

# *Building Your Information Strategy for Smarter Analytics*

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Director, Information Management Software, IBM



# Disruptive forces impact long standing business models across industries



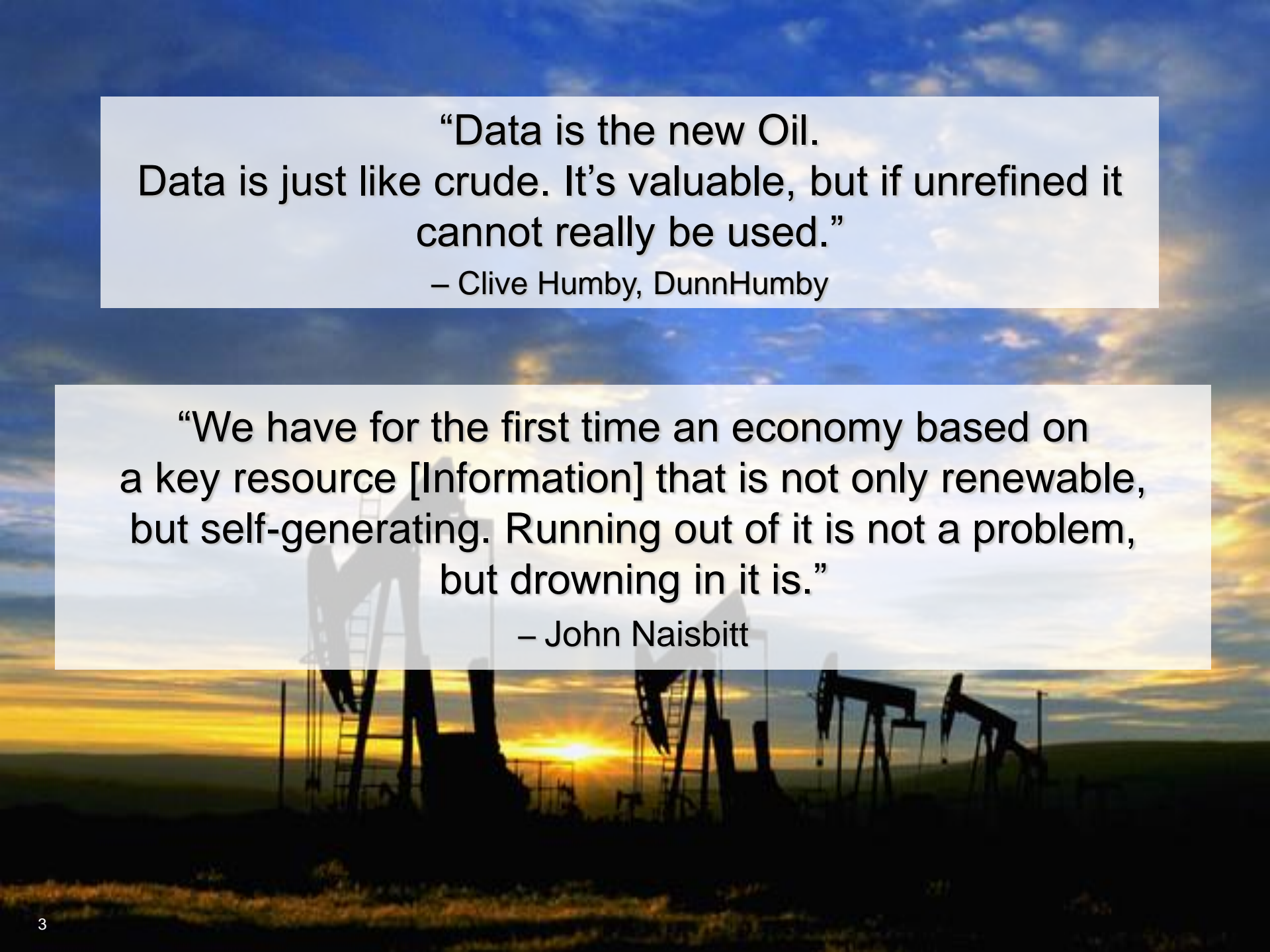
**Pressure to do more with less**



**Shift of power to the consumer**



**Proliferation of big data**



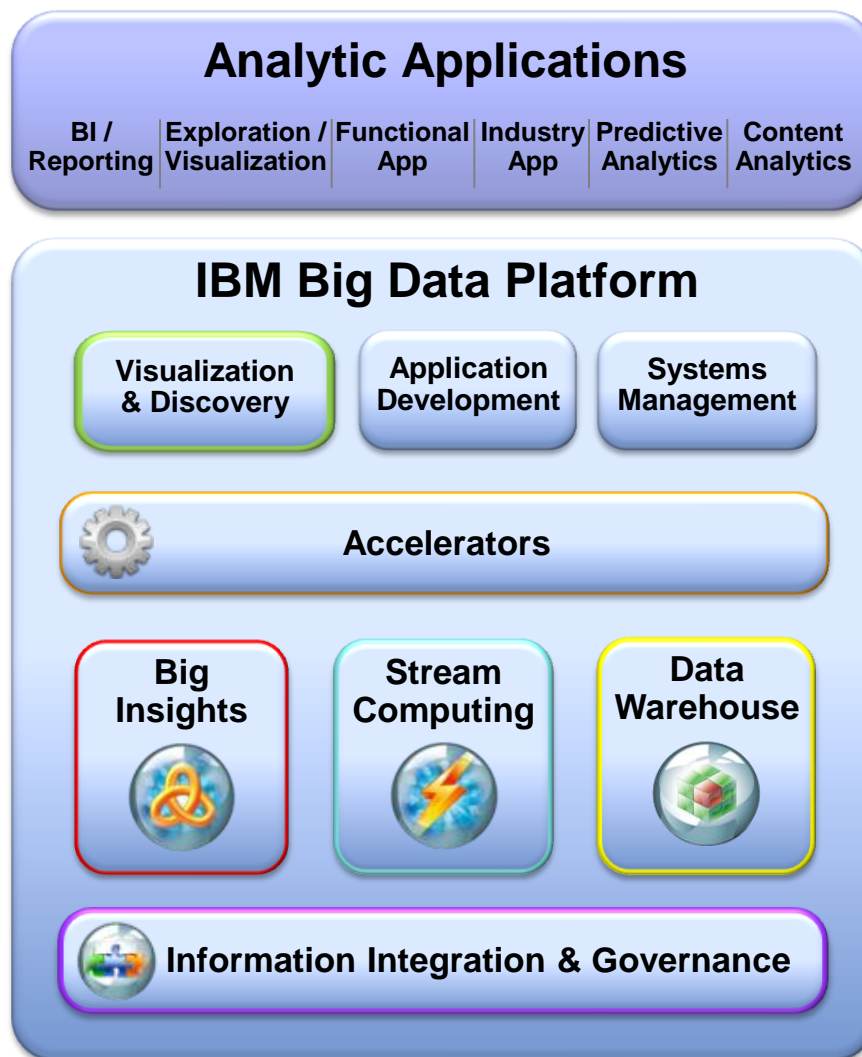
“Data is the new Oil.  
Data is just like crude. It’s valuable, but if unrefined it  
cannot really be used.”

