



LISBON
SCHOOL OF
ECONOMICS &
MANAGEMENT

UNIVERSIDADE DE LISBOA

Big Data na Gestão

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WINNIE NG PICOTO



CSG

INVESTIGAÇÃO
EM CIÊNCIAS
SOCIAIS & GESTÃO
RESEARCH IN SOCIAL
SCIENCES & MANAGEMENT

ADVANCE

Centro de Investigação Avançada
em Gestão do ISEG



[Agenda]

What is **Big** Data?

Big Data *in Management Perspective*

Big Data **Research** and Potential in **Management**

Big Data Research **Projects** at **CSG/ADVANCE**

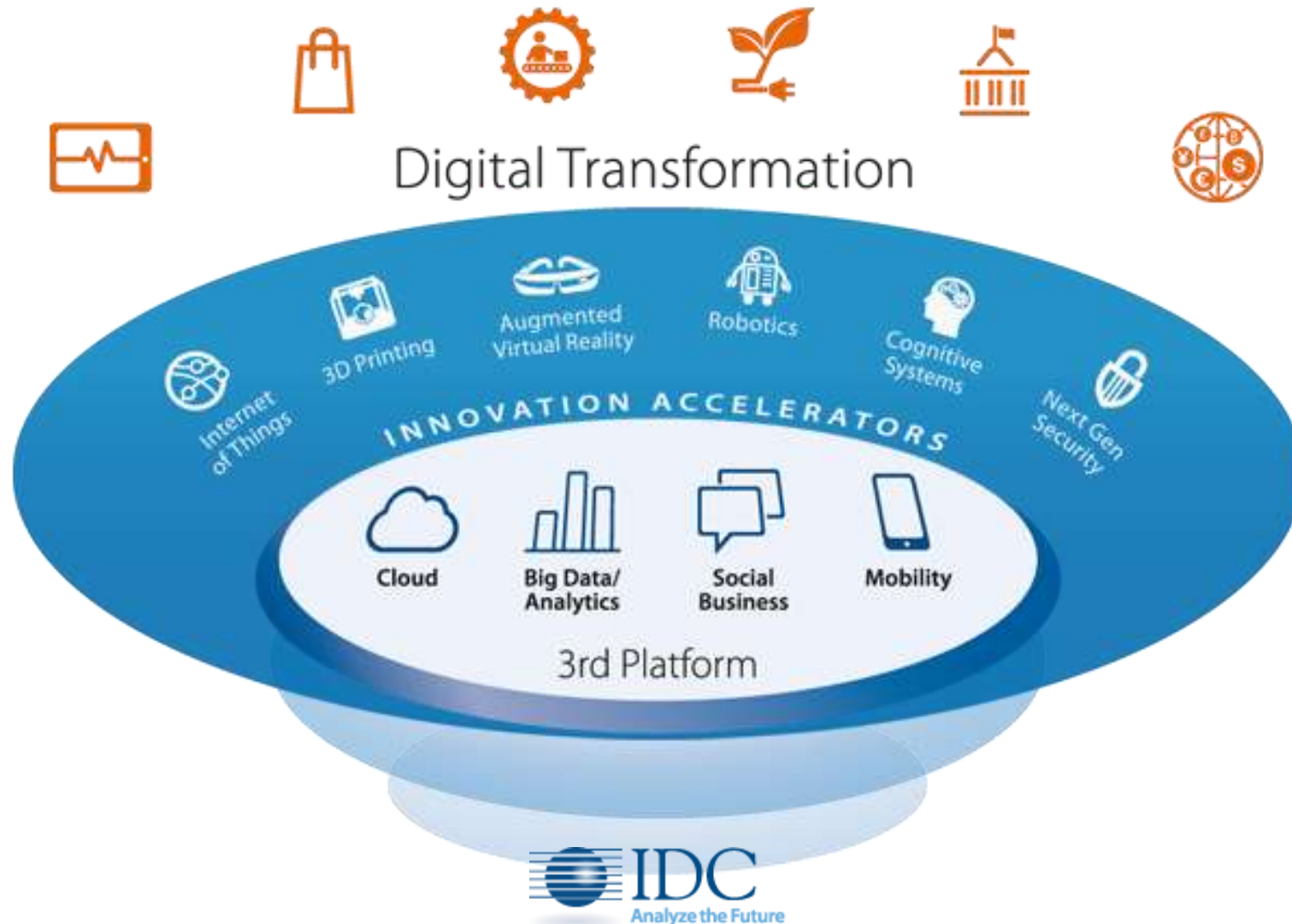
Big Data

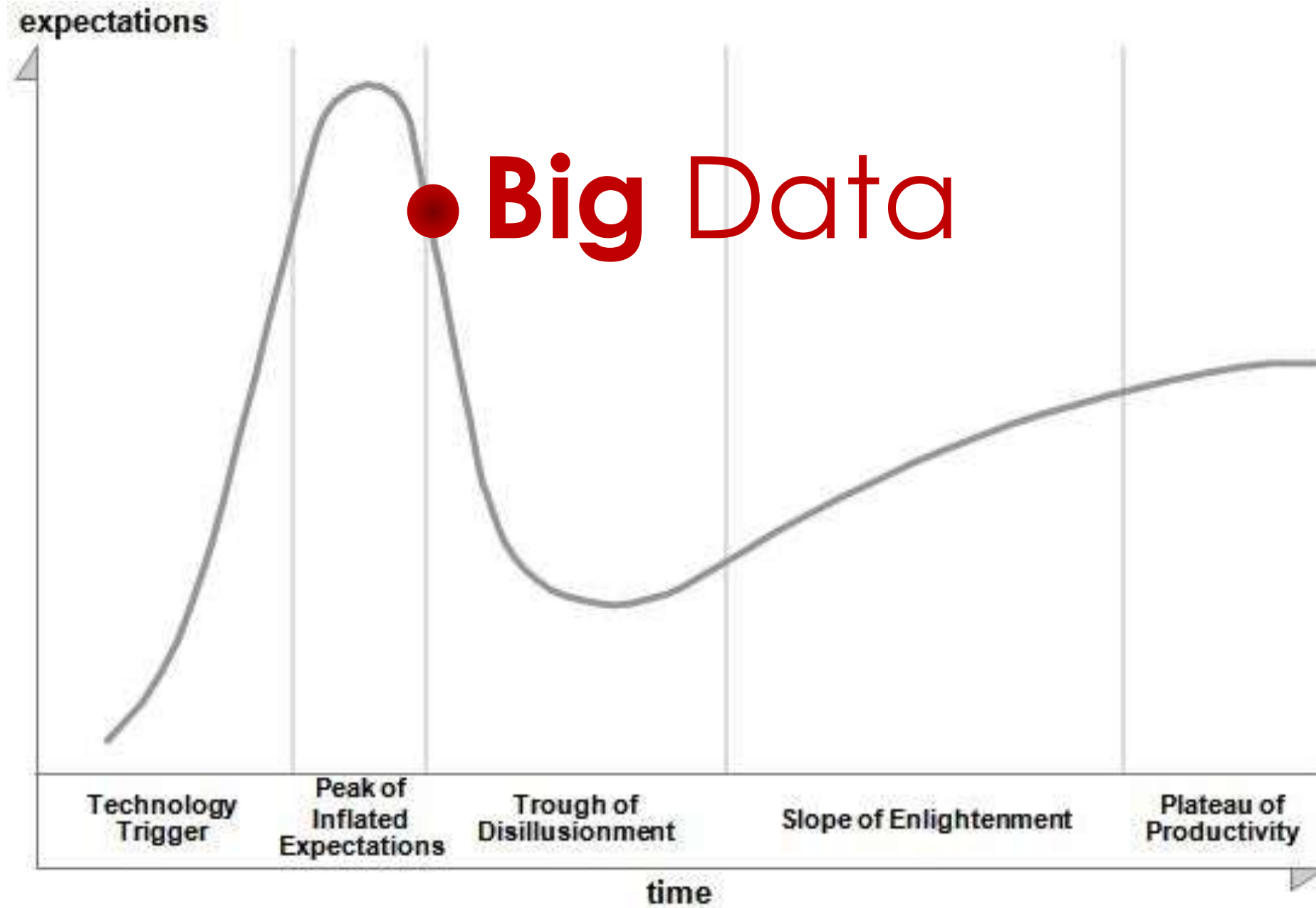
volume

velocity

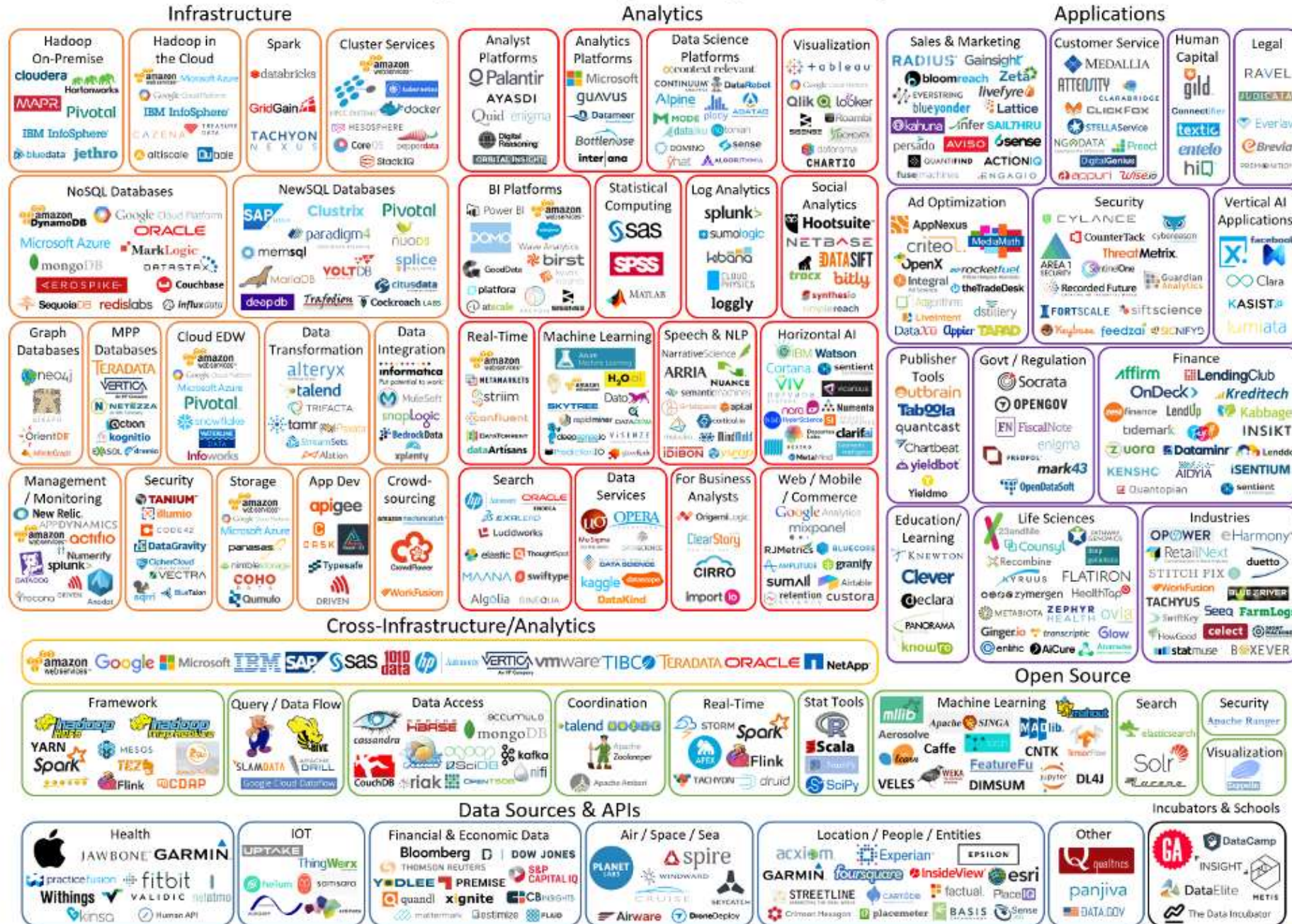
variety

the third platform





Big Data Landscape 2016 (Version 2.0)



[Agenda]

