Big Data
in Facility Management

https://www.google.nl/search?hl=en&tbm=isch&q=the+matrix&gws_rd=cr&ei=8D9WLyKA4GSgAe-gOYAw#gws_rd=cr&imgrc=5GKp0Ju-4Vs2YM:] [accessed on 24/04/2016]

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1. Facility Management 3.0

- What has changed?
  - Developing technology & learning machines
    - New business models
    - Effectively operationalize data to generate value and maximum benefit

FM = from operational excellence to business management role

1. Facility Management 3.0

Trends in the Dutch FM market (2017)

#	Trend prediction	%
1.	**Use of technology / Big data**	**41%**
2.	Application and resilience of FM / Added value	37%
3.	Cost management	33%
4.	Coordination function of FM	32%
5.	Functional collaboration	30%
6.	Supply chain collaboration	25%
7.	People centric workplace environments	18%
8.	Futureproofing real estate	17%
9.	Workplace concepts	17%
10.	Circular economy / CSR	15%
11.	Inclusive value	8%
12.	Transparency of achievements / added value	5%
13.	PPP / Public Private Partnerships	3%

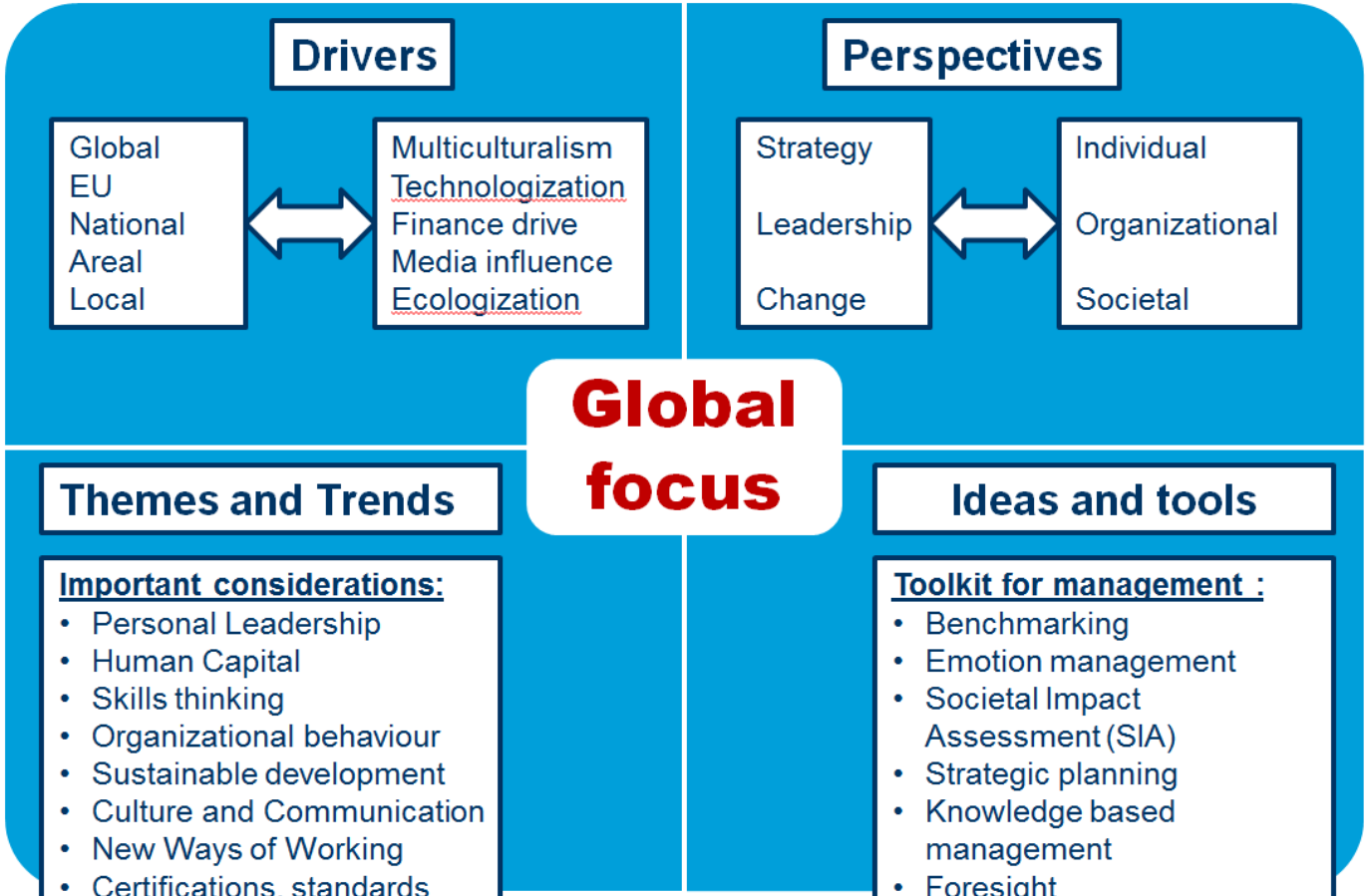
FMN Explore. Inspire. Connect.

