

# Converting Big Data into Business Value with Analytics

**Colin White**

BI Research

June 26, 2013

# Sponsor



# Speakers



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# Converting Big Data into Business Value With Analytics

*Colin White  
President, BI Research  
TDWI SAP Webinar  
June 2013*



# Topics

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- ➔ The Role of Big Data and Big Data Analytics
  - Use Cases
  - Getting Started

# Historical Perspective: Four Disruptive Technologies

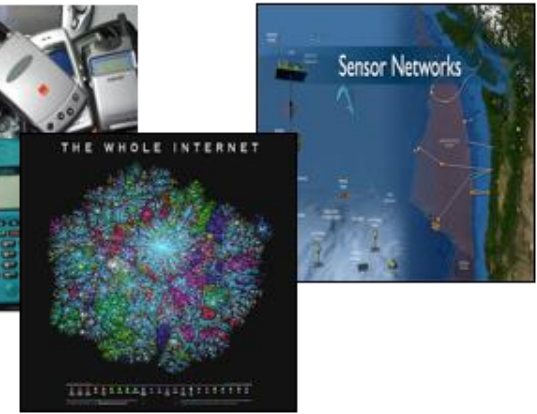
OLTP systems

Commercial RDBMSs

Data warehousing

Big data

1960 → 1970 → 1980 → 1990 → 2013



*Airline reservation systems*

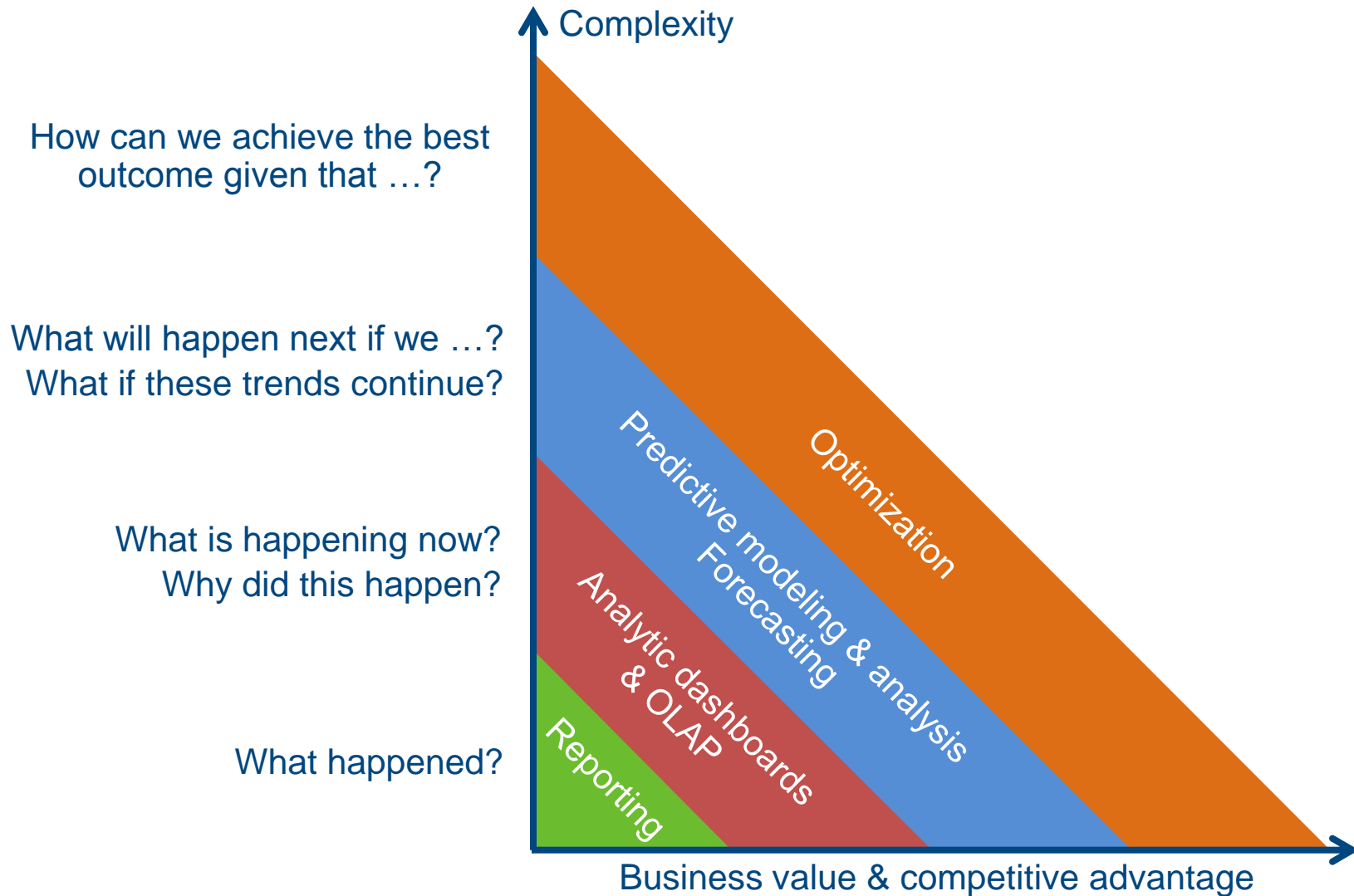
*ATMs  
POS terminals*

*Mobile phones*

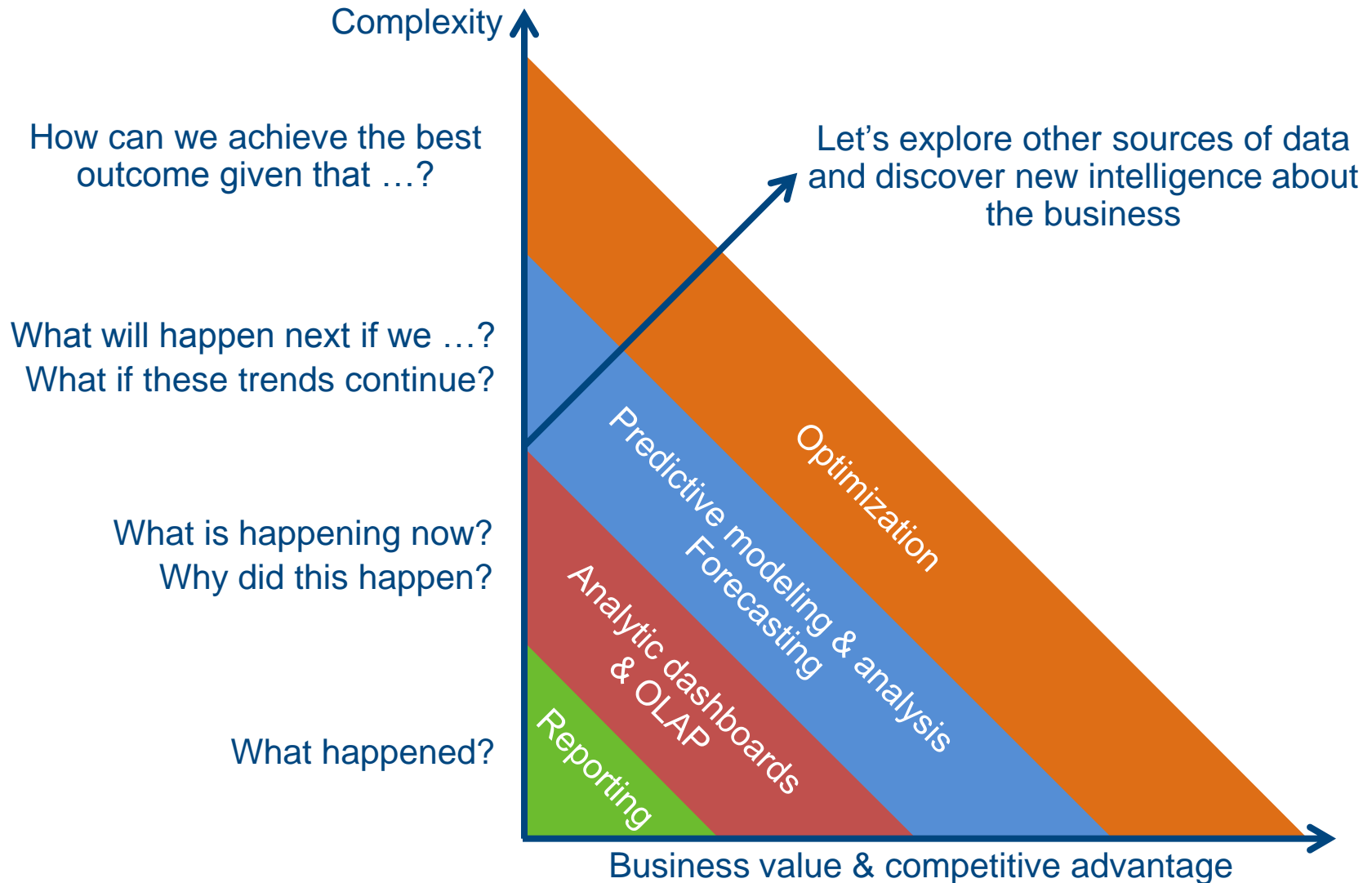
*Internet & WWW*

*Sensor networks*

# Business Intelligence Evolution



# Business Intelligence Paradigm Shift





# What is Big Data?



Represents innovative and disruptive technologies that enhance business decision making and reduce IT costs

- New sources of data
- New & enhanced analytic techniques
- Improved performance at a lower cost

The role of “big data” is different for each organization and project

How you use big data for business benefit is the main consideration – analytics play a key role here

# Topics

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The Role of Big Data and Big Data Analytics

➔ Use Cases

Getting Started

# Use Cases



## IT Use Cases

- Data refinery
- Analytics accelerator

## Business Use Cases

- Built for purpose LOB analytic solutions
- Investigative computing: discover new intelligence about the business

