Bloor

Big things in the Enterprise: analytics and other trends

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Agenda

- **Part 1 –** Fads and hype: telling it like it is
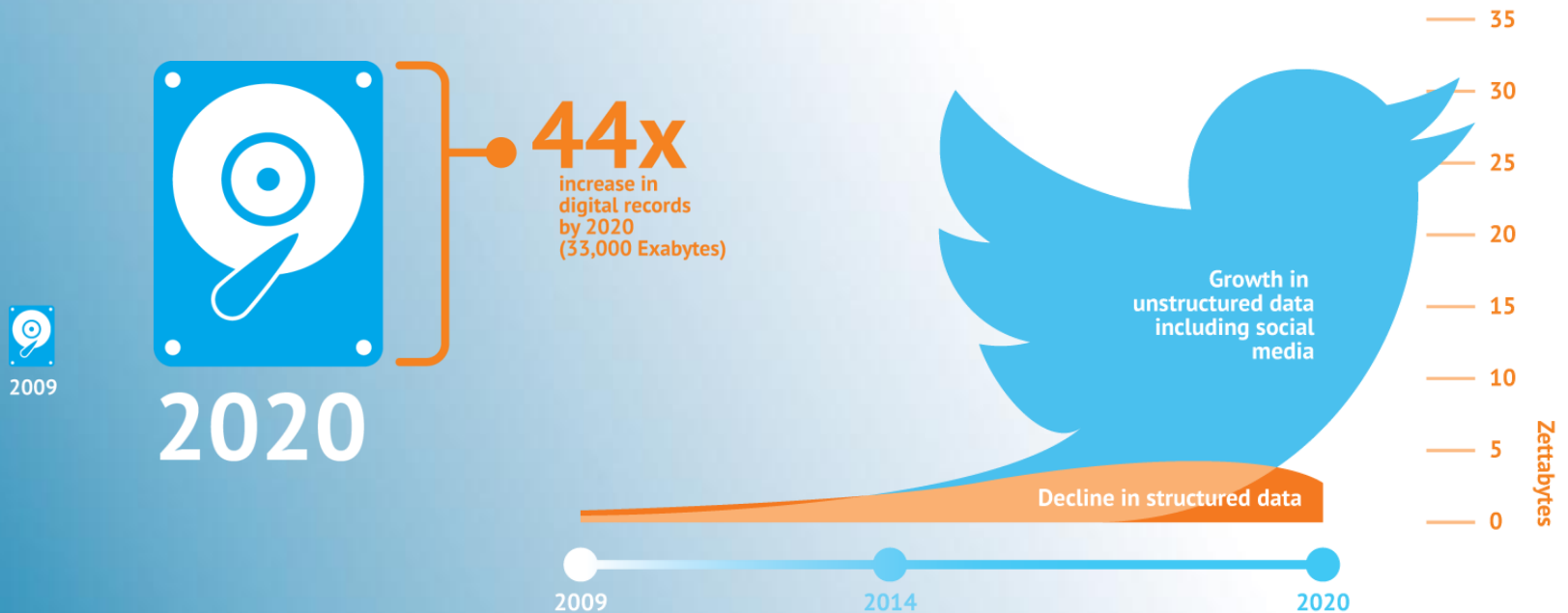   - Big data
    - Internet of Things/Everything
    - Social and Mobile
    - Cloud

- **Part 2 –** Exploiting possibilities
    - The mainframe angle

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- Big data may not be big
- Hadoop is not big data
- Self-service is limited
- Social is just another data source
- A smartphone is a computer
- Cloud is a platform
- Prediction is not easy
- Vendors have a vested interest
- Significant investments will be needed

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There is no such thing as unstructured data

2009

2020

44x
increase in
digital records
by 2020
(33,000 Exabytes)