Twynstra Gudde

1. Facility Management 3.0

Big Data & the new Facility Manager

- Transition of FM into business management:
  - › Requires the new generation FM's to:
    - Possess different and new capabilities compared to the past
    - Refine the FM strategy to show stakeholders where the opportunities lie, and which ones are the most significant



Source: Meriläinen & Tienari, 2009; modified by Matvejeff

1. Facility Management 3.0

Some interesting facts

2 500 000 000 000 000 000 000

(2012)

1. Facility Management 3.0

Some interesting facts

2 500
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(2012)

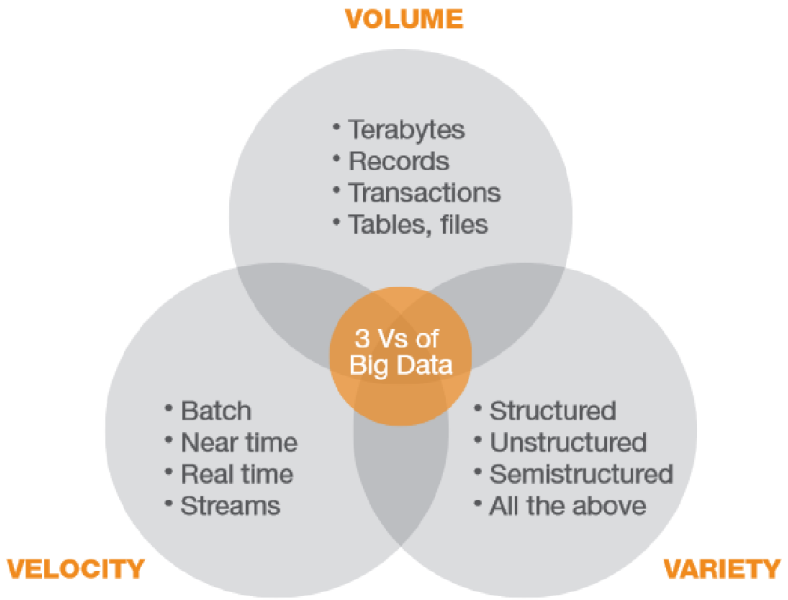
Walmart

2. What is Big Data?

"High-volume, high-velocity, high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making."

Gartner, 2016

The 3 V's of Big Data



Russom, 2011

2. What is Big Data?

Types of data

Structured:

- Data that is assigned to dedicated fields in a database management system and can therefore be directly processed by a computer.

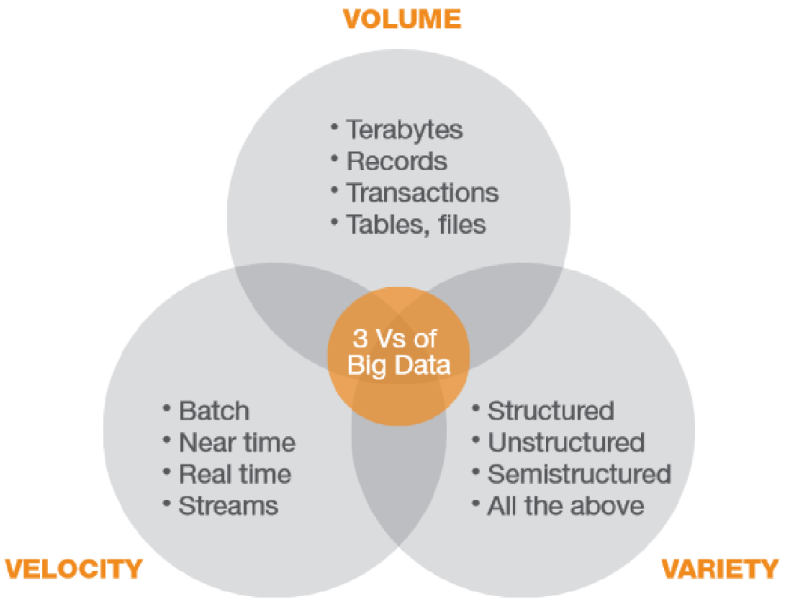
Unstructured:

- Images, audio, text and human language is frequently referred to as unstructured data, and they do not fall within the dedicated formats of a standard DBMS.

