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A photograph of a group of people in a meeting. In the foreground, a man with grey hair is seen from the side, gesturing with his hand. Behind him, another man is partially visible. In the center, a woman with dark hair is looking towards the man on the left, gesturing with her hands. To her right, another woman with dark hair is smiling and looking towards the camera. They are all seated around a table in a bright, modern office setting.

Oracle & Big Data

Bram den Uijl – Information Architect
Oracle Consulting, Business Analytics
May, 2015

Agenda

- 1 ➤ **Oracle – history and background**
- 2 ➤ **My daily job 😊 - Oracle and Big Data**
- 3 ➤ **Definitions of Big Data**
- 4 ➤ **Characteristics**
- 5 ➤ **Use cases**
- 6 ➤ **‘Workshops’/Food for thought**



Oracle – history and background

Oracle – the begin...



Oracle – The Stack



Applications

Programma's,
Software



Middleware

Cement en kit
tussen de
tegels/stenen



Database

Gegevens,
Kaartenbak



Database

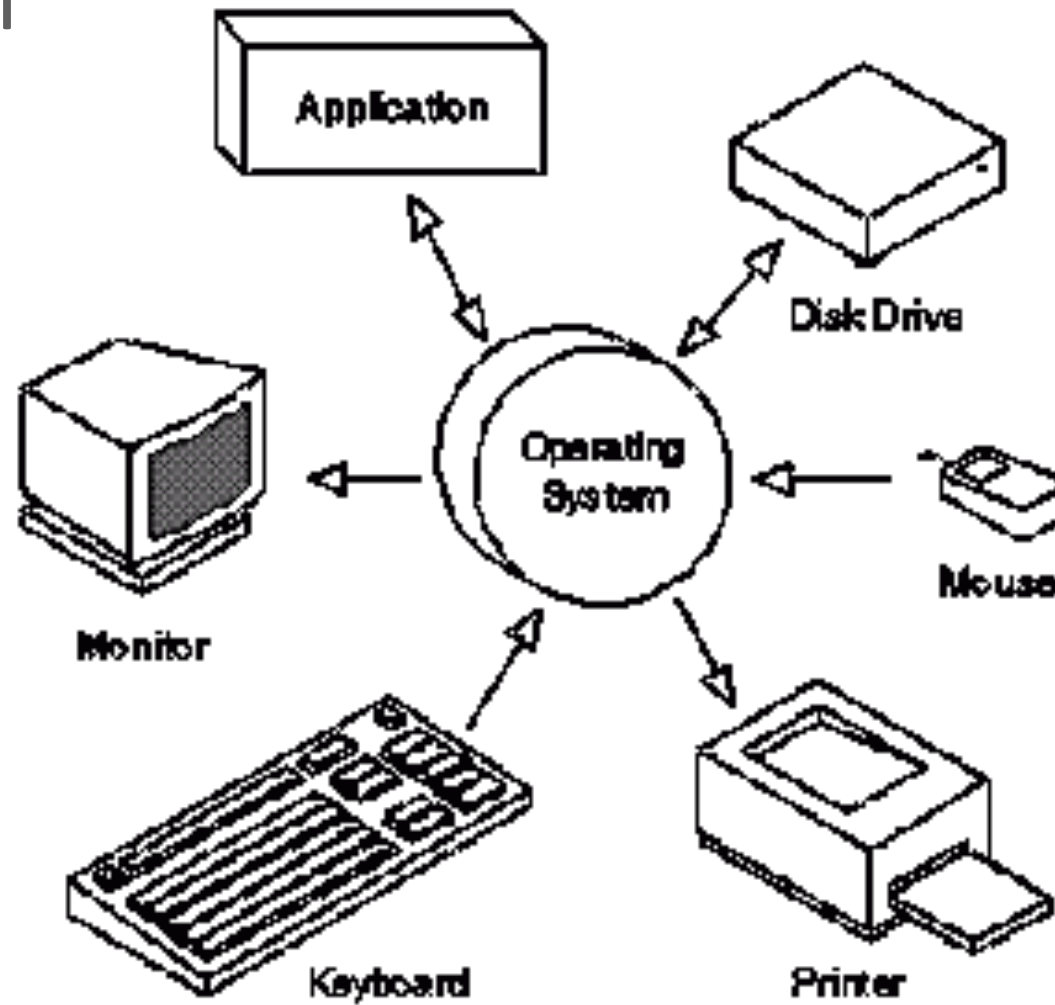
Data
gestructureerd
(Past netjes in 1 vakje
van je kast)



Data
“Niet gestructureerd”
=
Big Data

Operating System

Besturing van
computers



Servers

Computers zelf
(soms klein,
meestal groot)



