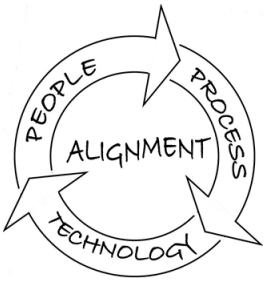
This course book preview is provided as an opportunity to see the quality of the course material and to help you determine if the course matches your needs. The preview is provided in a PDF form that cannot be printed.

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.

Dave Wells - dwells@infocentric.org



Best Practices for Established BI Programs

or New Life for Older Data Warehouses

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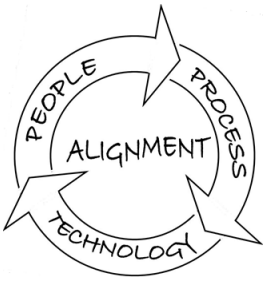

Module 1

Challenges for Older Data Warehouses

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Technology Challenges

Aging or Misaligned Architecture

It's not this easy anymore!

DATA SOURCES

↓

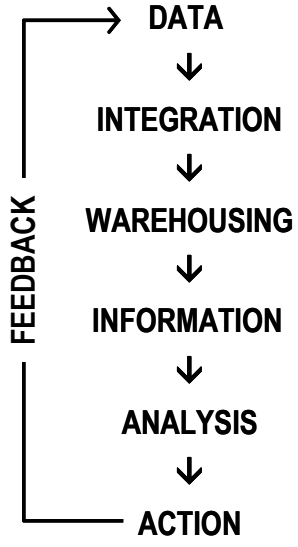
DATA INTEGRATION

↓

DATA WAREHOUSE

↓

INFORMATION SERVICES



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Technology Challenges

Aging or Misaligned Architecture

SYMPTOMS

Some examples of common symptoms are:

- Organizational design principles don't support the capability that you read about today. My DW is for Strategic analysis so I can't figure out what place it has in operational BI.
- I don't have a standard method for surrogate key generation as my warehouse was built a long time ago based on a single operational system. We can't easily integrate the data as we bring on new systems as our key structure is based on the old system.
- My SAS tools don't work well with dimensional data structures in your marts. Just give me a flat file.

What other symptoms have you experienced?

IMPACTS AND IMPLICATIONS

Some examples of impacts are:

- Large nightly batch loads will not support reduced latency SLA.
- Proliferation of end-user tools on the desktop makes software configuration and support especially difficult.
- End users begin to propagate and share analytic data outside of the data warehouse and BI environments. Much of the hard fought data integration is compromised and at risk of disintegration.

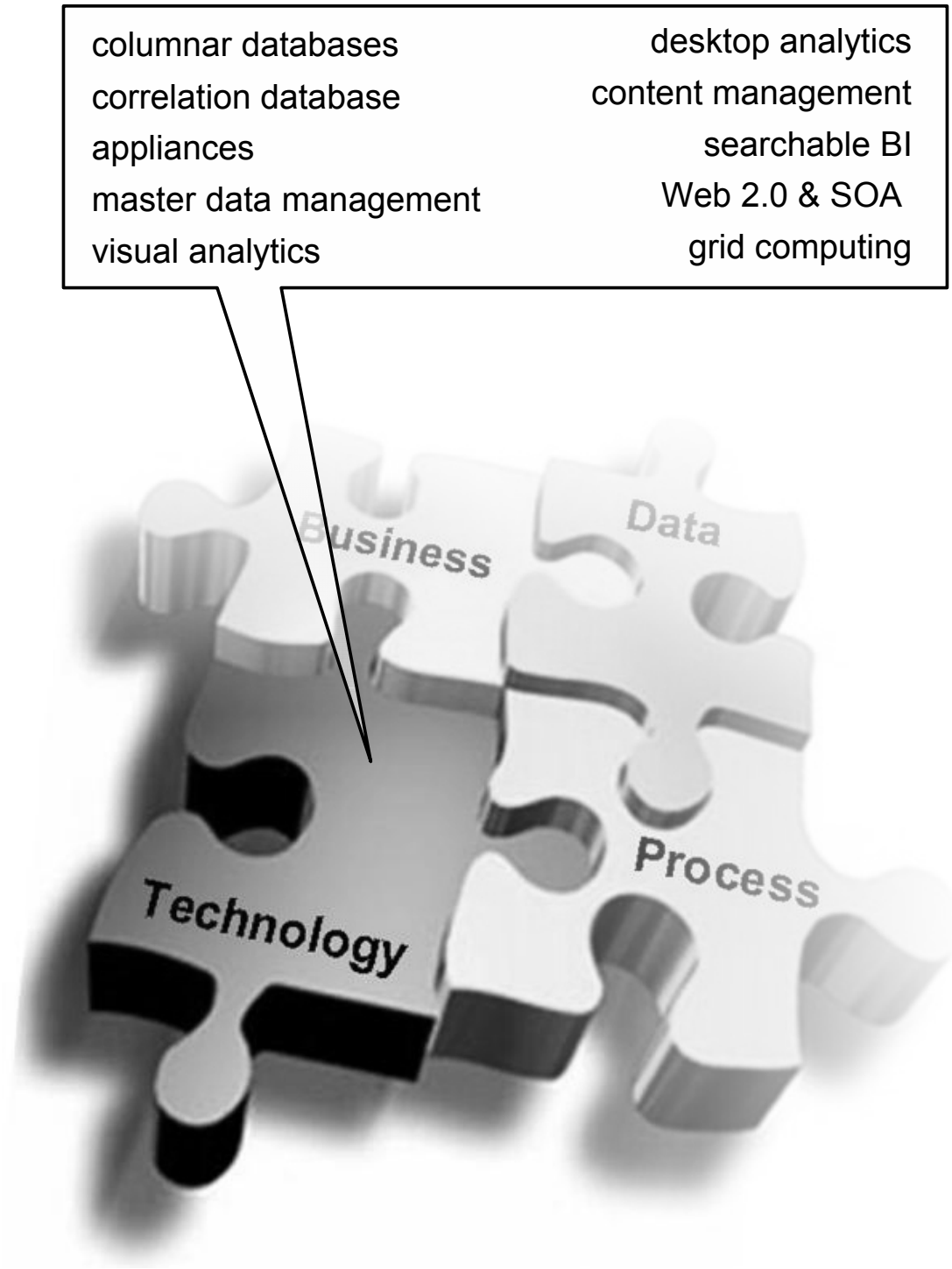
What have you seen in your BI Program?

REFER TO ...