Growth in
unstructured data
including social
media

Decline in structured data

Zettabytes

35
30
25
20
15
10
5
0

2009   2014   2020

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**Often only visualisation
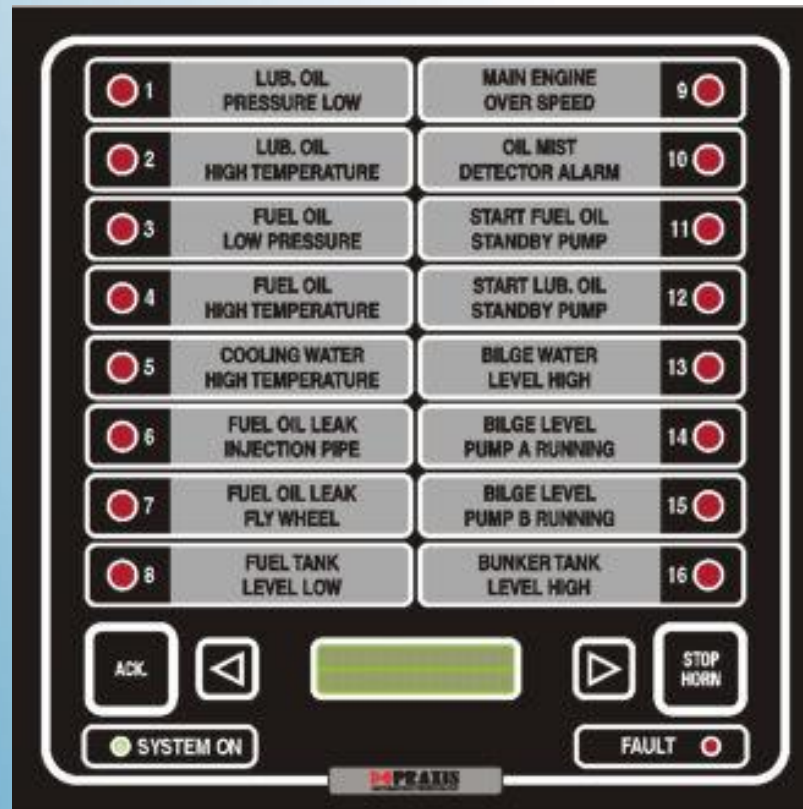against pre-defined datasets**