Servers en applications

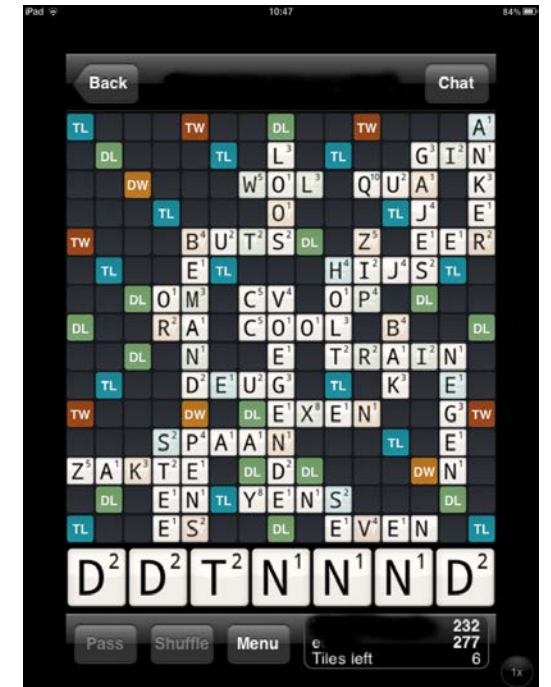


On premise

Op Locatie:
Je kan het
Aanraken/
voelen...

Cloud

“in de lucht”
Internet, via
WiFi...



Storage

Opslag van gegevens en bestanden (filmpjes, muziek etc.)