- Claudia Imhoff's article *Operational Business Intelligence*

Technology Challenges

Aging or Misaligned Technology



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Technology Challenges

Aging or Misaligned Technology

NEW TECHNOLOGY HORIZONS

In the early days of data warehousing ETL and OLAP tools were considered to be advanced technology. These are now commonplace and many new technologies have extended the technology stack.

Today's mainstream BI technology includes such things as:

- Columnar Databases
- Data Warehouse Appliances
- Master Data Management
- Data Visualization Tools
- Desktop Analytics
- Web 2. 0 and Service-Oriented BI
- Software as a Service (SaaS) BI

And emerging technologies expand the scope to include:

- Correlation Databases
- Content Management for BI
- BI search
- Grid Computing and Cloud Computing

THE CHALLENGE

With the rapid pace of emerging and changing technology comes some hard questions:

- Which technologies to adopt and why?
- Which technologies to avoid and why?
- How to integrate new technologies into your BI architecture?
- How to support an ever-expanding range of technologies with static budget and staffing?

REFER TO ...

- The BI Architecture Assessment in Appendix A.

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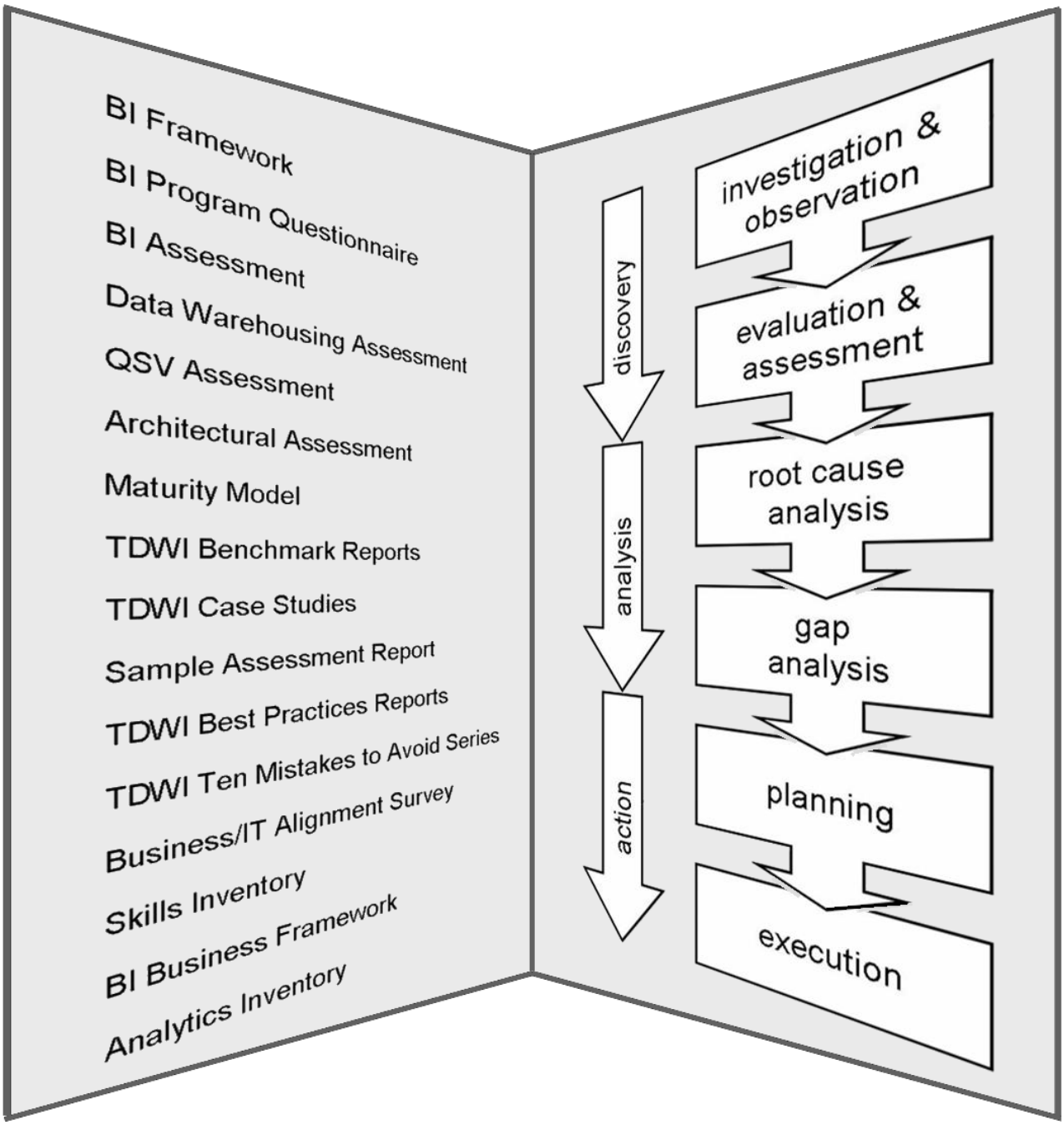
Meeting the Challenges

What to Do?



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Meeting the Challenges

What to Do?

PROBLEM SOLVING

Regardless of the type or size of challenge you're trying to solve, a basic problem solving process is valuable. No matter how daunting it might seem, you'll find that a process actually saves time while improving the outcomes. Break the problem into logical pieces, engage in appropriate discovery and analysis, and then plan an approach that meets the objectives and fits the environment.

TDWI and several other organizations provide a significant amount of reference materials aimed at helping you. Many are based on best practices and talk about an ideal state. Others speak to specific situations that have probably been identified through surveys and other information gathering efforts.

While these resources are helpful in many ways, their application is often situational. When you understand both the concepts presented and the intent of the message, then you are equipped to apply them to your specific circumstances. Any problem must be addressed in context. Multiple contexts may be important. Consider the problems that you seek to solve in context of:

- The Past – How and why did we get here?
- The Future – Where do we want or need to go?
- The Present – What are today's priorities and constraints

NEXT STEPS

This course is designed to provide problem solving assistance. While we all experience similar types of challenges, each problem will be unique because of your organizational context. But the remaining modules are filled with examples, tips, cautions and ideas intended to help you apply the tools that are available to you in your efforts to effect positive change in your BI environment.

Module 2 is about discovery. Review of some of the tools and discussion on how they can help you identify *what* is happening.

Module 3 looks at those same tools with an eye to identifying *why* problems exist as well *how* to resolve them.

