



April 2012

SCMIS Dashboard @ ABB

How to create a dashboard in 8 weeks

Oliver Lawrenz,
Group VP SCM Technologies & Processes

Agenda



- **Introducing ABB**
- Challenges in ABB's Supply Chain Management
- Why IBM? Result of an RfQ and proof of concept
- Dashboard design principles (Stephen Few)
how to do it and how NOT to do it!
- Project approach
- Outlook
- Learnings

A Global Leader in Power & Automation Technologies




Leading Market Positions in Main Businesses



- 130,000 employees in about 100 countries
- \$32 billion in revenue (2010)
- Formed in 1988 merger of Swiss and Swedish engineering companies
- Predecessors founded in 1883 and 1891
- Publicly owned company with head office in Switzerland

ABB's Organization

Five Global Divisions

				
Power Products	Power Systems	Discrete Automation and Motion	Low Voltage Products	Process Automation
\$10 billion 34,000 employees	\$6.8 billion 18,000 employees	\$5.6 billion 25,800 employees	\$4.5 billion 21,000 employees	\$7.4 billion 28,100 employees

(2010 revenues)

- **ABB's portfolio covers:**

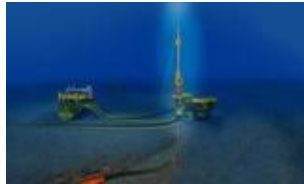
- Electricals, automation, controls and instrumentation for power generation and industrial processes
- Power transmission
- Distribution solutions
- Low-voltage products
- Motors and drives
- Intelligent building systems
- Robots and robot systems
- Services to improve customers productivity and reliability

Power and Automation is all Around Us

You will find ABB Technology...



Orbiting the earth and working beneath it...



Crossing the oceans and on the sea bed...



In the fields that grow our crops and packing the food we eat...



On the trains we ride and in the facilities that process our water...



In the plants that generate our power and in our homes, offices and factories.

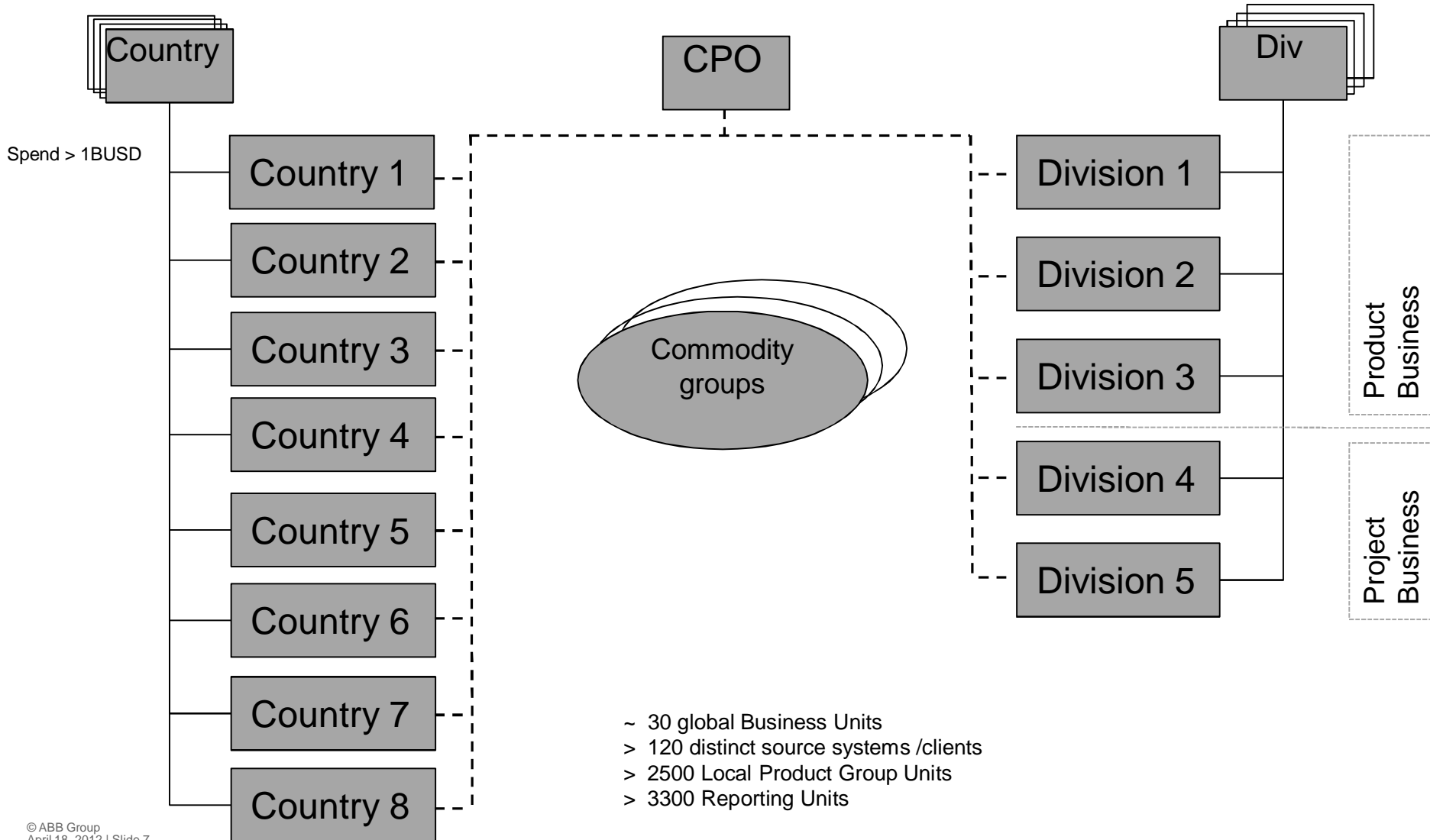
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ABB SCM Organization

