

2012-11-21

이상호 상무, GBS BAO Leader, IBM Korea

# Competitive Advantage of New Intelligent Enterprise



# CONTENTS

**1**

**Digital transformation is becoming pervasive.**

**2**

**Analytics is business imperatives.**

**3**

**Big Data is real challenge.**

**4**

**IBM Smarter Analytics**



1

# Digital transformation is becoming pervasive

# Digital transformation is becoming pervasive



**Two billion people  
online**

In 2010, over ¼ of the global population - **2 billion people** - were on the internet



**Global mobile  
explosion**

Over **5 billion** mobile devices are being used globally



**Smart device  
everywhere**

There could be **50bn mobile devices** connected to the internet by 2020



**Social networking  
giant**

If Facebook were a country, with over 600 million members it would be the **3rd largest population in the world**



**Data explosion**

“Every two days we create as much information as we did between the dawn of civilization up until 2003”



**“Application” of  
everything**

There are expected to be **77bn** mobile apps downloads in 2014

Source: Cisco, Hyperconnectivity and the Approaching Zettabyte Era, June 2010; Eric Schmidt, Techonomy Conference, August 2010

# The **mobile revolution** and **social media**, combined with the **data explosion** and **new analytics capabilities** are driving this digital transformation



## Mobile revolution

Connectivity, access and participation are growing rapidly  
Smart, connected devices are becoming the primary route to get connected and app platform  
Devices are getting smarter as they are increasingly connected and enriched by mobile apps



## Social media explosion

Social media is quickly becoming the primary communication and collaboration format  
GenY's or "digital natives" use of technology and social media platforms is accelerating adoption  
Enterprises are adopting social media but are struggling to realize the value and manage risk



## Hyper digitization

Digital content is produced and accessed more quickly than ever before  
Internet traffic is growing globally driven by consumer use of video, mobile data, interconnectedness  
An increasing number of connected devices and sensors is further driving growth



## The power of analytics

New capabilities for real time analysis, predictive analytics and micro-segmentation are emerging  
Top performing companies use analytics to drive action and business value  
Analytics is making information "consumable" and is transforming all parts of the organization, from customer intimacy to supply chain management

# The **digital transformation** has profound societal impact at all levels, **creating new opportunities** but also **significant business challenges**



- **The connected consumer**
- **The networked workforce**
- **The empowered citizen**

## People

### Business Challenges

- Increased customer expectations
- Accelerated speed of change
- Different ways to engage digitally



- **Evolved business models**
- **Optimized digital operations**
- **Connected enterprise**

## Enterprise

- Redefined customer value
- Managing across digital and physical
- Significant risk, security, compliance and privacy concerns



- **Value migration**
- **Industry redefinition**
- **Fragmentation**

## Industry

- Industry disruption from new competitors
- Value migration creates winners and losers
- New types of collaboration

# 220%

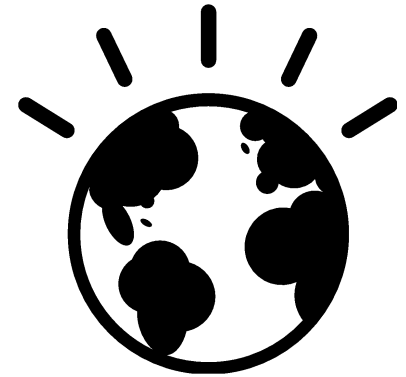
Organizations competing on analytics  
substantially **outperform** their peers

.....

# **2 Analytics is business imperatives**



Four years ago, we started working with organizations to build a **smarter planet.**



Through thousands of client engagements, we learned that analytics is fundamental to success.

# Since then, **analytics** has continued to evolve:

- From business initiative to business imperative
- From enterprise data to big data
- From advancing single organizations to transforming entire industries

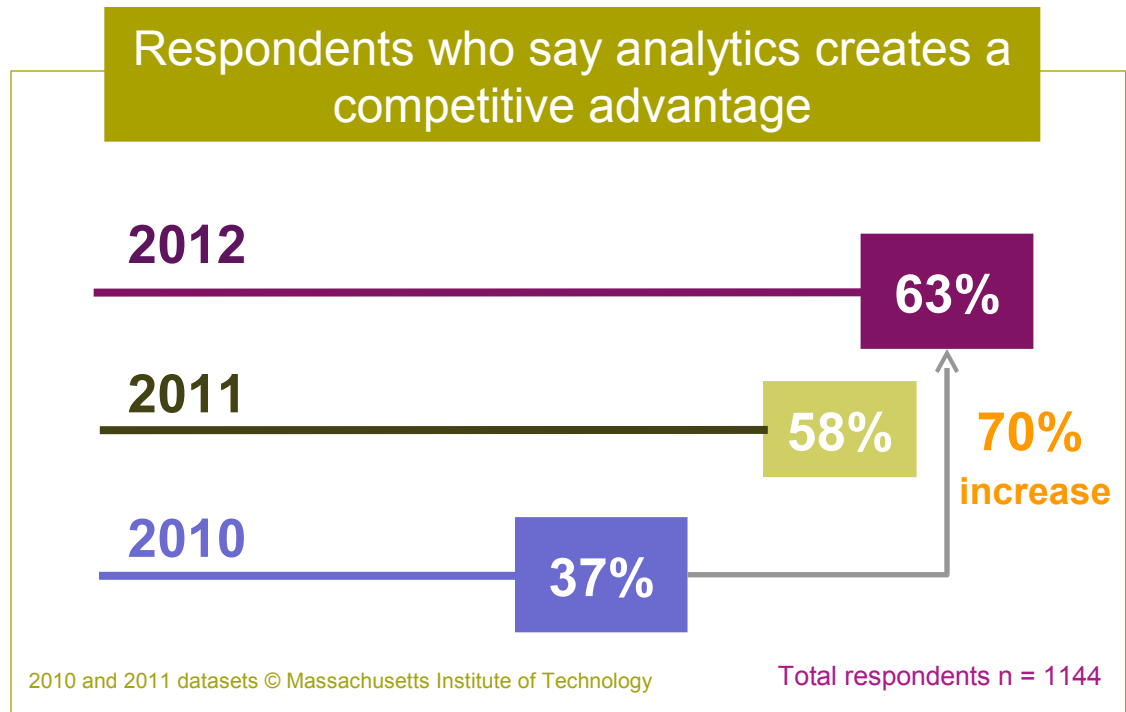
# Analytics **has evolved** from business initiative to business imperative