# Line-of-Business Analytic Applications

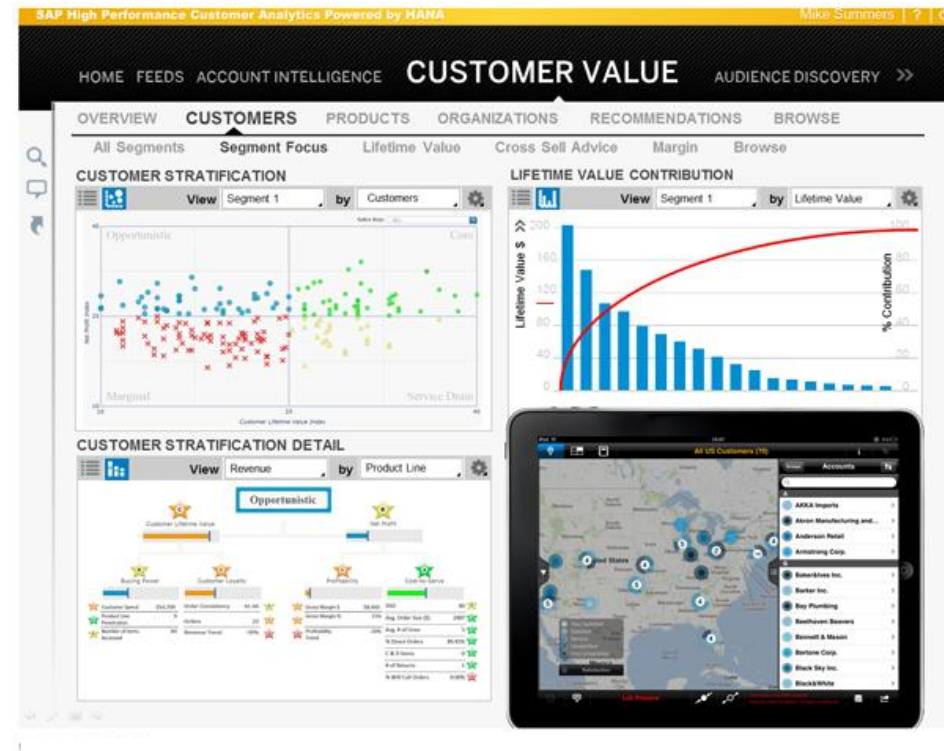
Customer-centric solutions

Optimizing operational processes

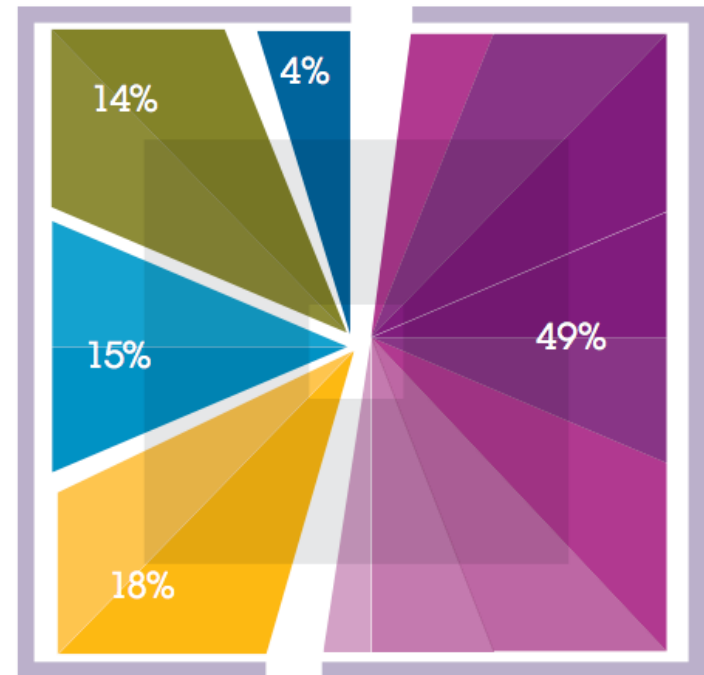
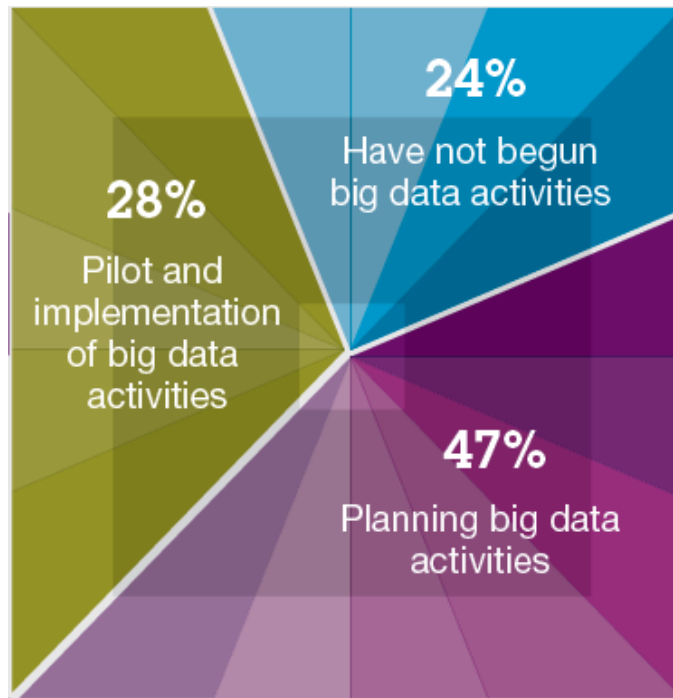
Financial and risk management

Industry-specific solutions

- Healthcare
- Utilities
- Oil and gas
- Automotive
- Telecommunications



# University of Oxford & IBM Study of 1100 CxOs



- Customer-centric outcomes
- Operational optimization
- Risk/financial management
- New business model
- Employee collaboration