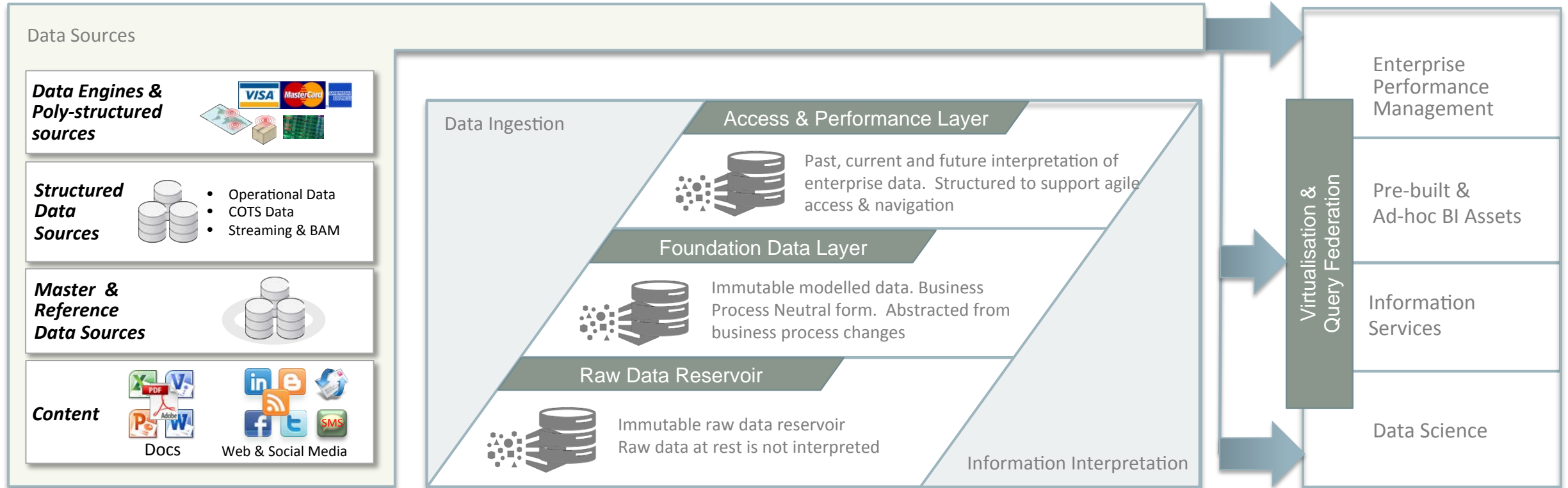


My daily job 😊

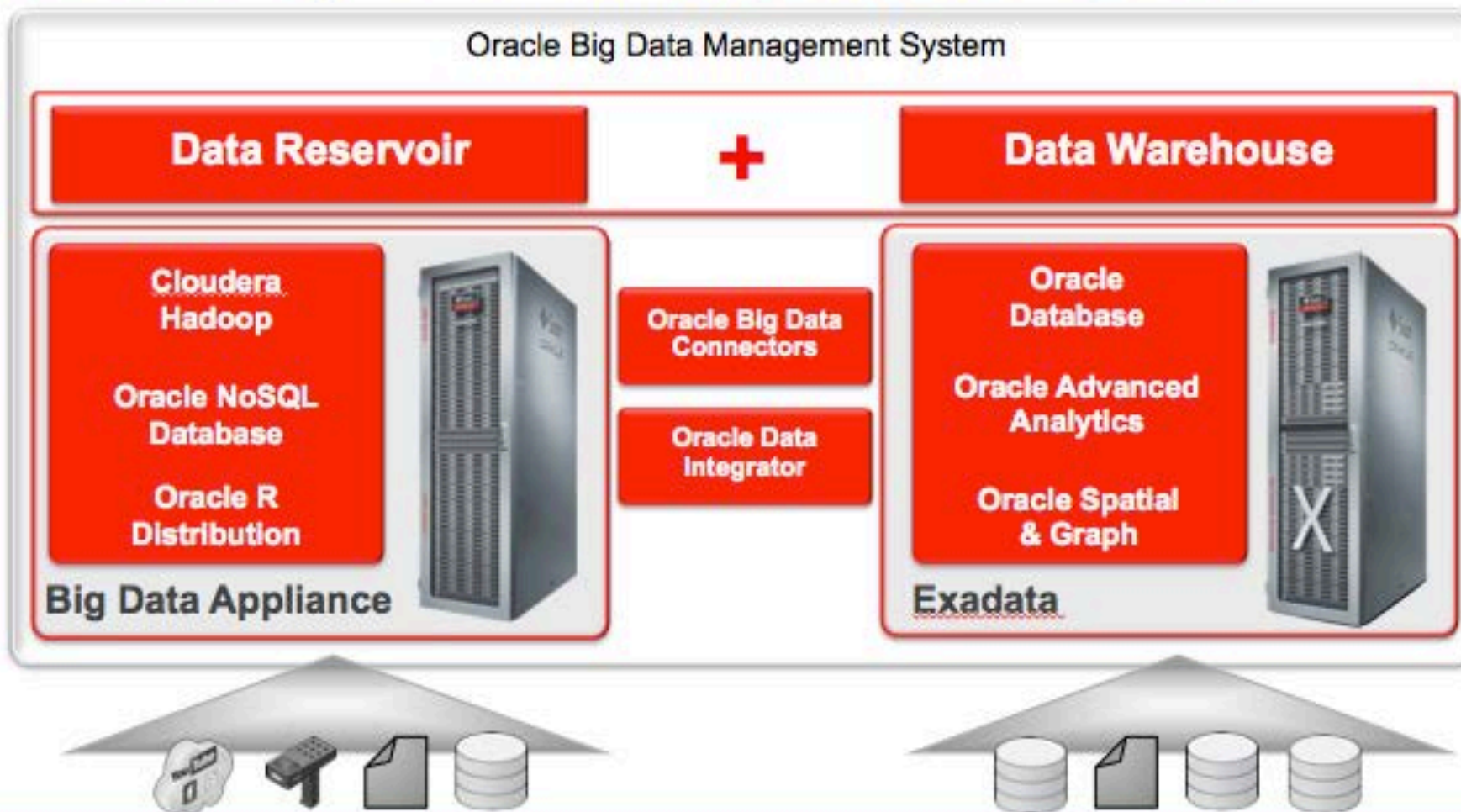
Oracle and **Big Data**

Information Management Architecture – Logical View

Information Provisioning Direct Flow from Source Systems



Oracle Big Data Management System



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Big Data – Definitions

Definitions

“Datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyse”

— *Big Data Study of McKinsey in 2011*

Higher
volume

Different
structures

New data

“The ability of society to harness information in novel ways to produce useful insights or goods and services of significant value” and “...things one can do at a large scale that cannot be done at a smaller one, to extract new insights or create new forms of value.”

— *Viktor Mayer-Schönberger and Kenneth Cukier*

More definitions

“The **shift** (for enterprises) from processing internal data to mining external data.”

— <http://whatsthebigdata.com/>

More insight

External
sources

More
feedback

“A new attitude by businesses, non-profits, government agencies, and individuals that combining data from multiple sources could lead to better decisions.”

Definition...

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

— Gartner

WHAT

—————→ High-volume, -velocity and -variety information assets

Definition...

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

— Gartner

WHAT

→ High-volume, -velocity and -variety information assets

HOW

→ Cost-effective, innovative forms of information processing

Definition...

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

— Gartner

WHAT

—————→ High-volume, -velocity and -variety information assets

HOW

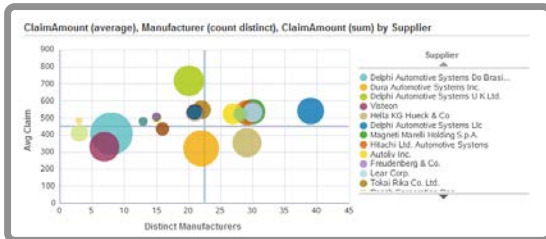
—————→ Cost-effective, innovative forms of information processing

GOAL

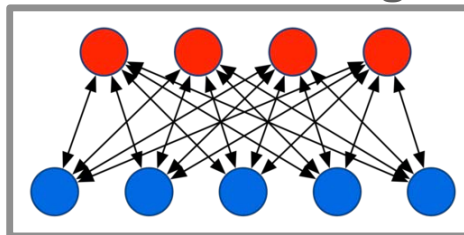
—————→ Enhanced insight and decision making

Self-branding

Big Data insights



Better Matching



Self-branding



Users all must brand themselves in a specific way in order to get whatever they are looking for, in this case a relationship.

It requires users to brand themselves as products that other users would potentially want to buy

or more accurately get to know better based on how they market themselves differently than every other individual looking for companionship on the site.