Analytically sophisticated companies outperform their competition

## Competitive advantage enabler

A majority of respondents reported analytics and information (including big data) creates a competitive advantage within their market or industry

- Represents a 70% increase since 2010
- Organizations already active in big data activities were 15% more likely to report a competitive advantage



# Analytics is expanding from enterprise data to big data

## Volume

**12** terabytes  
of Tweets create daily

Analyze product sentiment

## Velocity

**5** million  
trade events per second

Identify potential fraud

## Variety

**100's** video feeds  
from surveillance cameras

Monitor events of interest

**350** billion  
meter readings per annum

Predict power consumption

**500** million  
call detail records per day

Prevent customer churn

**80%** data growth  
are images, video, documents...

Improve customer satisfaction

# Analytics is progressing from the possible to the proven

## What if...

You could pinpoint optimal location for wind turbines to maximize power generation and reduce energy costs by analyzing 2.8 petabytes of climate data?

### Vestas did!



- Reduced response time for wind forecasting from weeks to hours
- Shortened time to develop a wind turbine site by nearly a month

## What if...

You could optimize inventory and free up capital using a highly accurate view cost-to-serve by product line, transportation and carbon footprint?

### McKesson did!



- Transformed their supply chain
- Reduced working capital by more than US\$100 million.

## What if...

You could reduce the cost of patient readmissions and proactively provide optimal patient treatment?

### Seton did!



- Uncovered top 18 indicators for CHF patient readmissions. Seton now provides targeted patient care to prevent readmissions and avoid unnecessary costs.

Increase operational efficiency:

# What if you could analyze climate data to generate more power?

## Challenge

- Pinpoint optimal location for wind turbines to maximize power generation and reduce energy costs.

## Solution

- Analyzed 2.8 petabytes of climate data using big data platform to predict weather patterns at potential sites.
- Reduced IT footprint and costs, and decreased energy consumption by 40 percent.

## Results

- **Reduced** response time for **wind forecasting** information by approximately 97 percent — **from weeks to hours.**
- Improved accuracy of turbine placement **shortened the time to develop a wind turbine site by nearly a month.**
- **Lowered the cost to customers per kilowatt hour produced** and increased customers' return on investment



Vestas Wind Systems has installed more than 43,000 wind turbines in 66 countries worldwide. Its turbines generate more than 90 million megawatt-hours of energy per year.

Increase operational efficiency:

# What if you could extrapolate historical sales patterns to predict customers' future demand?

## Challenge

- Growing complexity of its supply chain
- Need to unify separate data sources into a coherent and complete picture for real time decision making

## Solution

- Adopted predictive analytics which enable highly accurate production planning, lower-cost logistics and more efficient inventory management
- Integrated various data platforms into a single reporting framework which provides real-time insight, predictive analysis, and detailed planning capabilities

## Results

- **Predict customer orders** four months in advance with **97% accuracy** to optimize production and maintain very lean inventory levels
- **30% reduction** in **supply chain** and **logistics costs**.
- **Increased sales** and **stronger margins** due to an optimized mix of products on the shop-floor.

ELIE TAHARI

Elie Tahari, Ltd. designs luxury ready-to-wear collections. It sells its products through its retail stores and outlet locations, as well as through department stores. Since its foundation in 1973, New York-based Elie Tahari has become a prominent global fashion brand, with hundreds of millions of dollars in revenues across 40 countries

# Outperformers are distinguished by their ability to leverage:

## All information

- Social media, emails, chats •
- Transactions • Data warehouses •
- Documents • Sensors • Video •
- Location...

## All people

- All departments •
- Experts and non-experts •
- Executives and employees •
- Partners and customers •



## All perspective

- Past – historical, aggregated •
- Present – real-time •
- Future – predictive •

## All decisions

- Major and minor •
- Strategic and tactical •
- Routine and exceptions •
- Manual and automated •



# Organizations drive transformation by starting with **one of these four high-value initiatives**

1

Grow, retain and satisfy customers



Examples:

- Churn management
- Social media sentiment analysis
- Propensity to buy/Next best action

Customer Analytics

2

Increase operational efficiency



- Predictive maintenance
- Supply chain optimization
- Claims optimization

Operation Analytics

3

Transform financial processes



- Rolling plan, forecast and budget
- Financial close process automation
- Real-time dashboards

Finance Analytics

4

Manage risk, fraud & regulatory compliance



- Operational and financial risk visibility
- Policy and compliance simplification
- Real-time Fraud identification

Risk Analytics

**3**

# **Big Data is real challenge**

# Analytics: The real-world use of big data



[www.ibm.com/2012bigdatastudy](http://www.ibm.com/2012bigdatastudy)

## IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategies and insights for senior executives around critical public and private sector issues.