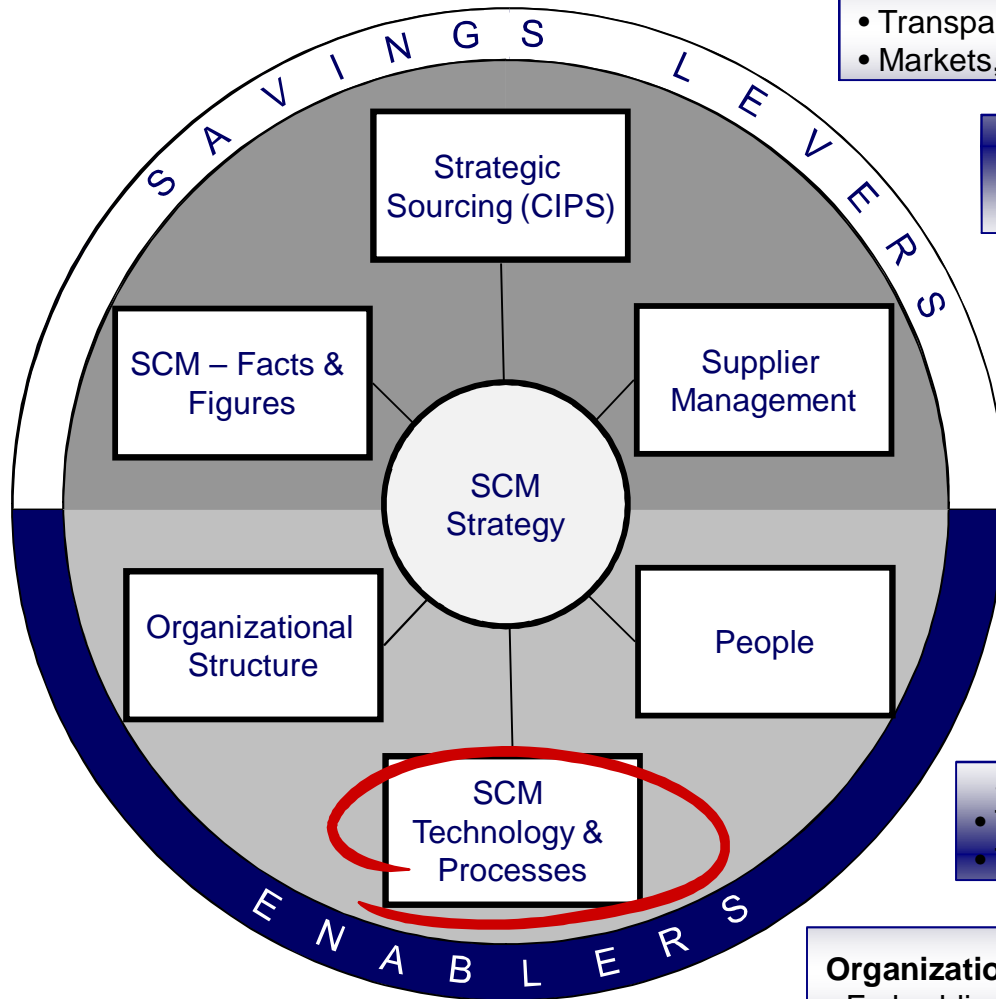
Matrix Organization in an Engineering Company





SCM Strategy Model

Strong Focus on Technology and Processes



SCM Facts & Figures

- Transparency of SCM's performance
- Markets, Suppliers, Best Practice Sharing

Strategic Sourcing

- Performing the Sourcing process via CIPS

Supplier Management

- Deal with the right number of suppliers
- How do we assess our supply base

SCM Strategy

- Overall strategic direction of the SCM function aligned with company strategy

People

- Up-skilling the right people
- Functional Development and Career Paths

SCM Technology & Tools

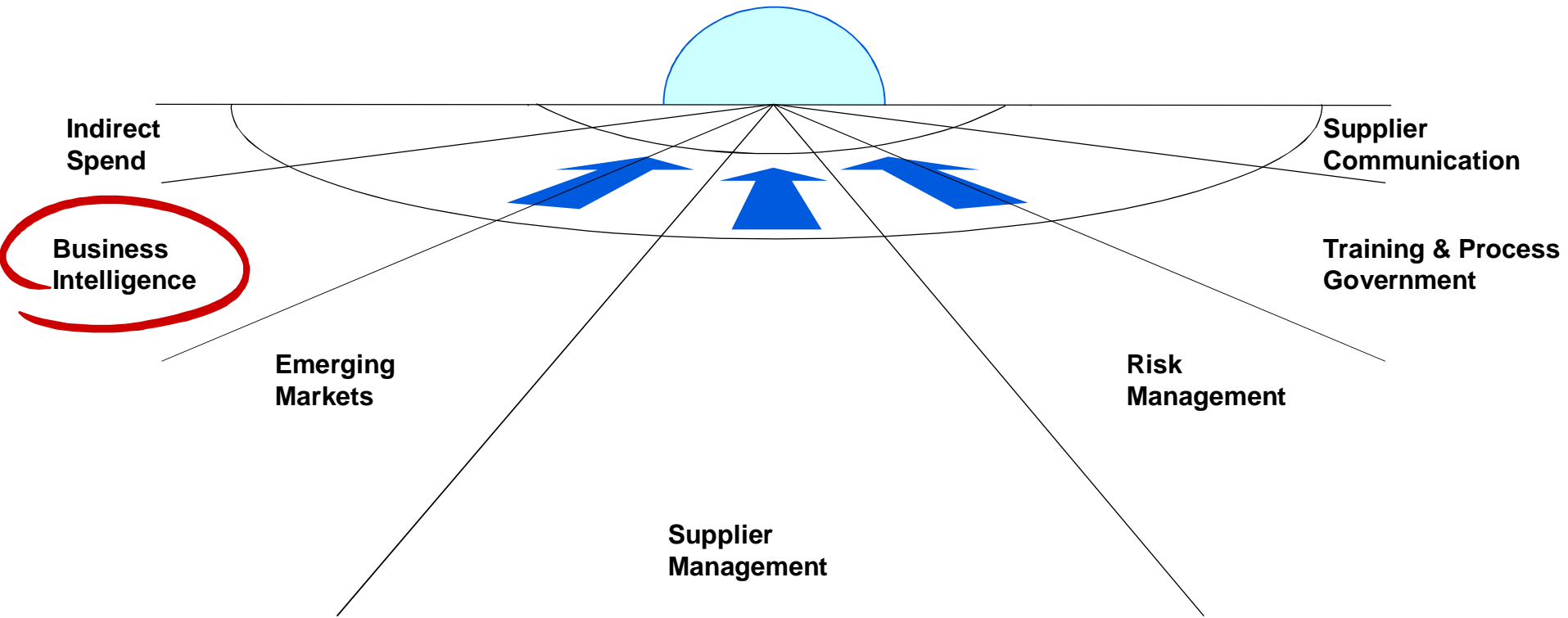
- Transactional processes for SCM
- Tools and systems to enable SCM

Organizational Structure

- Embedding SCM in ABB to get the most benefit

SCM Technology: Major Programs in IS Related Areas

In a Decentralized Setting, solutions Simply Need to Work!



