


ocba vu Amsterdam Business Analytics

BIG data:

BIG challenge, BIG threat, BIG value or.... BIG hype?



SIERTEELT(DIGI)TAAL

22 januari 2015

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Objectives


Doelstellingen/Opzet:


- 1) **Wat** is BIG data?
- 2) **Waarom** is BIG data relevant?
- 3) Inspireren dmv voorbeelden: **Hoe**?

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INTRO

 **Dr J.F.M. (Frans) Feldberg**
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 FransFeldberg

Knowledge, Information and Networks (www.kinresearch.nl)

Research/Education:

- Business Intelligence & Analytics/BIG data
- Data-driven business model innovation
- Online decision making (DSS & GDSS)
- Online (buying) behavior(emerging technologies)

Business Consultant.

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INTRO



- Business Administration & Mathematics & Computer Sciences &
- Bachelor and Master Business Analytics
- Post Graduate Education: Business Analytics/ Data Science
- Multidisciplinary Research Center
- Eco System: Businesses & Science
- One stop shop: Access to all relevant academic Expertise

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Verbinding door direct contact.

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(BIG) Data..... What is going on?

Met Big data bezig?

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(BIG) Data..... What is going on? 

Dan Ariely
January 6, 2013 · 

Big data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it...

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(BIG) Data..... What is going on? 



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(BIG) Data..... What is going on? 

BIG Data..... Hype, kans of bedreiging?




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(BIG) Data..... What is going on? 

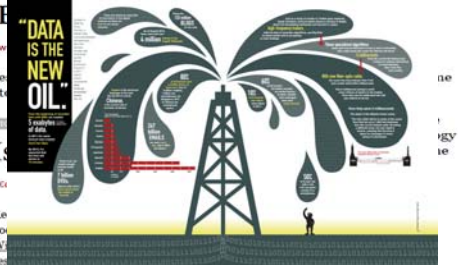
“Data is the new **gold**,
the new **gold** that waits to be excavated”




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(BIG) Data..... What is going on? 

A lot of BUZZ.....



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(BIG) Data..... What is going on? 

BIG *Labels coined over time (last decade).*

Nature 2008:
Special issue on Big Data

DATA

SCIENCE
HBR 2012:
Data Scientist : The Sexiest Job of 21st Century

BUSINESS ANALYTICS
HBR 2006: Competing on Analytics

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(BIG) Data..... What is going on?

Finally it is all about:

Transforming data into actionable insights (and results).

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What is BIG data?

What Happens in an Internet Minute?

And Future Growth is Staggering

(www.intel.com) All Rights Reserved 2015

What is BIG data?

Not in the amount of Vs....

4 times different: 4V

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What is BIG data?

"We've reached a tipping point in history: today more data is being manufactured by machines, servers, and cell phones, than by people"

"Today a street stall in Mumbai can access more information, maps, statistics, academic papers, price trends, futures markets, and data than a U.S. president could only a few decades ago"

Michael E. Dricoll (CTO and co-founder at Metamarkets)

Juan Enriquez (founding director of the Life Sciences Project at HBS)

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What is BIG data?

How data is changing the car game for Ford.

MyFord® Mobile uses an onboard wireless module integrated into the power windows allowing the car to communicate with the Ford Cloud computing service through familiar cellular technology.

Owners will use a smartphone app or website to communicate with the Ford Cloud based secure server, helping to improve up-to-the-minute access to vehicle information and a full suite of remote-controlled functionality.

Generates up to 25 GB of data per hour.

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What is BIG data?


90%


Last 2 Years

BIG data

(McKinsey Global Institute, 2011)


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What is BIG data? 



- Structured data
- Unstructured data

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What is BIG data? 




Two aspects:

- Speed of data creation
- Speed of data delivery

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What is BIG data? 




- Single Version of the truth....
- 1 in 3 business leaders don't trust the information they use to make decisions.

(<http://www-01.ibm.com/software/data/bigdata/>)


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What is BIG data? 

- Big data is about technologies and concepts that can handle the requirements imposed by these 4 Vs.
- That "Traditional Technologies" can't.