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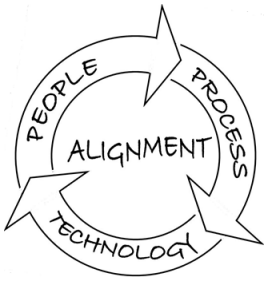

Module 2

Defining Problems

Topic	Page
Investigation and Observation	2-6
Evaluation and Assessment	2-8
Benchmarks and Norms	2-16
Root Cause Analysis	2-20

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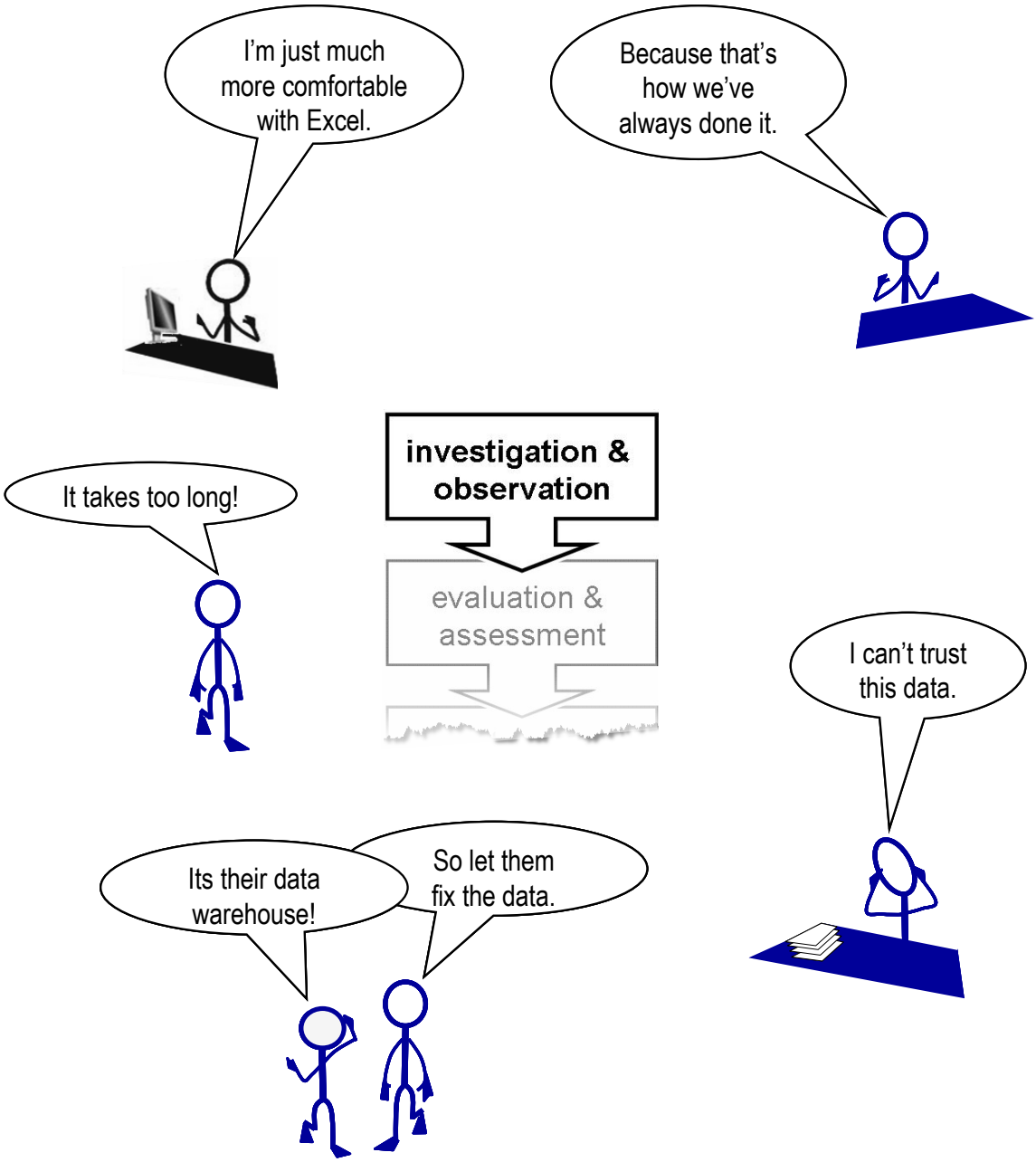
Investigation and Observation

Human and Behavioral Problems

Investigate and observe to know where you need to perform deeper evaluation.



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Investigation and Observation

Human and Behavioral Problems

INVESTIGATION AND OBSERVATION

Regardless of the situation it is wise to begin with some high level investigation. Simply observe and think about what you see. This helps to decide where to start as well as getting an initial sense of the scope and magnitude of problems. Paying attention to the environment produces some pretty good indicators.

HUMAN BEHAVIOR

Human behavior is very telling. Observation is one of the best tools to use in determining where to start.

When dealing with humans you are dealing with beliefs and emotions. This means that symptoms may be easy to spot but the cause isn't always obvious. It's important to dig beneath the surface and try to understand the background.

- Lack of confidence, lack of trust, and complacency are very important human behaviors that are good indicators of a problem. It isn't always straightforward what the problem may be.

- Lack of confidence and trust could relate to a data quality root cause. However, they may also be signs of a problem in the Business and IT relationship.

- Complacency is likely an indication that the problem, whatever it is, has been going on for some time and there appears to be no hope of it getting better. The exact problem may not be outwardly obvious.

- Pay attention to the advocates and supporters of the BI environment. What's different about their perception compared to complaints or concerns of others?

