Big Data

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Big Data changes the rules of the game

50 billion pieces of content shared on Facebook every month (2011)

5 billion active mobile users

~ 2 billion of TB of global data will be generated in 2012

From…
- Structured, internal and centralized data
- Data is a pain
- Description of what happened
- Samples
- Asynchronous

… to
- Unstructured, external and distributed data
- Data is an asset
- Prediction of what will happen
- All
- Real-time

... It’s growing...

40% projected growth in global data generated per year

# of zettabytes\(^1\) generated each year

Source: McKinsey Global Institute; public sources

\(^1\) A zettabyte (ZB) means 1 billion Terabytes (TB)
Significant value at stake, at different levels of disruption

$2bn-$10bn
in new business opportunities in selected sectors for aggregating, linking, and packaging data

$100bn-$300+ bn
shifts in profit pools the major sectors affected through: better pricing, product design, and operations

? bn
from new game-changing business opportunities – many of which are still to be envisaged

Source: McKinsey Global Institute
Relative value potential and ease of capture will vary among sectors

Big data ease of capture index

Bubble sizes denote relative sizes of GDP

High

Utilities
Natural resources
Manufacturing
Professional Services
Construction
Admin, Support and Waste Management
Other Services
Management of companies
Retail trade
Accommodation and Food
Information
Transportation and Warehousing
Real Estate and Rental
Whole trade
Computer and electronic products
Finance and Insurance

Low

Educational services
Arts and Entertainment
Government

Source: McKinsey Global Institute
The CEO attention on Big Data is good news for technology providers

Our goal is to develop a new generation of intelligent systems that can predict and respond to changes. They will automatically analyze the peta bytes of data generated by industrial equipments

– SVP, Global Technology Director at GE

“... data about people, places, products, companies, brands, and pretty much anything. It will be a huge competitive advantage for companies able to mine these data and glean insights”

– SVP, Walmart Global eCommerce

Source: public sources
Efforts are ongoing, but major gaps still need to be addressed

**High Expectations**

- 85% of organizations reported that they have Big Data initiatives
- 85% of the initiatives are sponsored by a C-level executive or the head of a line of business.
- 75% expect an impact across multiple lines of business

**Capability gap**

- Only 15% of respondents ranked their access to data today as adequate
- Only 21% of respondents ranked their analytic capabilities as adequate
- Only 17% of respondents ranked their ability to use data and analytics to transform their business as more than adequate

SOURCE: Harvard Business Review, ZDNet France
# The talent battle will become a critical strategic imperative

<table>
<thead>
<tr>
<th>Definitions</th>
<th>Big data savvy</th>
<th>Deep analytical</th>
<th>Big data infrastructure</th>
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</thead>
<tbody>
<tr>
<td>Employees who can define key questions that data can answer and have basic knowledge of statistics</td>
<td>Specialists who have conduct data analysis and advanced training in statistics and/or machine learning and</td>
<td>IT personnel who serve as database administrators and programmers</td>
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<td>Business and functional managers</td>
<td>Actuaries</td>
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<td>Budget, credit and financial analysts</td>
<td>Mathematicians</td>
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<td>Engineers</td>
<td>Operations research analysts</td>
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<td>Life scientists</td>
<td>Statisticians</td>
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<td>Market research analysts</td>
<td>Mathematical technicians</td>
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<td>Survey researchers</td>
<td>Mathematical scientists</td>
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<td>Industrial-organizational psychologists</td>
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<td>Sociologist</td>
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<td>Economists</td>
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<td>Computer and information scientists</td>
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<td>Computer programmers</td>
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<td>Computer software engineers for applications</td>
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<td>Computer software engineers for system software</td>
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<td>Computer system analysts</td>
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<tr>
<td></td>
<td>Database administrators</td>
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</tbody>
</table>

| Potential gap by 2018                | ~1.5 Million                                                                   | ~150,000                                                                     | ~300,000                                                     |

1 Occupations are defined by the Standard Occupational Code (SOC) of the US Bureau of Labor Statistics and used as the proxy for types of talent in labor force.

Several use-cases start to be available

- Optimize B2B service – better at lower cost – to be tailored by user behavior preferences, predicted need, and value at stake
- Be able to offer value-based pricing to B2B customers with greater confidence in outcomes
- Predict at-risk consumers (of churn or high costs) likely to cancel and what offers would retain them
- Correlating marketing practices/spend with marketing outcomes
- More real-time signal detection on risk (e.g., financial, fraud, and safety), allowing earlier interventions
- Identify and engage underserved segments at more niche levels (10s→1,000s of segments)
- Be able to make the right offer to a potential customer at the right time and right place
- Quantify influencers and network of influence connections
- Real-time rerouting of trucks and deliveries based on traffic conditions local inventory status, costs

Source: McKinsey Center for Business Technology
Out there, some questions lay unanswered

Consultants say three quintillion bytes of data are created every day.

It comes from everywhere. It knows all.

According to the book of Wikipedia, its name is "big data."

Big data lives in the cloud. It knows what we do.

In the past, our company did many evil things.

But if we accept big data in our servers, we will be saved from bankruptcy.

Let us pay.

Is it too late to side with evil? Shhh! It hears you.
Big Data

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