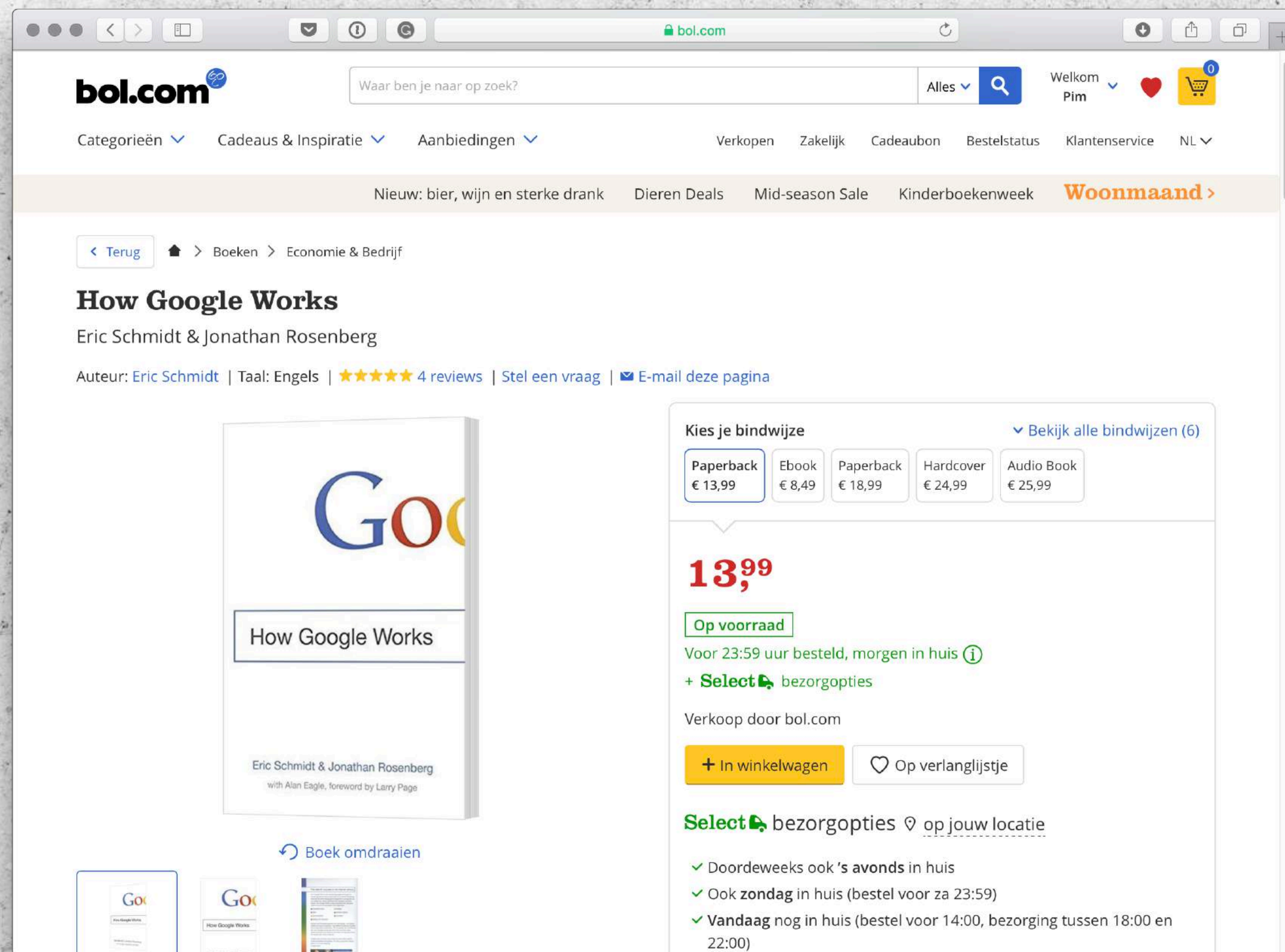


Learning to learn

DDMM
DATA
DAG



1999

Online retail

Retail + platform (16k)

€1.6bn (2017)