REFER TO …

- The BI Program Questionnaire in Appendix A.
- Dave Wells' article series *Bringing Business and IT Together*
- Nancy Williams' article *Marketing Your BI Program*
- Wayne Eckerson's article *The Business Intelligence Evangelist*
- Jill Dyché's article *Business Intelligence and the Savvy CIO*

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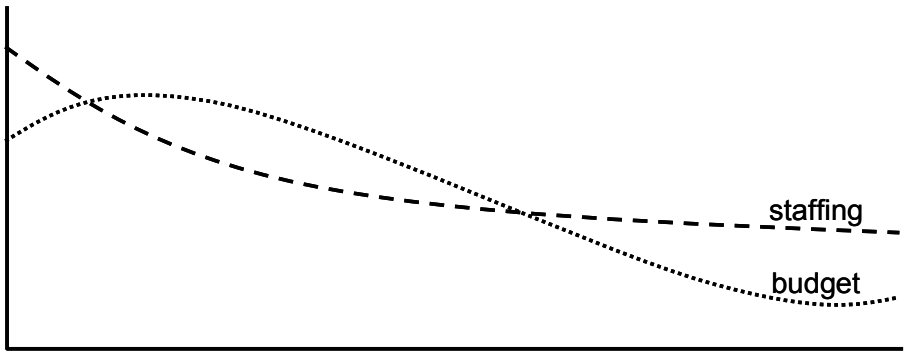
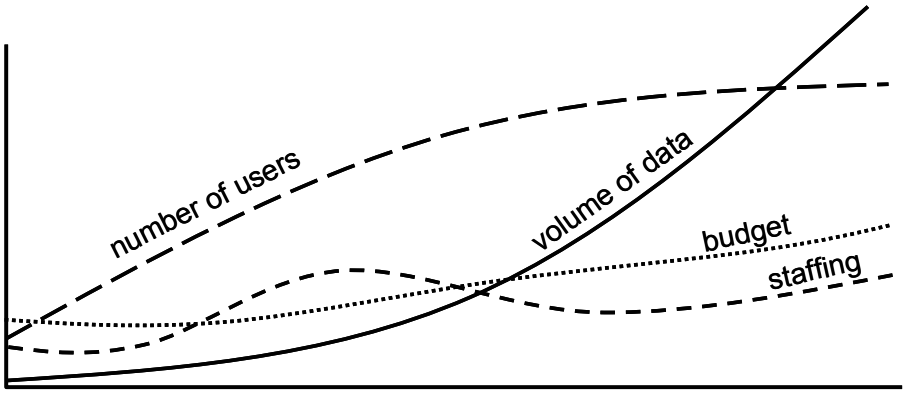
Investigation and Observation

Support and Funding Problems

Investigate and observe to know where you need to perform deeper evaluation.

Are budget and staffing levels decreasing over time?





Are budget and staffing levels lagging behind growth rates?

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Investigation and Observation

Support and Funding Problems

SUPPORT

Executive level support is critical for any BI program. It is likely that you had the support and visibility when the data warehouse was first established. Has the support been sustained or has it diminished?

As BI becomes increasingly complex, have your sponsors stayed in the loop and sought to understand the challenges and opportunities? Or have they checked out? Is some executive education necessary?

Has the organization tied BI to their strategic plans and priorities? Does your BI team seek to align the program with business strategy?

FUNDING

Financing is a particularly critical dimension to consider. BI does have real costs and it must provide real value.

Looking backward:

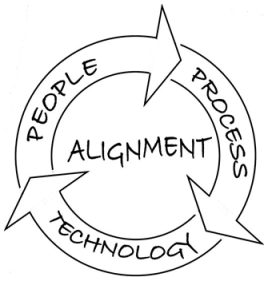
- Were there problems resulting from too little funding or where you didn't achieve the expected ROI? You might want to evaluate your cost-benefit analysis (CBA) approach.
- Can you detect where a mid-stream change of funding caused problems? How might the situation have been handled differently?

Looking forward:

- What is the current economic climate?
- How do current budgets compare to needs?
- Do you have current and future-looking value projections? Are they realistic? Are they compelling?

REFER TO …

- The BI Framework in Appendix A
- Jill Dyché's article *Six Archetypes of a Bad Executive Sponsor*
- Hugh Watson's article *Data Warehousing ROI: Justifying and Assessing a Data Warehouse*



Module 3

Finding Solutions

Topic	Page
Starting with Clear Objectives	3-2
Gap Analysis	3-4
Next Steps	3-20

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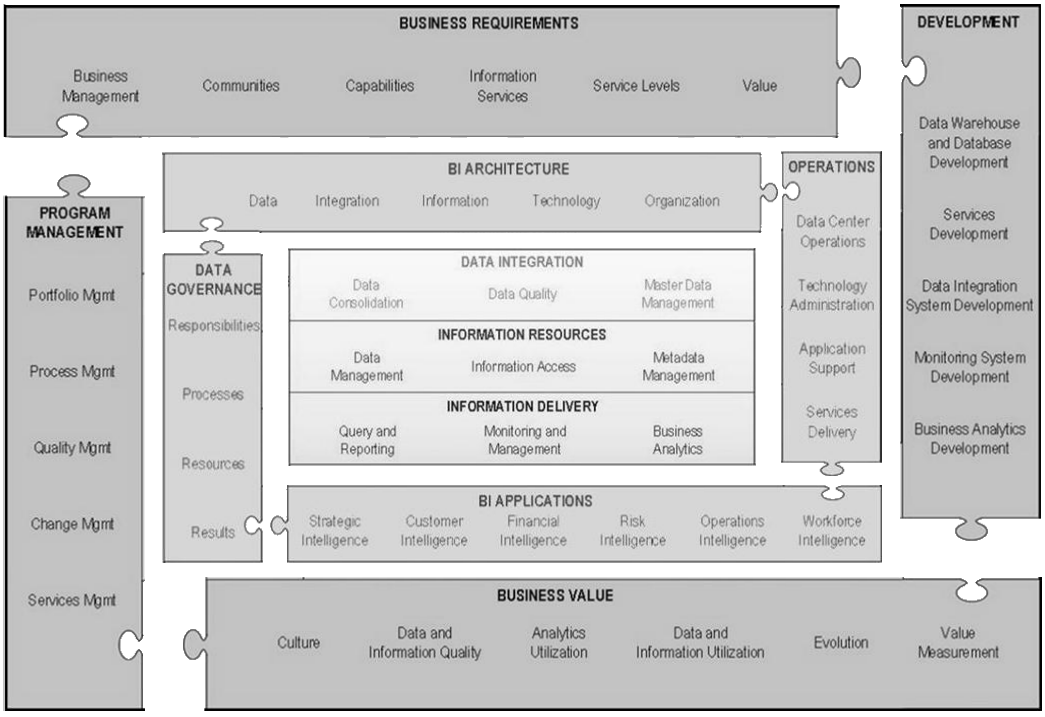
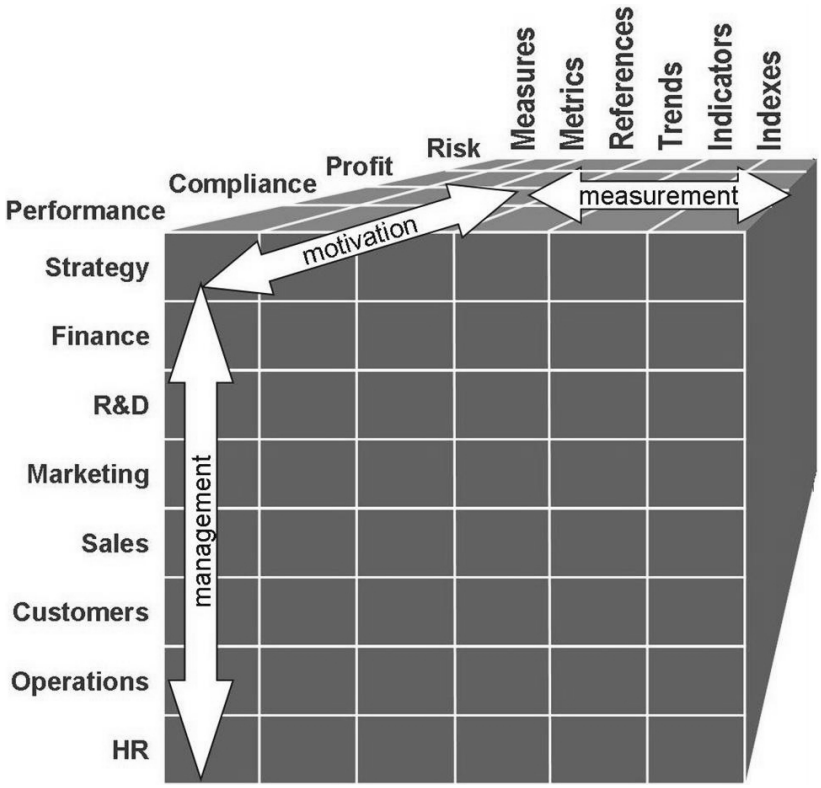
Gap Analysis