# A Changing Market: Application Examples - 1

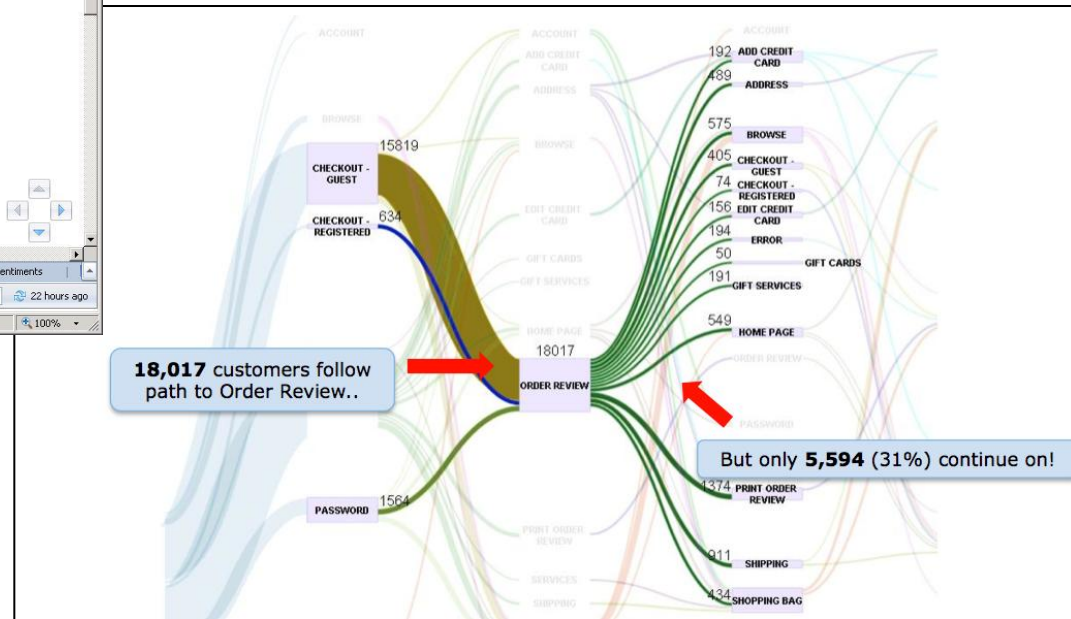
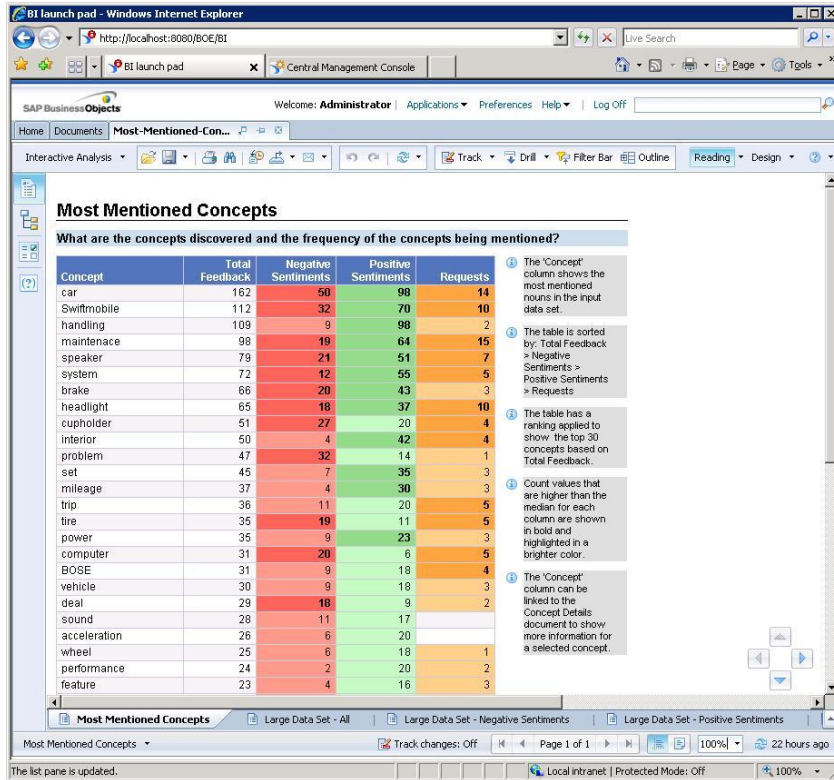
## Customer-Centric Solution – Retail Company

- Launched a web initiative to offer a more personalized and smarter customer experience
- Customer's preferences are combined with recent purchase data to create customized recommendations on the fly
- Success measures were changed from traditional descriptive historical metrics to longer-term customer engagement and retention

## Customer-Centric Solution – Retail Company

- Deployed an investigative computing and data discovery system
- Provides marketing users with access to web and social data for investigative purposes
- Extended the system to support a data refinery containing 10 years of detailed customer data to reduce and manage data warehouse costs