## Saïd Business School University of Oxford

The Saïd Business School is one of the leading business schools in the UK. The School is establishing a new model for business education by being deeply embedded in the University of Oxford, a world-class university, and tackling some of the challenges the world is encountering.

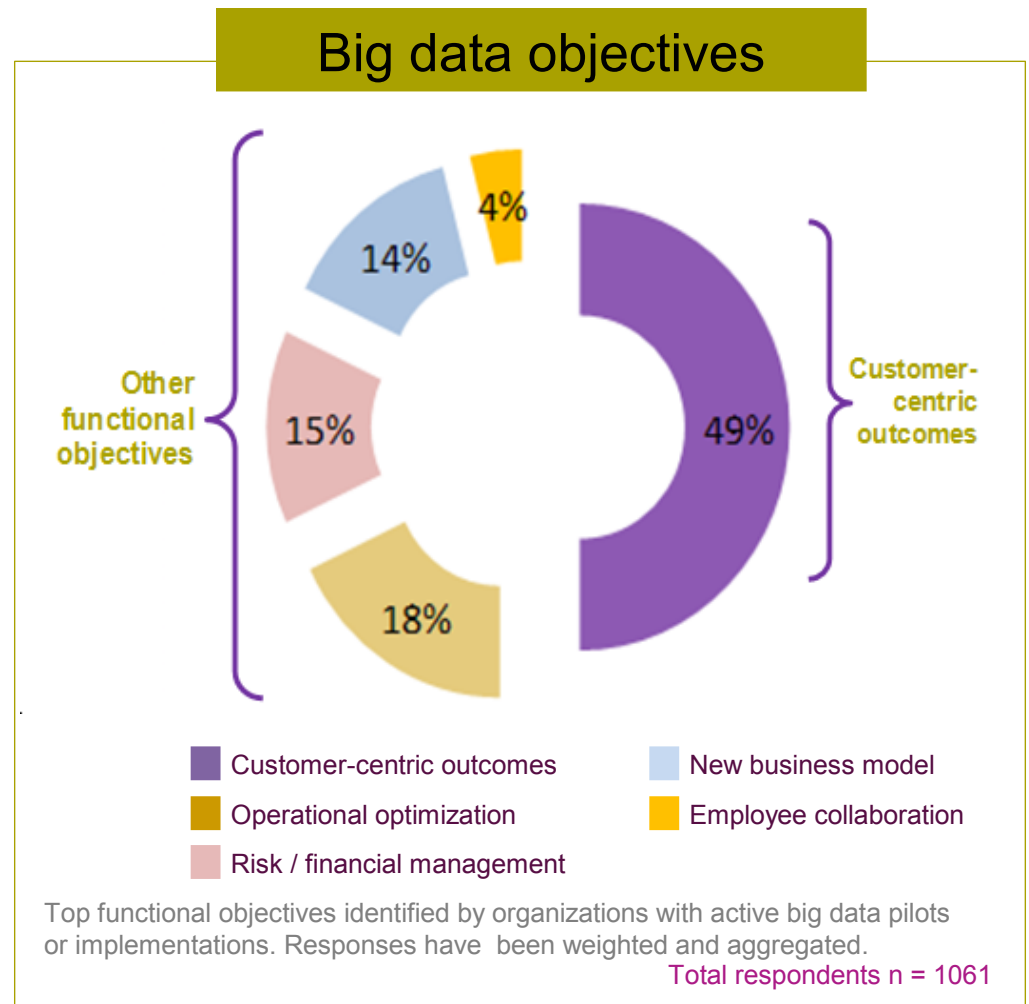
# Improving the customer experience by better understanding behaviors drives almost half of all active big data efforts

## Customer-centric outcomes

- Digital connections have enabled customers to be more vocal about expectations and outcomes
- Integrating data increases the ability to create a complete picture of today's 'empowered consumer'
- Understanding behavior patterns and preferences provides organizations with new ways to engage customers

## Other functional objectives

- The ability to connect data and expand insights for internally focused efforts was significantly less prevalent in current activities