41 stores

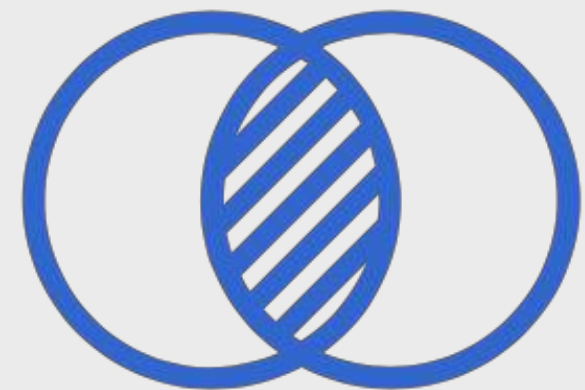
1400 employees



Pim Nauts

Lead Data Science

Data Science, organised around 4 domains (2017)



Relevance

Smart advertising
Recommendations
Data platform
Experimentation



Best Offer



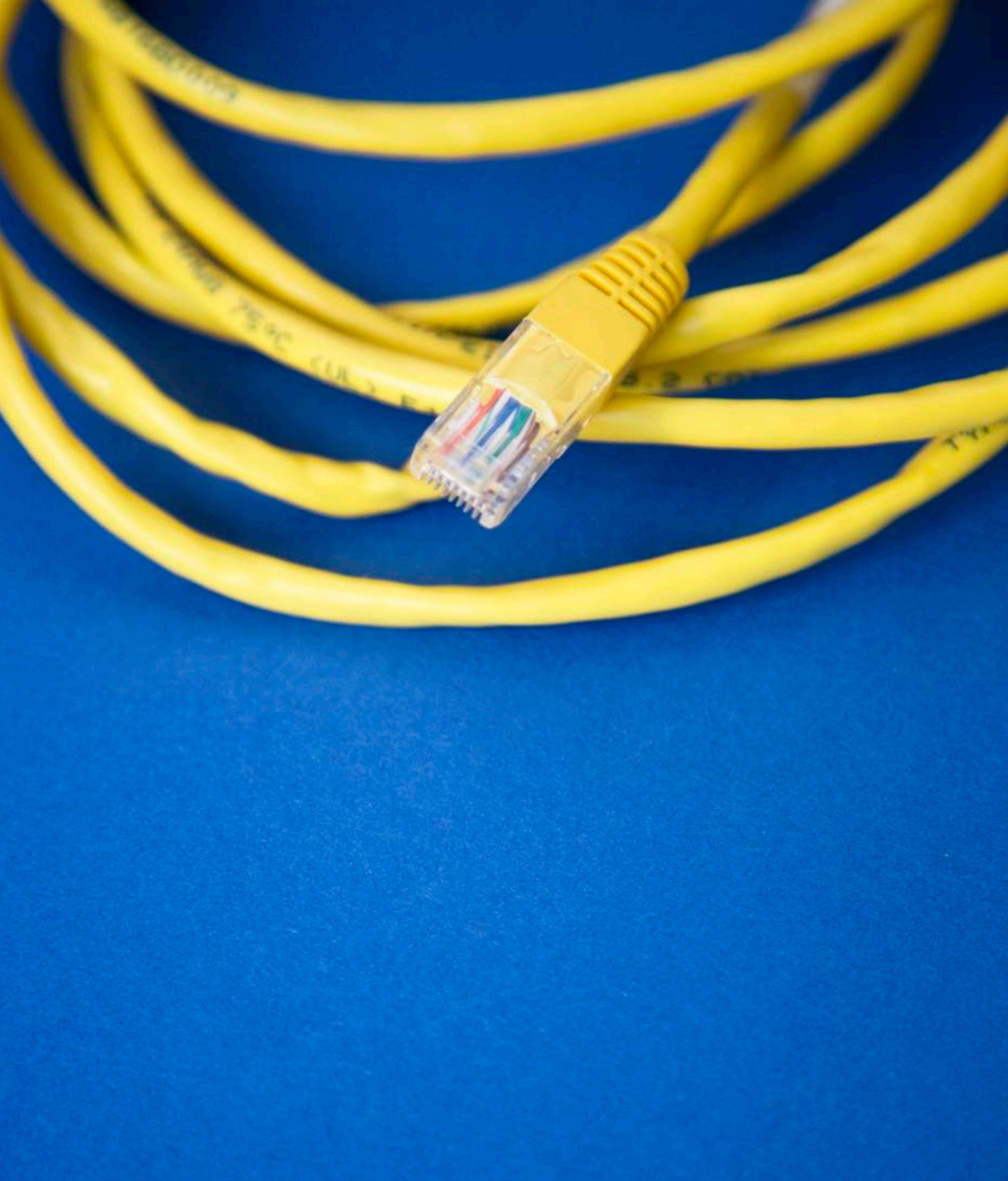
Search & content



Forecasting

We use data, about
everywhere

(**Traffic** • **Conversion** • **Order value**) – returns






A definition



Use data you
have (seen)
to
Generate data
you haven't
(seen)