Scope of Analysis





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Gap Analysis

Scope of Analysis

BI FRAMEWORK

A Framework can be used to identify the areas of focus that you need to consider. Starting with the big picture helps you to maintain a broad perspective.

Based on initial discovery you should have a pretty good idea if and how deeply you need to look into each component.

Be sure to pay attention to the intersections and overlaps where components meet. Problems are often associated with hand-offs or relationships between components – not simply with individual components.

Additionally the relative position of any component to another may provide insight into other dependencies that should be considered.

REFER TO …

- The BI Framework in Appendix A
- The Business Frameworks for BI in Appendix A

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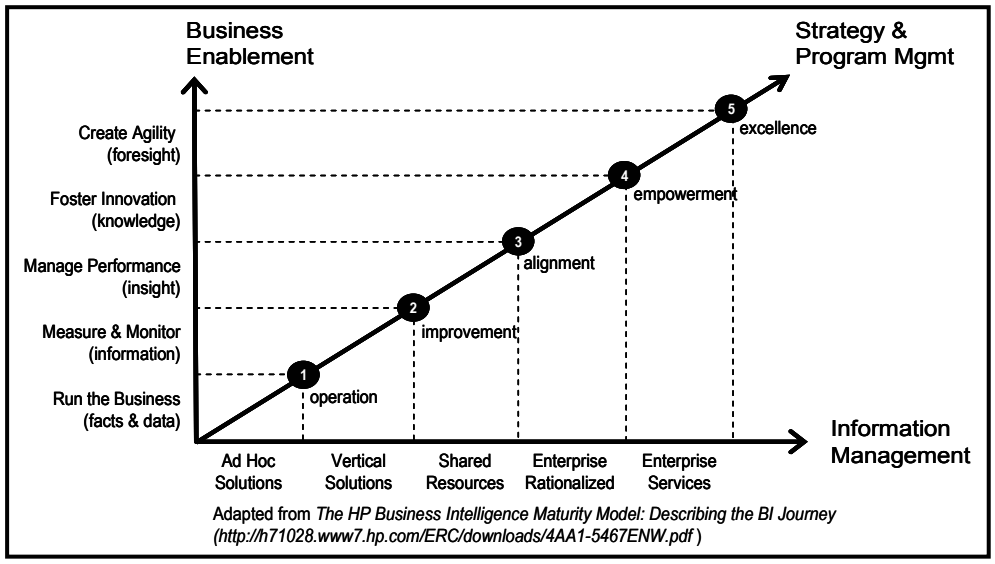
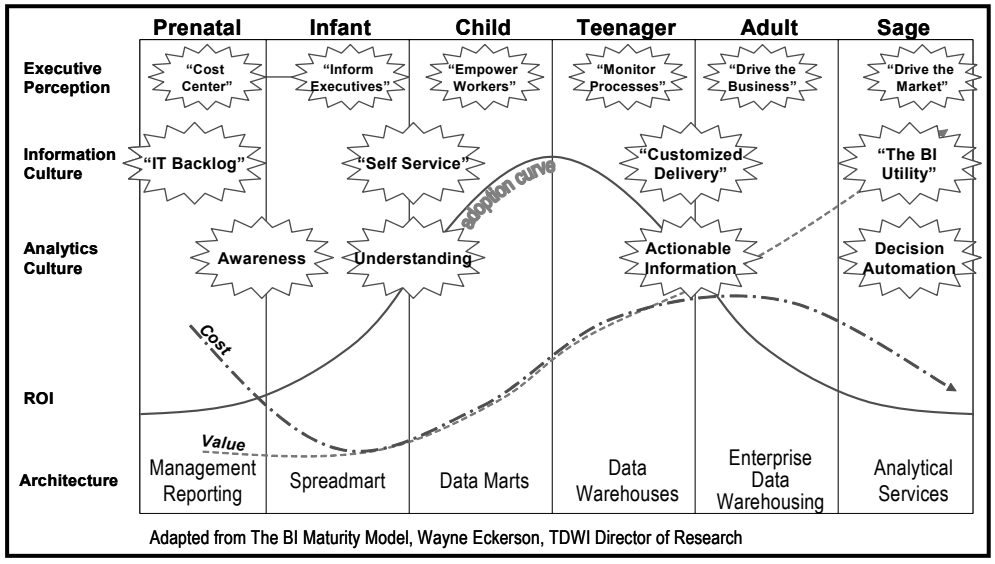
Gap Analysis

Analysis Tools – Maturity Models





Maturity Models –

What model works for your program?
How do you measure up?
Where are you now? And where do you want to be?

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Gap Analysis

Analysis Tools – Maturity Models

USING MATURITY MODELS

After you've identified a model whose perspective relates to your situation, look at each of the dimensions relative to both your current and desired states.