# Customer Sentiment and Behavior Tools









# A Changing Market: Application Examples - 2

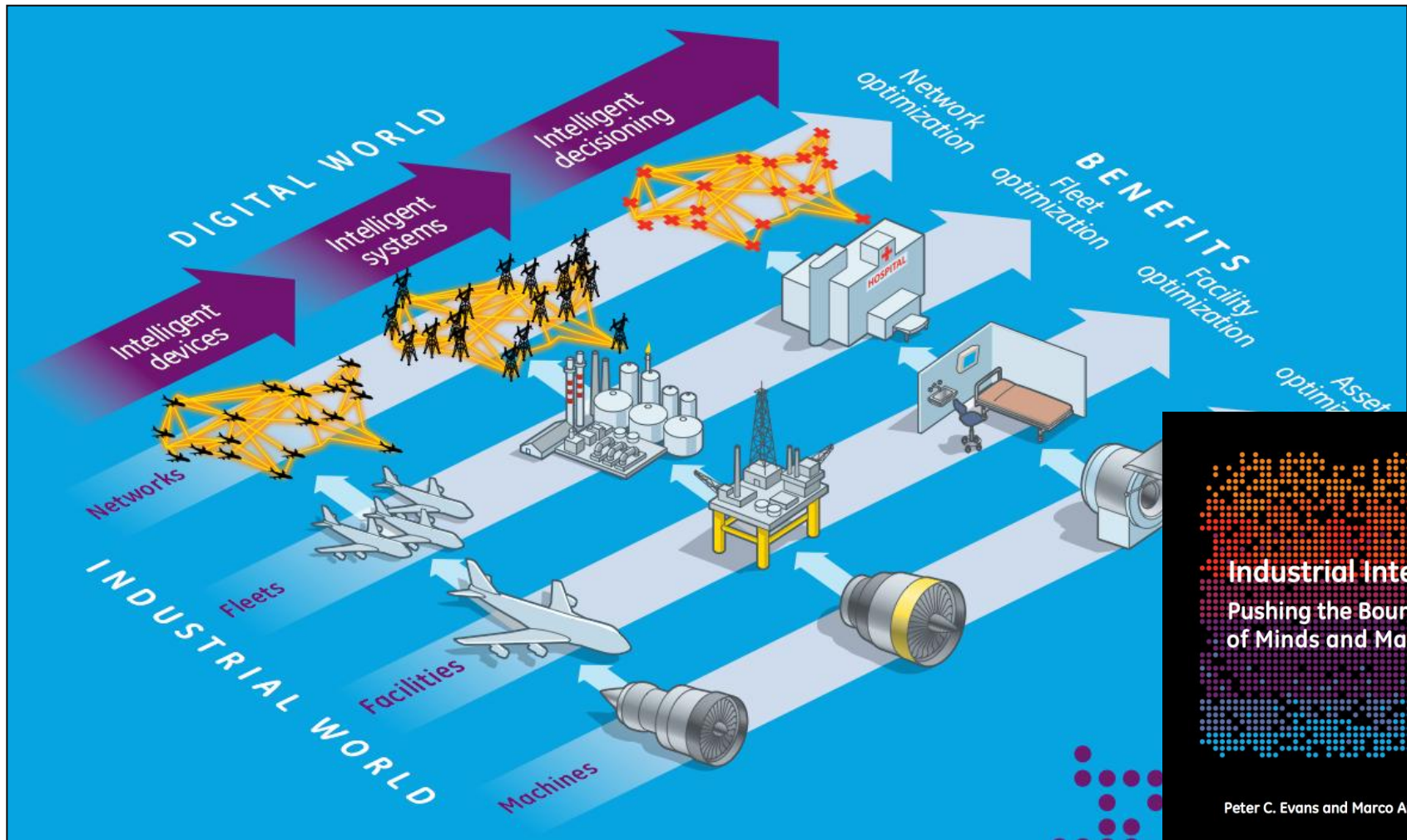
## Optimizing Operational Processes – Railroad

- Analyze daily operations for quality, performance, budget and productivity
- Improved timeliness of data improved train operations and reduced operational costs by millions of dollars
- Marketing analyzes cost and revenue data by location and customer for more effective and efficient market-based pricing

## Financial and Risk Management – Payment Services Company


- Implemented fraud and anti-money laundering program to keep up with changing compliance regulations and fraud tactics
- Prevented \$1M of fraud in first week of use and reduced fraud between US and Canada by 92% in the first year