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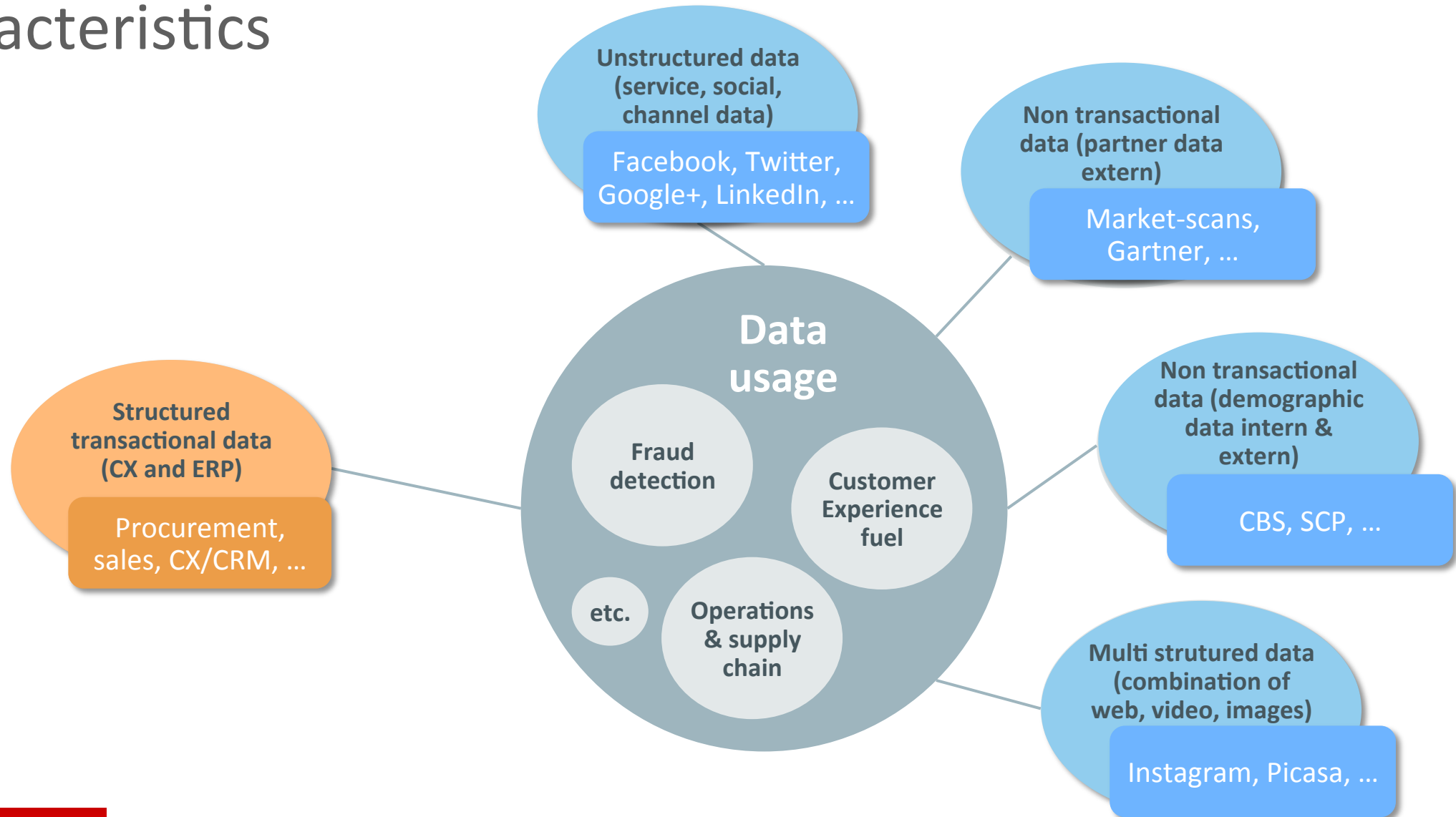
Executives who feel they understand the impact data will have on their organizations

Produce
Data



Use
Data

Characteristics



Workshop 1



Welke data is er
van jou bekend?

Waar is de data
van jou?

Welke data van
jou mag bekend
zijn?

Wie maakt er
gebruik van je
data?

Use cases

Use Cases

Sport



Media



Banking



Industry



Insurance



Services



Workshop 2



Wat betekent
Big Data voor
bedrijven?

Welke kansen
zie je?

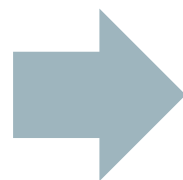
Welke
beperkingen/
'gevaren' zie je?

...

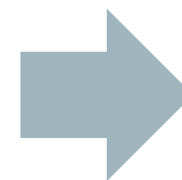
Flemish company that we know from the following media:

- Radio & television: **Q-music**, AT5
- Papers: Het Parool, Trouw, Algemeen Dagblad, de Volkskrant
- Magazines: VNU Media, Intermediair

Matching



Available data

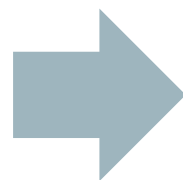


How to improve
matching?

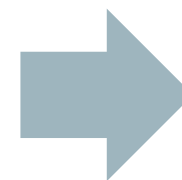
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Matching



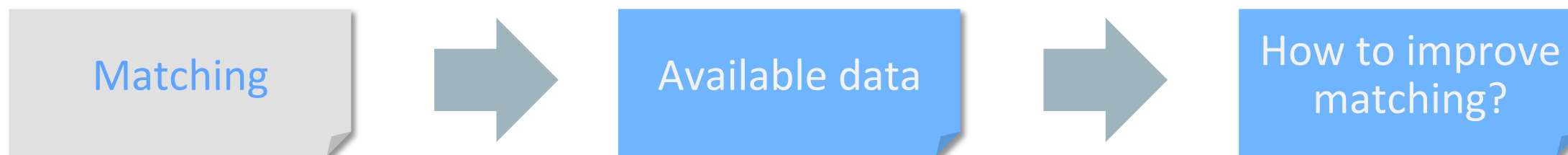
Available data



How to improve
matching?