The stages along any dimension help to identify causes and understand effects. Maturity stages also provide a logical progression. It isn't easy to "leapfrog" and to skip some stages of maturity.

DO YOU HAVE THE RIGHT ONE?

HP's maturity model offers an example to decide which maturity model might work best for you. This model describes a "BI Journey" using three dimensions of comparison.

1. Business Enablement describes how BI is used by the business.
2. Information Management gives attention to integration, sharing, stewardship and governance.
3. Strategy and Program Management speaks to BI culture and the degree to which BI is an integral part of business beliefs and behaviors.

If you need to understand when enterprise services can fit into your environment, then this model will be helpful. If you need to better understand contributors to cost and value, then a different model will be more effective.

REFER TO ...

- Wayne Eckerson's BI Maturity Model in Appendix A

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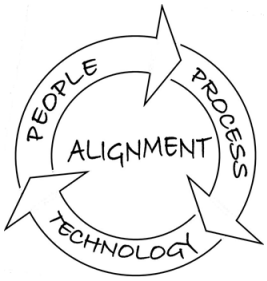

Module 4

Making Things Happen

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Making Plans	4-2
The Power behind the Program	4-4
Making Progress	4-6
Telling Your Story	4-12

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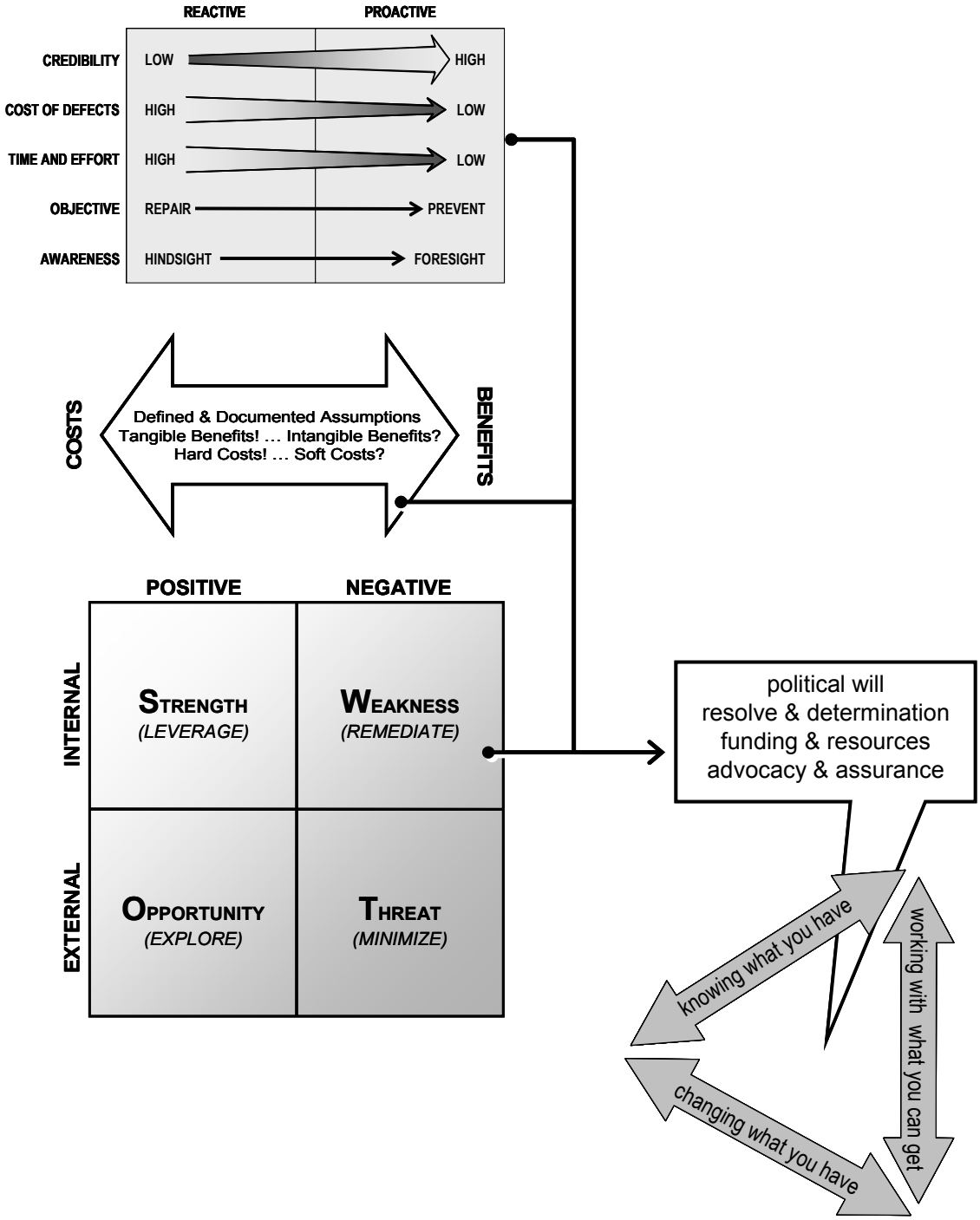
Making Plans

Preparing for Action



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Making Plans

Preparing for Action

MAKING IT HAPPEN

Once you have completed evaluation, assessment, and analysis and have compiled all of the results you should be able to answer these questions:

1. What is it that your organization needs?
2. What are the significant problems and what are there root causes?
3. Where do opportunities exist and what potential do they offer?
4. What organizational dependencies exist?
5. Under what constraints are you working?

All of these questions are considerations when determining next steps and a defining the approach that you will take.