Data for CX: recommendations

... alternatief

Anderen bekeken ook

 127 47 40 27		
Philips Philips AquaTouch S5530/06 -... € 79,00	Philips Philips Series 5000 S5100/06 -... € 67,00	Philips Philips Shaver 3 serie S3520/06 € 60,00

Verder kijken?

Anderen zochten ook

"grasmachine"



Bekijk de zoekresultaten >

Anderen zochten ook

"kantenmaaier"



Bekijk de zoekresultaten >

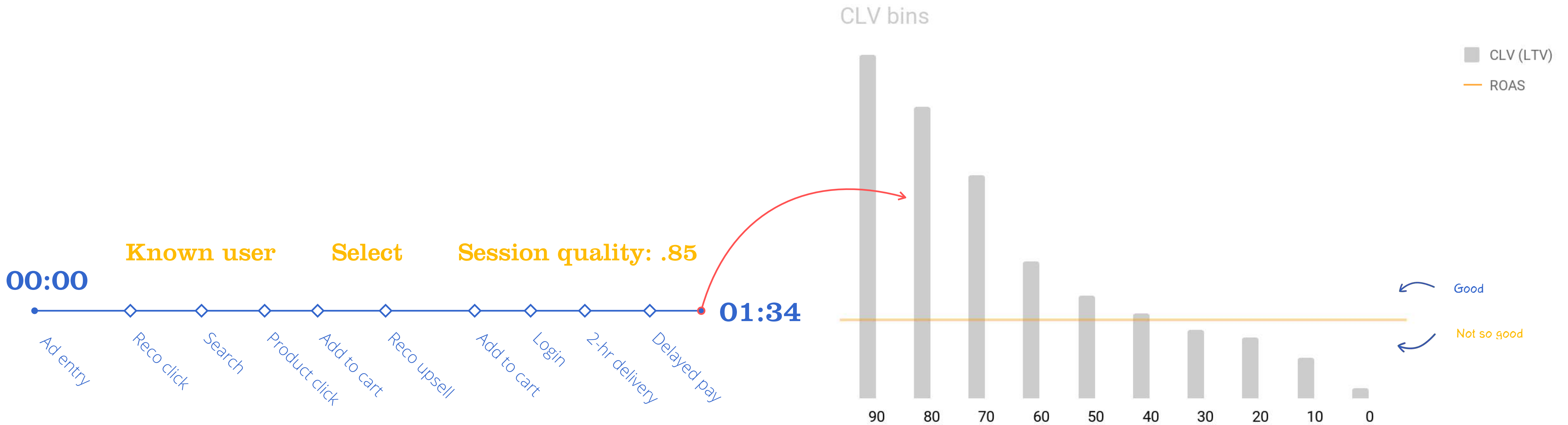
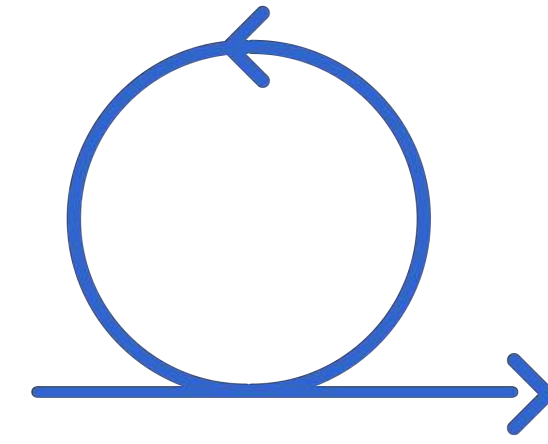
Nu gratis darts

bij een NERF Fest blaster

ips voor jou

 Charlotte Dematons De gele ballon	 Dieter&Ingrid Schubert Monkie 14,95	 Ingrid Schubert Van de giraffe
--	---	---