– Clive Humby, DunnHumby

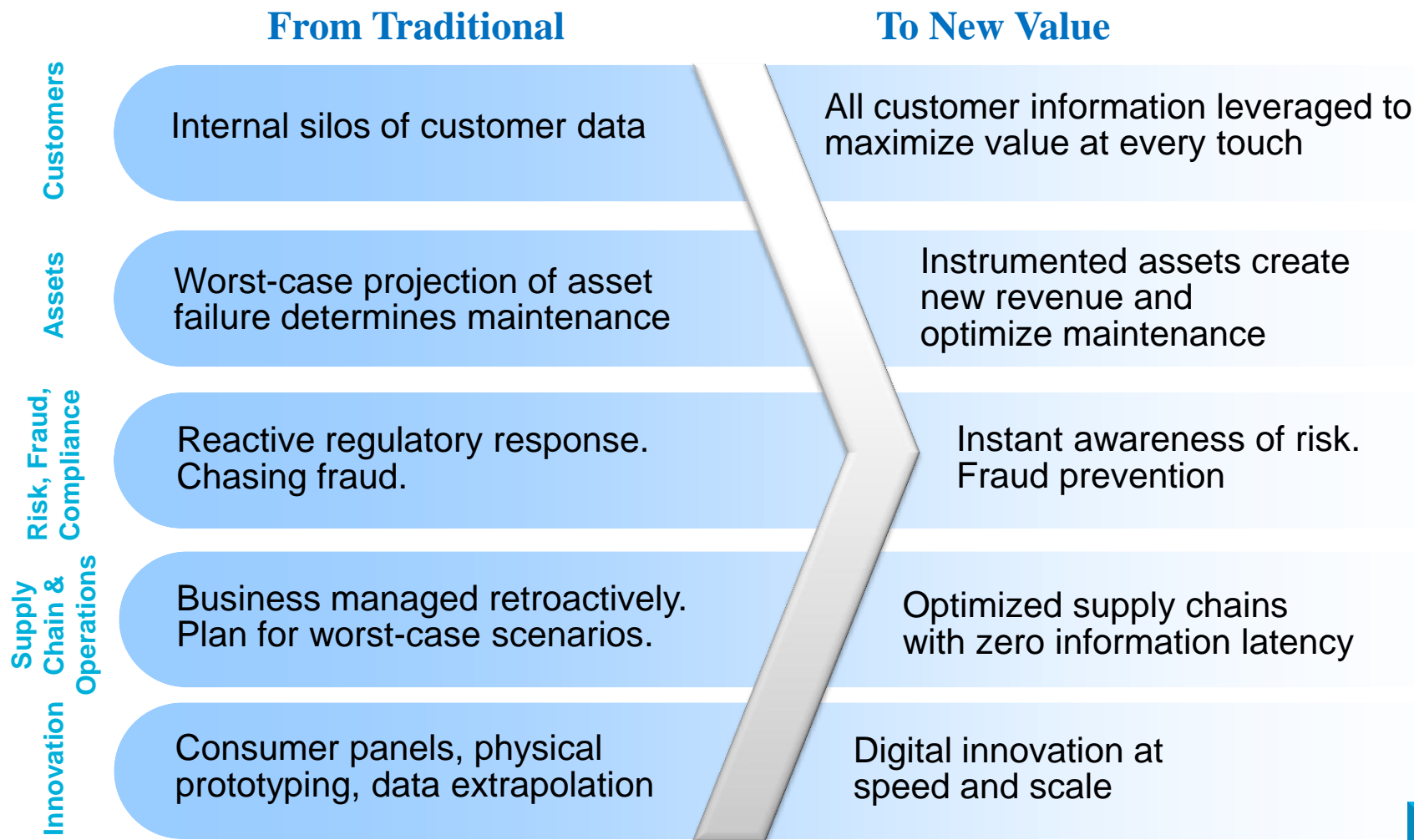
“We have for the first time an economy based on  
a key resource [Information] that is not only renewable,  
but self-generating. Running out of it is not a problem,  
but drowning in it is.”

– John Naisbitt

# Creating a platform to manage all information



# Organisations can leverage all available information, tailoring engagement with stakeholders to maximize value



# Demonstration:

## Harnessing the largest predictive focus group in the world

### Purpose

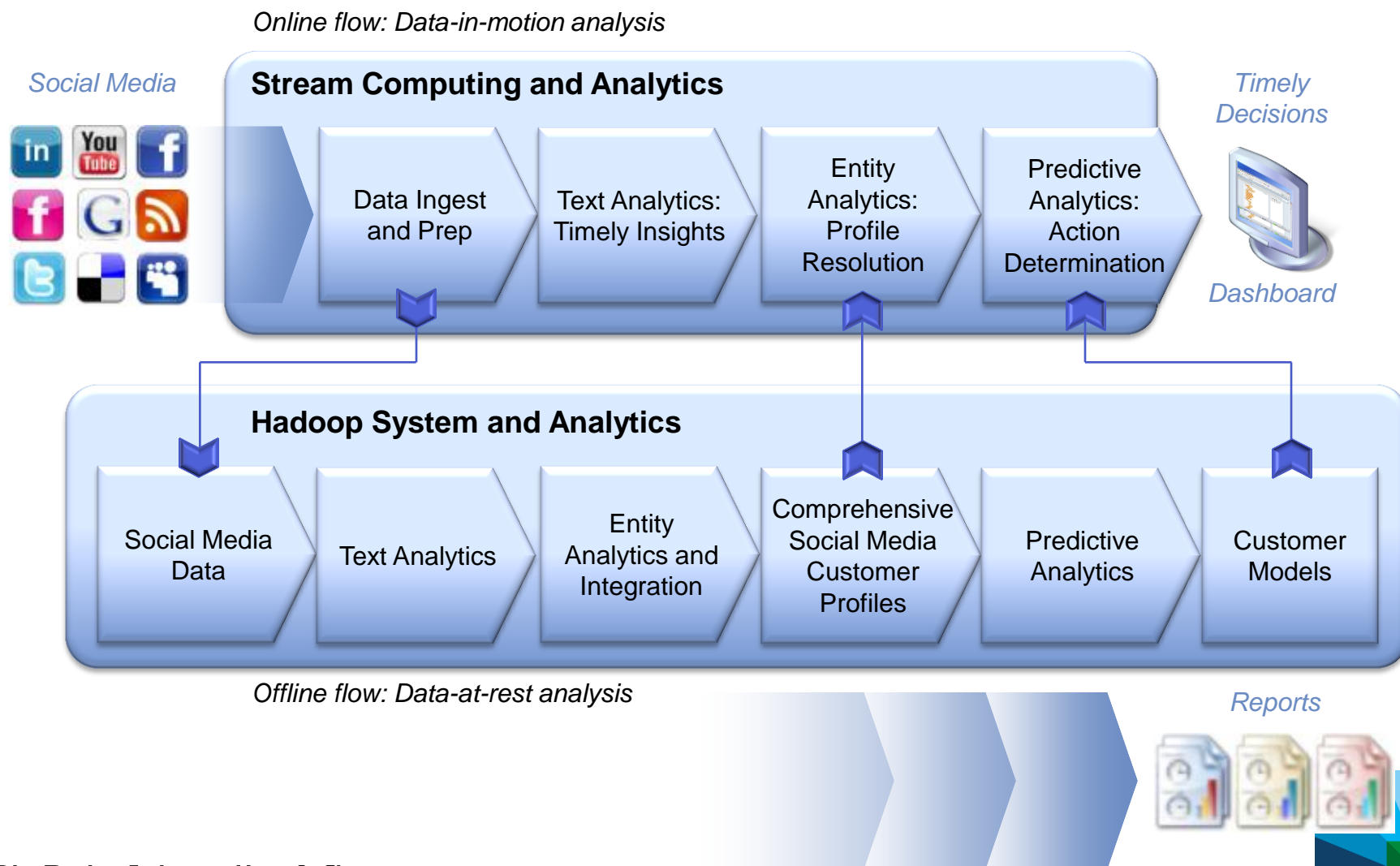
- Understand public sentiment towards movie trailers
- Deeply understand the potential customer profile: gender, occupation, intent to watch
- Alter marketing launch based on insight