# A Changing Market: Industry Example - GE

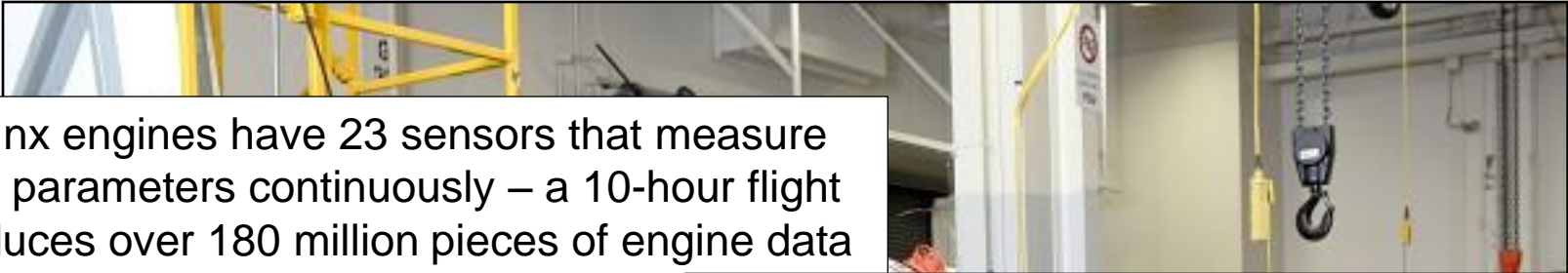


**Industrial Internet:  
Pushing the Boundaries  
of Minds and Machines**

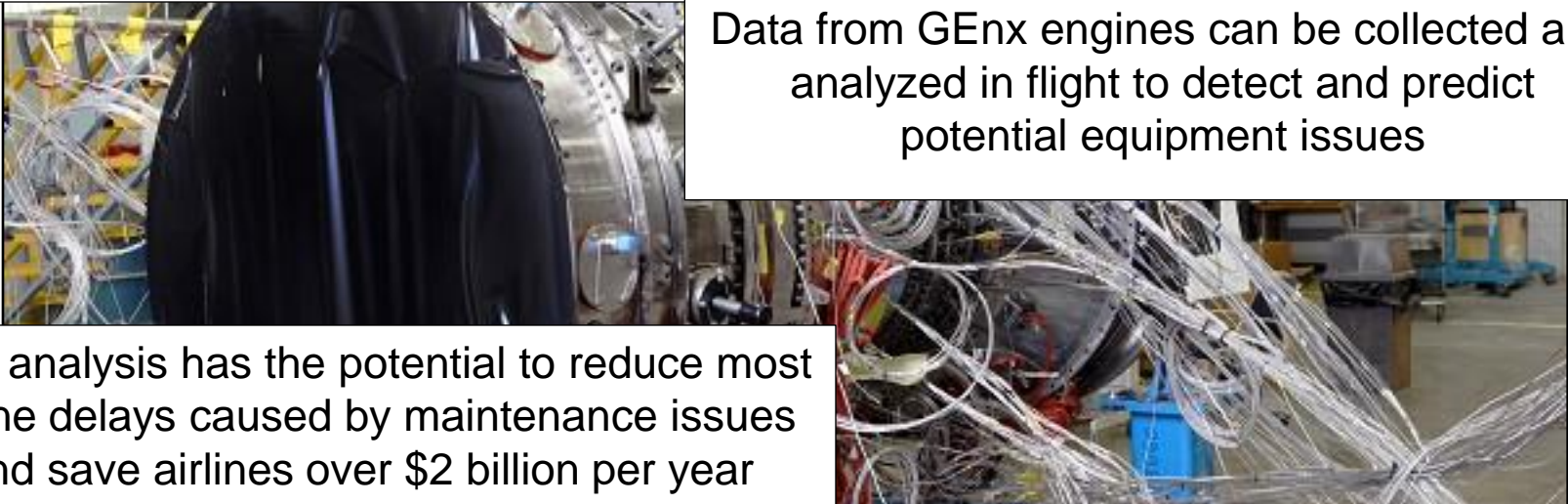
Peter C. Evans and Marco Annunziata

 Imagination at work November 26, 2012

# A Changing Market: Industry Example - GE



GENx engines have 23 sensors that measure 280 parameters continuously – a 10-hour flight produces over 180 million pieces of engine data



Data from GENx engines can be collected and analyzed in flight to detect and predict potential equipment issues

Data analysis has the potential to reduce most airline delays caused by maintenance issues and save airlines over \$2 billion per year

A 1% reduction in jet fuel use could yield \$30 billion in savings over 15 years

# Topics

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The Role of Big Data and Big Data Analytics

Use Cases

## Getting Started

- Building the business case for a big data project
- Selecting the right technology for the project
- Integrating the project into your existing IT environment



# Building the Business Case

Starting point for a project is not technology selection, but identifying business requirements

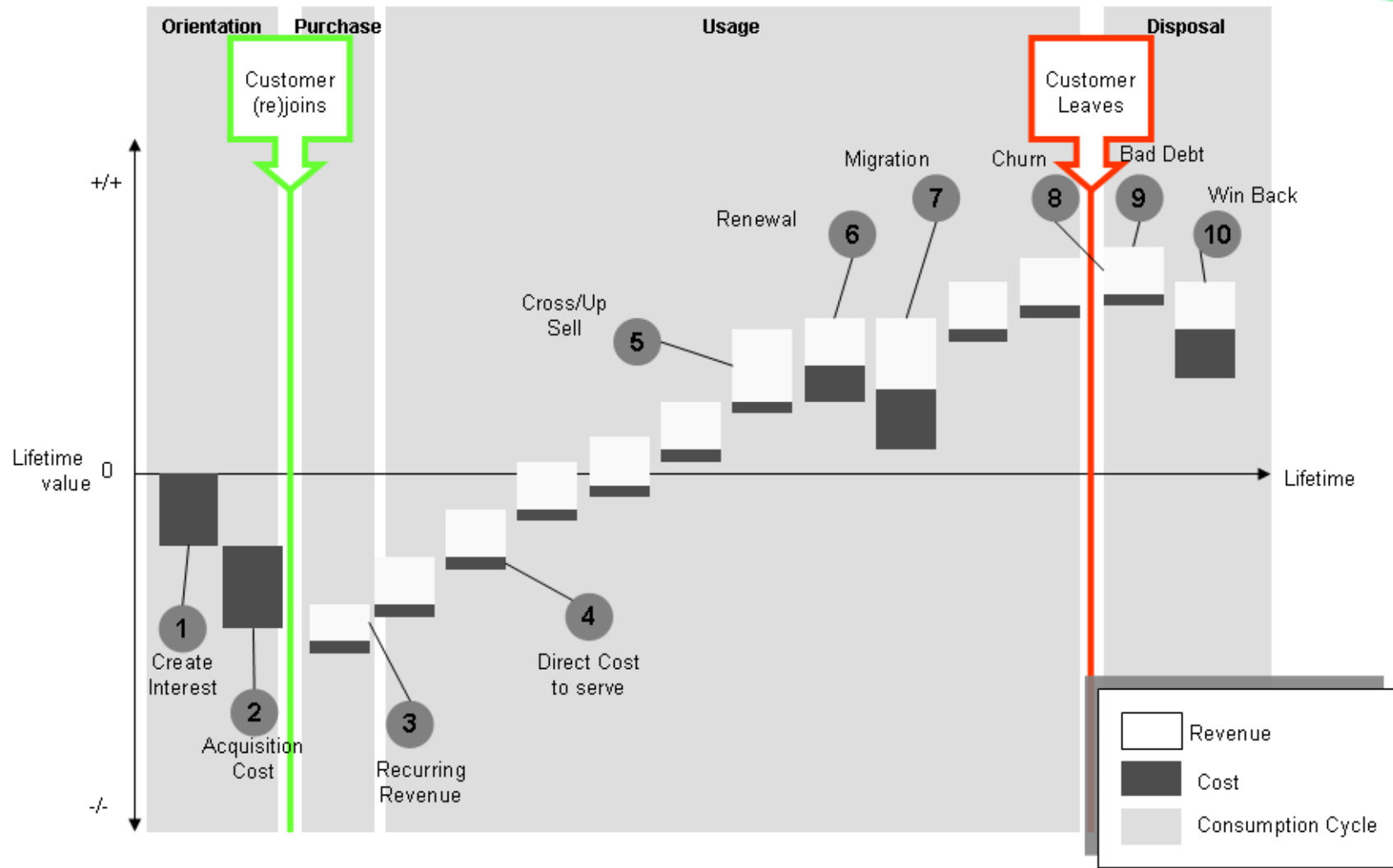
In the case of IT, the business case is reducing the costs of storing, managing and transforming data

For the business, most requirements are specific to the analytic needs of a specific business area

You therefore need to work with business unit managers to identify specific use cases before approaching senior management