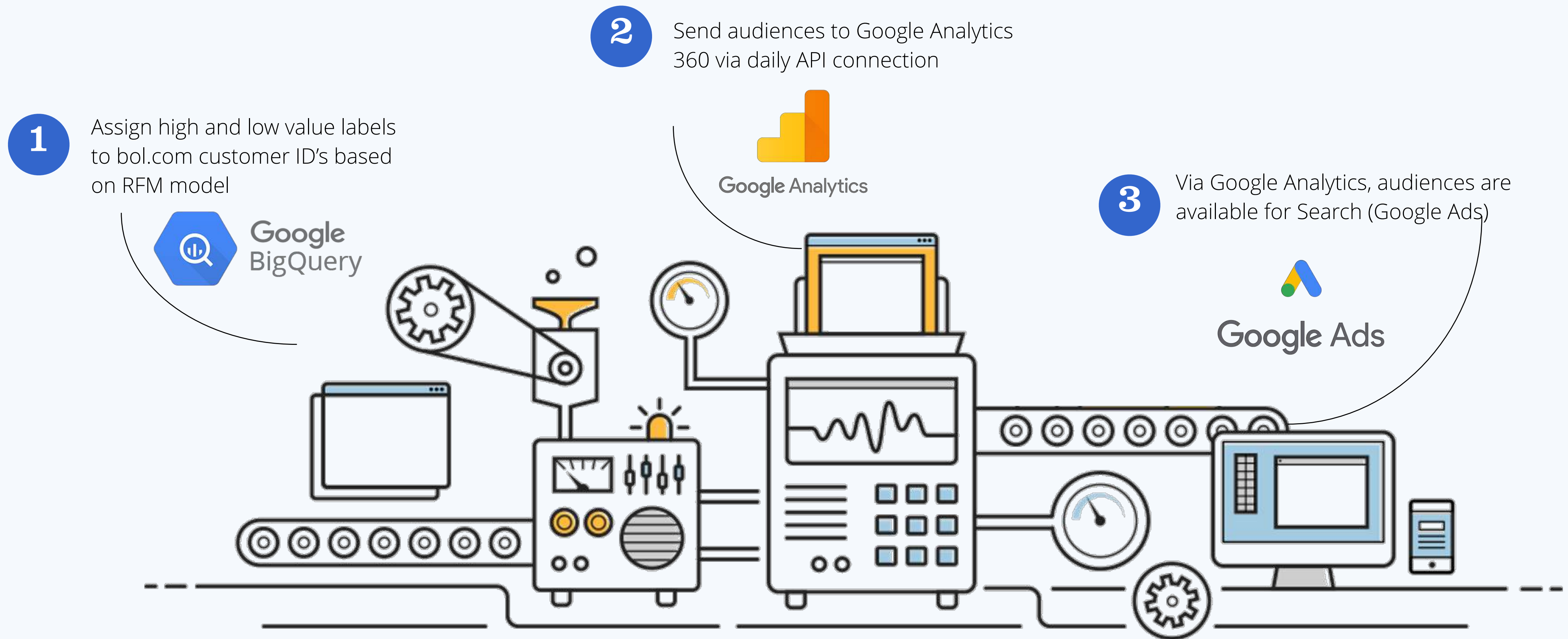
Predicting lifetime value to optimise audiences and ROAS.