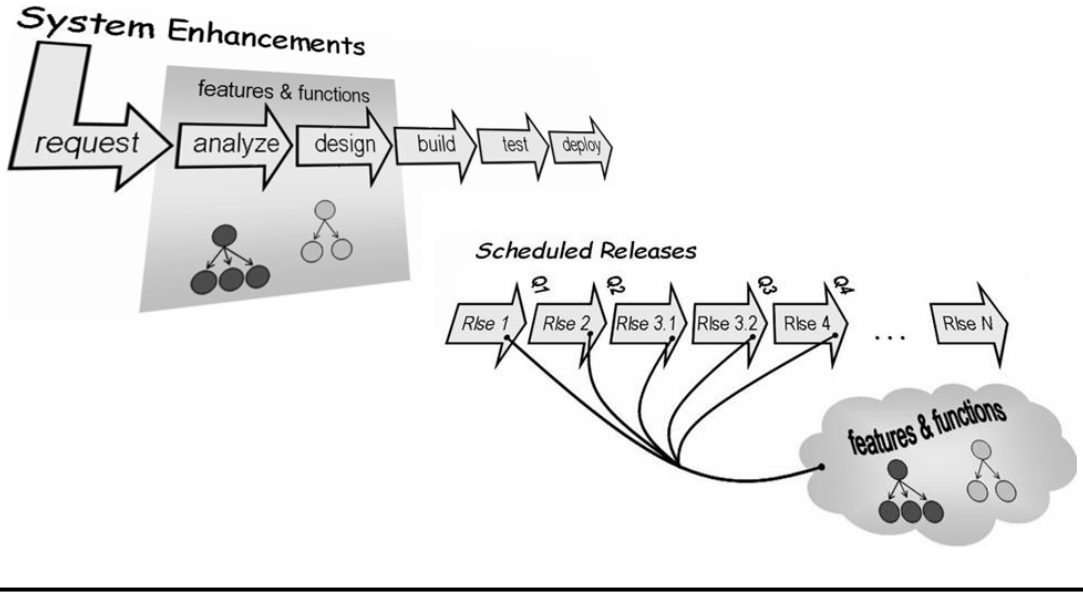
REFER TO ...

- David Bloom's article *Reinventing Your BI Program*

Making Progress

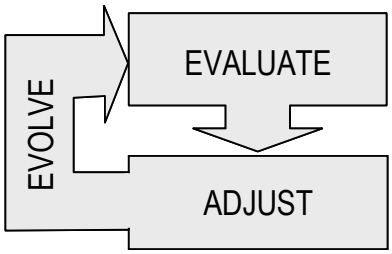
Progress without Funding or Projects

Technical Progress



People Progress

Process Progress



- ☑ **efficiency**
- ☑ **effectiveness**
- ☑ **clarity**
- ☑ **usability**
- ☑ **repeatability**

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Making Progress

Progress without Funding or Projects

IT'S A REALITY

Lack of funding or support for projects is a very real possibility. Even if it isn't the current situation, it may be at some future time. Business priorities change, economic struggles are a current challenge, and people change. What if your executive sponsor left the company?

There are still ways to continue to make progress during these times. Keeping the program visible is important. Showing the discipline and ability to continually show progress builds significant credibility.

Having a vision or strategic objective is critical. Additionally, executing from a road map will help to ensure that you stay on course. Adjusting plans to account for changes is simply a reality. By being fully aware of the big picture again comes into play.

EXAMPLES

People Progress:

- Collaborate within team and with business partners to identify smaller opportunities.
- Review your road map and management artifacts to make sure they reflect the current picture.

Process Progress

- Now might be the time to assess how a process is working. Are there adjustments that can be made to improve effectiveness or efficiency?

Technology Progress

- Can you logically break big efforts into small pieces and execute on some of them without risk of getting off course or compromising the integrity of your technical architecture?

You may not make progress as quickly as you would like but progress, even if its minor is always a good motivator. Additionally, small efforts and small successes may be what you need to gain support and funding for a larger effort. It's a matter of being ready.

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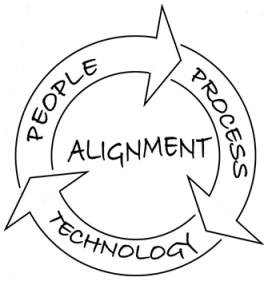

Appendix A

Frameworks, Templates, and Tools

Topic	Page
A Guide to the Tools and Resources	A-2
Some Articles Worth Reading	A-4
The BI Framework	A-6
BI Program Questionnaire	A-16
BI Readiness Assessment	A-18
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Quality, Service, and Value Assessment	A-30
BI Architecture Assessment	A-32
Business Frameworks for BI	A-38
Wayne Eckerson's BI Maturity Model	A-42
TDWI Data Warehousing Skills Inventory	A-44
Jennifer Hay's BI Skills Inventory	A-48
Business/IT Alignment Survey	A-52
Sample Assessment Report	A-58

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A Guide to the Tools and Resources

Listing and Links

	ITEM	WHERE TO GET IT
1	The BI Framework: Fifty Components of BI Success	www.tdwi.org/education (downloads)
2	TDWI's BI Program Questionnaire	print only – not available online
3	TDWI BI Readiness Assessment	www.tdwi.org/education (downloads)
4	TDWI Data Warehousing Readiness Assessment	www.tdwi.org/education (downloads)
5	TDWI Quality, Service, and Value (QSV) Assessment	www.tdwi.org/education (downloads)
6	Dave Wells' BI Architecture Assessment	send request email to dwells@infocentric.org
7	Dave Wells' Business Framework for BI	print only – not available online
8	Wayne Eckerson's BI Maturity Model and Assessment	www.tdwi.org/display.aspx?id=8500
9	TDWI Benchmark Reports	www.tdwi.org/Research/display.aspx?id=8223
	2008 Benchmark Report	
	2007 Benchmark Report	
	2006 Benchmark Report	
10	TDWI What Works – Case Studies & Lessons Learned	www.tdwi.org/Publications/WhatWorks/index.aspx
11	TDWI Best Practices Reports	www.tdwi.org/Research/ReportSeries/index.aspx
	Performance Management Strategies	
	Customer Data Integration	
	Pervasive Business Intelligence	
	Data Governance Strategies	
	Strategies for Managing Spreadmarts	
	Business Intelligence Solutions for SAP	
	Best Practices in Operational BI	
	BI Search and Text Analytics	
	Predictive Analytics	
	Master Data Management	
	Deploying Dashboards and Scorecards	
	Enterprise Quality through Data Governance	
	Development Techniques for Analytic Applications	
	Building the Real-Time Enterprise	
	plus an archive of reports dating back to 2002	

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A Guide to the Tools and Resources

Listing and Links

	ITEM	WHERE TO GET IT
12	TDWI's Ten Mistakes Series: Ten Mistakes to Avoid …	www.tdwi.org/Publications/TenMistake/index.aspx
	… when Migrating Databases	
	… when Gathering BI Requirements	
	… when Creating a Business Intelligence Roadmap	
	… when Launching a Data Governance Program	
	… in Data Quality Management	
	… for Successful BI Consulting	
	… when Implementing Program Management	
	… when Implementing Business Performance Mgmt	
	… when Creating a Center of Excellence	
	… when Planning Your CDI/MDM Project	
	… when Selecting and Deploying ETL Tools	
	… when Creating Performance Dashboards	
	and many more dating back to 2003	
13	TDWI Data Warehousing Skills Inventory	print only – not available online
14	Jennifer Hay's BI Skills Inventory	print only – not available online
15	Business-IT Organizational Alignment Survey	print only – not available online
16	Sample Assessment Report	print only – not available online
17	TDWI Flashpoint	www.tdwi.org/Publications/Newsletters/FlashPoint.aspx
	In Store for '09: Prognostications for the New Year	
	Data Profling – Myth and Reality	
	Business Rules for the Data Warehouse	
	Making Sense of Unstructured Data	
	Get Smart Communications	
	Data Acquisition for the Real-Time Enterprise	
	Achieving Metric Consistency	
	From Manualytics to Analytics	
	Building and Using a Data Quality Scorecard	
	and over 100 more articles dating back to 2001	