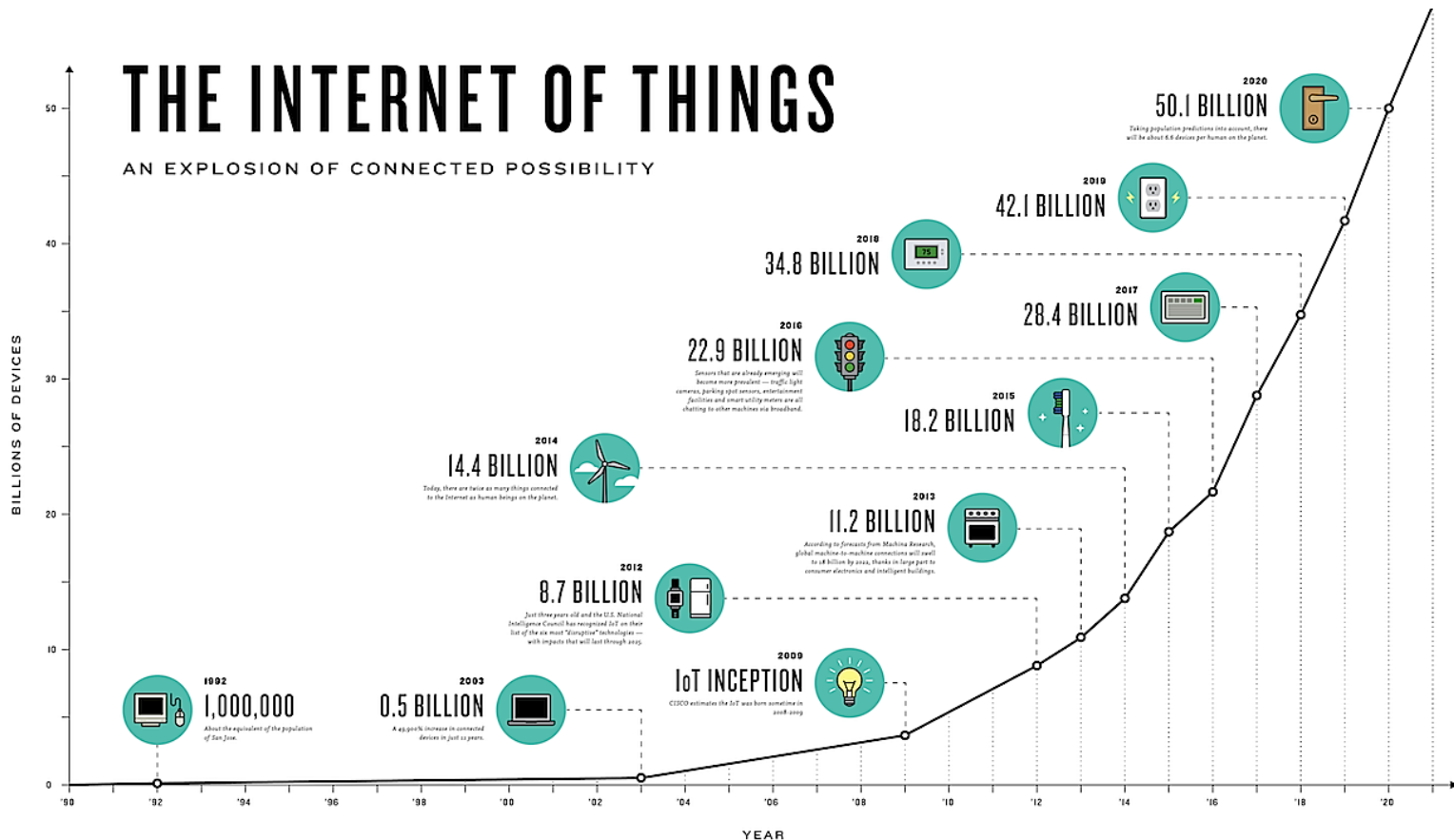*telling the right story*

Do you know enough about the past?

- Are they predictions or merely inferences?

- How reliable are they?

- What remediation procedures are needed?

- Do the costs outweigh the benefits?

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How intelligent are your sensors?

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Growth in devices (Cisco)

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Growth in devices (Intel)

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Smart sensors and meters enabling smart decisions

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Changing business models

Natural language reporting

Compressor Alert For
Offshore Operator

Analysis by human

EVENT: 6:58 AM

REVIEW ALERTS
PRIORITISE ALERTS
INVESTIGATE ALERTS
EXAMINE HISTORIES
RECOMMENDATION
PRIORITISE
DETAILED WRITTEN REPORT SENT TO PLATFORM

ACTIONS: 10:30 AM

OVER 3 HOURS

Analysis by NLG Engine

EVENT: 6:58 AM

REVIEW ALERTS
PRIORITISE ALERTS
INVESTIGATE ALERTS
EXAMINE HISTORIES
RECOMMENDATION
PRIORITISE
DETAILED WRITTEN REPORT SENT TO PLATFORM

ACTIONS: 6:59 AM

60 SECONDS

Typically complementary: for example, enabling an extended 360º view

Drives a Toyota Lexus
Travels abroad twice a year
Socioeconomic status
Social activity
Over 300 friends on Facebook
40 followers on Twitter
Shopping activity
Bought a Samsung tv
Searched for insurance, did not buy

360º
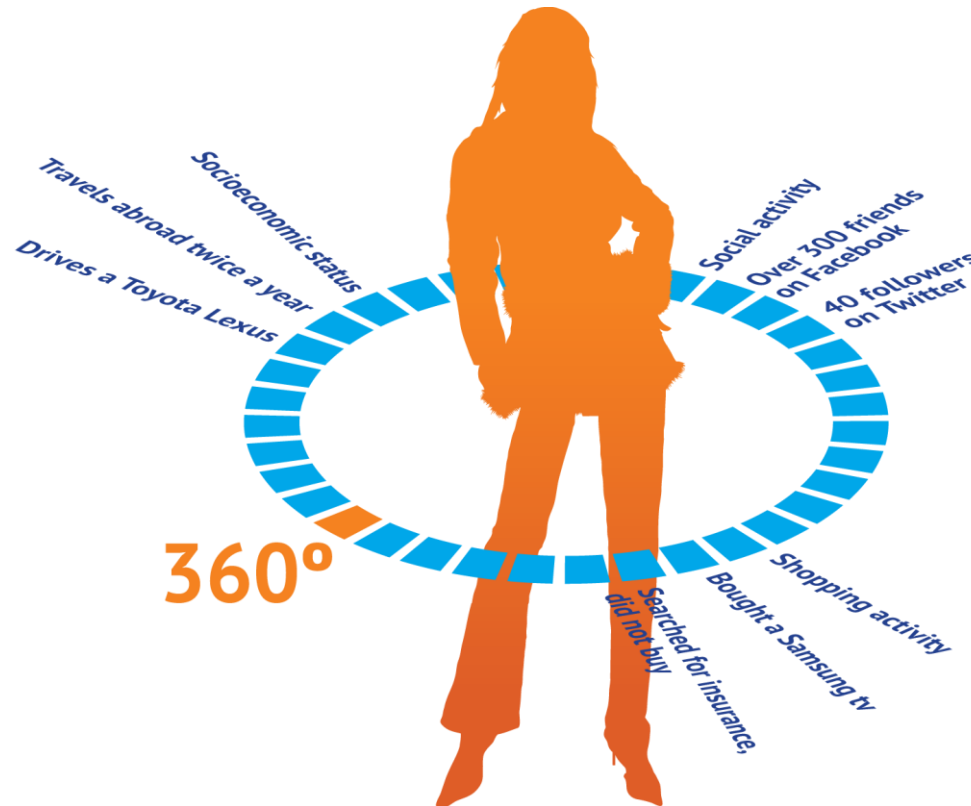
These are computers
Some people just have phones