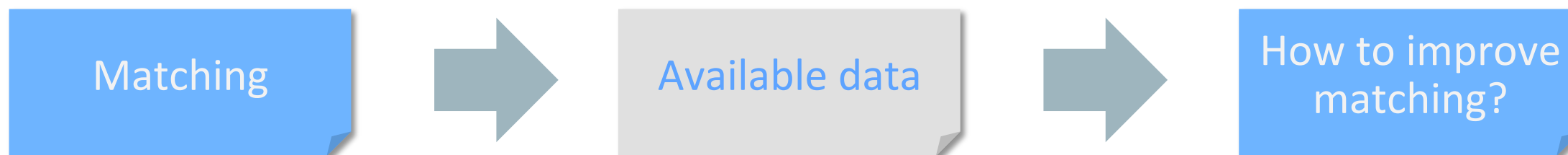
Matching – few examples:

- Media-content ~ interests of the customer
- Marketing focus ~ new customers (extend customer base)
- Marketing focus ~ current customers (maintain current customer base)



Available data:

- *Sales data*: what products are sold to what customers for what price at what time
- *Marketing data*: which marketing campaigns attracted what type of customers?
- *Customer data*: which customers ended their contract, website comments
- *External data*: reviews, twitter sentiment

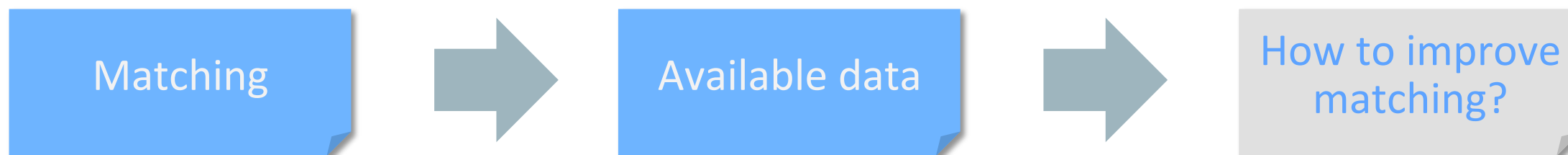


Improve matching – *marketing focus ~ current customers*

Used data: location-data, sales-data per product, customer reviews, personal contact

Purpose: determine what customers are likely to not renew their newspaper

Improve matching: provide marketing with this list of customers



Actual use case:

De Persgroep build a predictive model based on big data which —with an accuracy of 92%— is able to predict that you wont renew your newspaper anymore.

They changed their marketing strategy to retain customers that otherwise would have not renewed their newspaper.

This predictive model is build on Oracle's Big Data Appliance.

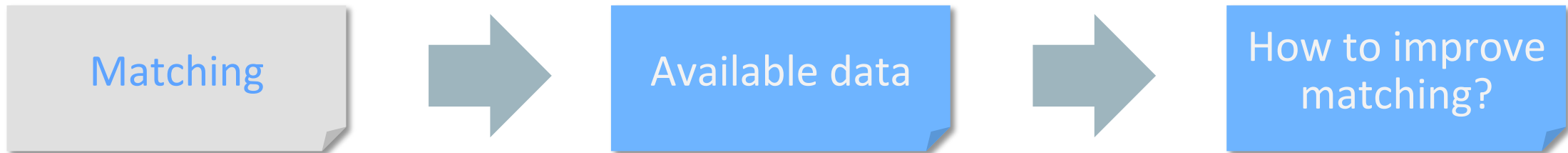


Xerox is an American multinational document management corporation that produces and sells a range of printers, photocopiers, presses, and related consulting services and suppliers.

Xerox had a matching problem: how to find good people for their call centres.

Matching:

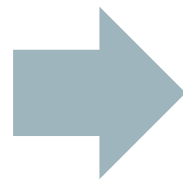
- Call centre applicants ~ job openings



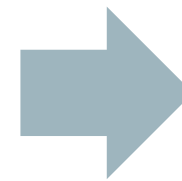
Available data:

- Interview questions of applicants
- Behaviour of call centre personal that perform good
- A set of logs that describe call centre scenario's
- Feedback on call centre scenario's

Matching



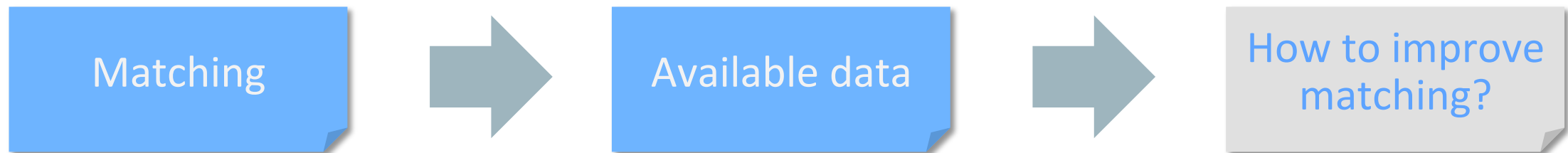
Available data



How to improve
matching?