Google

The Audience Machine

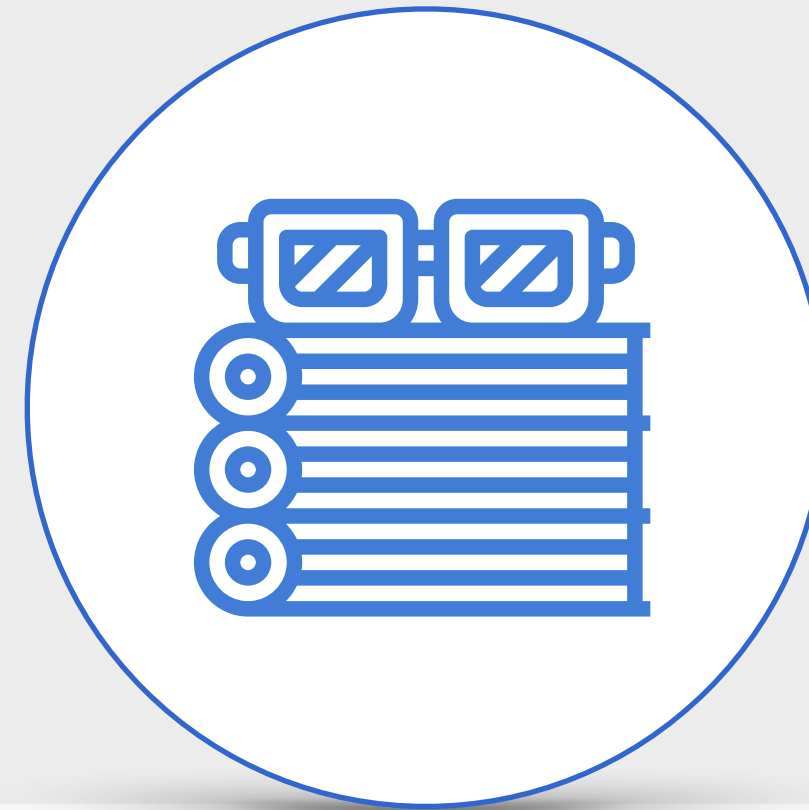
high and low value audiences available in Google Ads via API on a daily basis