# Big data efforts are based on a solid, flexible information management foundation

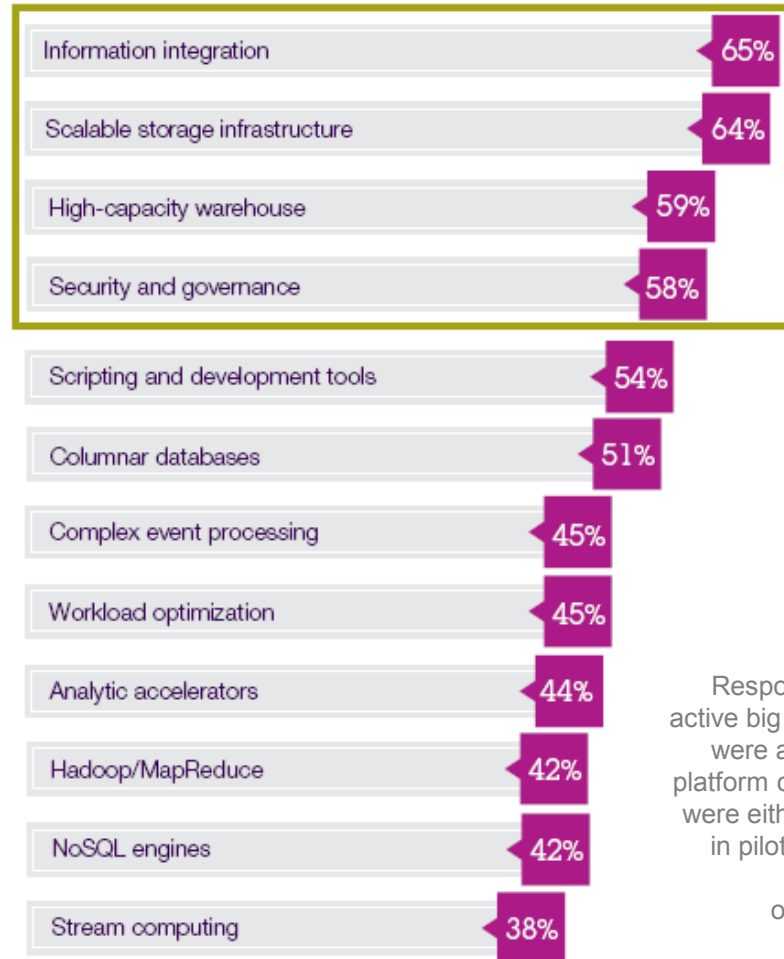
## Solid information foundation

- Integrated, secure and governed data is a foundational requirement for big data
- Most organizations that have not started big data efforts lack integrated information stores, security and governance

## Scalable and extensible

- Scalable storage infrastructures enable larger workloads; adoption levels indicate volume is the first big data priority
- High-capacity warehouses support the variety of data, a close second priority
- A significant percentage of organizations are currently piloting Hadoop and NoSQL engines, supporting the notion of exponential growth ahead

## Big data infrastructure



Respondents with active big data efforts were asked which platform components were either currently in pilot or installed within their organization.

# Internal sources of data enable organizations to quickly ramp up big data efforts

## Untapped stores of internal data

Size and scope of some internal data, such as detailed transactions and operational log data, have become too large and varied to manage within traditional systems

New infrastructure components make them accessible for analysis

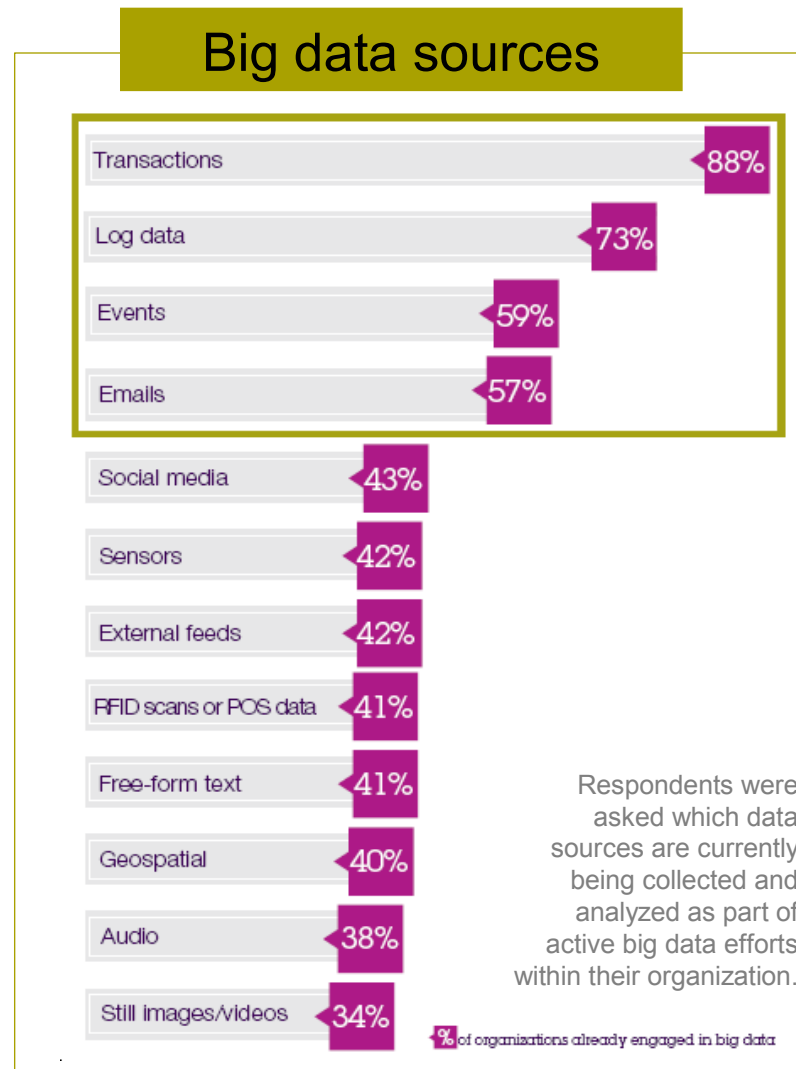
Some data has been collected, but not analyzed, for years

## Focus on customer insights

Customers – influenced by digital experiences – often expect information provided to an organization will then be “known” during future interactions

Combining disparate internal sources with advanced analytics creates insights into customer behavior and preferences