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- Are computers
  - Delivery to those platforms
  - Analysis of usage

- What information are users accessing?
- How are they accessing it?
- What are they doing with it?
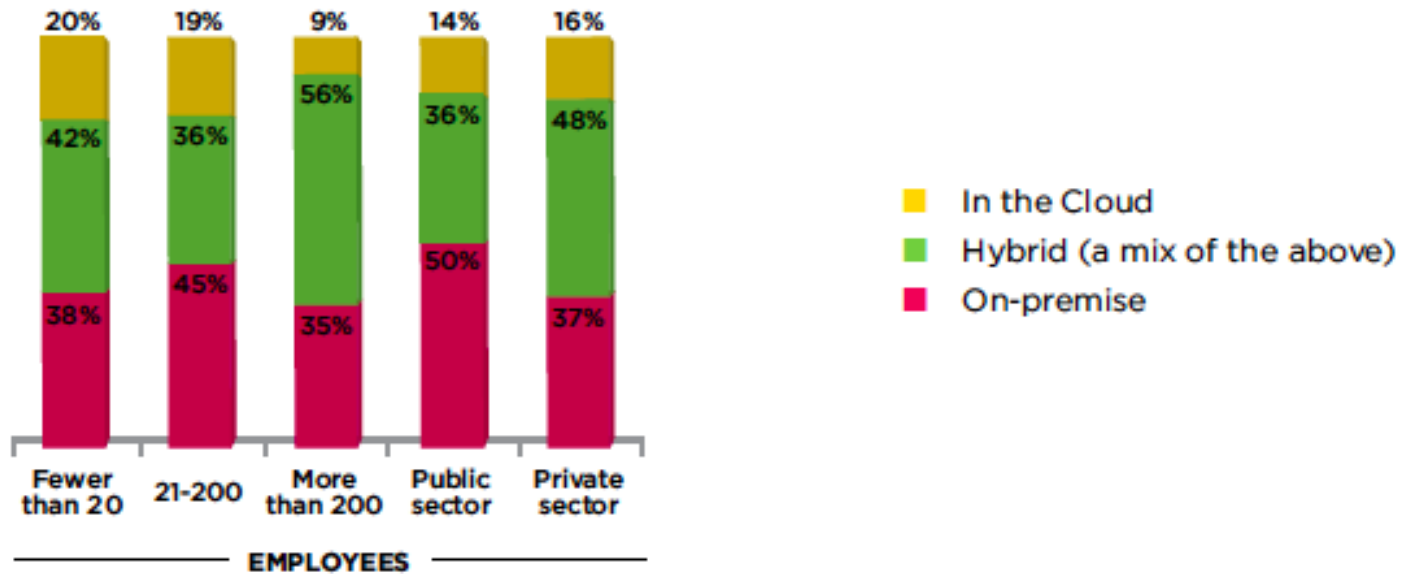- Is it compliant?
- Proactive IT

Cloud Industry Forum 2015 survey (UK)

Would you describe your primary approach to IT as being:

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- Cloud is a platform for:
  - Applications (SaaS)
  - Infrastructure software (IaaS)
    - Business Intelligence, data preparation
    - Data integration, data governance
    - Software development and testing
  - Data(base) processing (DaaS)
  - Compute power (PaaS)
- Vendors are not consistent in their terminology

- NoSQL
- Streaming analytics
- Semantics
- Machine learning and AI
- Data preparation
- Data governance

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- MapReduce will be replaced by Spark but differences (e.g. Storm vs Spark Streaming)
- HDFS becoming commoditised
- Not as inexpensive as it might appear