My 3 main points



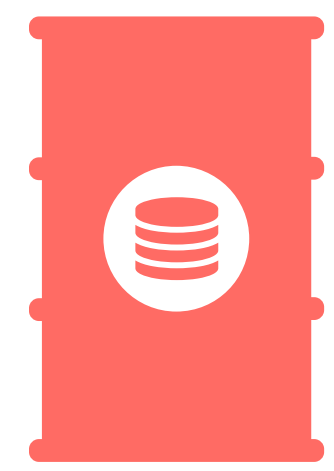
**Data is NOT
the new oil**



**Learn to
learn**



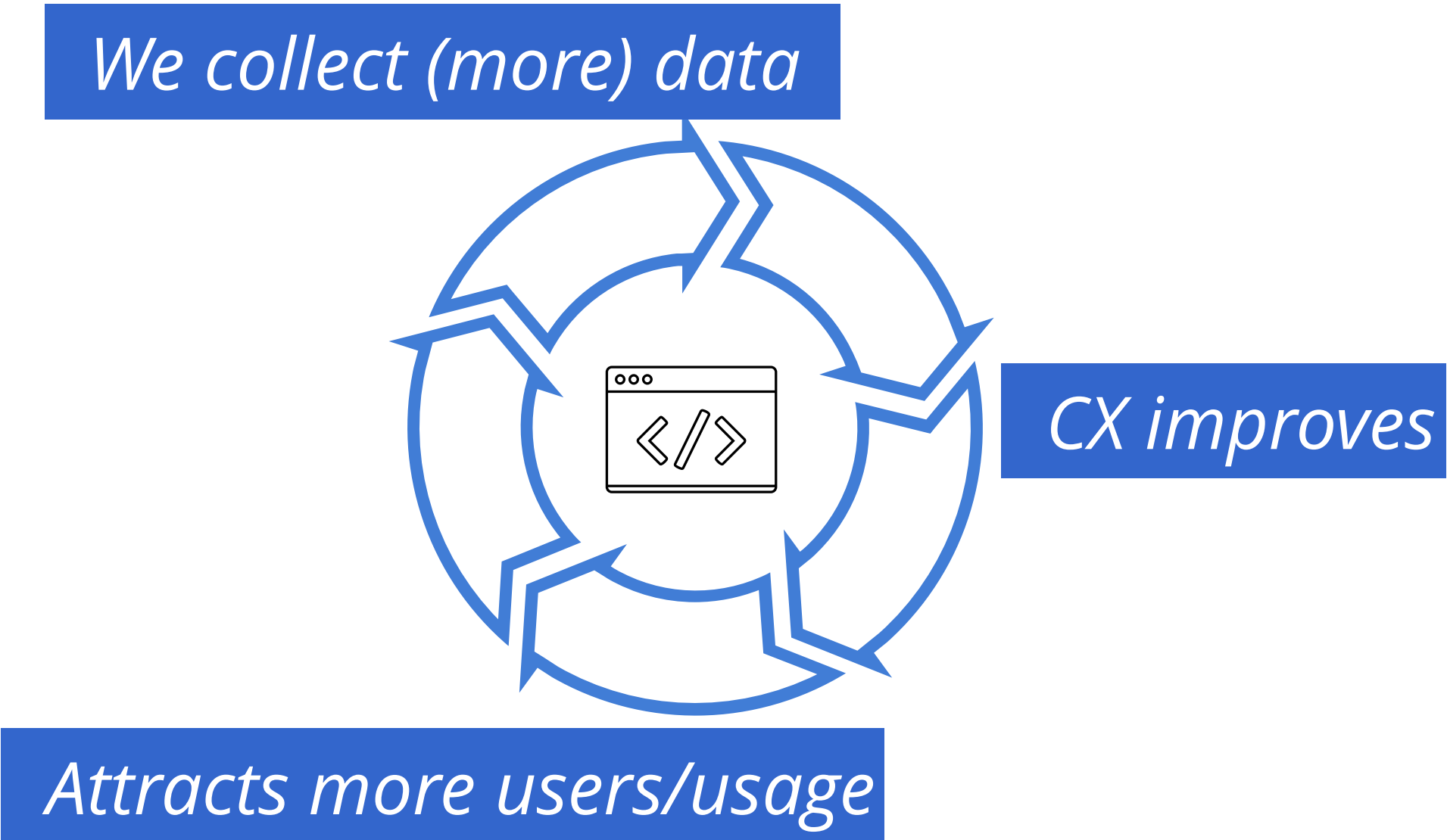
**Optimise for
learning**



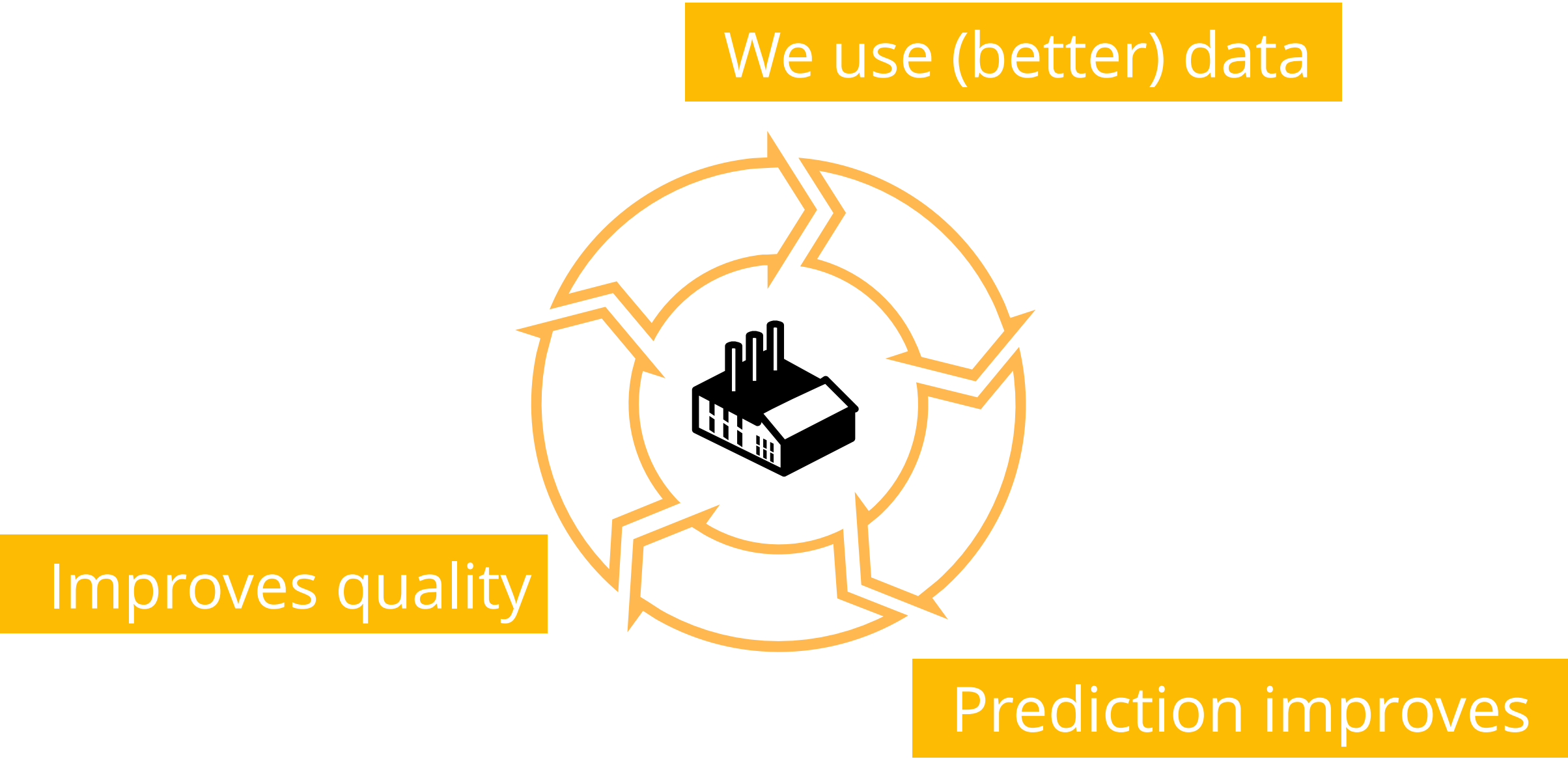
“Data is the new oil”