SCM Initiatives Until 2014



2011

2012

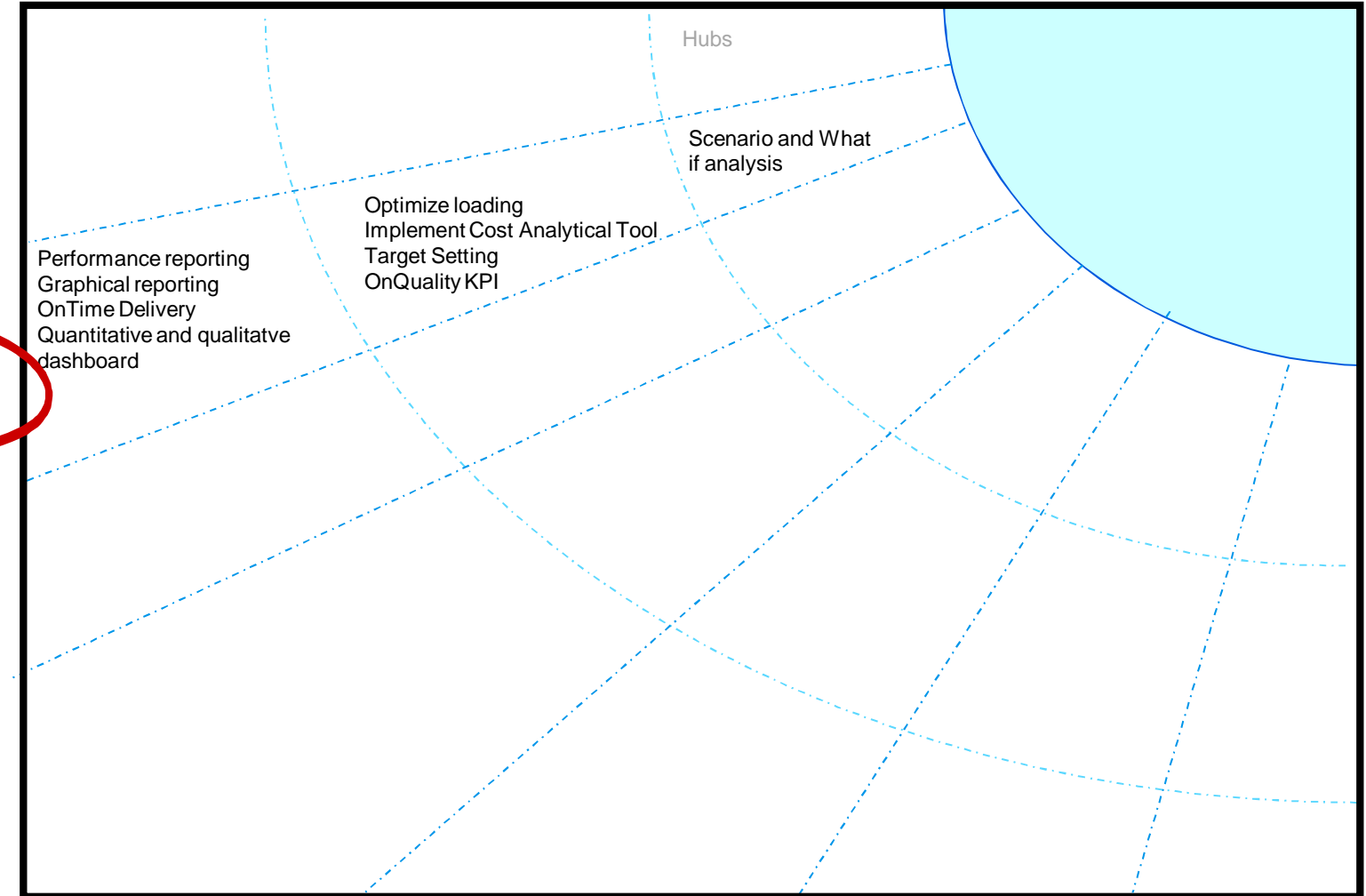
2013

2014

Indirect Spend

Business Intelligence

Emerging Markets



Supplier Management

Sustainability & Risk Management

Training & Process Government

Supplier communication

Performance reporting
Graphical reporting
OnTime Delivery
Quantitative and qualitative dashboard

Optimize loading
Implement Cost Analytical Tool
Target Setting
OnQuality KPI

Hubs

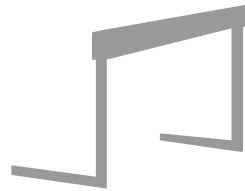
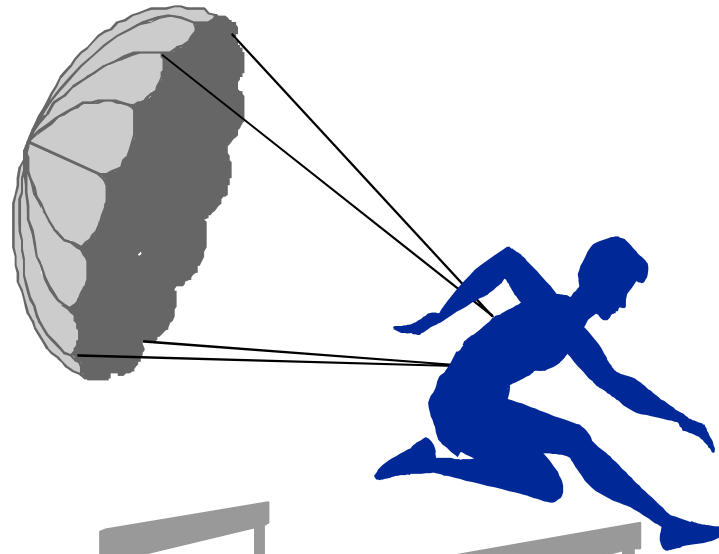
Scenario and What if analysis

Today's Challenges in the Area of BI/Reporting

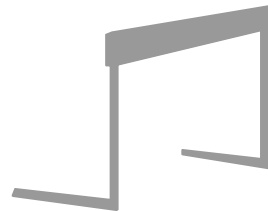
Several Hurdles



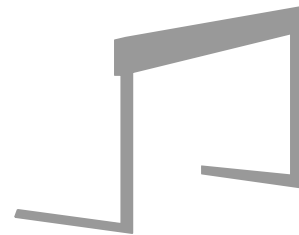
**Data does not
yet drive
actions**



**No what-if
analytics**



**Long
loading
times**



**Only tables
available**

Testimonials



“.... I need to see all KPIs on just one screen. I do not want to run web reports KPI by KPI...”

Division SCM Head

“I want to see quantitative data as well as qualitative data derived from supplier management systems”.

CPO

“.... I want to run complete multi-pareto analysis on suppliers..”