Improve matching – call centre applicants ~ job openings

- Collect personal traits from good personnel
- Create a test that screens for personality traits of the ideal call centre employee and puts them through scenarios they might encounter on the job





Goal: Improve hiring process of call centre employees

Big Data challenge: At Xerox, applicants take a 30-minute test that screens for personality traits and puts them through scenarios they might encounter on the job. A big data model decides whether an applicant will get the job. This model is based on personal traits that ideal call-centre workers have.

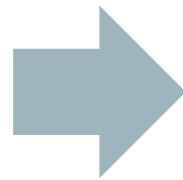
Insurance branch...



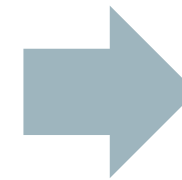
Matching:

- Driver behaviour ~ Prices for car insurances

Matching



Available data



How to improve
matching?

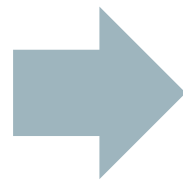
Insurance branch...



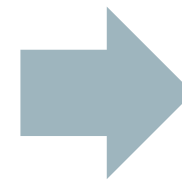
Available data:

- Historical data (in case the driver has a record)
- Collect sensor data from the driver

Matching



Available data



How to improve
matching?

Insurance branch...

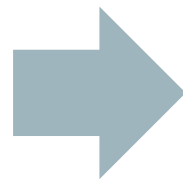


Improve matching - Driver behaviour ~ Prices for car insurances

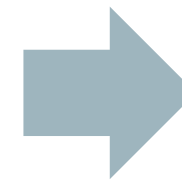
Create risk model from sensor data

Win/win? A driver can prove that he/she has a good driver behaviour and has a cheaper car insurance.

Matching



Available data



How to improve
matching?

Use case – Online dating



Workshop 3



Welke vragen
wil je stellen bij
een dating-site?

Welke vragen
zou je eventuele
partner moeten
stellen?

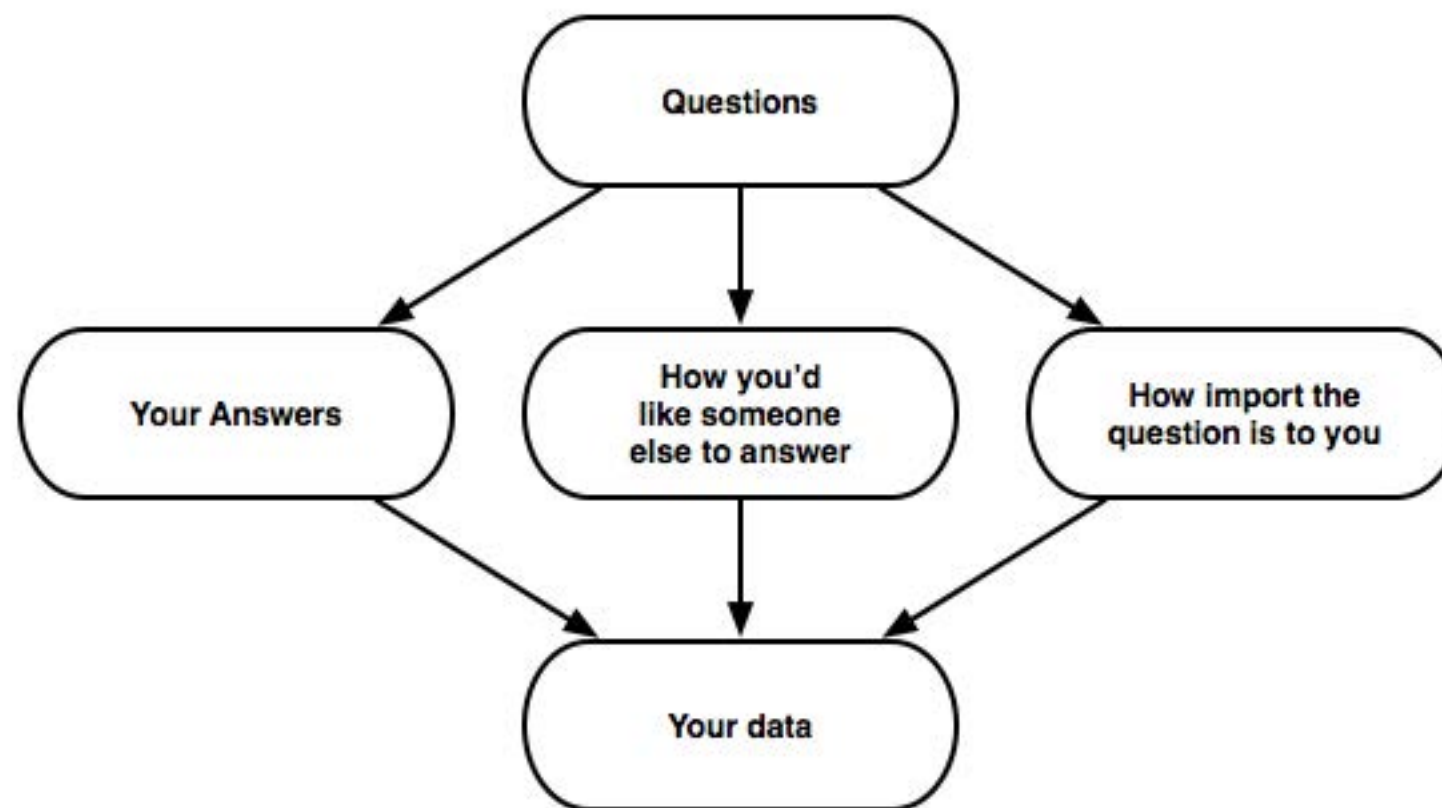
Wat is nodig
voor de ideale
match?