# Example: The Customer Life Cycle



Source: McKinsey & Co; Van Raaij, Antonides

# Selecting the Right Technology Platform

1. Identify the types of data, applications and workloads to be deployed
2. When determining costs calculate the TCO for the system
3. Understand the skills requirements for implementing the platform
4. Investigate if other parts of the organization are using the platform to deploy a big data project
5. Talk to customers who have deployed the platform
6. Understand the impact of the platform on the existing IT infrastructure
7. Be realistic, but pragmatic, about the value and use of big data
8. Realize that big data is not just about technology, it also about modifying your business processes to enable it

# Technology Directions

## Enhanced Analytics

- Sophisticated analytic techniques for historical, real-time and predictive analytics, and data discovery
- Real-time analytics for optimizing business processes
- Investigative computing for exploring data and discovering new information about the business

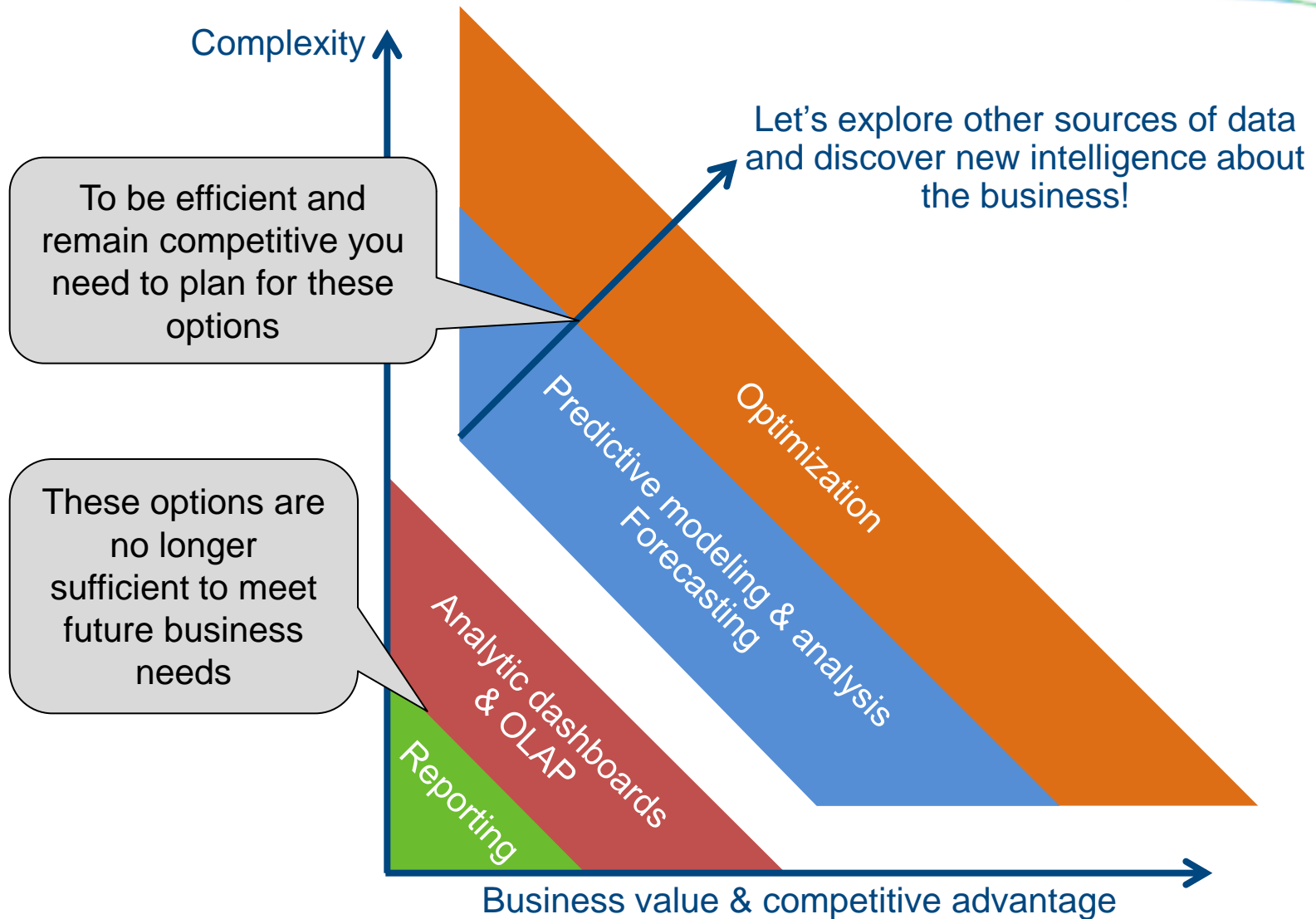
## Enhanced Data Management

- Analytic relational DBMSs for supporting sophisticated analytic processing with improved price/performance
- Non-relational systems such as Hadoop for processing new types of data
- Stream processing systems for processing in-motion data and creating real-time analytics
- In-memory computing for high performance analytics