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What is BIG data? 



BIG data is more than simply a matter of size: it is also about creating insights!

Discovering what you don't know you don't know.....




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What is BIG data? 



<http://wc2014.ortecsports.com/league/56/team/771>

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What is BIG data? 


BIG DATA


BIG data is more than simply a matter of size: it is about creating insights!

Business intelligence and analytics

Competitive advantage	Optimization	What's the best that can happen?	Analytics	PRESCRIPTIVE (how to achieve the best outcome?)
	Predictive modeling	What will happen next?		PREDICTIVE
	Forecasting/optimization	What if these trends continue?	Access and reporting	DESCRIPTIVE
	Statistical analysis	Why is this happening?		
	Alerts	What actions are needed?		
	Quantification	Where exactly is the problem?		
Analysis, reports	How many, how often, where?			
Reporting/dashboards	What happened?			
Degree of intelligence				

(Davenport & Harris, 2006) © All Rights Reserved 2015

What is BIG data? 



New measurement tools give us new insights.

(Courtesy: Andrew McAfee) © All Rights Reserved 2015

What is BIG data? 




<http://nl.wikipedia.org/wiki/Zonnestelsel#mediaviewer/File:Planets2013.jpg>

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What is BIG data? 




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Why BIG data? 


Moore's Law

Imagine this will happen for a technology that is **fundamental** for businesses....


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Why BIG data? 


Second Half of the Chessboard




Erik Brynjolfsson & Andrew McAfee




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Why BIG data? 

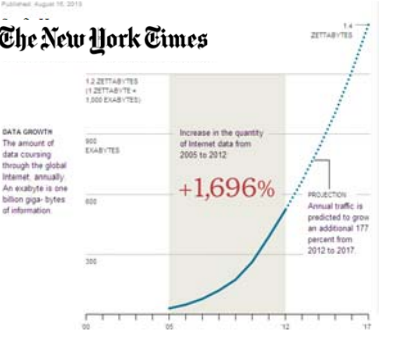


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Why BIG data? 

Published: August 16, 2013

The New York Times



DATA GROWTH
The amount of data coursing through the global Internet annually. An exabyte is one billion gigabyte of information.

1.2 ZETTABYTES
1.1 ZETTABYTES
1.000 EXABYTES
900
800
700
600
500
400
300
200
100
0

05 06 07 08 09 10 11 12 13 14 15 16 17

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Why BIG data? 


At some point a difference in degree becomes a difference in kind.



(Jan Rotmans)

We leven niet in een tijdperk van veranderingen maar in een verandering van tijdperken.

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Why BIG data? 

"We view big data and big data analytics as the mother lode of disruptive change in a networked business environment."

(Baesens, Bapna, Marsden, Vanthienen, Zhao, 2014)

MIS Quarterly **Call for Papers**
MISQ Special Issue on
Transformational Issues of Big Data and Analytics in Networked Business

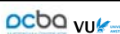
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Why BIG data? 

Strength in Numbers: How Does Data-Driven Decision making Affect Firm Performance?
(Brynjolfsson et al., 2012)

Empirical study: Results provide some of the first large scale data on the direct connection between data-driven decision making and firm performance.

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Why BIG data? 

Digital Innovation.


Owing to the 50-year march of Moore's Law, -> relatively **cheap** and increasingly **easy-to-use world-wide digital infrastructure.**

This digital infrastructure has accelerated the emergence of new technologies— (e.g. social media, analytics and big data, wearable devices, 3D printing) —that enable:


- **transformations in the way we live and work,**
- **how companies organize, and**
- **the structure of entire industries**

(Fitchman et al., 2014)


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Why BIG data? 

Not only data, but also:

- Internet as a Service
- Cloud Computing
- High Performance Computing
- Crowd Sourcing
- Powerful Software (Open Source!) 
- High Performance Analytics

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Why BIG data? 




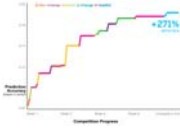
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Why BIG data? 