### Background

- 1.1 Billion Tweets analyzed
- 5.7 Million blogs/forum posts
- 3.5 million messages
- Also: Facebook, Google+, Tumblr, Flickr

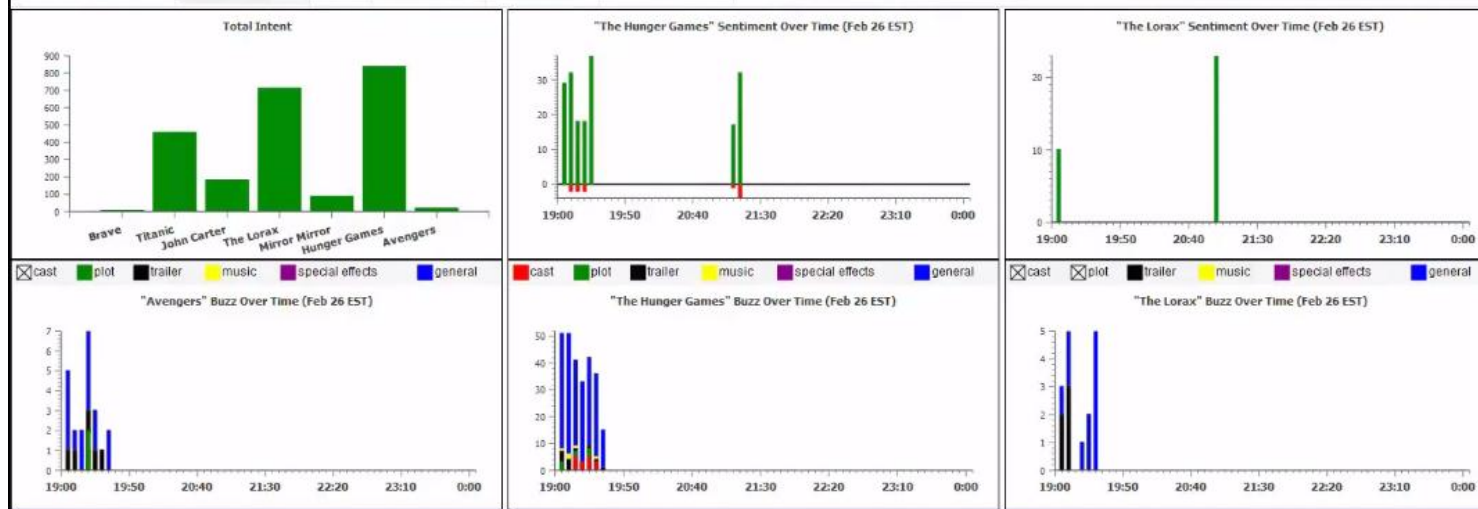


# A new architecture for new data: Social media analytics for media & entertainment



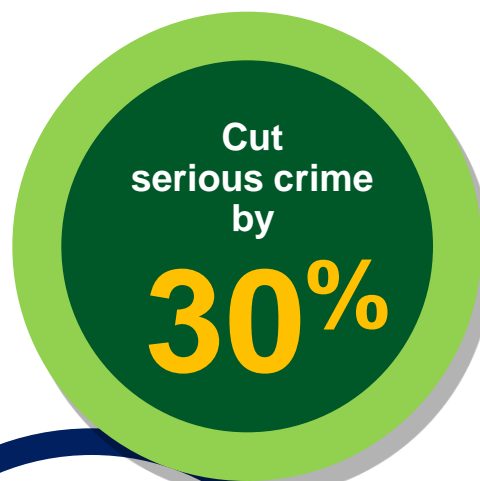
# Demo – Social media analytics for media & entertainment

Time	Name	Gender	Location	Occupation	Movie Name	Tweet
Sun Feb 26 20:05:40					Titanic in 3D	@Jenice_Aisha lolthis girl I talked me made me watch titanic like a thousand times &it&it&it&it; -_-
Sun Feb 26 20:05:38		Female		Student	The Hunger Games	RT @agamos: Prediction: Hunger Games Oscars Sweep 2013.
Sun Feb 26 20:05:37			Fortaleza, Brazil		The Avengers	PARA O MUNDO QUE QUARTA TEM NOVO TRAILER DE THE AVENGERS
Sun Feb 26 20:05:36		Female	New York City, NY, US		Titanic in 3D	RT @thesacred_g6: TITANIC IS A CLASSY [REDACTED]
Sun Feb 26 20:05:34					The Hunger Games	THE HUNGER GAMES &gt;&gt;&gt;&gt;&gt;
Sun Feb 26 20:05:33		Female			Dr. Seuss' The Lorax	The Lorax looks adorable. Wanna see! :3
Sun Feb 26 20:05:32			Brazil		Titanic in 3D	Foi tão lindo "Twilight" depois de "Titanic" &it;3 hehe!a academia disse que minha saga é um clássico do cinema ... então u.u!
Sun Feb 26 20:05:32		Female	Austin, TX, US		The Hunger Games	eating junk food and watching the oscars with namitha :D and we just bought our hunger games tickets!
Sun Feb 26 20:05:32		Male	NY, US	Media	The Hunger Games	@DayOkenly I know right! Lets hope Hunger Games is nominated next year!
Sun Feb 26 20:05:30		Female			The Hunger Games	RT @AlexisHanrahan: 26 days until the Hunger Games. #impatientAF
Sun Feb 26 20:05:23					The Hunger Games	I always think The Hunger Games trailer will come out after one commercial.) #THGobsession
Sun Feb 26 20:05:22		Female			The Hunger Games	RT @HGT_Fansite: Who's planning to attend The Hunger Games mall tour? #HungerGames
Sun Feb 26 20:05:18		Male			Dr. Seuss' The Lorax	RT @coolsummbreze: I need to see the Lorax #suchachild
Sun Feb 26 20:05:18		Male	Wichita, KS, US		Titanic in 3D	Call me gay but I kinda want to see titanic in 3D
Sun Feb 26 20:05:16		Female			Titanic in 3D	I can't wait to see titanic in 3D