- Transactions
- Emails
- Call center interaction records



# Strong analytics capabilities – skills and software – are required to create insights and action from big data

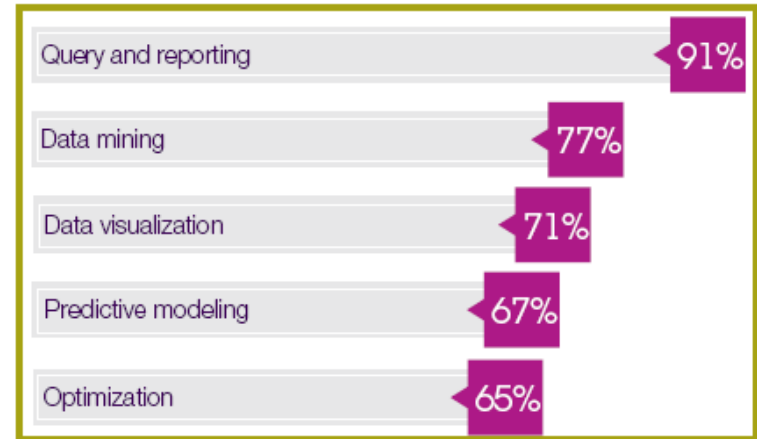
## Strong skills and software foundation

- Organizations start with a strong core of analytics capabilities, such as query and reporting and data mining, designed to address structured data
- Big data efforts require advanced data visualization capabilities as datasets are often too large or complex to analyze and interpret with only traditional tools
- Optimization models enable organizations to find the right balance of integration, efficiency and effectiveness in processes

## Skills gap spans big data

- Acquiring and/or developing advanced technical and analytic skills required for big data is a challenge for most organizations with active efforts underway
- Both hardware and software skills are needed for big data technologies; it's not just a 'data scientist' gap

## Analytics capabilities

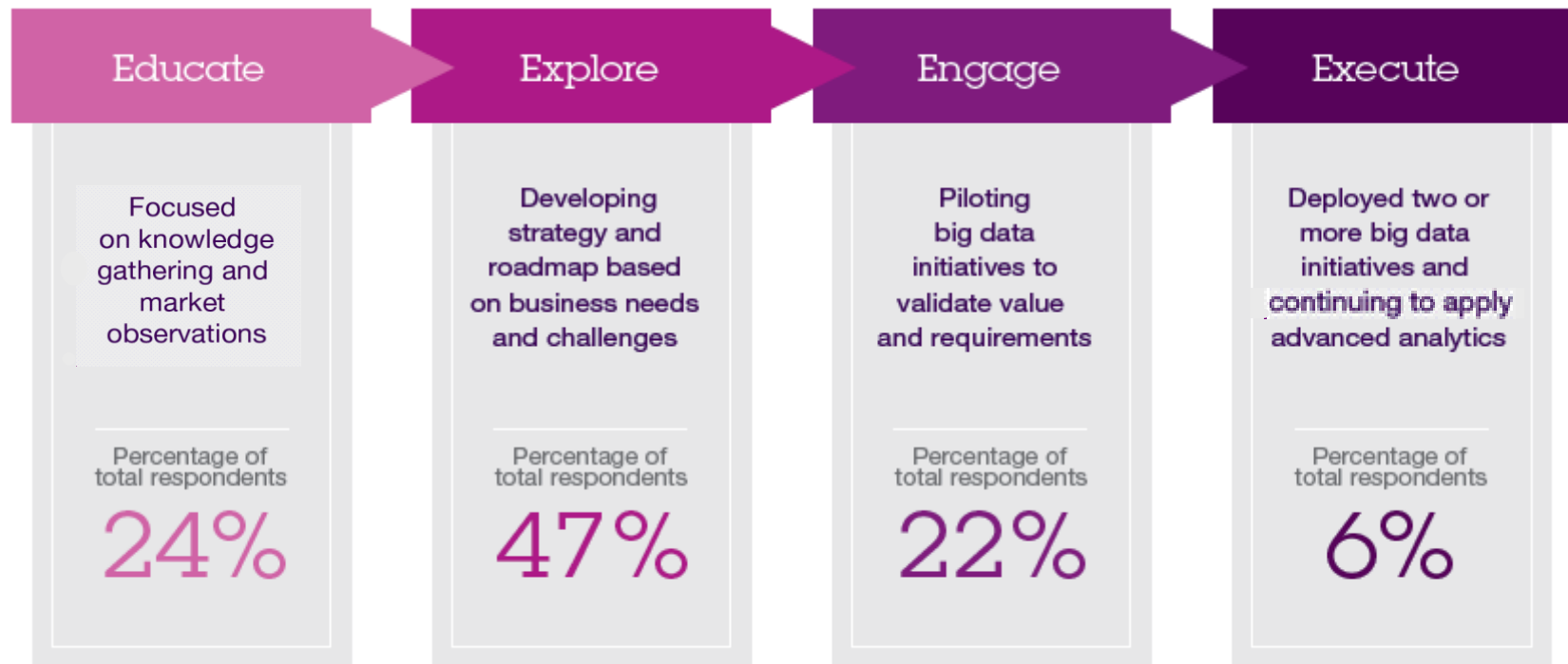


Respondents were asked which analytics capabilities were currently available within their organization to analyze big data.

% of organizations already engaged in big data

# The emerging pattern of big data adoption is focused upon delivering measurable business value

## Big data adoption



When segmented into four groups based on current levels of big data activity, respondents showed significant consistency in organizational behaviors

Total respondents n = 1061  
Totals do not equal 100% due to rounding



## Five key findings highlight how organizations are moving forward with big data

1

Customer analytics are driving big data initiatives

2

Big data is dependent upon a scalable and extensible information foundation

3

Initial big data efforts are focused on gaining insights from existing and new sources of internal data