© All Rights Reserved 2015

Why BIG data? 



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Why BIG data? 

The question is: *To be disruptor or disrupted.....*

Producten/Diensten



		Bestaand	Nieuw
Markten	Bestaand	Ontregelaar: wij of zij?	Ontregelaar: wij of zij?
	Nieuw	Ontregelaar: wij of zij?	Ontregelaar: wij !!

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Why BIG data? 


From Transaction support to Asset, Value !

New business models.....


Transaction -> Knowledge (analytics)

Shell wil hardware delen, maar data niet.




FD 16 maart 2013

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Big data: new business models? 

From Transaction support to Asset, Value !

New business models.....



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Big data: new business models? 

Disruptors.....

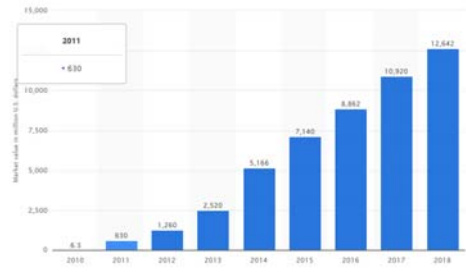


<http://www.businessweek.com/articles/2013-11-14/2014-outlook-health-care-apps-and-gadgets>

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Big data: new business models? 

Wearable device market value from 2010 to 2018 (in million U.S. dollars)



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Big data: new business models? 

Disruptor: customer intimacy.....

'Health apps in 2015 gedistribueerd via ziekenhuizen'

Niet de app stores, maar ziekenhuizen en zorginstellingen gaan in de toekomst health apps voor de mobiele telefoon verkopen. Dat is de uitkomst van de Global mHealth-enquête onder Amerikaanse bedrijven in de gezondheidszorg.



Dit zou een aanzienlijke verandering in de markt betekenen, aangezien app stores nu de belangrijkste distributeurs zijn. Ondanks dat de telefoonproviders wel gezien worden als belangrijke onderdelen van de opbouw in de markt, denken de bedrijven niet dat zij in de toekomst geschikte distributiekanaalen zijn, zo staat geschreven in het onderzoek van Global eHealth.

(www.zorgvisie.nl)

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BIG data: How (Social Listening) 

Social Listening:




Big data as enabler.

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BIG data: How (Social Listening) 

ACBA: Automatic news detection on Twitter (NU.nl)



WATER W LEIDEN - INZITTENDE VAN TE WATER GERAAKTE ALTO OVERLEDEN GERAAKTE INZITTENDE (82.12)	MEDIA SOCIAL GEDOWNLOAD (71.26)	AIR MOBILITEIT DELTA AIRLINES HELPT PASAGERS AAN STROOKOUD BUSINESS TRAVEL (71.16)	ROBOTICA NEDERLANDSE INVESTERING IN EUROPESE ROBOTICA (70.12)
	TOEGANG (69.41)	ZIEK (69.4)	

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BIG data: How (Social Listening)

How Do You Feel Today?
Harnessing the Power of Social Media Analytics in a Hyperconnected World

www.anglobaldata.org
#anglobaldata

Food Price Inflation

Tweets about the price of rice (per month)

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BIG data: How (Social Listening)

Marketingfacts

Channels: M | Blog | Updates | Jobs | Announcements | Tools | Partners

Health apps: 1 op de 5 smartphone-bezitters manageert gezondheid

http://www.marketingfacts.nl/

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BIG data: How (Social Listening)

Myfitnesspal.com

RunKeeper

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BIG data: How (Social Listening)

Myfitnesspal.com

Recent gegeten

- Walmart Great Value - Ent...
- Thomas' - English Muffin
- Food for Life Ezekiel Ore...
- Kiinger - Peanut Butter, C...
- Village Inn - 1/2 Waffle
- Great Value (Wal-Mart) - ...
- Generic - Pera
- Great Value - Light Brown...
- Burgen - Bread - Wholema...