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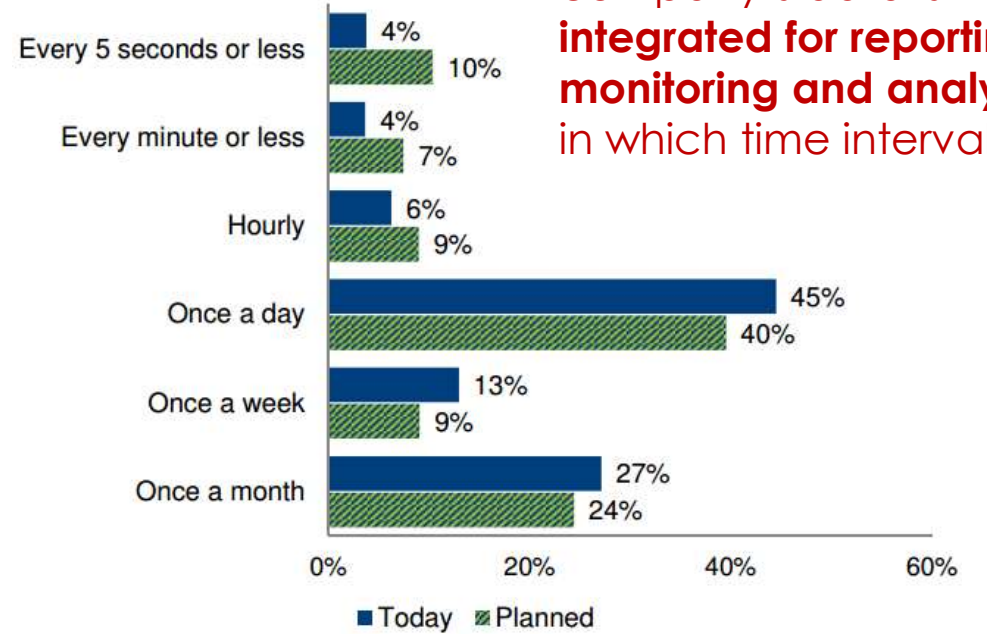
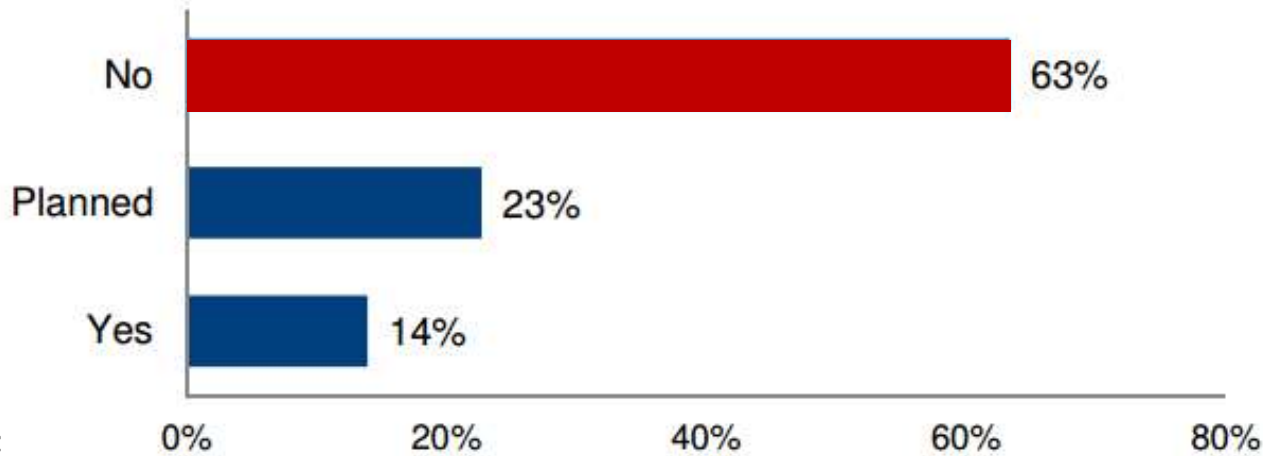
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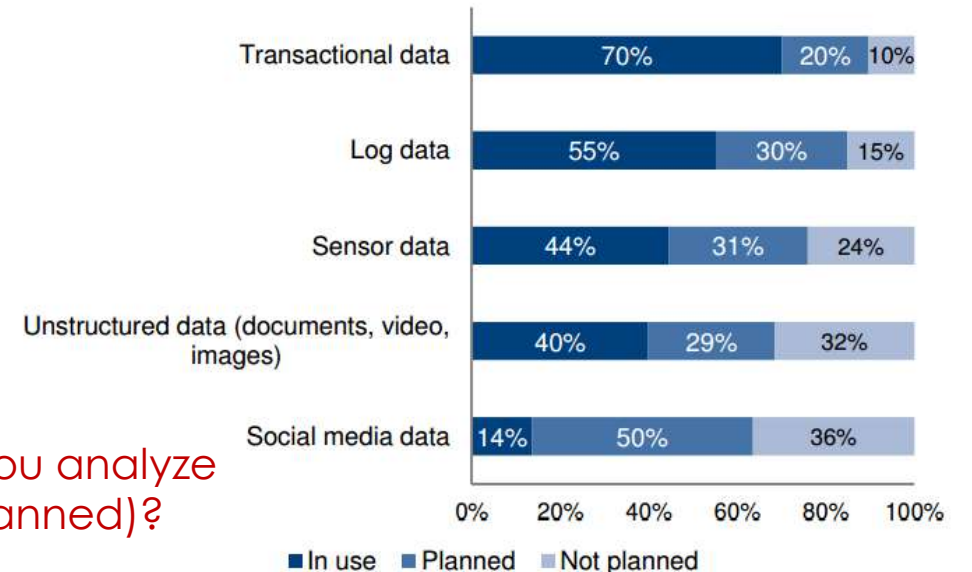
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Big Data in Organizations