# Analytics is progressing from the possible to the proven



**MCKESSON**  
Smarter Inventory Management

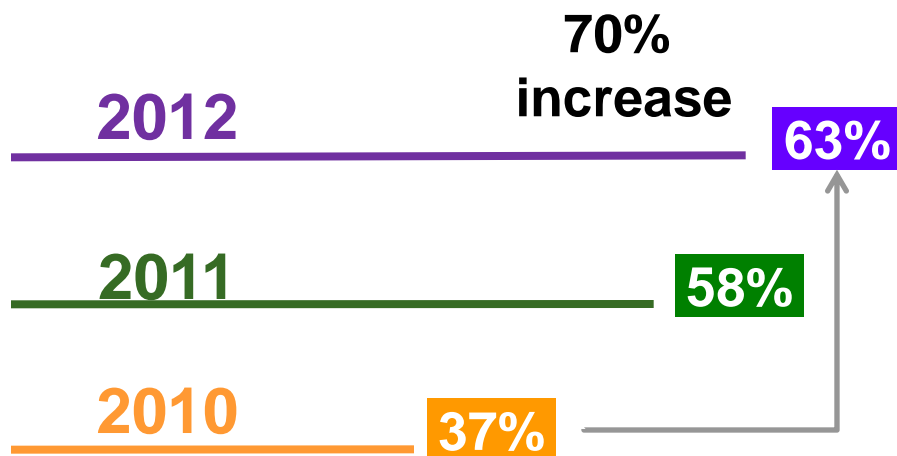
Smarter Crime Prevention

Smarter IP Management



# Analytics has evolved from business initiative to business imperative

Nearly two-thirds of organizations now realize a competitive advantage from the use of information and analytics



# 3.6x

more likely that an organization is substantially outperforming its competitive peers if it is also realizing a competitive advantage from analytics

Respondents were asked "to what extent does the use information (including big data) and analytics create a competitive advantage for your organization in your industry or market." Respondent percentages shown are for those who rated the extent a [4] or [5 Significant extent]. The same question has been asked each year.

Among respondents who self-assessed their organization as "substantially outperforming their competitive peers, there were 3.6 respondents who self-assessed the extent of competitive advantage created by information and analytics as a [4] or [5 Significant extent] for every one who rated the advantage to be [1 Very little extent], [2], or [3 Keeps us on par with competitors].

\*2011 dataset  
© Massachusetts Institute of Technology



But the reality for many organisations, and their customers, is sobering

**UP TO 20 MBPS**

for just **\$24.95**  
a month for 5 years  
 when you bundle  
 with Unlimited  
 Networks Calling

5 years. 1 price. 0 contract.

**Leave a vapor trail with every click.**

**High-Speed Internet**  
 – speeds up to 20 Mbps

This isn't just Internet. This is up to 20 Mbps Internet designed for everything and anything you want to do online.

- Private, direct connection for consistent speeds all day, every day
- Watch HD movies on Netflix\*
- Skype with friends and connect on Facebook and Twitter
- Download a song in seconds
- Connect multiple devices at the same time
- Dominate games online in real time

**GO INTO HYPER DRIVE.**  
 Now get up to 40 Mbps for just \$5 more.

U.S. RESIDENTS ONLY

Yep, you read that right.

**High-Speed Internet**  
 Exhilarating speed at a 5-year guaranteed price.



# IBM Institute for Business Value and the Saïd Business School partnered to benchmark global big data activities



[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.

# Big data embodies new data characteristics created by today's digitised marketplace

## Characteristics of big data

### Volume



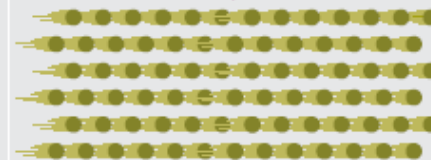
**Data at scale**  
Terabytes to petabytes of data

### Variety



**Data in many forms**  
Structured, unstructured, text, multimedia

### Velocity



**Data in motion**  
Analysis of streaming data to enable decisions within fractions of a second

### Veracity



### Data uncertainty

Managing the reliability and predictability of inherently imprecise data types

## Five key findings highlight how organisations 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

*Source: Analytics: The real-world use of big data, IBM Institute for Business Value in partnership with the Saïd Business School, University of Oxford. October 2012. [ibm.com/gbs/bigdata@work](http://ibm.com/gbs/bigdata@work).*

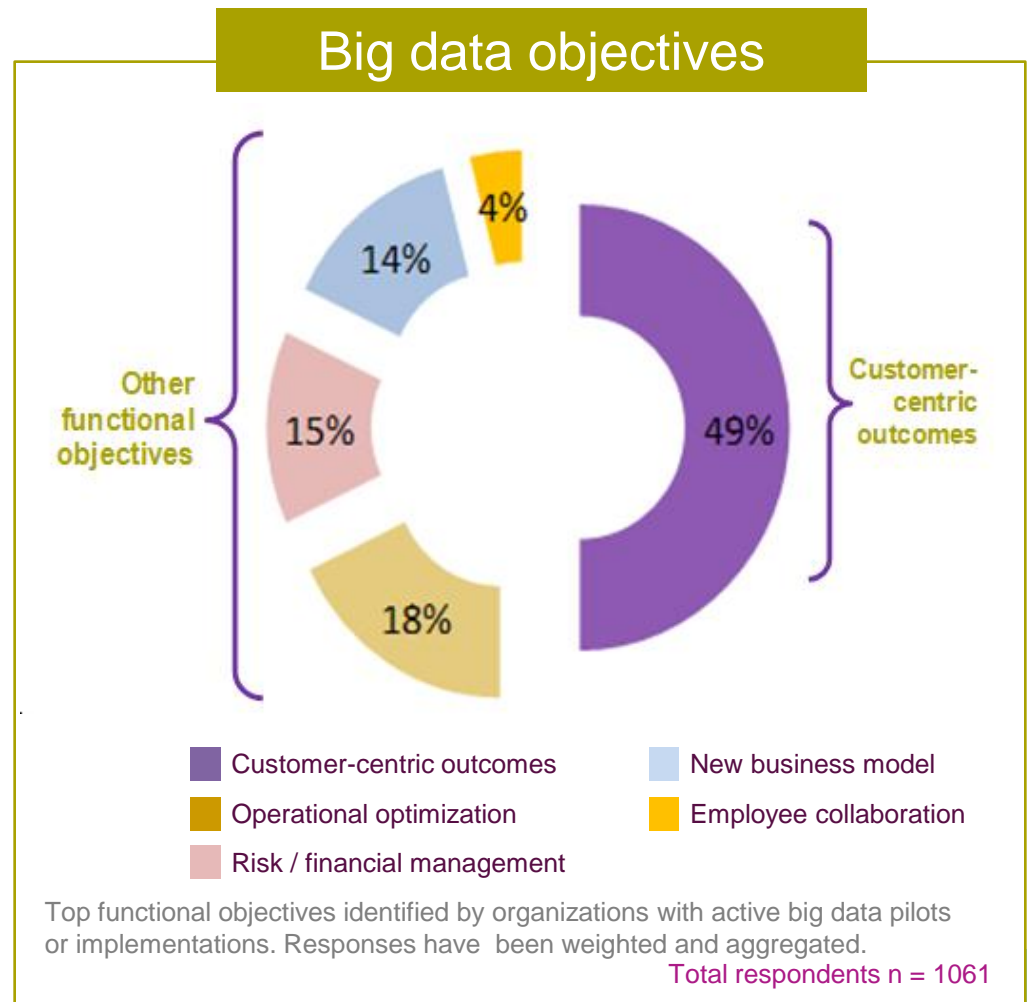
# Improving the customer experience by better understanding behaviours drives almost half of all active big data efforts