Nieuwste voeding

- Vegetaria - Luau-cabasa...
- Sulu - Lachosa Free Skim...
- Arrowhead Mills - Organic...
- Ugg - Spiced Fruit Muffi...
- Affiliato - Biscotti
- Ugg - Spiced Fruit Muffi...
- Flage - Total O's Fat Creek...
- Robin-Hardies Bacon - Ha...
- Gut "drei Eichen" - Coma...

Populaire tags

- chicken shawarma chocolate
- white cream milk fat white
- brandy brandy brandy brandy
- bailed baied light low rice
- virgint butter soap butter
- crabbs white dressing
- pizza roasted sugar honey
- steakhouse rice wrapped
- also that general gran...
- organic salt chocolate style
- lemons garlic low bread
- chips sandwich ingridie ice
- cream hot cinnamon cookies
- event just pork cerea
- honey pasta eggs bacon
- honey also protein orange
- frunch pork vegetable
- green bean crackers
- chocolate gelatin raspberry
- creams tea little natural
- ham med red bacon beach
- chip egg and greek salad
- granola oatmeal orange fish
- potatoes dry medall
- broom reduced

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BIG data: How (Social Listening)

Gezondheid en fitness: verkopen lifestyle-apps jouw informatie?

http://nieuws.nl.softonic.com/gezondheid-en-fitness-verkopen-lifestyle-apps-jouw-informatie

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BIG data: Social Listening

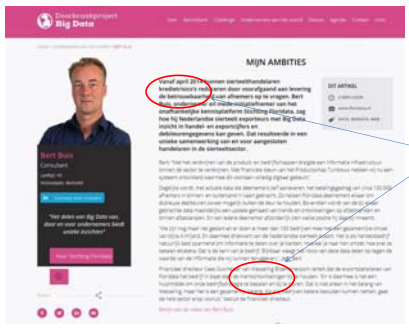
The Future of Prediction:
How Google Searches Foreshadow Housing Prices and Sales

Housing Search Index (HSI) is strongly predictive of the future housing market:
-Sales, and
-Prices



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BIG data: How



Kredietrisico's
Marktonwikkelingen

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BIG data: How

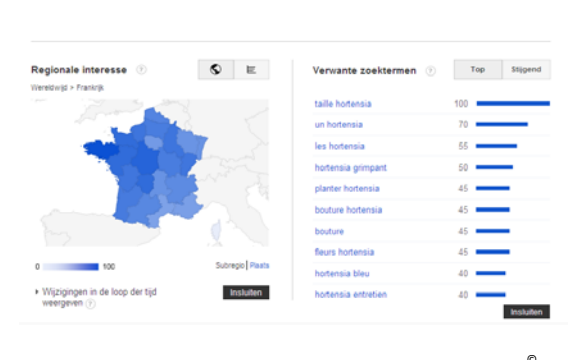


INTERNET of THINGS

Apps

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BIG data: How



Regionale interesse

Vervante zoektermen

Term	Score
taille hortensia	100
un hortensia	70
les hortensia	55
hortensia grimpant	50
planter hortensia	45
bouture hortensia	45
bouture	45
feurs hortensia	45
hortensia bleu	40
hortensia entretien	40

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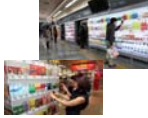
BIG data: Challenges, Risks

- Data Privacy and Ethics: BIG Dilemma's!
- Data Obsession ("the dictatorship of data")
- Data Quality: new paradigms?
- Skills: Data Scientists
- Energy

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Big data: big change...

What must be taken out of our head and left behind?



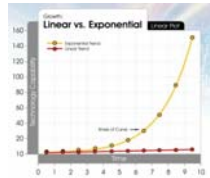
Question: "What are we going to do with the 'new thing'", must be changed in: "How are we going to change the old idea"!

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Big data: big change....



Paradigm shift: Linear thinking will not do!



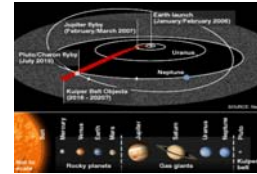
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Remember....



Digital Innovation.

Journey.....



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Dank voor uw aandacht!



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