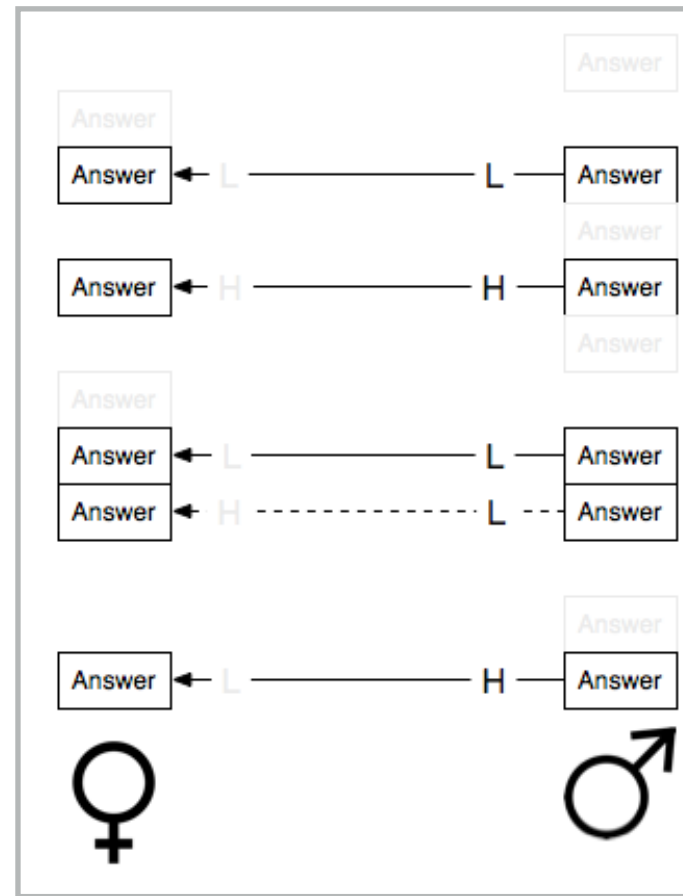
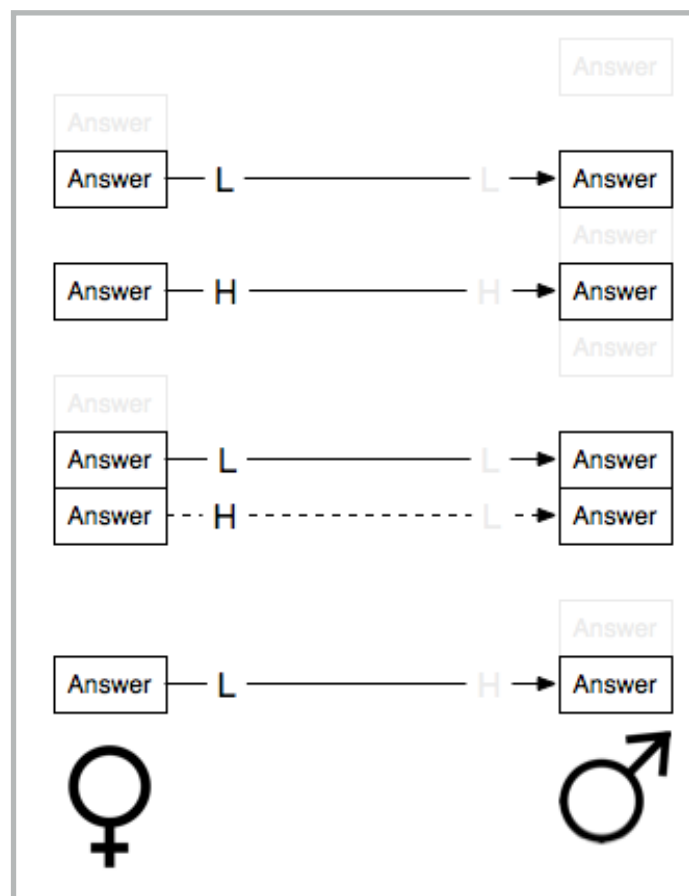
...



Goal: Dating – matching performance

Big Data challenge: ...