Category Lead Buyer

“... we need to be able to conduct what-if analysis as well as changing target during the course of a year...”

Head Purchasing Controlling

“... We need to adopt state-of-the-art design principles as BI in SCM reporting is a lighthouse..”

Head Purchasing controlling

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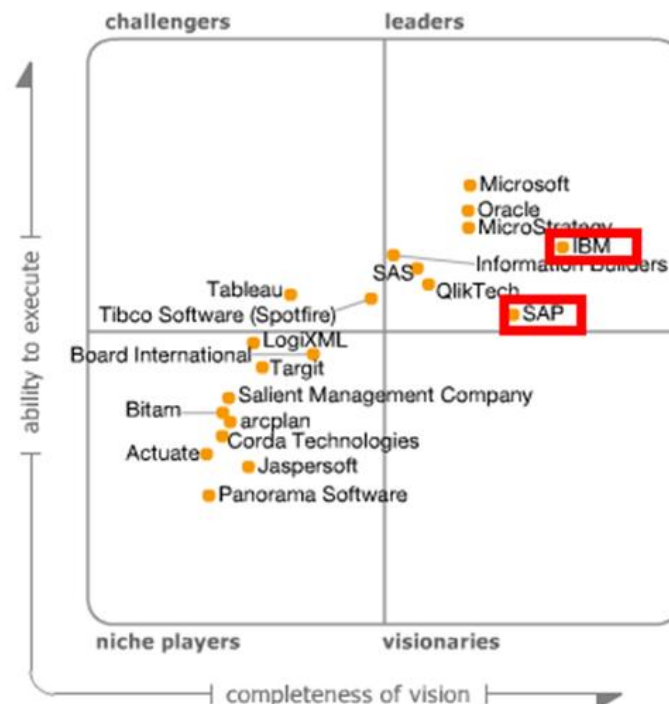


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4.1. Gartner

We referred to the Magic Quadrant for Business Intelligence Platforms¹, 27 Jan 2011. Overall Gartner rates the different Technology stacks as illustrated in the figure below. It can be seen that Gartner rates IBM higher than SAP on both parameters namely 'ability to execute' and 'completeness of vision'.



As of January 2011

Gartner:

IBM Strengths & Weaknesses



Gartner's views on the main strengths and weaknesses of IBM and SAP's BI related technology stacks can be briefly summarized as follows

IBM Strengths

- IBM introduced a significant new release of its BI platform, IBM Cognos BI v10.1, in October 2010. Performance improvement (prior an issue) is a hallmark of the new release, including significant query engine enhancements to address noted customer concerns. The in-memory OLAP product, IBM Cognos TM1, and the in-memory real-time processing from the IBM Cognos Now product, are fully fledged data sources for the IBM Cognos BI v10.1 architecture and are fully integrated in the end user interface, enabling interactive analysis and driving the integrated planning model for which IBM Cognos has always been noted.
- Customers rate IBM's predictive analytic capabilities well above the average of other vendors in this analysis.
- The company continues to show an ongoing strong vision in applying its business analytics platform to support BI applications and performance management projects more widely.

IBM Weaknesses

- License cost continues to be another source of customer angst. Cost was also noted as a blocking factor for expanding BI platform deployment across the business.
- IBM customers also continue to have less-than-optimal customer experiences, with support and sales interaction rated near the bottom of all vendors reviewed in this report.

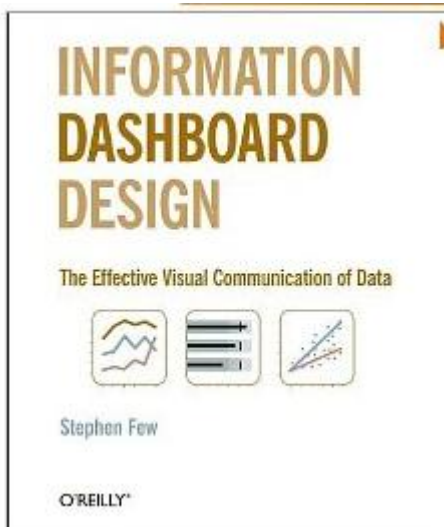
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Dashboard Design

Wahrnehmungspsychologische Grundlagen



Dashboards are a visual display of the most important information needed to achieve one or more objectives which fit entirely on a single computer screen so it can be monitored at a glance

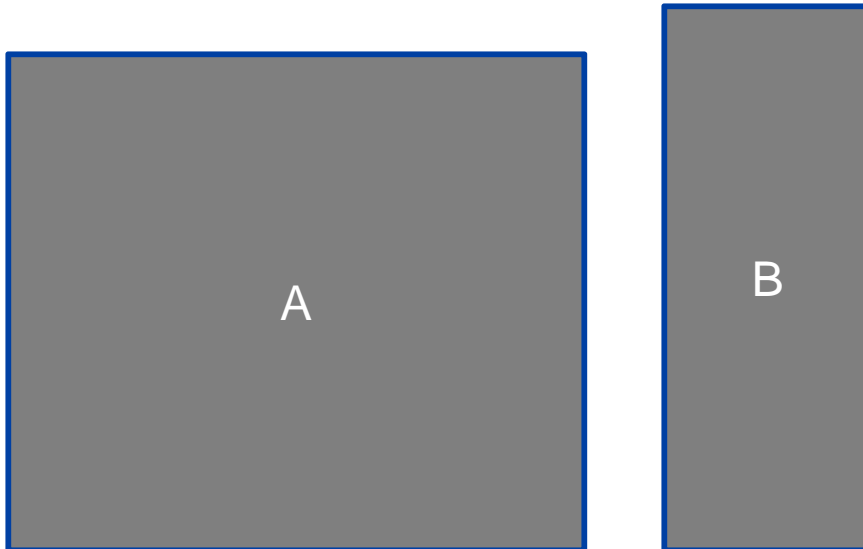
Stephen Few, 'Information Dashboard Design', 2002



Dashboard Design: How NOT to do it!

How much bigger is A compared to B?