Semi-structured:

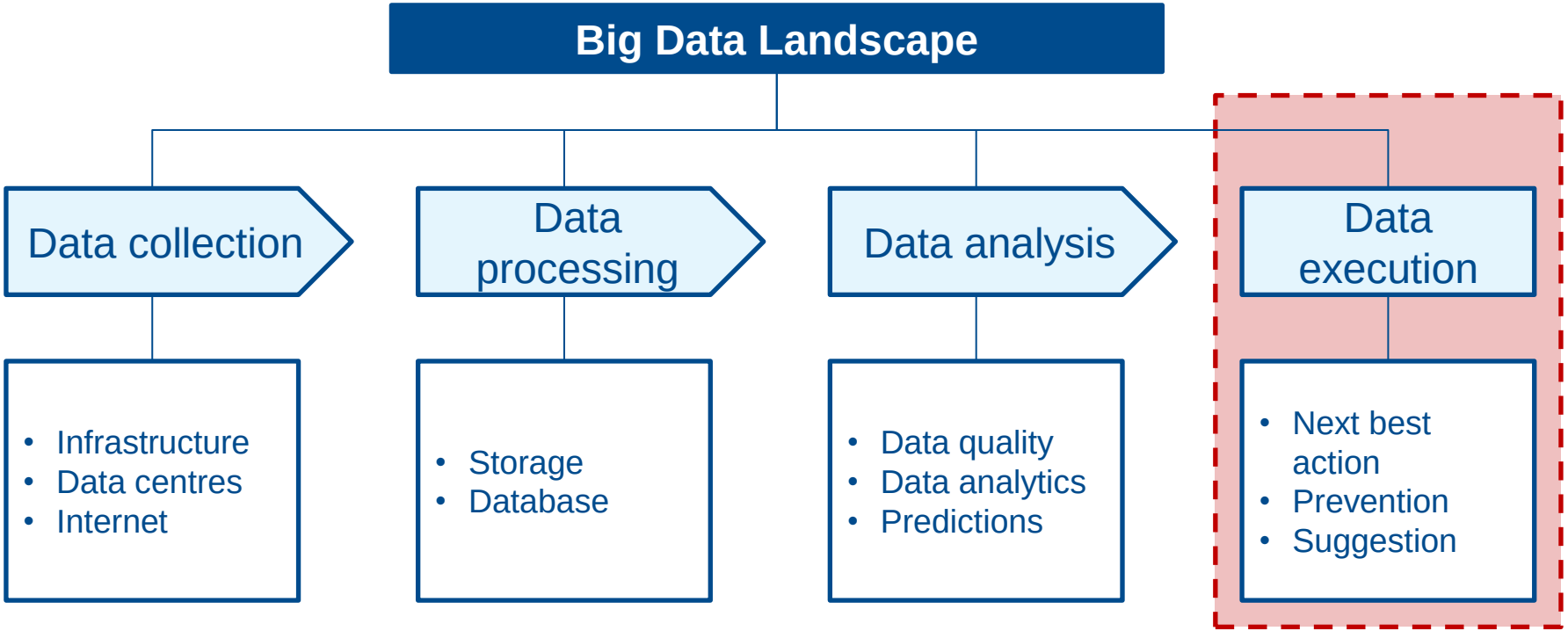
- Generally has some structure, however does not have the same format as the DBMS. It can for instance be found in e-mails, log files, word documents, websites, social media, and can be a lot harder to process than structured data.

The 3 V's of Big Data



Russom, 2011

3. The Big Data landscape



http://fmlink.com/articles/unlocking-the-role-of-big-data-in-facilities-management/ [accessed on 27/04/2017]

3. The Big Data landscape

Challenges & benefits

"The big data which we know now is far more powerful than business analytics used in the past. It enables measuring performance more precise than ever. Decision making improved by creating more accurate predictions. Also, big data allows targeting audiences more effective even in areas that so far have been managed by gut and intuition rather than relying on hard evidence."

