinds of information systems. It typically has broader scope and depends on data from many sources. Making changes on time and getting them right can be critical due to the strategic and decision-making uses of BI systems. Good change management tools and processes are a key to sustaining BI value.

When used in conjunction with a BI inventory, the business framework for BI is a useful as a tool that provides valuable information for the important elements of change management – prediction, planning, and analysis. Every upcoming change can be assessed against every cell of the framework to determine which BI products and components will be affected by the change. The BI inventory is easily extended to include a history of changes, making an effective bridge between past and future changes.

Portfolio Management

Using the Framework



Analytic Object	Object Type	Business Domain	Measurement Type	Management Objective	Measurement Of	Time Frame
Sales Person Turnover Count	Metric	Sales	Readiness	Performance	Employees	Past/Present
Sales Force Headcount	Metric	Sales	Readiness	Performance	Employees	Past/Present
Sales Cycle Time	Metric	Sales	Efficiency	Performance	Process	Past/Present
Closure Rate	Metric	Sales	Effectiveness	Performance	Process	Past/Present
Average Revenue per Sales Person	Metric	Sales	Productivity	Performance	Revenue	Past/Present
Average Revenue per Sale	Metric	Sales	Productivity	Performance	Revenue	Past/Present
Net Promoter Score	Metric	Marketing	Effectiveness	Performance	Customer	Future
Opt-Out Error Frequency	Metric	Marketing	Effectiveness	Compliance	Communications	Past
Opt-Out Error Threshold	Reference	Marketing	Effectiveness	Compliance	Communications	Present
Capital Projects Net Present Value (NPV)	Metric	Finance	Efficiency	Risk	Investment	Past/Present
Capital Projects Time to Payback	Metric	Finance	Effectiveness	Performance	Investment	Future
Customer Complaint Frequency	Metric	Customer	Satisfaction	Performance	Customer	Past
Customer Conversion Rate	Metric	Customer	Effectiveness	Performance	Process	Past

Portfolio Management

Using the Framework

THE FRAMEWORK AS BIG PICTURE

The three dimensions of the framework provide the perspective and structure that are needed to get a big-picture view of BI. The business orientation of the framework takes attention away from technology things – dashboards, scorecards, etc. – and focuses on business functions, business processes, and management objectives. Using the framework for portfolio management you can:

- **Inventory** BI products as described earlier in this module.
- **Evaluate** by examining each intersection of the business dimension and the governance dimension to determine “what do we have.”
- **Align** by proactively managing change as described earlier.
- **Align** by examining each intersection to determine “what do we have that we no longer need.”
- **Align** by examining each intersection to determine “what don’t we have” – a sort of gap analysis.
- **Balance** by identifying the greatest and most pressing gaps.
- **Prioritize** by understanding each gap in context of the big picture.
- **Act** by defining projects to close the gap.
- **Sustain** by approaching portfolio management as a continuous alignment process.

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Module 6

Summary and Conclusion

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Summary of Key Points

A Quick Review

- ✓ Business" is a large, complex, and multi-faceted topic.
- ✓ Intelligence" is much more than analytics. It is the capacity to reason, plan, understand, abstract, etc.
- ✓ Business Intelligence (BI)" is too broad a term to have direct application to most business managers. Terms such as risk intelligence, financial intelligence, or customer intelligence are more likely to communicate effectively.
- ✓ Analytics are meaningless unless aligned with specific business domains such as finance, R&D, or operations.
- ✓ Analytics are without purpose unless aligned with specific management objectives such as performance, compliance, or risk management.
- ✓ Business measurement is more than metrics. It involves measures, metrics, references, trends, indicators, and indexes. Although related and interconnected, each has a different role and purpose from the others.
- ✓ BI project scope is best established from a business perspective. The framework is a useful scoping tool.
- ✓ BI needs are best defined by starting with business requirements. The framework helps give structure to requirements gathering.
- ✓ BI value is achieved through inventory, change management, and portfolio management. The framework facilitates the processes of value management.

Summary of Key Points

A Quick Review

THINGS TO REMEMBER

The facing page itemizes some of the things that are the core concepts and ideas in this course. It is impractical to attempt a complete list of important points, so I selected those that serve as guiding principles to achieve business-aligned BI. By following these principles and using the framework presented in this book you can take big steps toward putting the business back into BI.