"Human beings cannot easily compare sizes of shapes"
Stephen Few



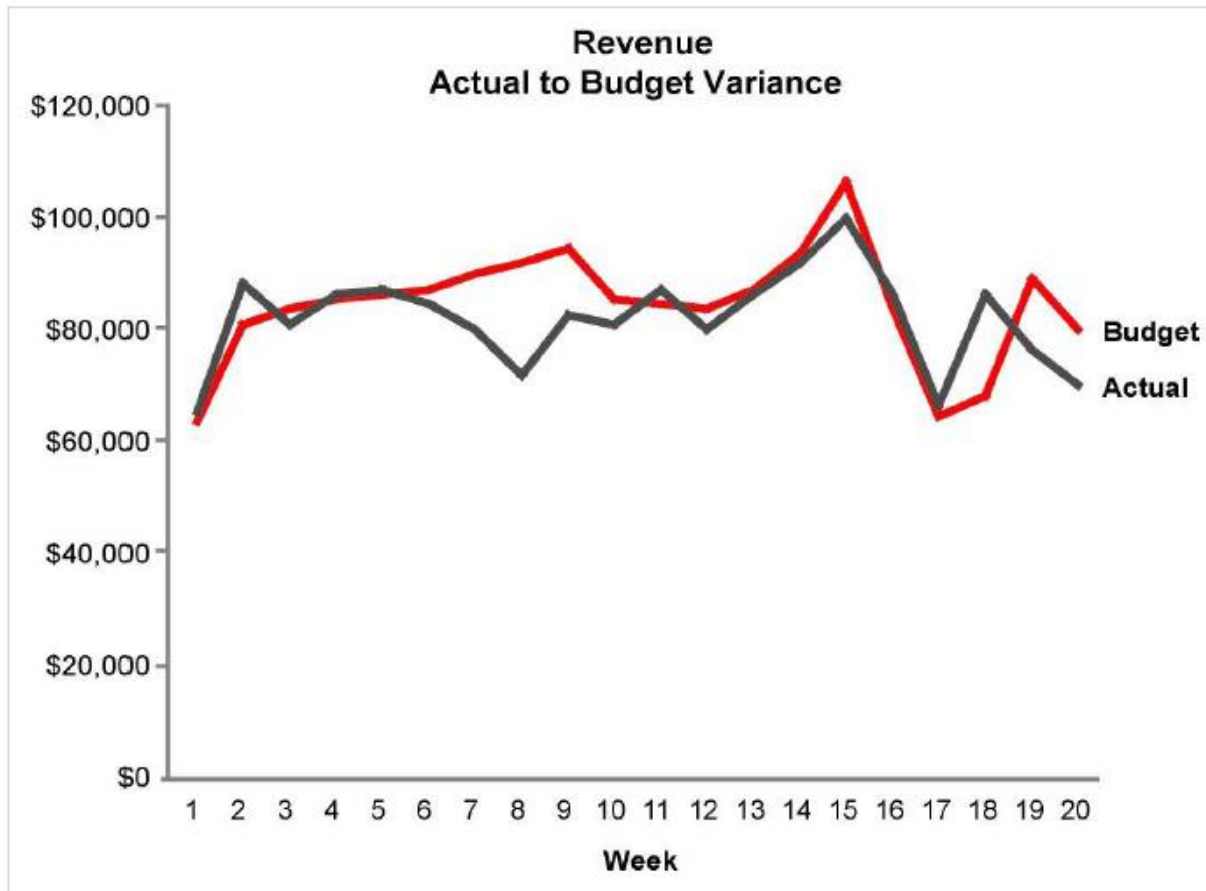
A is bigger than B by factor:

- 3,0?
- 3,2?
- 3,5?
- 4,0?

Dashboard Design: How NOT to do it!



*“One of the biggest attractors for human beings is an eye,
followed by a circle“*
Stephen Few



Dashboard Design

How NOT to do it!



*“A pie chart is the combination of a shape and a circle
(not to talk about colours)”*

Stephen Few



Product or Region Revenue distribution

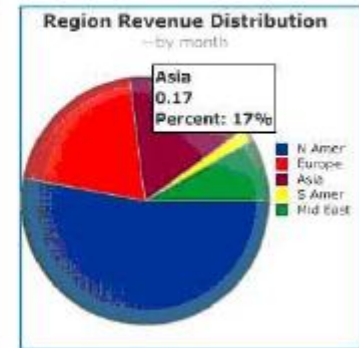
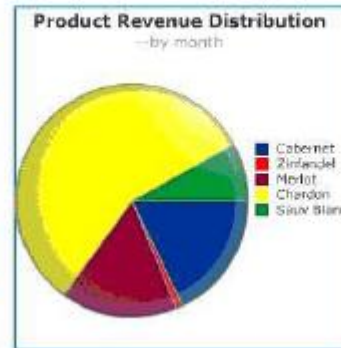
(Select a month from the appropriate list box.)