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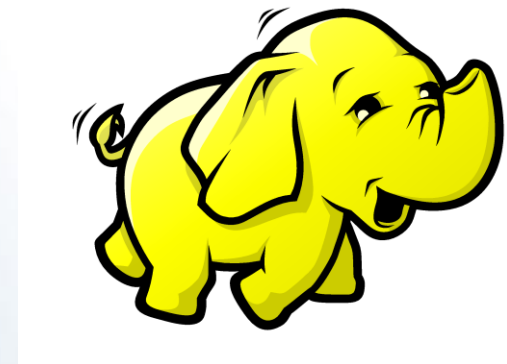
25% of corporations will use
graph databases by 2017 (Forrester)
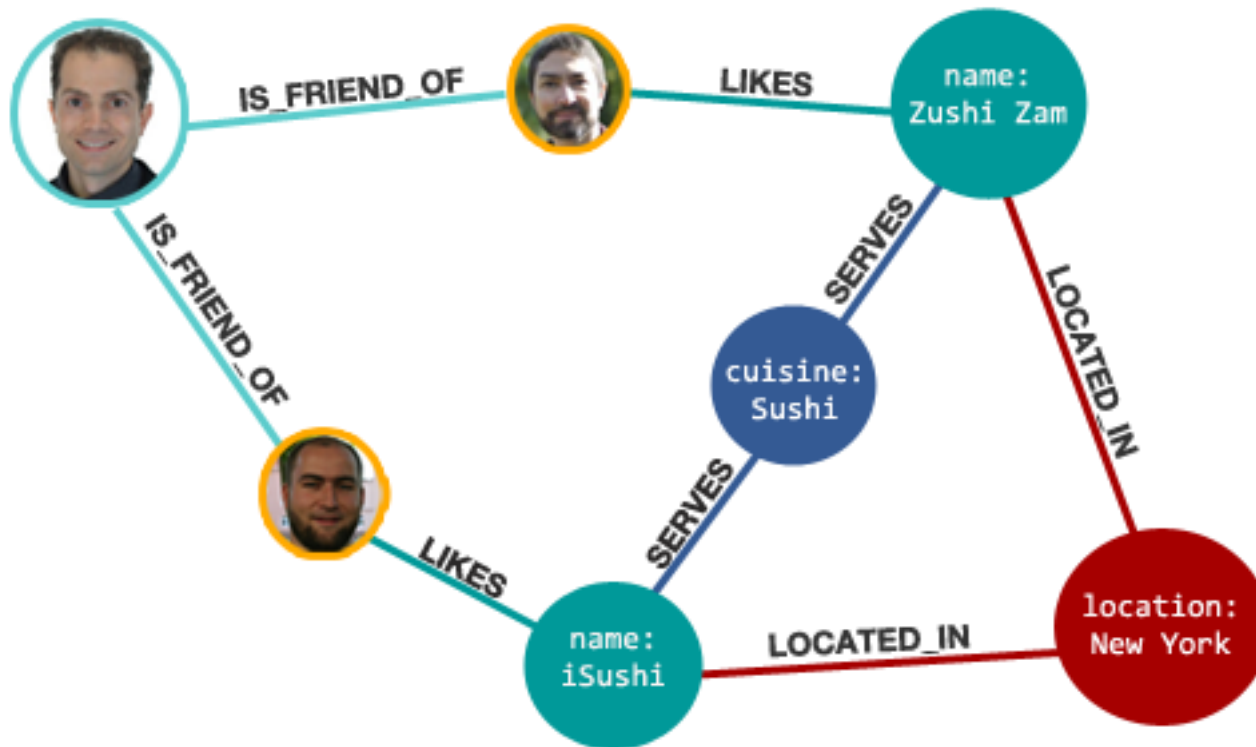
Graphs aren't always simple