## Customer-centric outcomes

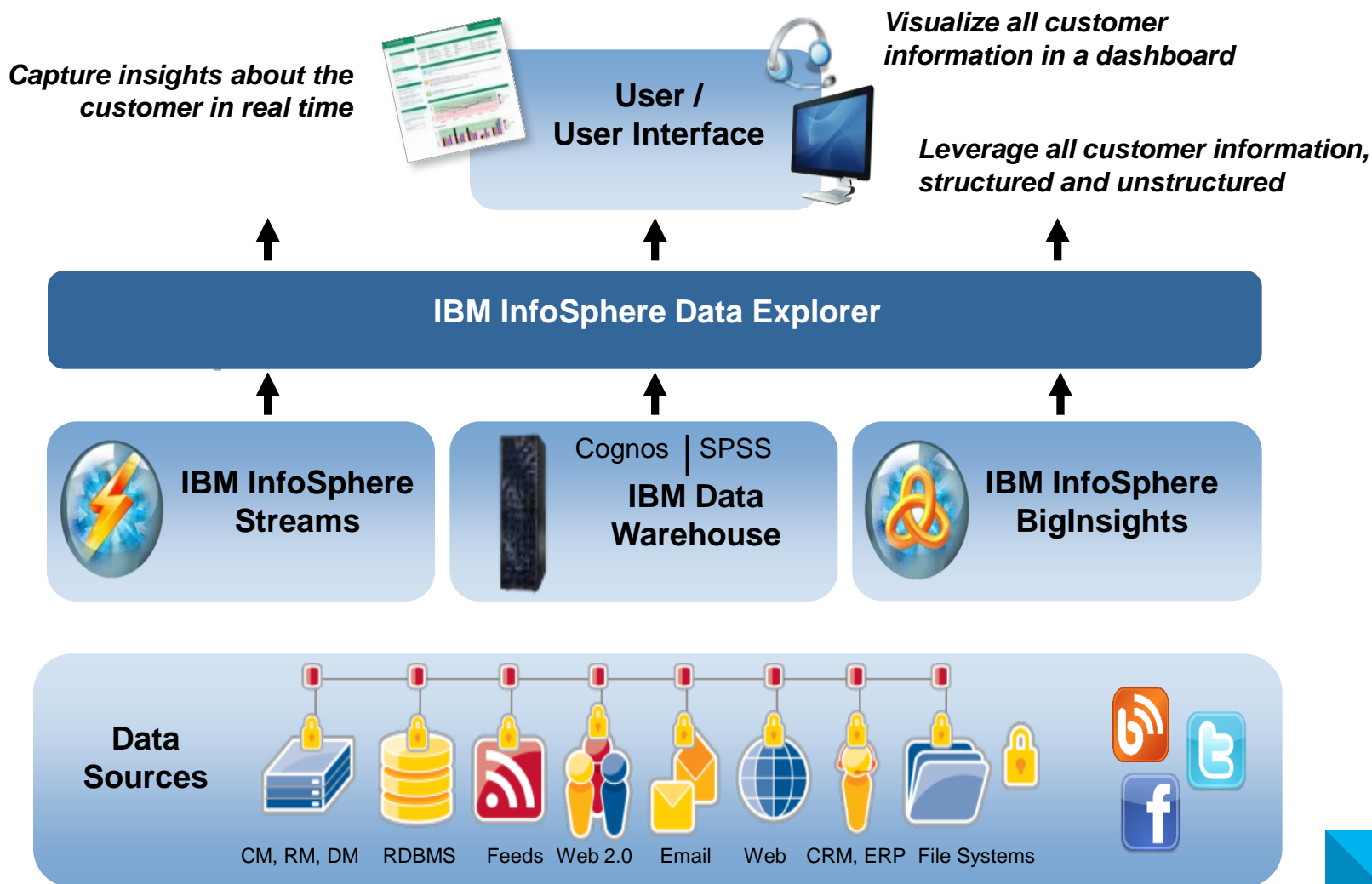
- Digital connections have enabled customers to be more vocal about expectations and outcomes
- Integrating data increases the ability to create a complete picture of today's 'empowered consumer'
- Understanding behavior patterns and preferences provides organizations with new ways to engage customers

## Other functional objectives

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



# New architecture required to leverage new data





# New data, new Solutions, new Outcomes



- Reduced support call times by 70% from 50 to 15 minutes
- \$ 36 million in annual savings

*Big data has further potential beyond agent productivity.....*

### Improved First Call Resolution

Through real time matching of contact center agent with customer to optimize service

### Differentiating Self-Service

Self-service portals, kiosks and apps offer a relevant, tailored experience



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

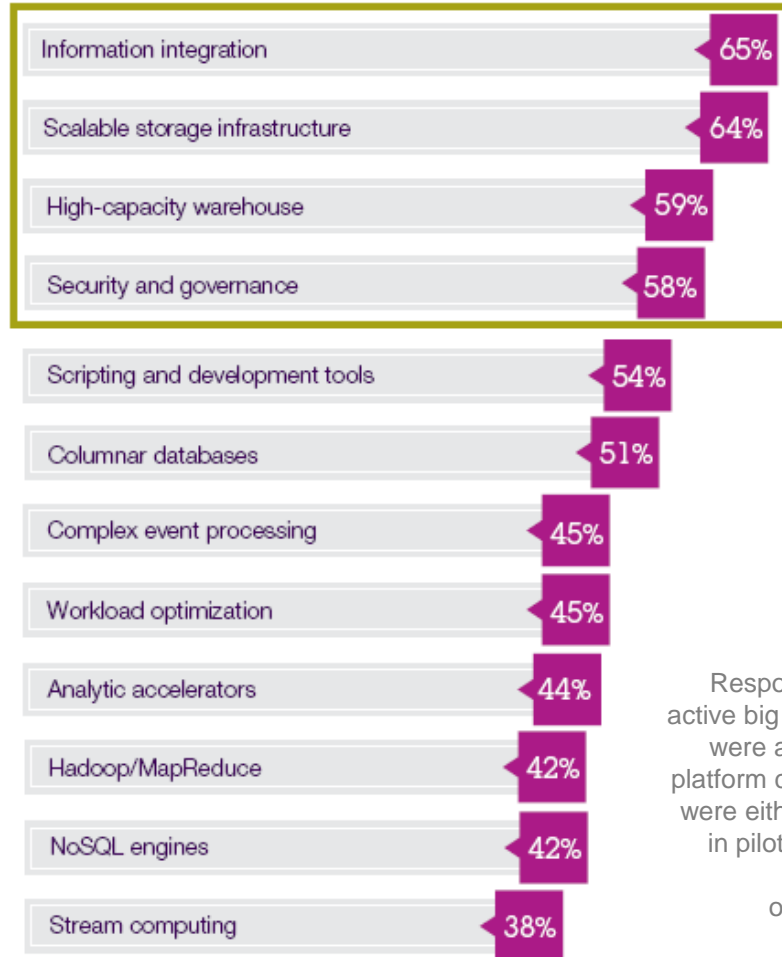
## Solid information foundation

- Integrated, secure and governed data is a foundational requirement for big data
- Most organisations 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

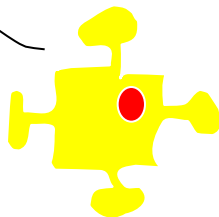
## Big data infrastructure



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

Information integration and governance are an essential element of the platform for big data analytics