Product

Mar-04
Apr-04
May-04
Jun-04
Jul-04
Aug-04

Region

Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
May-04



Agenda

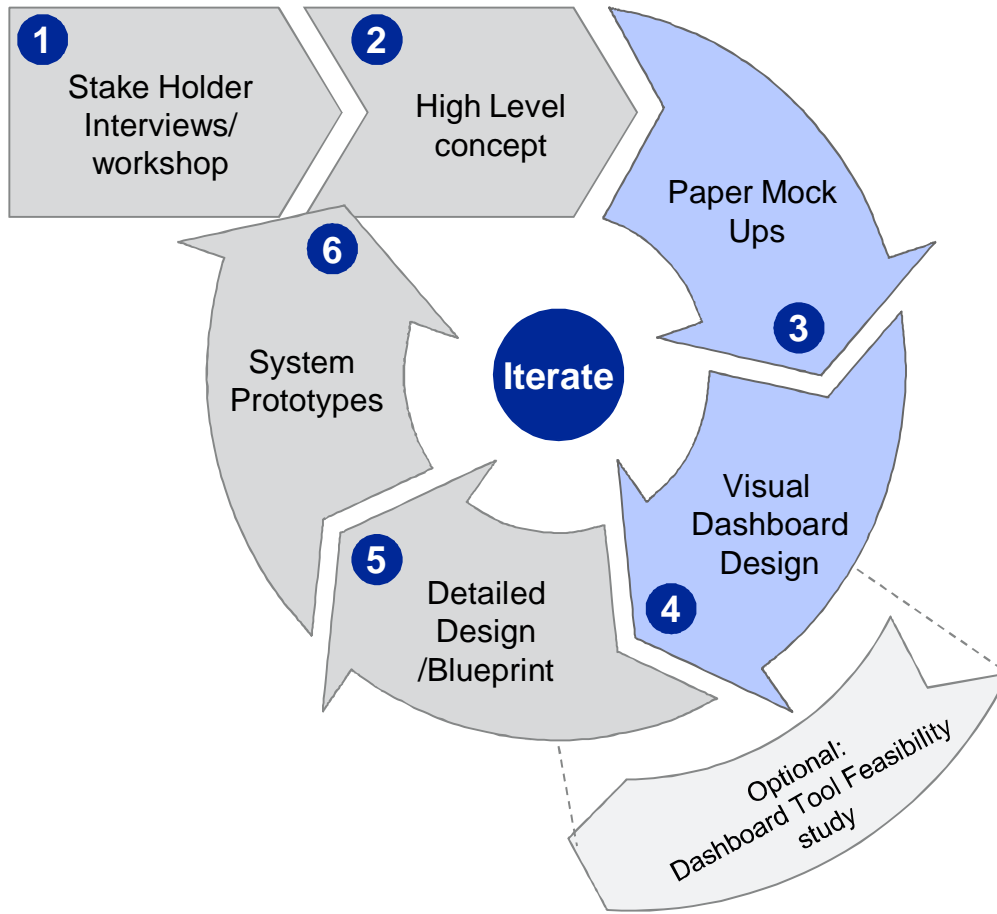


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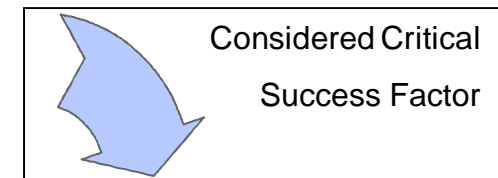


Dashboard Design Methodology

"Visual Dashboard Design" step is key for efficient and effective Dashboard communication



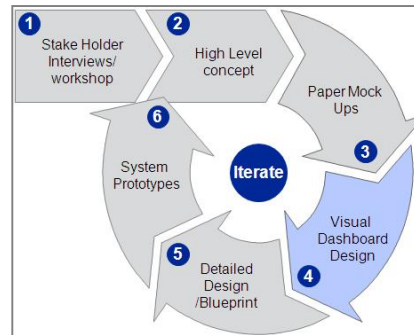
- Focus on Effective and Efficient **Dashboard communication**
- Display information on a **single screen**
- Balanced **Scarcity** and **Density**
- Predefined drill path and **interactivity**





Key Goals "Visual Dashboard Design"

Efficient and Effective Dashboard communication following human visual perception principles



Reduce non-data pixels

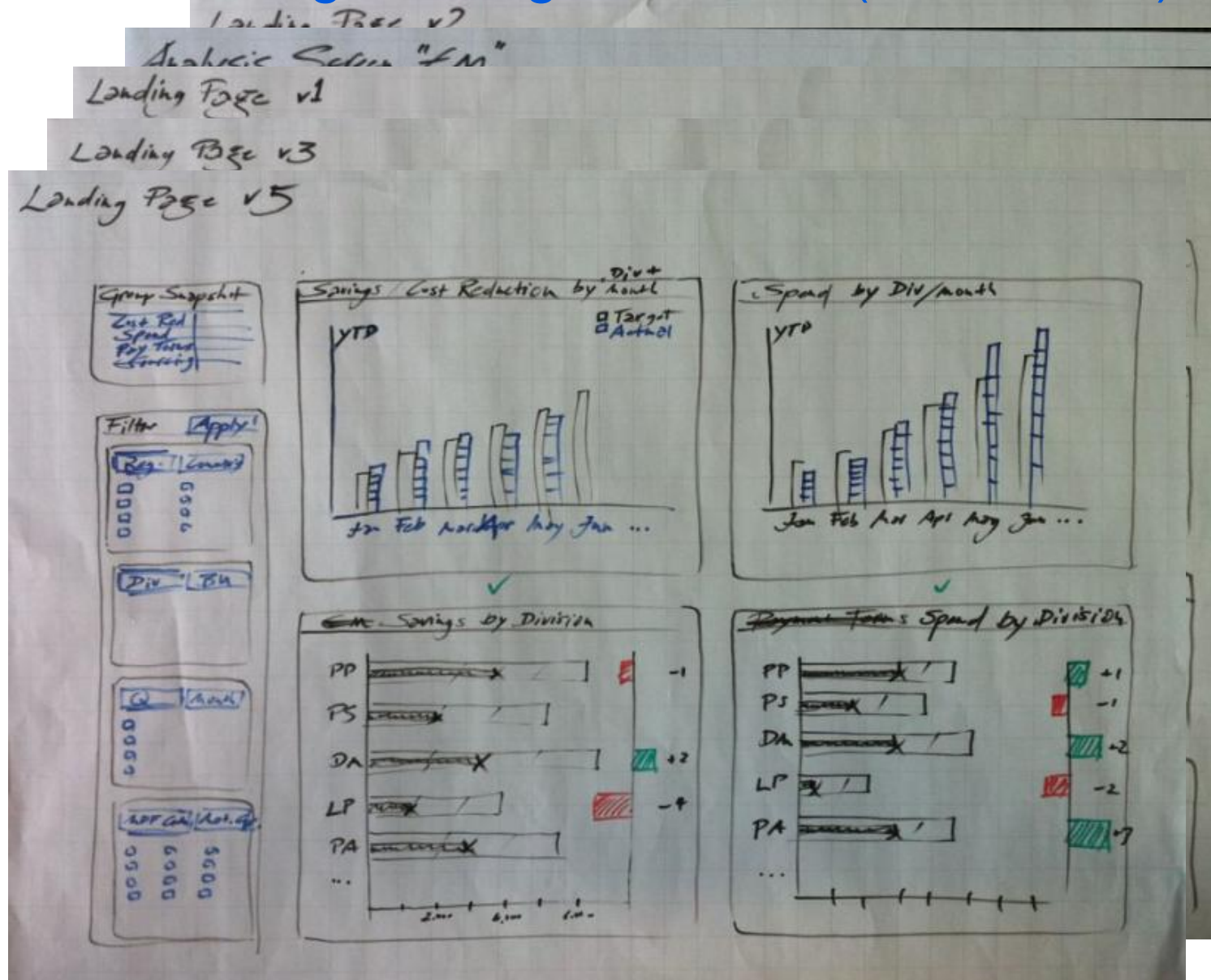
- Eliminate all unnecessary non-data pixels
- De-emphasize and regularize the non-data pixels that remain
 - Reduce complexity

Enhance data pixels

- Eliminate all unnecessary data pixels
- Highlight the most important data pixels that remain
 - Increase Customer interaction

Dashboard Design: project approach

Requirement Engineering with CPO (1 out of 10)