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Do you have to use a database?
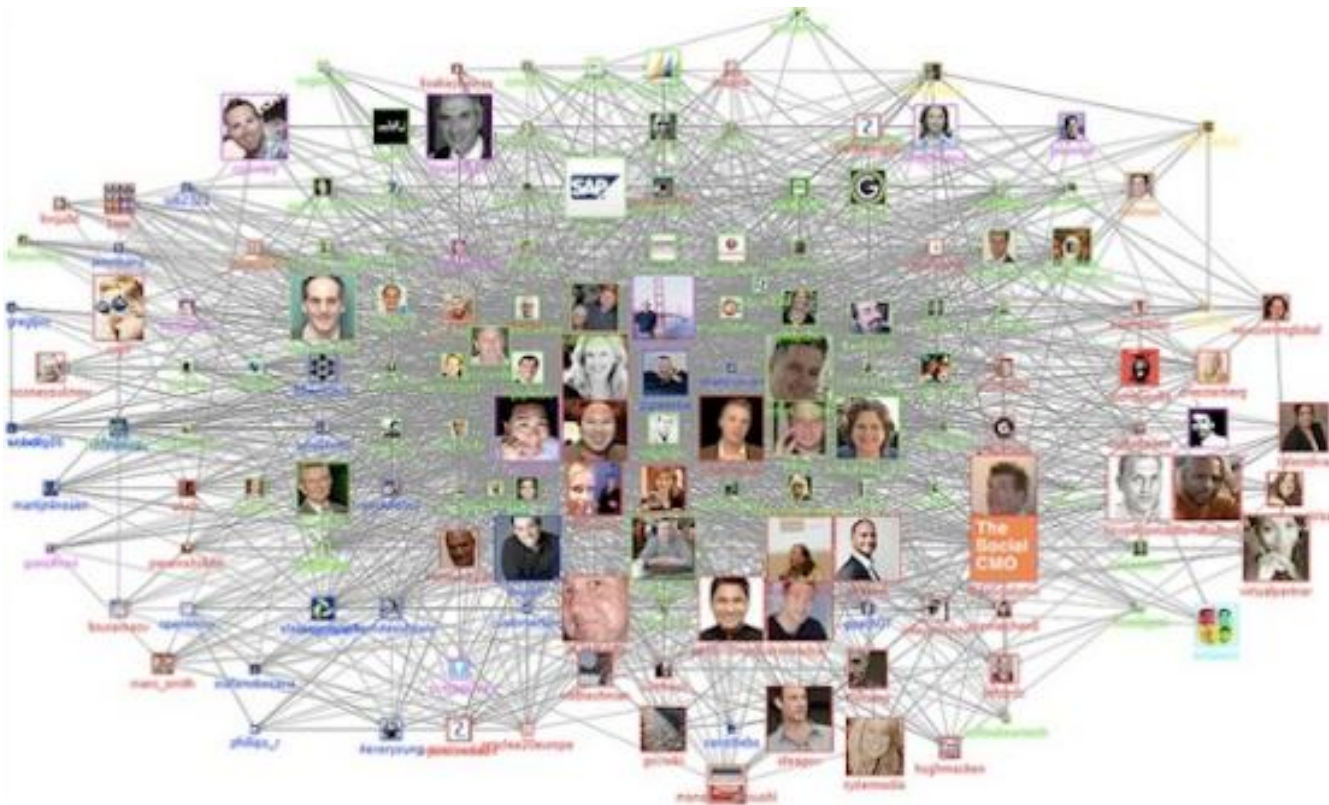
- Graph databases handle:
  - Known knowns
  - Known unknowns
  - Unknown unknowns

- With non-graph (relational) databases you can't discover unknown relationships

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Real-time analytics increasingly important

Distributed processing requirement

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The study of linguistic meaning

⟦SeMANTiCS⟧
of a structure

By Tom 7

⟦ 🥕 ⟧ = carrot

⟦ 🎳 ⟧ = bowling pin

Meaning enables context

Predictive models draw information from three main environments.