“@Steve Rocked The Slopes Today!”  
1 minutes ago



Hardly actionable

“@Steve Rocked The Slopes Today!”  
1 minutes ago

Work Comp Claim



Back Injury

Dr. Blacklist

Substantially more actionable

## Analytic Applications

BI / Reporting	Exploration / Visualization	Functional App	Industry App	Predictive Analytics	Content Analytics
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## IBM Big Data Platform

Visualization & Discovery

Application Development

Systems Management



Accelerators

Big Insights



Stream Computing



Data Warehouse



Information Integration & Governance

# Internal sources of data enable organisations 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

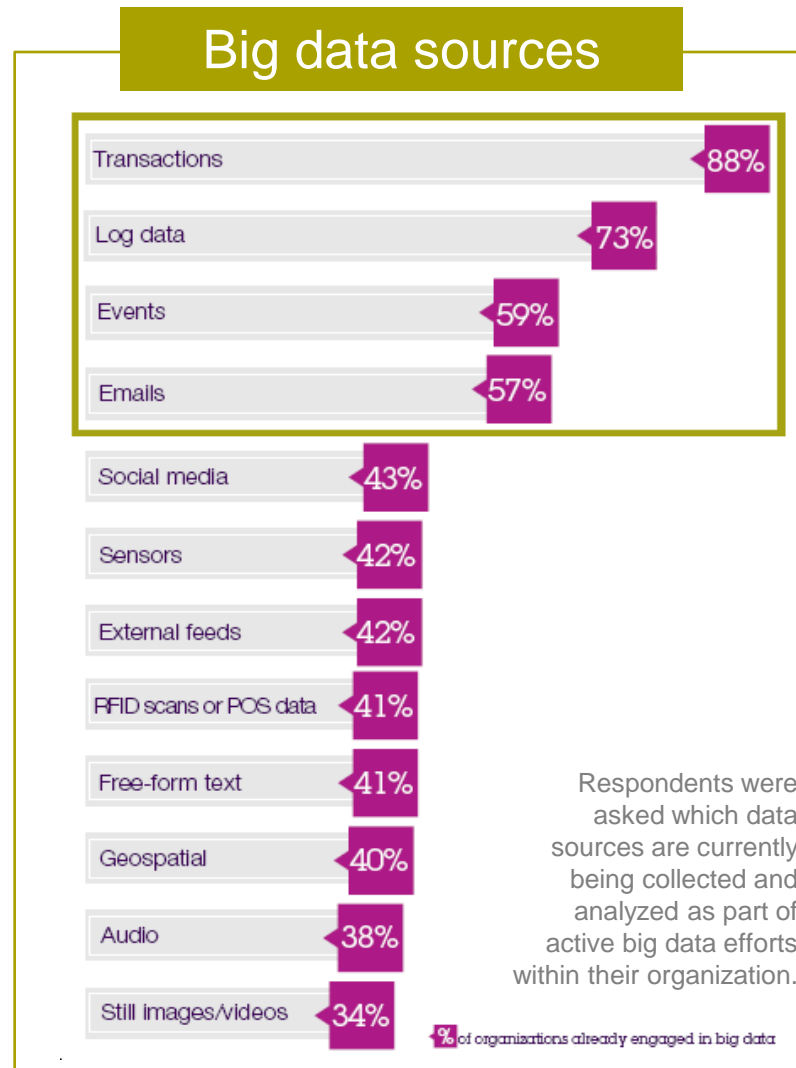
## Focus on customer insights

- 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





# University of Ontario Institute of Technology (UOIT) uses big data to improve quality of care for neonatal babies

## Need

- Performing real-time analytics using physiological data from neonatal babies
- Continuously correlates data from medical monitors to detect subtle changes and alert hospital staff sooner
- Early warning gives caregivers the ability to proactively deal with complications

## Benefits:

- Detecting life threatening conditions 24 hours sooner than symptoms exhibited
- Lower morbidity and improved patient care

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

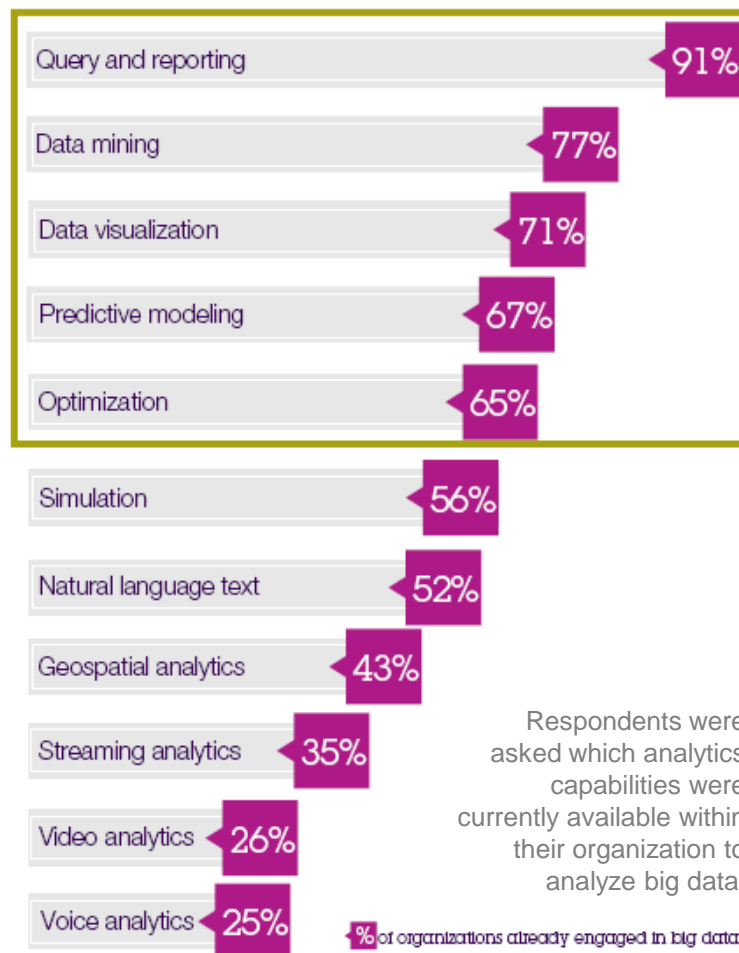
## Strong skills and software foundation

- 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



# New outcomes in Energy & Utilities



- 15% decrease in overall peak loads
- Consumers **saving 10%** on electricity bills
- **\$70 Billion projected reduction in infrastructure costs** over 20 years through better management of assets



- Analyzing **2.8 petabytes of public and private weather data** for each location
- **Reduced by 97%** —from weeks to hours— the modeling time for wind forecasting information