Dashboard Design

Outcome of conceptual phase

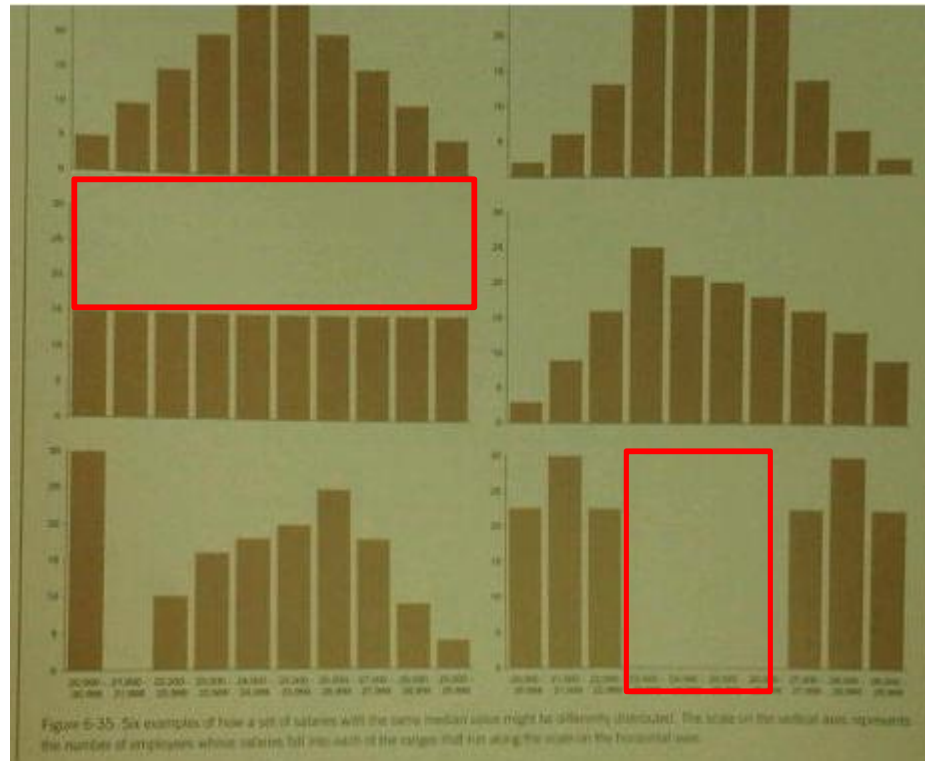


Dashboard Design: How NOT to do it!

Influence on data on design



Different data has an impact on how graphs are perceived



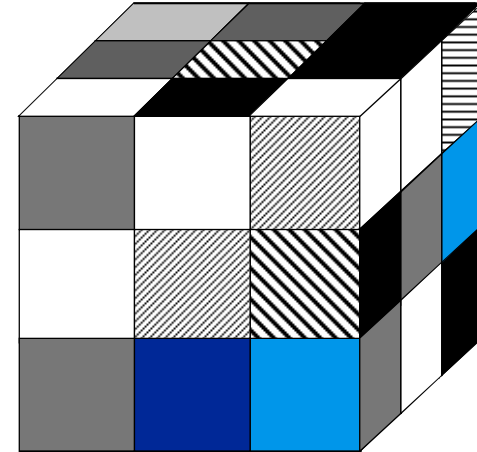
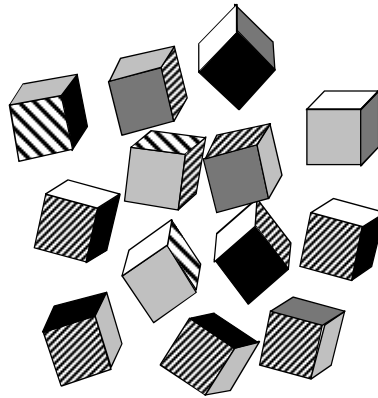
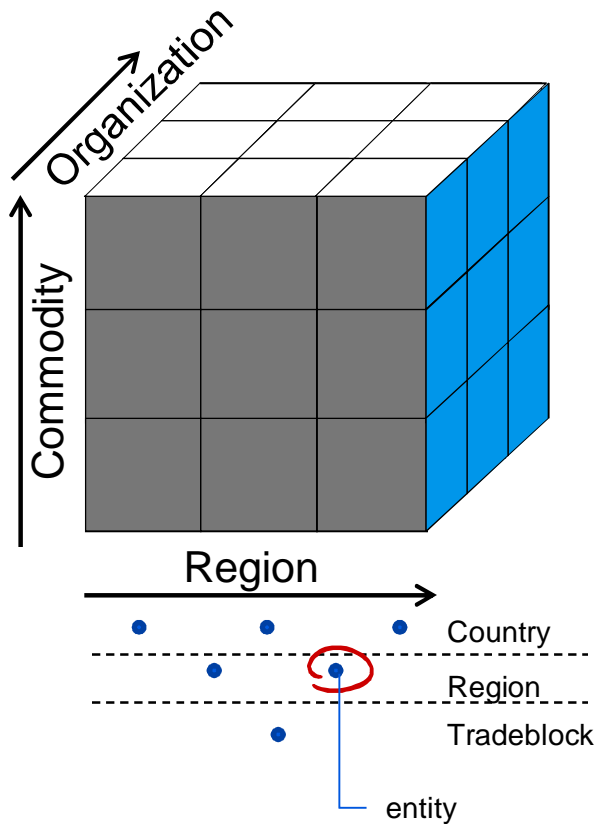
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Combine quantitative data with qualitative data

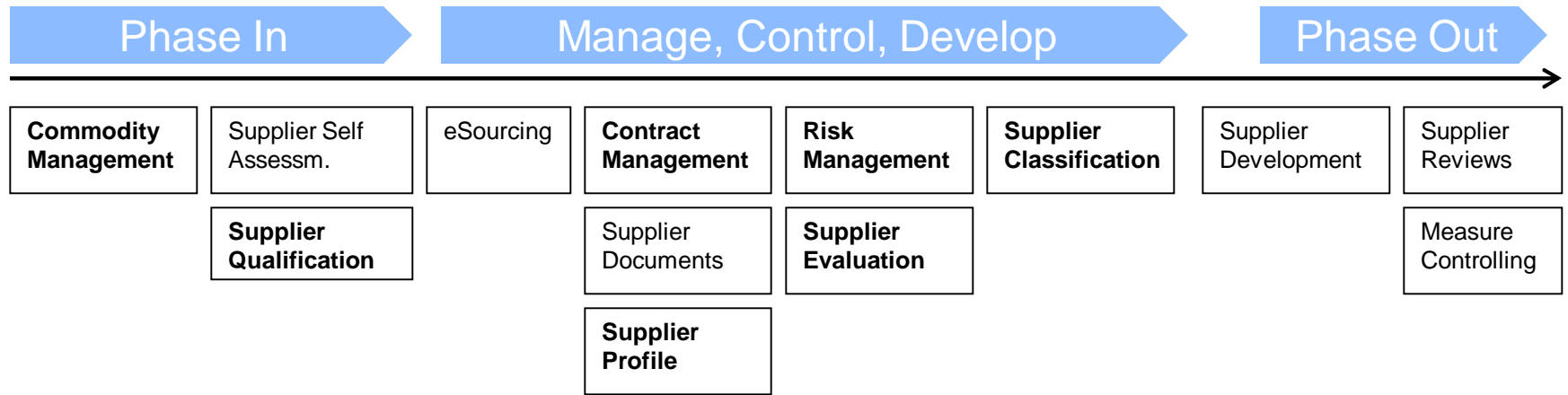
Data drives behaviour



Example:

Some mitigation tasks need to be conducted for an entire region. Others for 3 countries in category MRO and for a specific country additionally for another 2 categories.