Source: PwC

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telling the right story
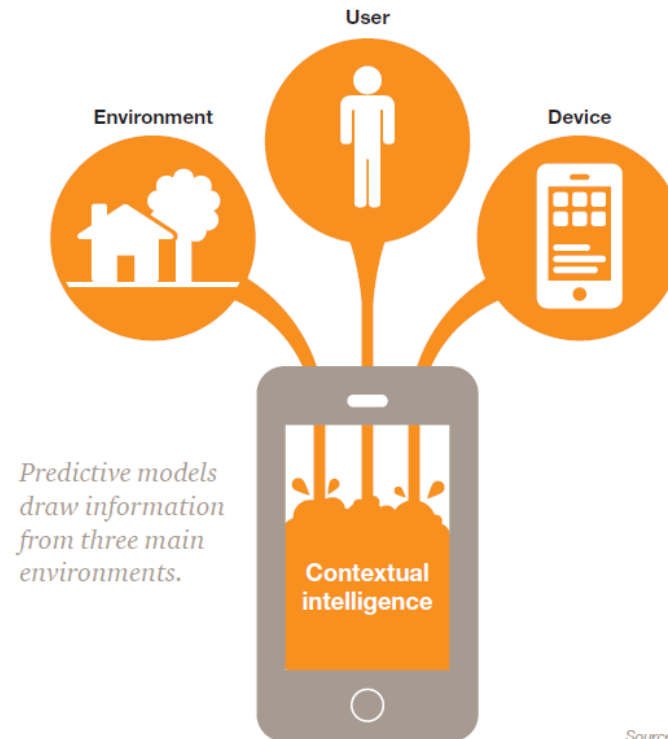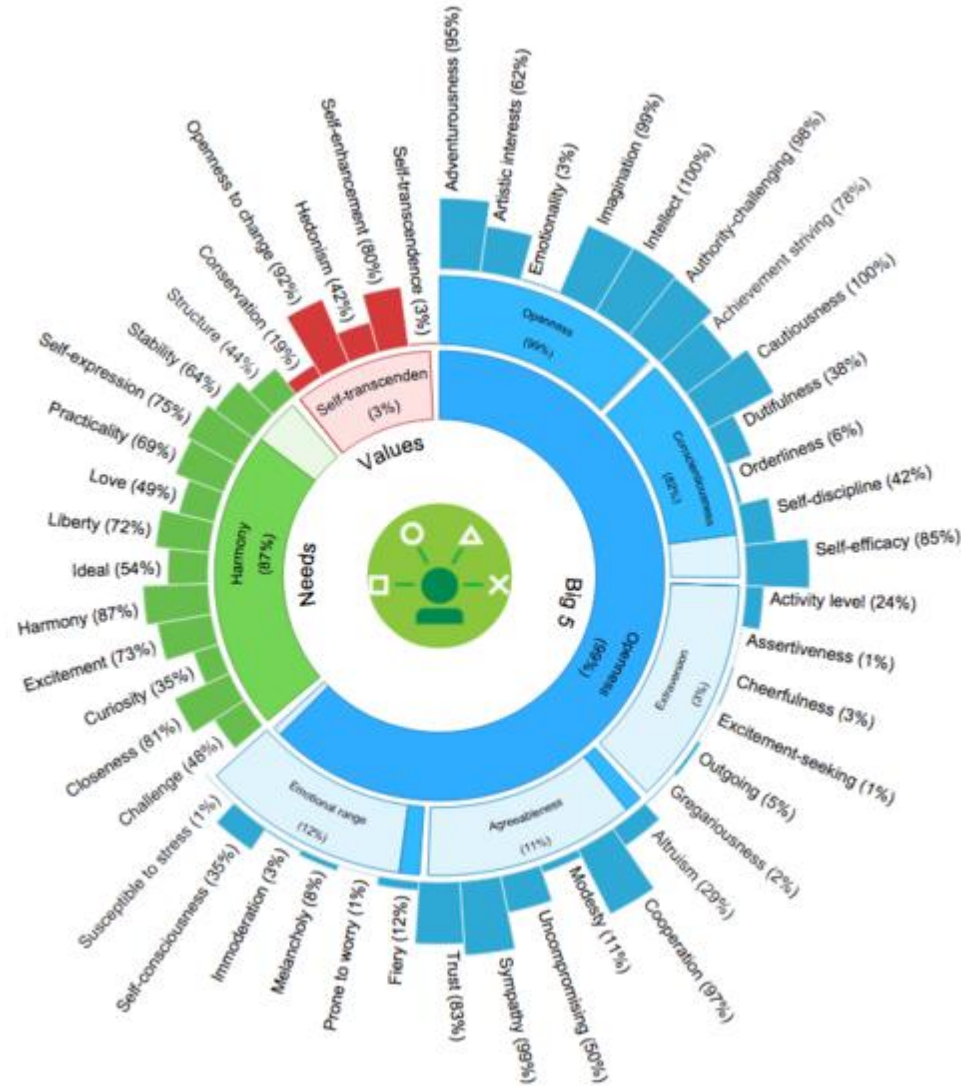
Meaning enables machine learning