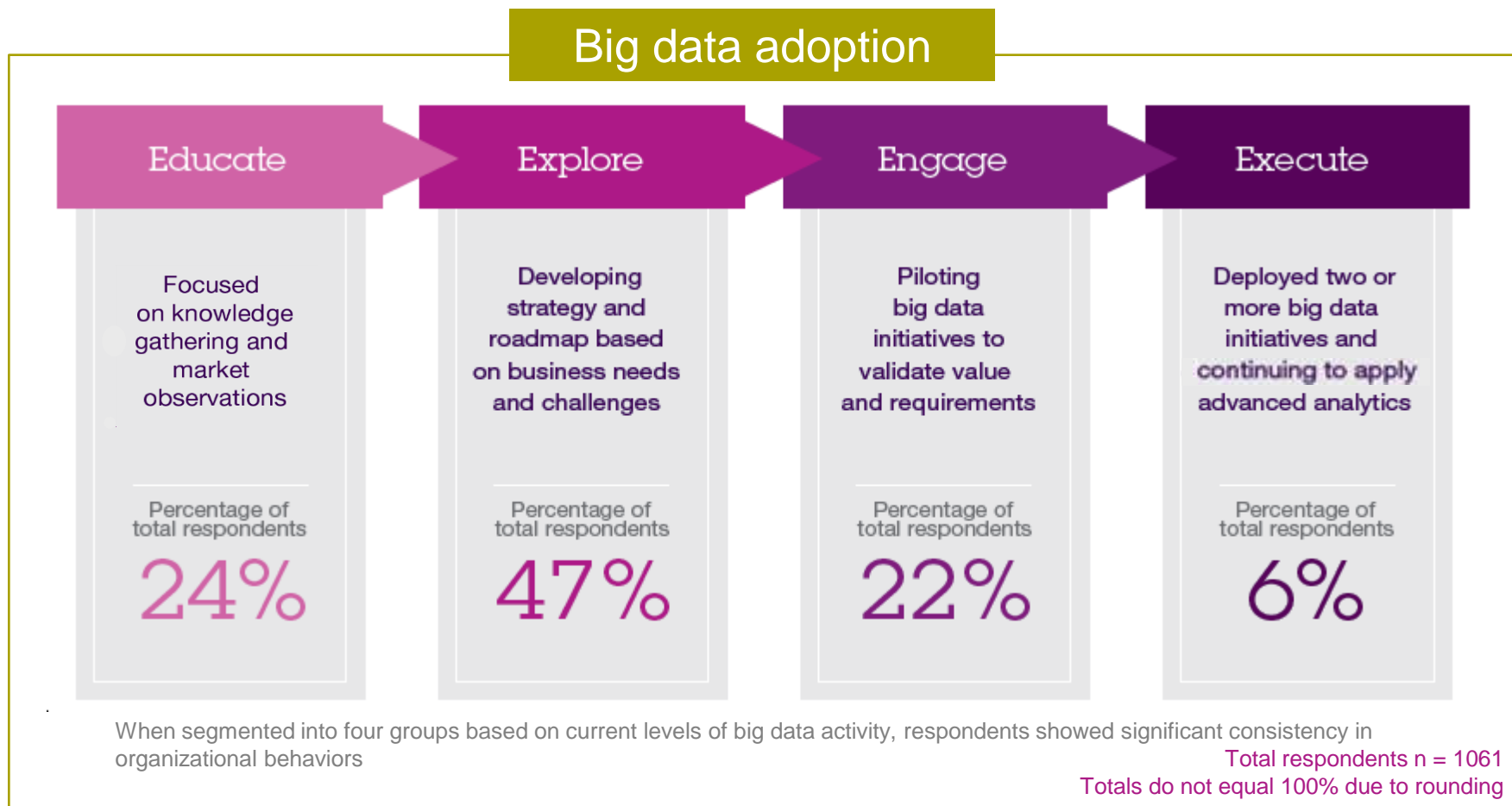


- Smart grid investment and operations
- **Cost savings of \$176M** provides surcharge savings to end customers



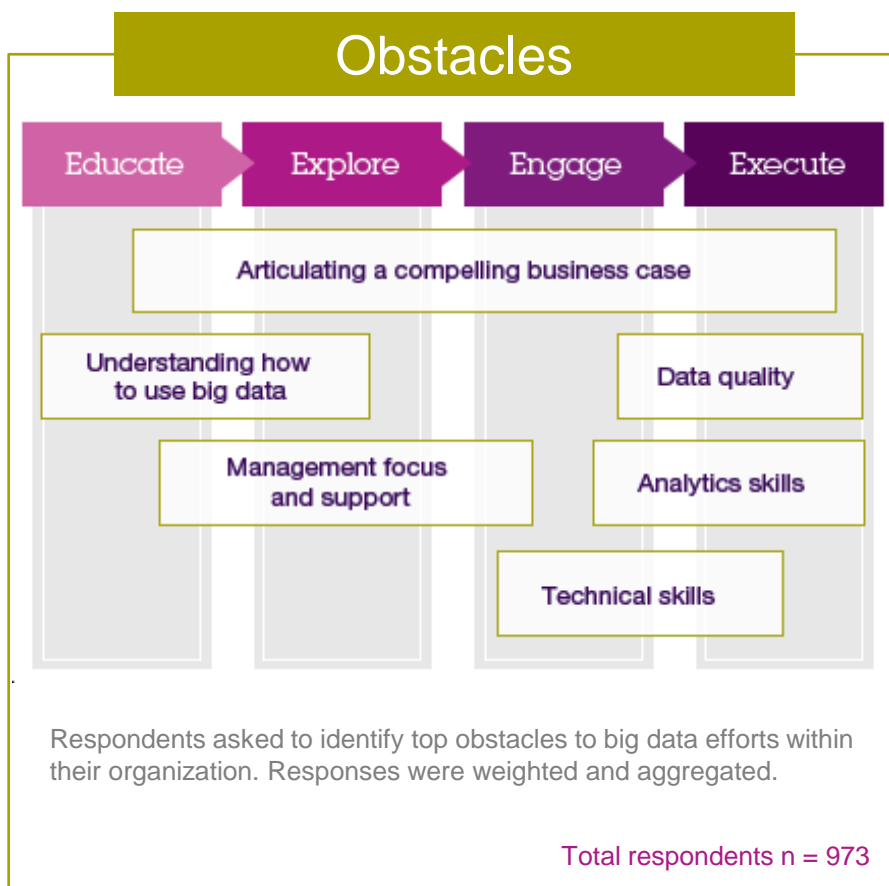
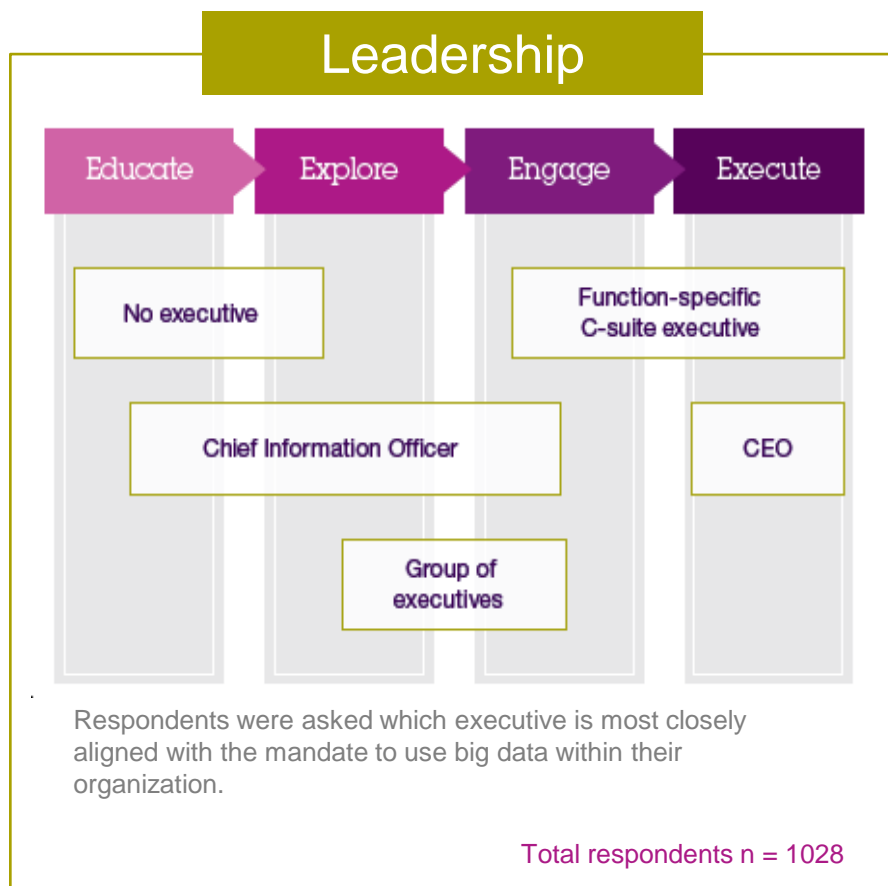
- Satellite based **streaming analysis of ice floe movement** around offshore platforms, processing **1 terabyte of data daily**
- Greater insight can **prolong the summer drilling season by 4 weeks** and influence the design and placement of new platforms