4

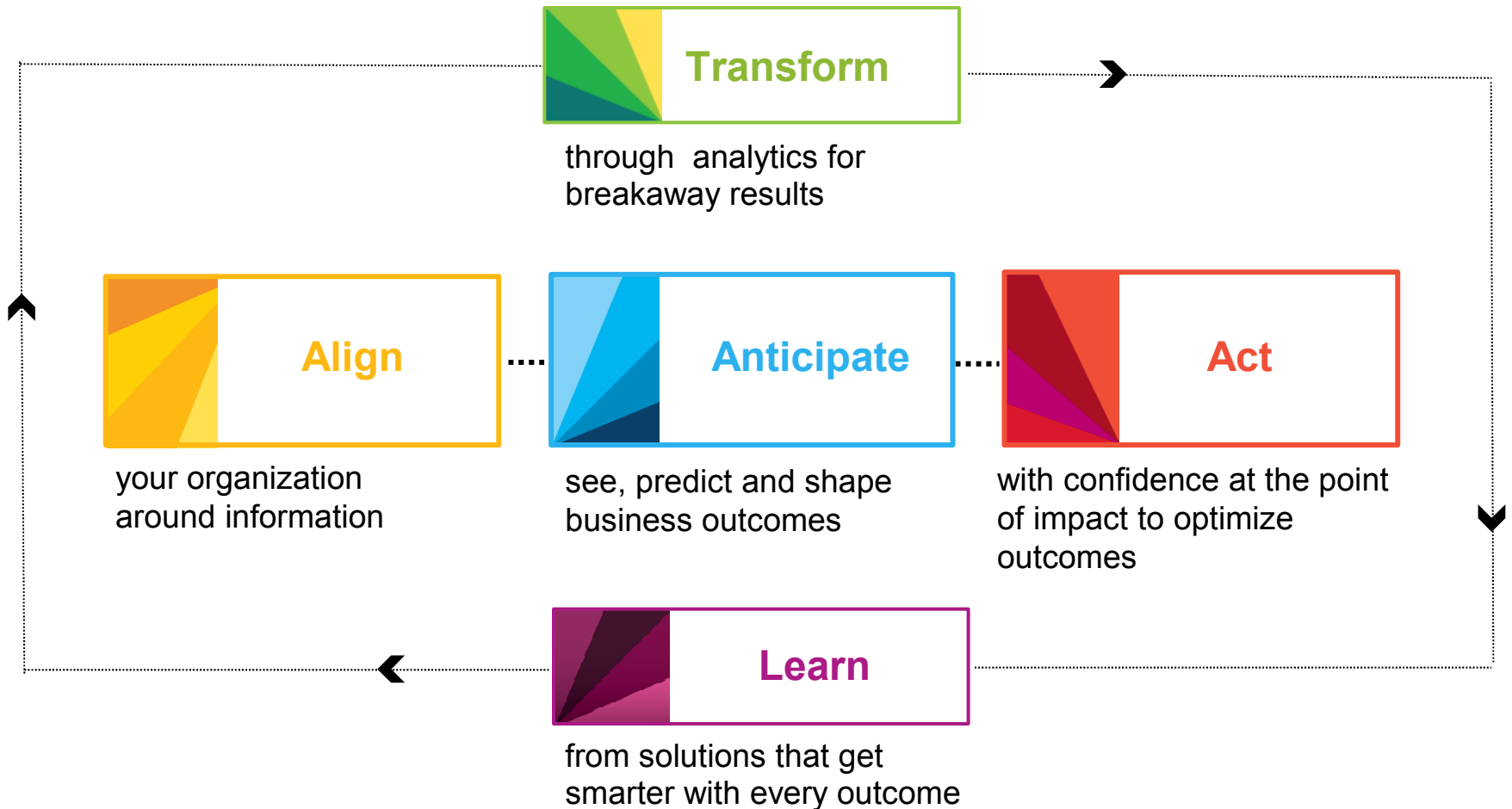
Big data requires strong analytics capabilities

5

The emerging pattern of big data adoption is focused upon delivering measurable business value

# **4 IBM Smarter Analytics**

# IBM Smarter Analytics is a holistic approach that turns information into insight and insight into business outcomes.



# Align your organization around information

Deploy an information and big data strategy that flows from your business strategy.

- **Create** a trusted information foundation.
- **Integrate and govern** information to ensure business confidence.
- **Control** the capture, management, governance and sharing of enterprise content
- **Leverage** the volume, velocity and variety of internal and external information.

Only IBM offers an **enterprise-class big data platform** as part of a comprehensive information management foundation.



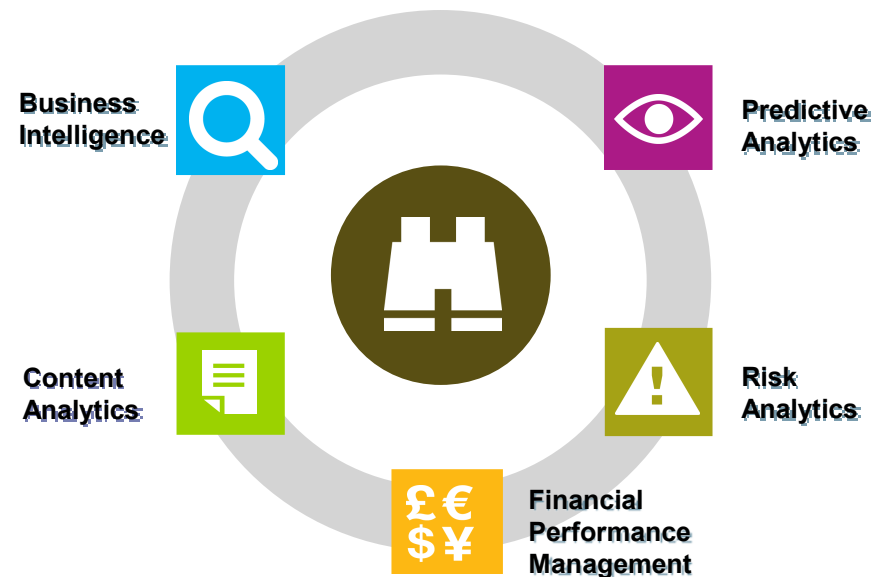
Fully exploit all sources of data and content for insight