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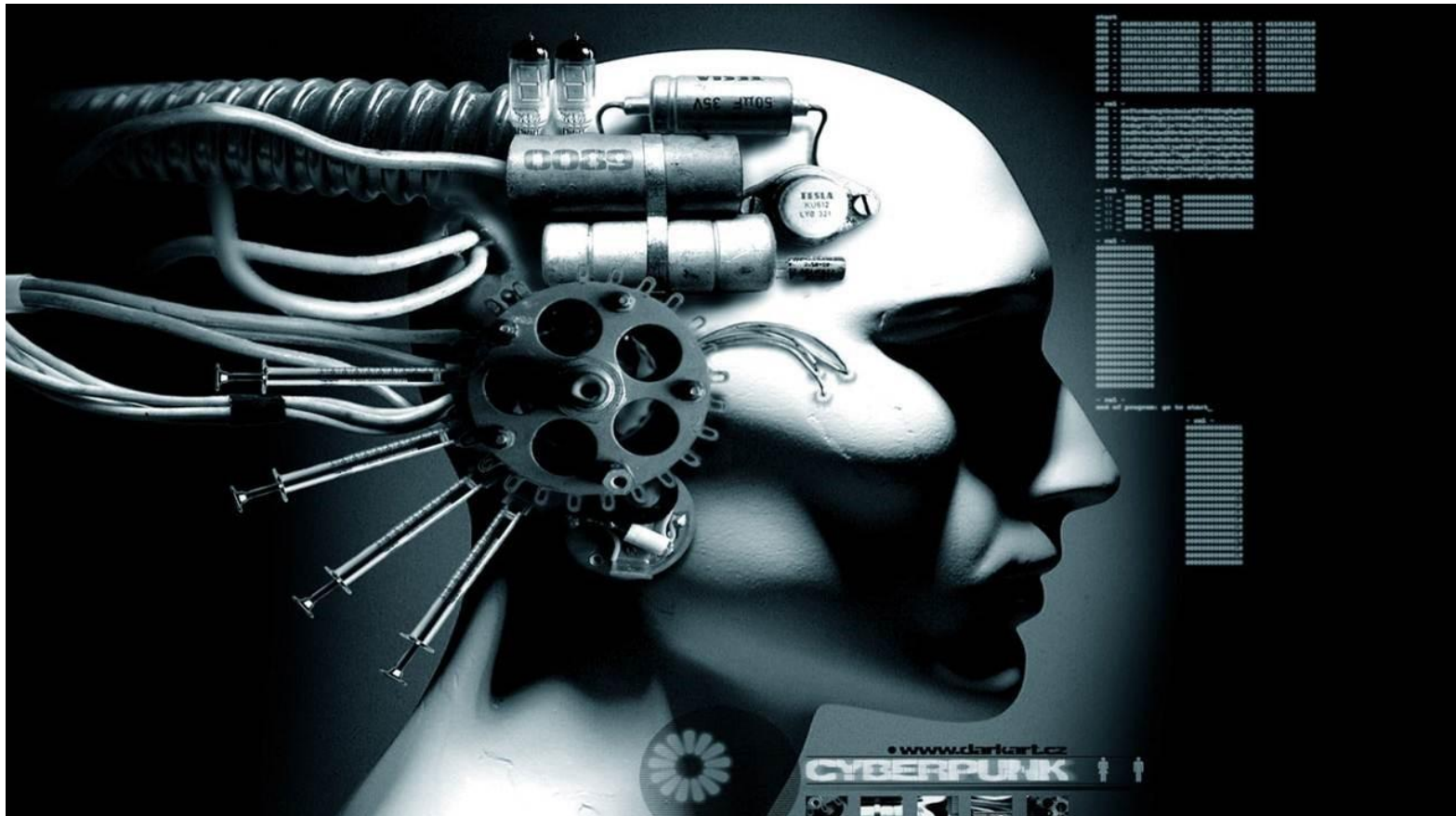
Actually, not this Watson

Self-service data preparation

For business analysts but not end users

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Known as data wrangling or, better, data blending

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- Leverages semantics and machine learning

- Enables analysis of analysis

- Enables proactive IT

- Enables, but hides, data governance

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- As important for "unstructured" data as structured

- Sensor information often duplicated or incomplete

- IT needs to know that users are not doing stupid/non-compliant things

- Masking of sensitive data is a requirement

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- System of record
- Scalability, security …
- Built-in analytics

- Integration
- TCO
- Performance
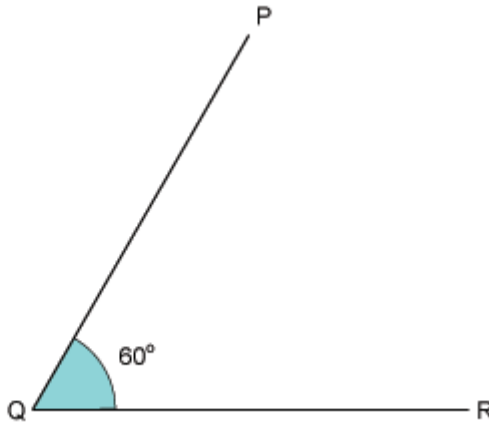
- Don't believe everything you hear/read
- Make sure that what you mean by x is what s(he) means by x
- We are undergoing a radical shift from processing purely structured to data to any data
- Many technologies are involved
- There are far too many products and vendors

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SO LONG
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THANKS FOR ALL THE FISH