# IBM's recent study on big data showed four phases of adoption

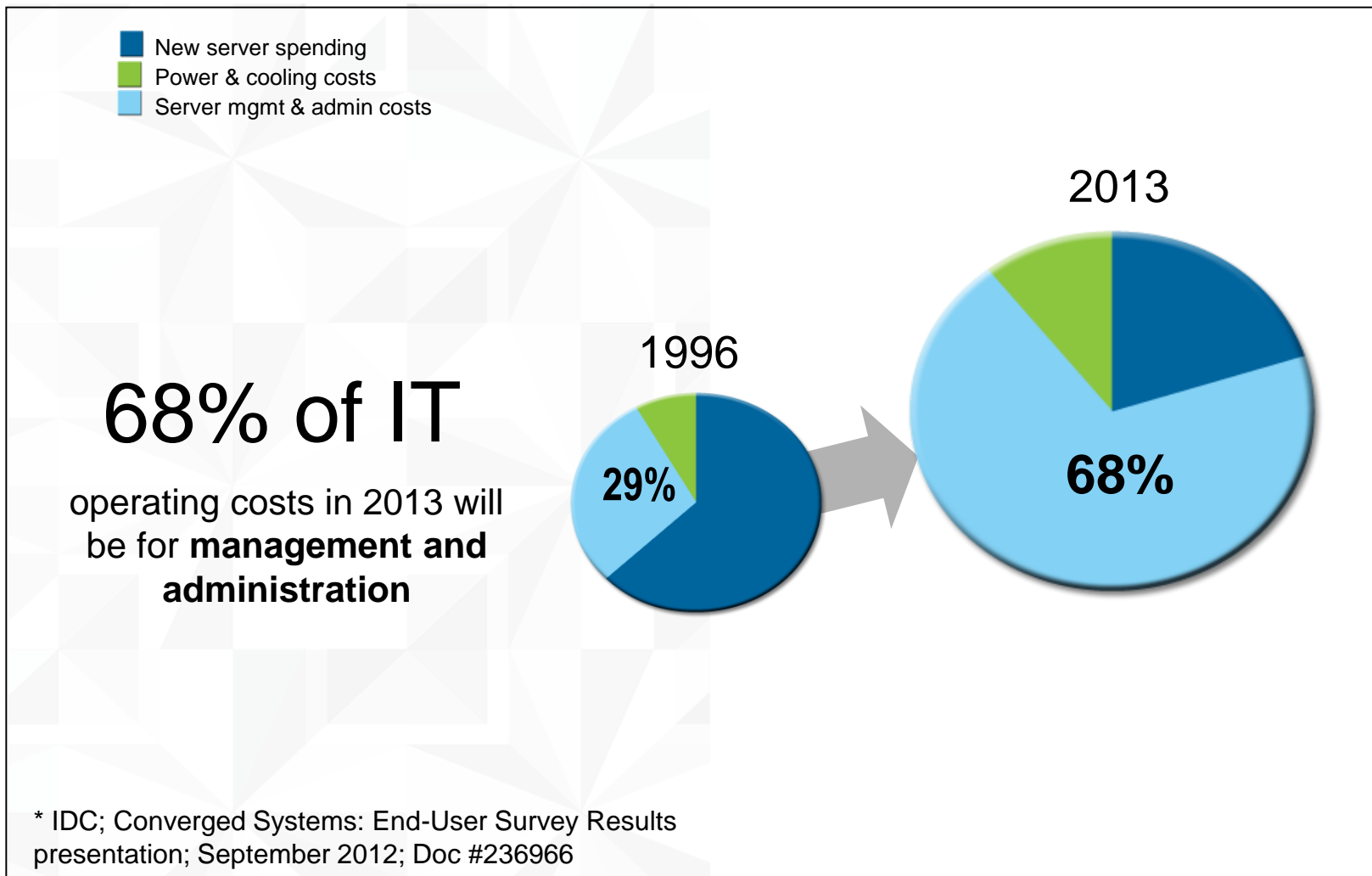




# Big data leadership shifts, and different obstacles occur, as organizations move through the adoption phases



# But is IT ready for the challenge?



We're working to improve the economics and experience of IT

**Optimized for data services:**

- Transactional
- Analytics

**Expert integrated:**

- Data platform
- Infrastructure
- Unified platform management
- Built-in expertise

**PureData**



**New**

**Data Platform**

*Delivering Data Services*

***Workload optimized performance***

***Data load ready in hours***

***Integrated management***

***Automated maintenance***

***Single point of support***



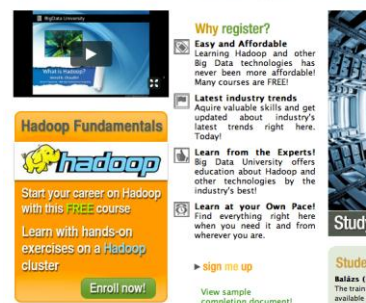
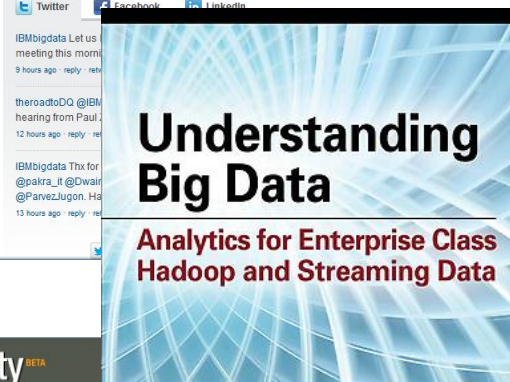
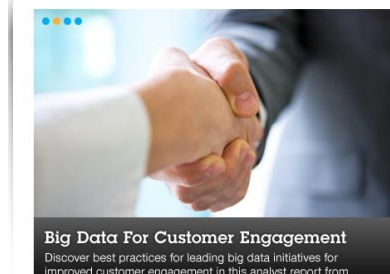
# Build on what you're doing today

## Educate Yourself

- [ibmbigdatahub.com](http://ibmbigdatahub.com)
- Big Data University
- Books / Analyst papers

## Schedule a Big Data Business Value Assessment

- Free of charge
- Best practices
- Industry use cases
- Business uses
- Business value assessment



*Thank You*