Key ingredients of Facility Management (FM); Courtesy: EuroFM

McAfee and Brynjolfsson, 2012

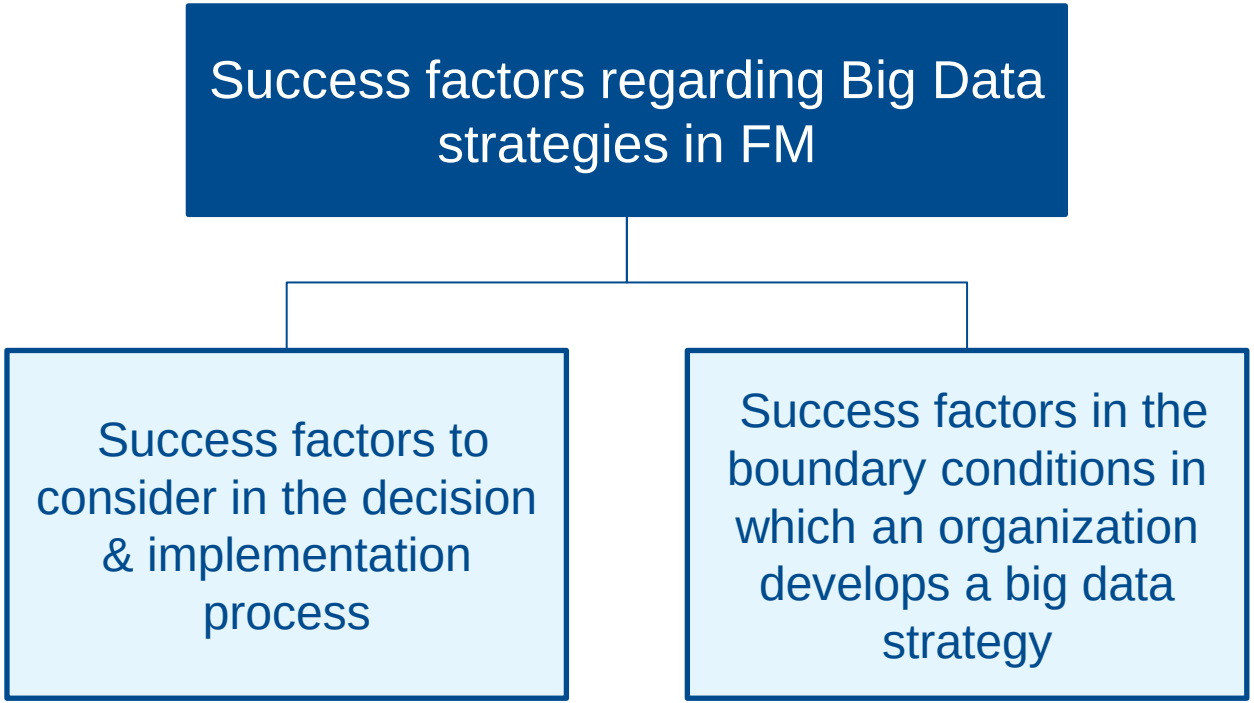
3. The Big Data landscape

Challenges & benefits

- Challenges:
  - Non-effective energy metrics
  - Disparate systems
  - Lack of effective energy management
  - Lack of performance visibility

- Benefits
  - Enabling predictive analytics & JIT maintenance and cleaning
  - Detecting future power outages or equipment failure
  - Benchmarking facilities for comparison of energy consumption patterns and waste
  - Managing building performance

4. Big Data strategies in FM



4. Big Data strategies in FM

Success factors for Big Data strategies in FM

Decision-making & implementation process

1. Setting the objective
2. Consider the costs
3. Determining the ROI
4. Pitching the business case
5. Managing organisational change

4. Big Data strategies in FM

Success factors for Big Data strategies in FM

Boundary conditions in which an organization develops a big data strategy

1. The right people at the right place
2. Involvement of senior management
3. Privacy issues with Big Data
4. Ethical considerations
5. Security by governance

Breda University of Applied Sciences

5. Case study: The Edge

Amsterdam, NL

https://youtu.be/X_N5AfmxeZQ

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CONSIDERATIONS FOR FM ORGANISATIONS WHEN DECIDING ON, AND IMPLEMENTING BIG DATA STRATEGIES

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