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Business/IT Alignment Survey

An Overview

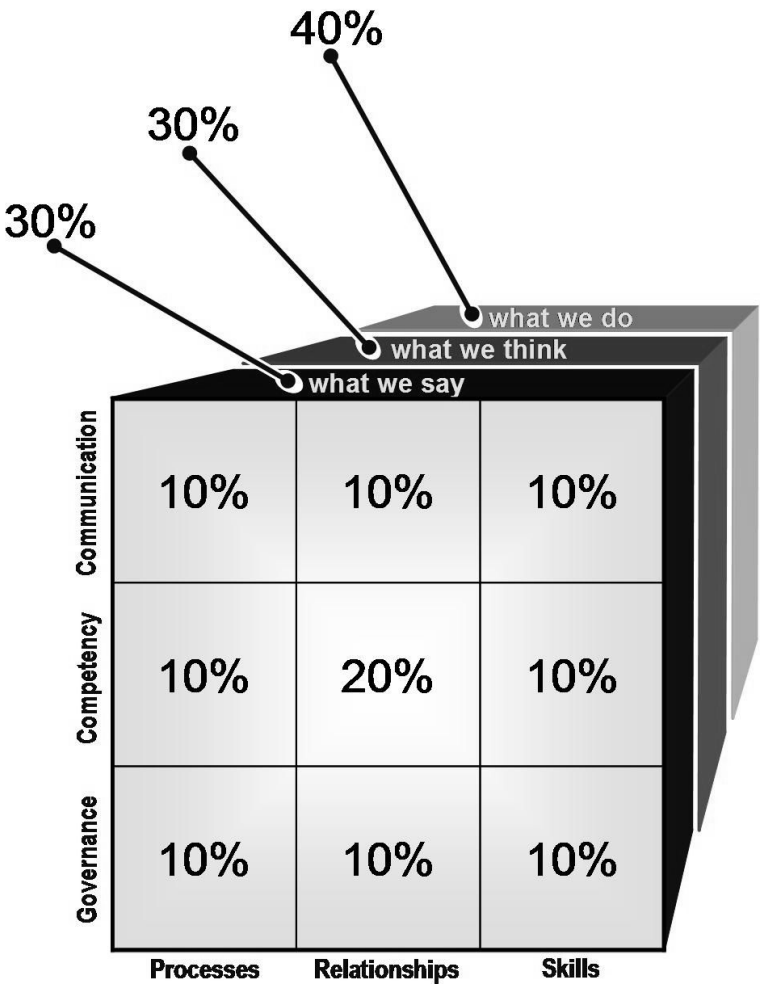
THE OBJECTIVE

The purpose of this survey and assessment is to measure alignment of business and IT organizations and objectives at a level of detail that is useful to identify root causes of problems and to take effective actions. Alignment is assessed multi-dimensionally. The primary dimensions are: **(1) organizational effectiveness** which comprises processes, relationships, and skills, and **(2) working relationships** which includes governance, competency, and communication. The third dimension is the **human dimension** that looks at what we think, what we say, and what we do about the elements of the two primary dimensions. The survey measures at the intersections of the three dimensions – what we think about process governance, what we say about process governance, what we do about process governance, what we think about process competency , etc. The full scope of the survey and assessment tool is illustrated below.

USING THE SURVEY

The entire alignment survey is printed on the following pages and may be copied and used as a data collection mechanism. To map the survey results to measurement points and get useful analysis data you'll need a spreadsheet which can be obtained by emailing the author, Dave Wells, at dwells@infocentric.org. To get full value from the analysis you will need to understand how to interpret the results. Begin by reading the related articles – the *Bringing Business and IT Together* series – at www.tdan.com. See page A-4 in this appendix for links to those articles.

The weighting factors assigned to measurement points are significant. Relationship competency is more significant that other criteria, and what we do bears more weight than what we think and say (actions speak louder than words).



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Business/IT Alignment Survey

Organizational Alignment Survey Page 1 of 4		true for business			true for IT		
		always	some-times	never	always	some-times	never
1	managers believe in a culture of process management	3	2	1	3	2	1
2	managers are expected to define and document their processes	3	2	1	3	2	1
3	managers believe that they should routinely review processes	3	2	1	3	2	1
4	our executives promote a culture of process management	3	2	1	3	2	1
5	managers discuss processes frequently, especially when solving problems	3	2	1	3	2	1
6	periodic process review is a planned activity	3	2	1	3	2	1
7	managers have defined and documented processes	3	2	1	3	2	1
8	defined processes are used to carry out day-to-day activities	3	2	1	3	2	1
9	periodic process reviews are conducted and help to manage change	3	2	1	3	2	1
10	managers understand the processes of other organizations	3	2	1	3	2	1
11	I think we have a pretty good process-oriented culture of management	3	2	1	3	2	1
12	we are expected to be good at process management	3	2	1	3	2	1
13	we do a pretty good job of developing process management capabilities	3	2	1	3	2	1
14	we discuss processes and management approaches internally and externally	3	2	1	3	2	1
15	we plan and discuss the skills needed to operate processes effectively	3	2	1	3	2	1
16	we talk about adapting processes as business and technology change	3	2	1	3	2	1
17	management rewards competence and skill	3	2	1	3	2	1
18	we test processes and practice the skills needed to make them work well	3	2	1	3	2	1
19	changes in business and technology often result in process changes	3	2	1	3	2	1
20	we are good at using defined processes to produce results	3	2	1	3	2	1
21	management supports structure, standards, and controls	3	2	1	3	2	1
22	we believe that structure and controls are needed to achieve real value	3	2	1	3	2	1
23	we know that standards must adapt as things change	3	2	1	3	2	1
24	our executives promote corporate and IT governance processes	3	2	1	3	2	1
25	governance is a common term in our organization	3	2	1	3	2	1

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