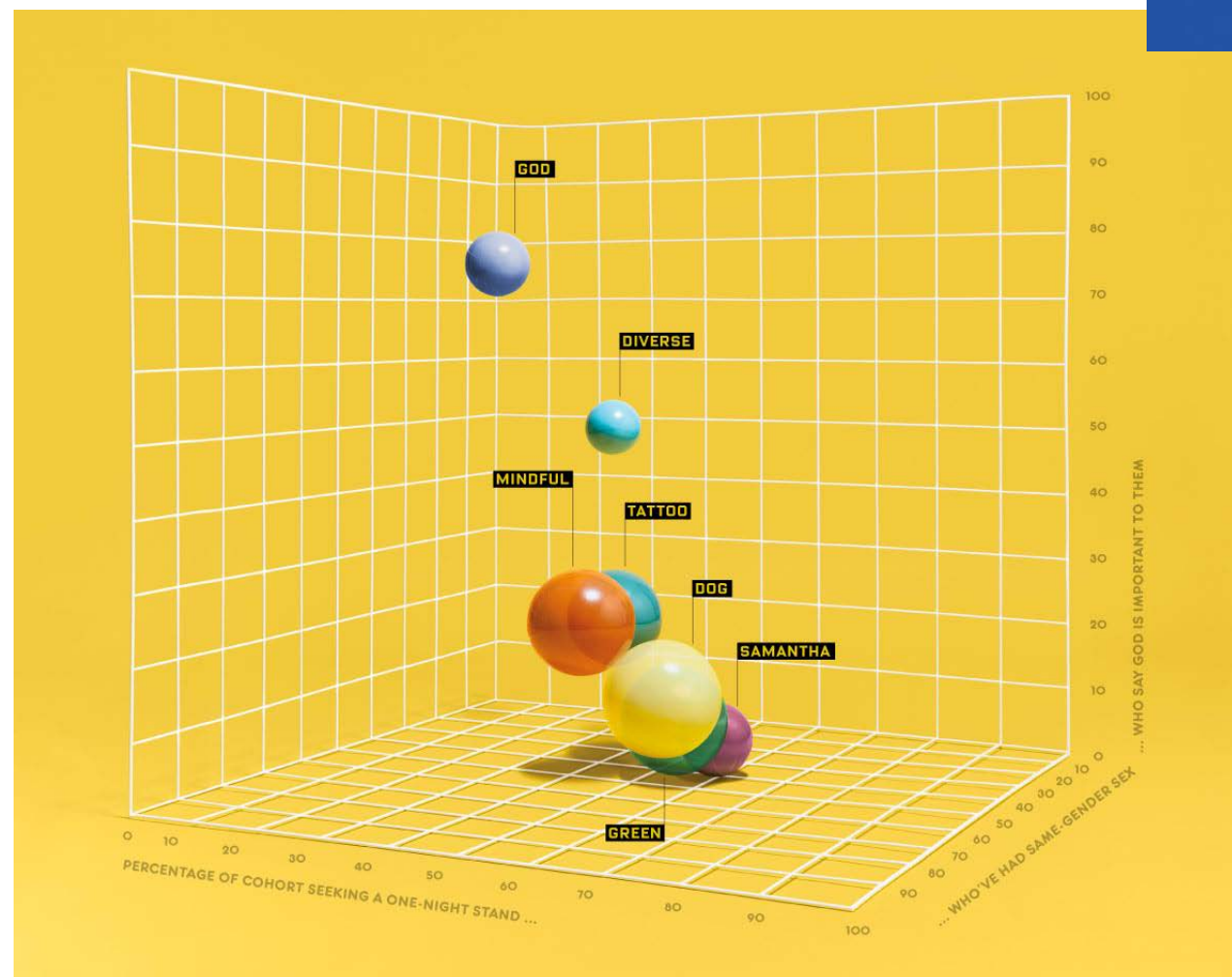




Problem: You need common answers to be matched

6.000.000 answers
of 20.000 partners

God
Diverse
Mindful
Dog
Tattoo
Green



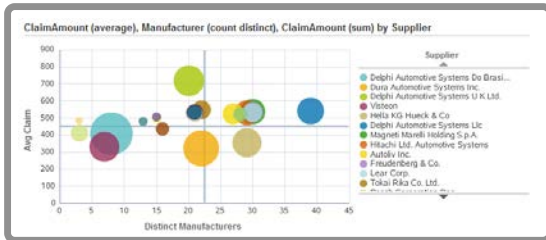


1. What type of partners are in the cluster?
2. Set up a profile
3. Answer top 500 questions honestly
4. Let computer assign the importance of each question
5. Notify partner by automatically visiting their profiles

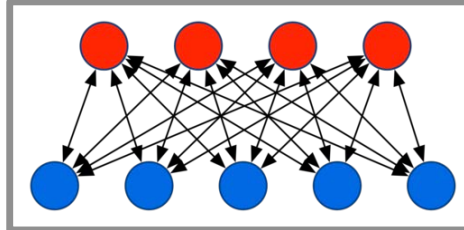


Self-branding

Big Data insights



Better Matching



Self-branding



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It requires users to brand themselves as products that other users would potentially want to buy

or more accurately get to know better based on how they market themselves differently than every other individual looking for companionship on the site.

Summary...



Creativity



Innovation



Big Data is
everywhere!



Relationships
and
dependencies

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