# Business Intelligence Paradigm Shift Revisited



# Powerful Predictive Analytics for your Industry or LoB – TDWI Webinar

Mike Watschke, Global Center of Excellence, SAP Predictive Analytics  
June 2013

# Market Trends for Predictive

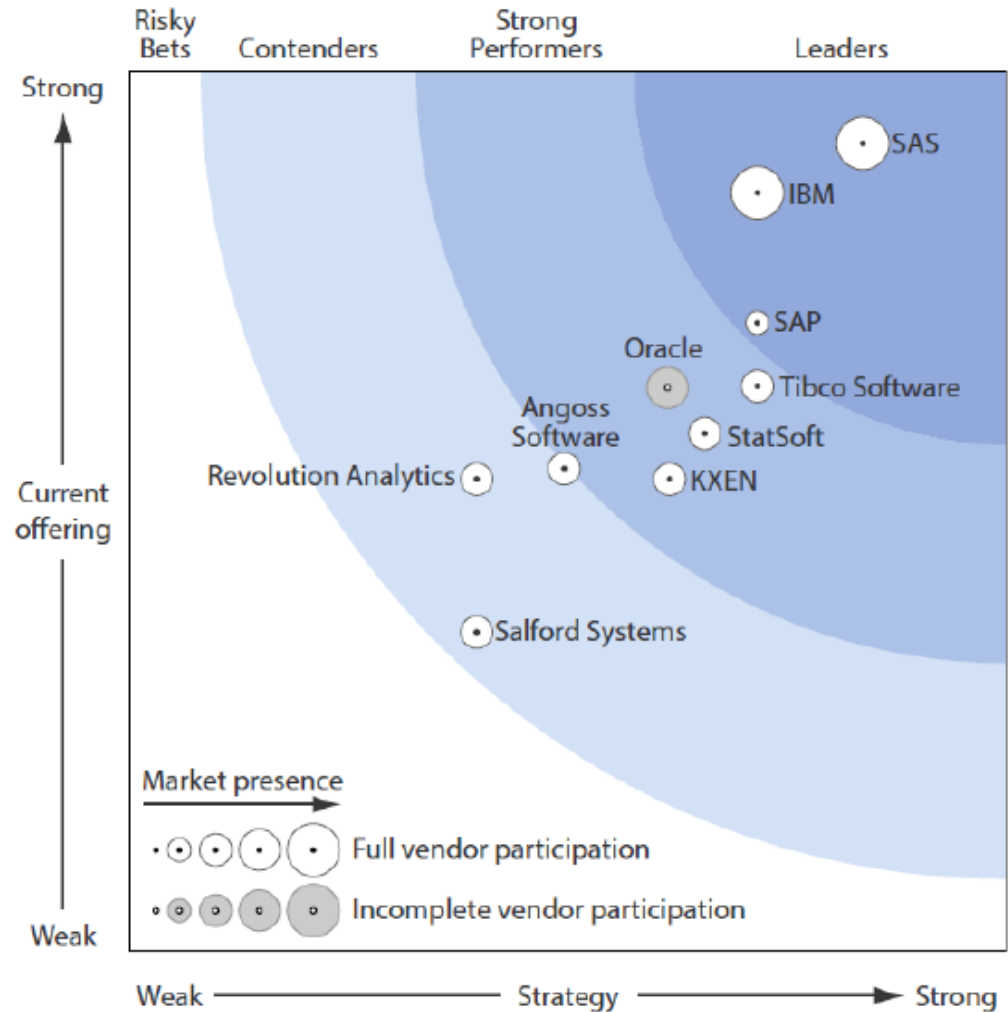
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- 1 Fewer technical solutions**
  - Shift towards fewer technical business analysts than users
- 2 Operationalizing models**
  - Incorporating into business models
- 3 Supporting unstructured data**
  - Mining unstructured data alone or together with structured
- 4 Growth of R**
  - The majority of predictive analytics users are using this expanding open source statistics and data mining language
- 5 Supporting “Big Data”**
  - Real-time analysis of large amounts of data becoming prevalent
- 6 In-database analytics**
  - Increase efficiency by bringing analytics to the data

Source: Hurwitz & Associates – “Predictive Analytics: The Hurwitz Victory Index Report” – 2011

# Forrester Wave: Big Data Predictive Analytics

- SAP is a leader in the 2013 Forrester Big Data Predictive Analytics wave
- SAP went from not appearing on the wave to leader within one year
- SAP's in-memory predictive analytics approach is unparalleled and unique among vendors
- SAP's vision and roadmap for predictive analytics is well-received by analysts



# Three Types of Users for SAP Predictive Analytics

Data Scientists



- Create complex predictive models and simulations
- Validate predictive business requirements
- Publish results back to source

.001%

Data Analysts



- Transform and enrich data source(s)
- Create simple predictive models and simulations
- Visualize results and publish to BI Platform

3%

Business Users/Execs

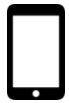


- Interact with published predictive analysis
- Visualize results in context of use case
- Collaborate with colleagues toward closure/action

97%

Representative User Base





Mobile



Web



Embedded Content



MS Office



Enterprise Portals



On Demand Services

### Analytic Applications

#### Industry

Financial Services | Public Sector | Healthcare | Manufacturing | Consumer Products | Retail | Telco | Utilities

#### LoB

Service, Sales, & Marketing | Procurement | Supply Chain | HR | Finance | IT | Sustainability

### Analytic Capabilities

Historical | Real-time | Forward-looking | Collaborative | Highly Formatted

#### Enterprise Performance Management

- Planning, Budgeting, and Forecasting
- Financial Consolidation
- Strategy Management
- Profitability and Cost Management
- Disclosure Management

#### Governance, Risk, and Compliance

- Enterprise GRC
- Global Trade Services
- Access Risk Management
- Continuous Transaction Monitoring

#### Business Intelligence

- Predictive Analytics
- OLAP Analysis
- Reporting
- Data Discovery
- Dashboards
- Mobile

#### Enterprise Information Management

- Data Services
- Master Data Management
- Event Processing
- Content Management
- Information Governance

• In-Memory Appliance

• High Performance Analytic Solutions

SAP Big Data Solution

• Data Mart Solutions

• Enterprise Data Warehouse



Enterprise Data Sources



SAP



Other Application/  
Data Sources



MS Excel



Social Media Content



Unstructured Content



OLAP Servers, Data Warehouses & Marts

# Questions?



# Contact Information

- If you have further questions or comments:

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