# Anticipate to see, predict, and shape business outcomes

## Leveraging business analytics to deliver actionable insights

- **Spot** trends, anomalies and opportunities.
- **Plan**, budget and forecast resources.
- **Measure** and monitor business performance.
- **Automate** and align strategic and operational decisions

Only IBM offers comprehensive analytic capabilities that are dually **specialized to the task and interconnected** to facilitate shared insights



Leveraging all information, all people, all perspectives and enabling all decisions

# Act with confidence at the point of impact to optimize outcomes

## Embed analytics into your processes and empower a culture of data-driven decision making

- **Embed** analytics into processes that optimize operations and future strategies.
- **Leverage** proven solutions and models designed and tuned for the task.
- **Empower** people with historic, real-time, and predictive insights.
- **Establish** an analytics-based decision making culture.

Only IBM enables organizations to take the **best action based on predictive analytics, process models, and optimization technologies** to achieve better outcomes



**Embedding past, present and future insights  
into your operations and processes**

# Transform through analytics for breakaway results

## Accelerate the time to value and deliver game-changing results

- **Develop** a clear analytics strategy aligned to business priorities and desired outcomes
- **Challenge** current thinking, explore new ideas, and follow the facts to innovate
- **Enhance** current approach with analytics advancements and innovation
- **Use** proven industry solutions, use cases, and accelerators to deliver rapid value

Only IBM provides **market-leading services, proven solutions, use cases, accelerators, and world-class research** to enable breakaway results



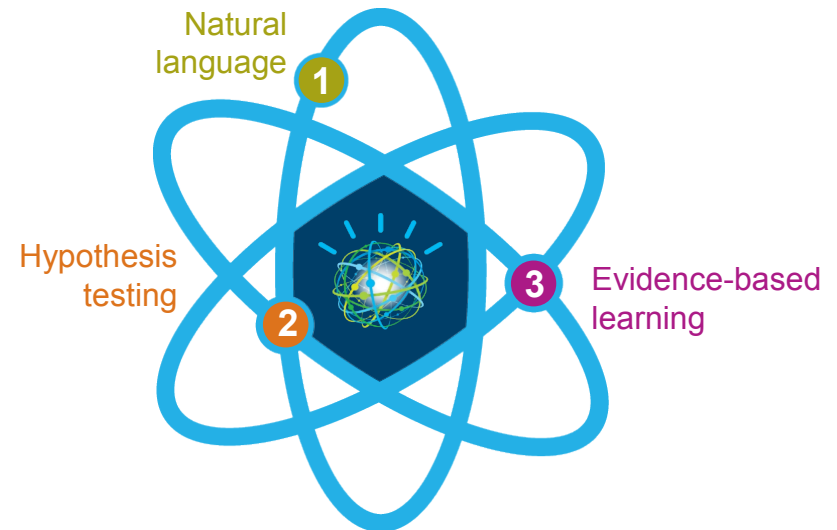
**Enabling you to go beyond solving the problem to capturing new opportunities**

# Learn from solutions that get smarter with every outcome

## Smart enough to reason and return confidence-based responses for the next best action

- **Learn** from evidence and outcomes to get smarter with each iteration.
- **Navigate** the complexities of human speech through natural language processing
- **Generate and evaluate** possible hypotheses dynamically to the most complex
- **Ingest** and analyze Big Data continuously and discover new patterns and insights

Only IBM brings together the technologies that define **the next generation of Smarter Analytics solutions** that can reason and learn.



**Moving your organization from search to discovery, from possibilities to probabilities, and from simple outputs to intelligent options**



# IBM Capabilities



## Transform

### Business Analytics and Optimization Consulting Services

BAO Strategy | Customer Analytics | Regulatory and Risk | Fraud Analytics | Financial Performance Management  
Information Management Foundation | IBM Research First-of-a-kind Projects | Application Management Services

### IBM Smarter Analytics Signature Solutions

Customer | Finance | Anti-Fraud, Waste & Abuse

### IBM Solution Accelerators

Portfolio aligned to Industry Imperatives



## Align

- Big Data Platform
- Data Warehousing
- Information Integration and Governance
- Data Management
- Enterprise Content Management
- Defensible Disposal



## Anticipate

- Business Intelligence
- Performance Management
- Predictive and Advanced Analytics
- Risk Analytics
- Sentiment Analytics
- Big Data Analytics
- Content Analytics
- Web and Digital Analytics
- Online Benchmark
- Spend Analytics



## Act

- Decision Management
- Advanced Case Management
- Digital Marketing Optimization
- Cross-channel Selling and Marketing
- Pricing, Promotion, and Assortment Optimization
- Marketing Performance Optimization
- Supply Chain Optimization
- Organization and Workforce Transformation



## Learn

### Systems that learn and reason

Watson | Watson for Healthcare | Watson for Financial Services | Ready for Watson

**Smarter Computing - Systems that are tuned to the task, designed for data, managed with cloud technologies**

# Why is IBM Smarter Analytics unparalleled in the industry?



## Broad and integrated portfolio of information and analytics capabilities

- Largest investment in analytics software and solutions with over \$16B in acquisitions since 2005
- Enterprise Class Big Data Platform as part of a comprehensive Information Management Foundation
- Analytic Capabilities that scale from personal to enterprise to next generation systems that reason and learn
- Decision management solutions that embed predictive analytics into business processes