Is there a comprehensive strategy for **big** data in your company?



Please specify what percentage of your company's data is **integrated for reporting, monitoring and analysis** in which time intervals?



What **kind of data** do you analyze (at the moment and planned)?

2015 **Big** Data and analytics survey

Top 3 Investments:

Data Analytics	58%
Visual Dashboards	42%
Data Mining	38%

Business Goals Driving Investments:

Improving the quality of decision-making	61%
Increasing the speed of decision-making	51%
Improving planning and forecasting	57%

Big Data

understand clients and markets

improve risk management

make better and faster decisions

create innovations based on data-analysis

Big Data

obstacles and challenges for organizations

ethic - collection and usage

lack of knowledge

technical problems

privacy

ownership

security

discrimination

standards

data sharing incentives

develop competencies

develop clear business cases

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Big Data research in Management Business

Big Data infrastructure

Big Data analytics

Business Transformation and Impact

Marketing and sales

tailored advertisements | purchase history data
customer preferences, knowledge and insights

R&D

data-driven innovations

Financial

predictions

control

Decision-Making

Operations Management



How to
create organizational value
from Big Data?

How
business processes may improve
with Big Data usage?

Which are the benefits
from Big Data?

Big Data Research in Management

competitive advantages

reshape of strategy definition

innovative business models

decision-making nature and process

knowledge management

Big Data quality and veracity

Web 2.0 and **Big Data**

mobile business and **Big Data**

[Agenda]

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Marketing and Sales

collect customer preferences

identifying comments on the **customer interaction data**, as well as online, regarding products or services allows the collection of terms associated to such product or service that result from **customer perceptions**

such comments may be scanned collecting terms that may express **what the customers appreciate on the product or service**, as well as what the customers would like to see improved

currently, the association of terms as customers perceptions and opinions regarding a product or service is doable while still under evaluation

the **understanding of phrase meaning as a whole** requires research combining information systems and linguistics

Financial predictions

stock market trades shares that are grounded on underlying firms

identifying and qualifying news and other types of information online regarding such firms may allow us to collect data that is likely to be associated with the evolution of share value

if the market efficiency hypothesis holds, such association will be found only with no time lag

if we can find a stable association between the results of big data analysis of time t with the share value on time $t+x$, than the efficient market hypothesis is questioned

critical success factors unlocking **Big Data Value**

[Ranking-type Delphi method divided in three stages and two rounds with 18 specialists]

- 1 big data **strategy** aligned with the **business objectives**
- 2 adequate **IT infrastructure**
- 3 new **models** and **tools** capable of **processing** large amounts of data
- 4 **organizational culture** oriented towards data management
- 5 automated or semi-automated **data** analysis