Example Supplier Life Cycle and Risk Management Input from all Modules in all Dimensions (Entity Connect)



Assign

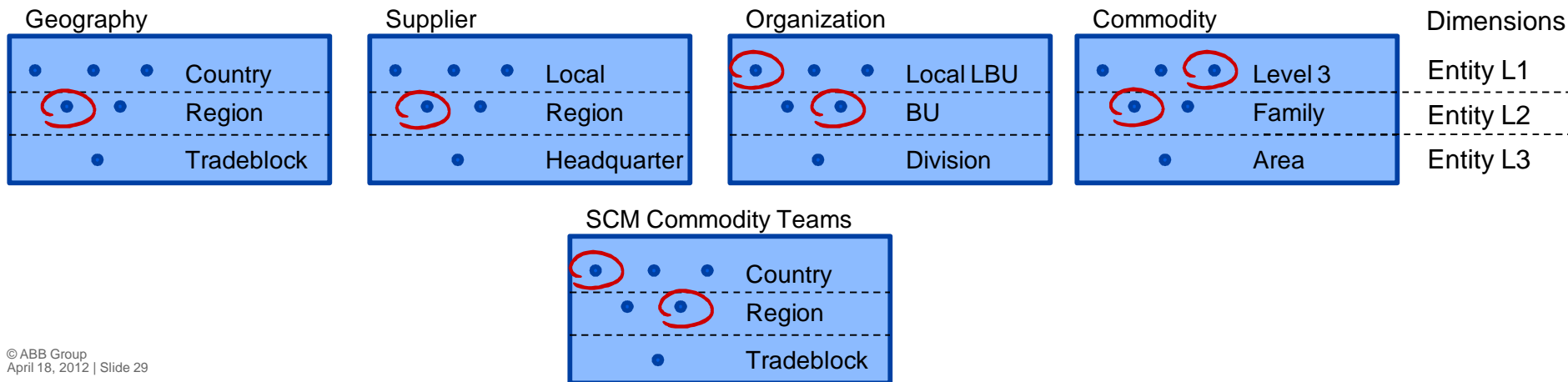
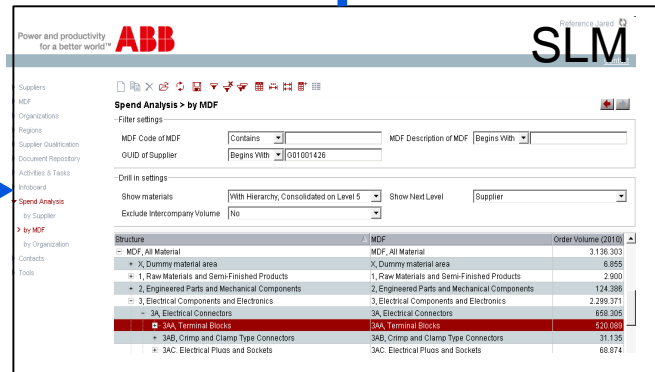


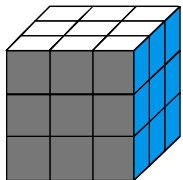
ABB SLM Hub

Data Drives Behavior & Collaboration

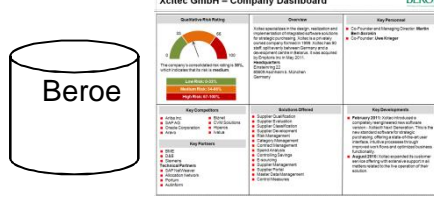
Dashboard quantitative/qualitative Data



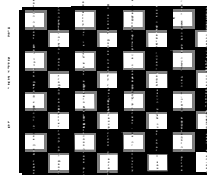
Business Data



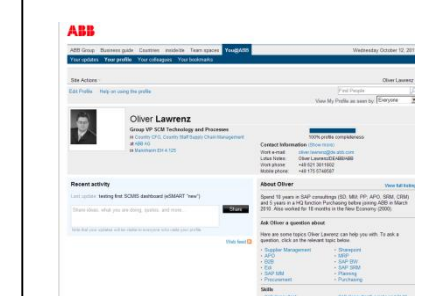
External Data



Internal Data



Web 2.0



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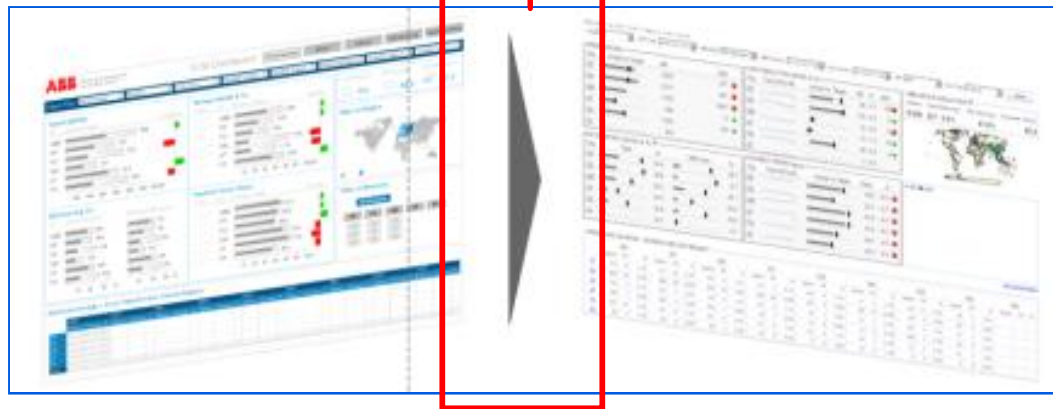


SCM MIS Dashboard Project Lessons Learned



- Start with iterations of paper design
- Freeze design in a mock-up presentation
- ASAP get prototype in place

- Follow rapid prototype approach
- Control progress of prototype almost on daily basis
- Work in small teams





Any Questions, Comments?

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