## Proven experience accelerating time-to-value and delivering breakaway results

- Over 9,000 experienced strategy, analytics, and technology experts and consultants around the globe
- Proven solutions & use cases across industries and functions, from 1000's of client engagements
- Thought leadership and practical insights from the IBM Institute for Business Value
- Jumpstart services and eight global IBM Analytics Solution Centers to help organizations get started



## Comprehensive delivery options to compliment capabilities and lower TCO<sub>oand</sub>

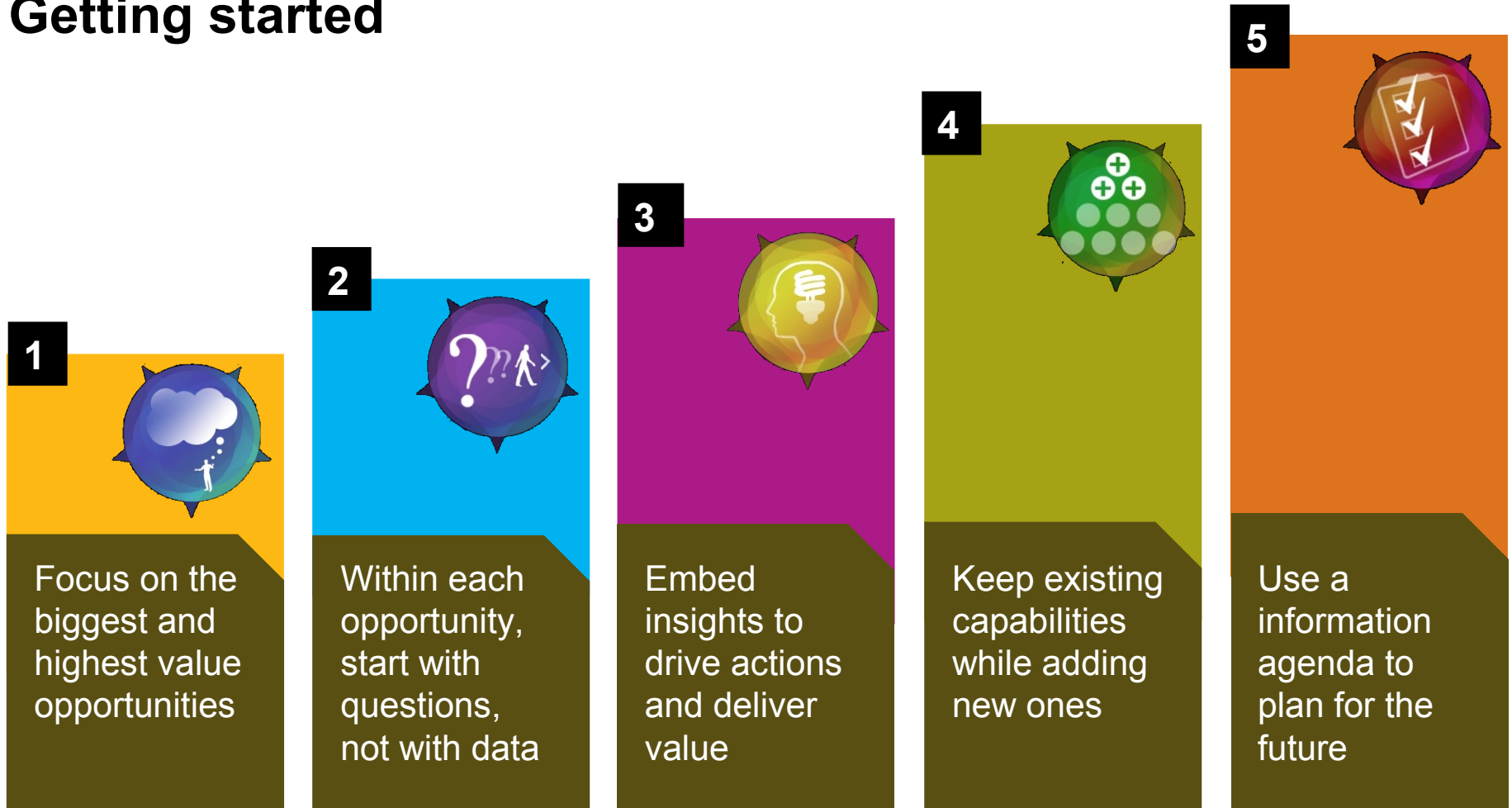
- System Integration, Consultancy, Transformation
- Application Management Services
- Appliance, Hardware, Cloud, Mobile



## Advanced technology and expertise applying innovation to real world problems

- First-of-its-kind breakthrough innovations, including IBM Watson
- World's largest math department in private industry since 1960
- Number 1 in patent ranking for 19 years and more than 500 analytics-related patents / year for last two years

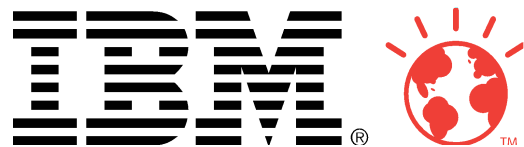
# Getting started



***Learn more about IBM BAO Jumpstart services to help you get started and accelerate your Smarter Analytics journey***

# A smarter planet is built on **Smarter Analytics**

[www.ibm.com/kr/SmarterAnalytics](http://www.ibm.com/kr/SmarterAnalytics)



**IBM**®