Why (our) data is valuable: two flywheels

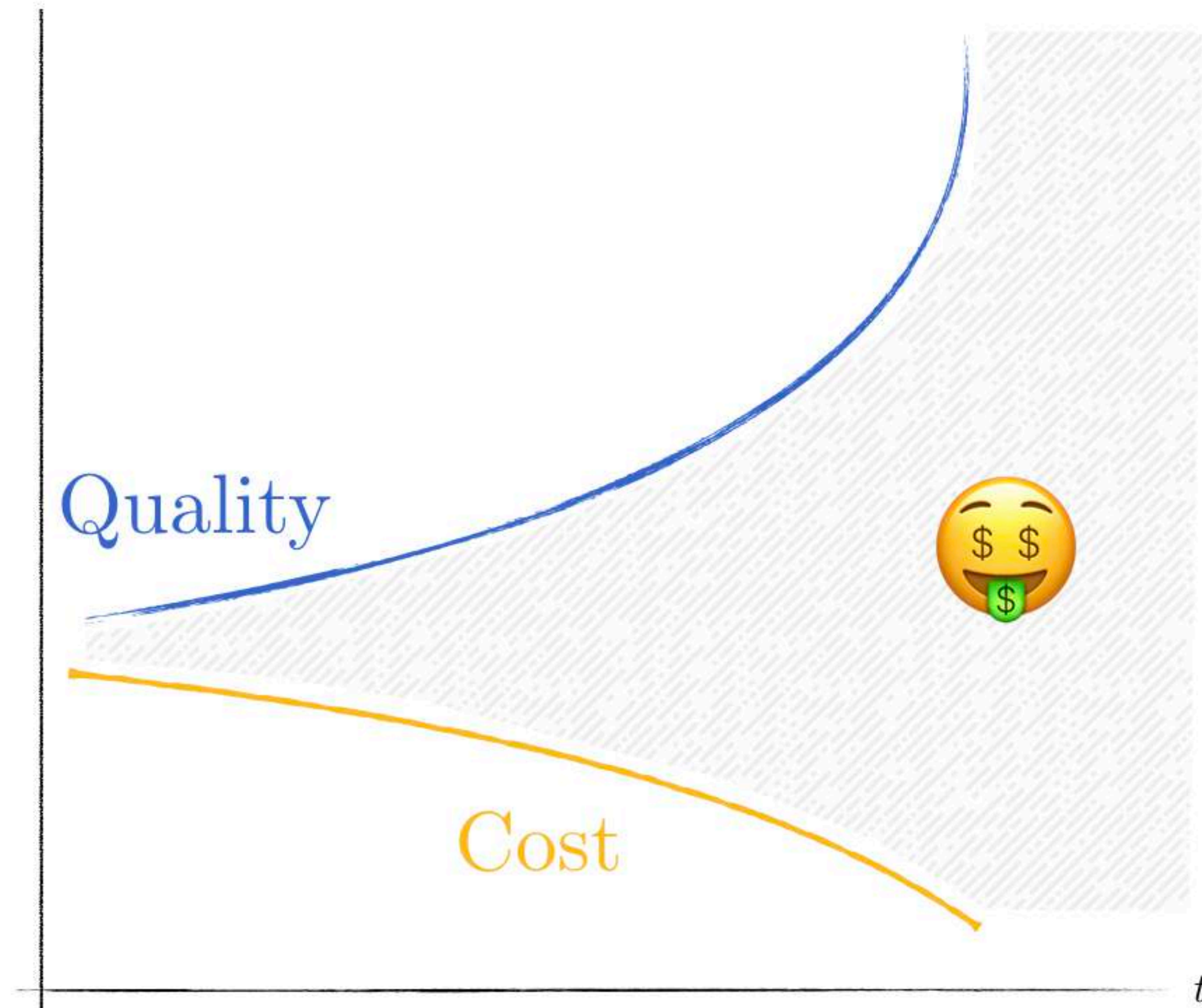


Front-end

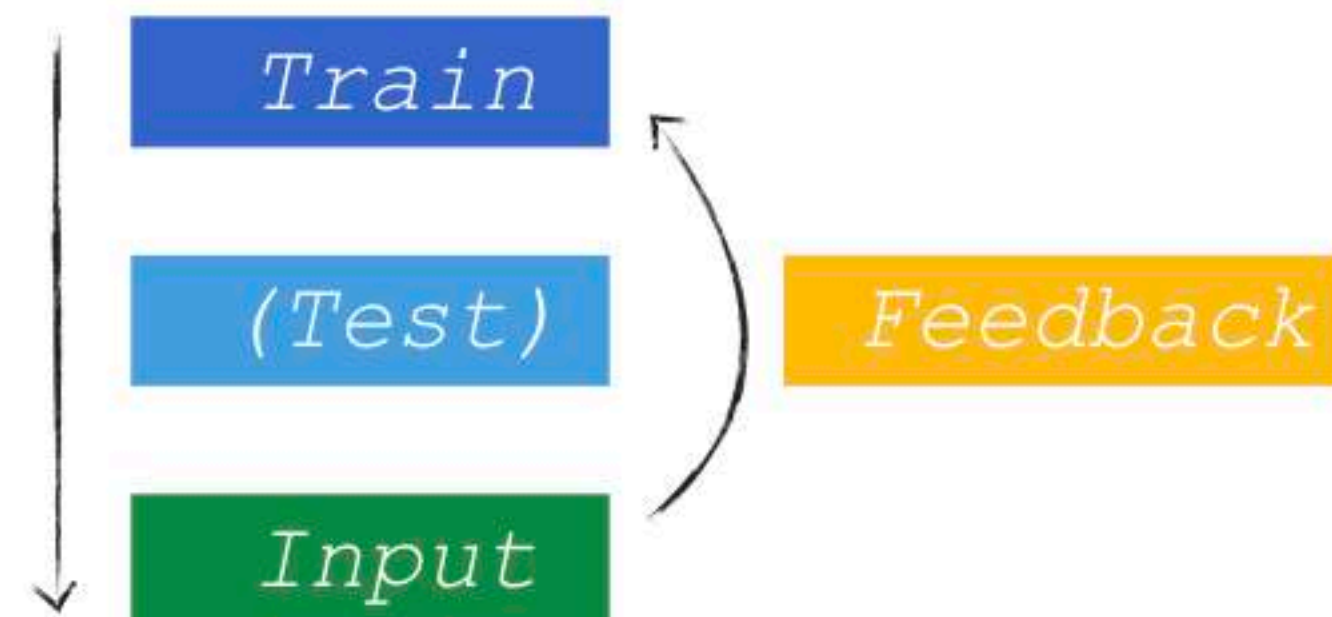


Back-end

A law of increasing returns



Data's changing data.



Market offerings lack the purity we want (need?)

	Hit	Content	Interaction	Real-time	Ownership	Integration	Cost
Vendors	✓	✗	✓	✗	✗	🤔	😡&!#%
Own - logs	✓	✗	✗	✓	✓	😎	✓

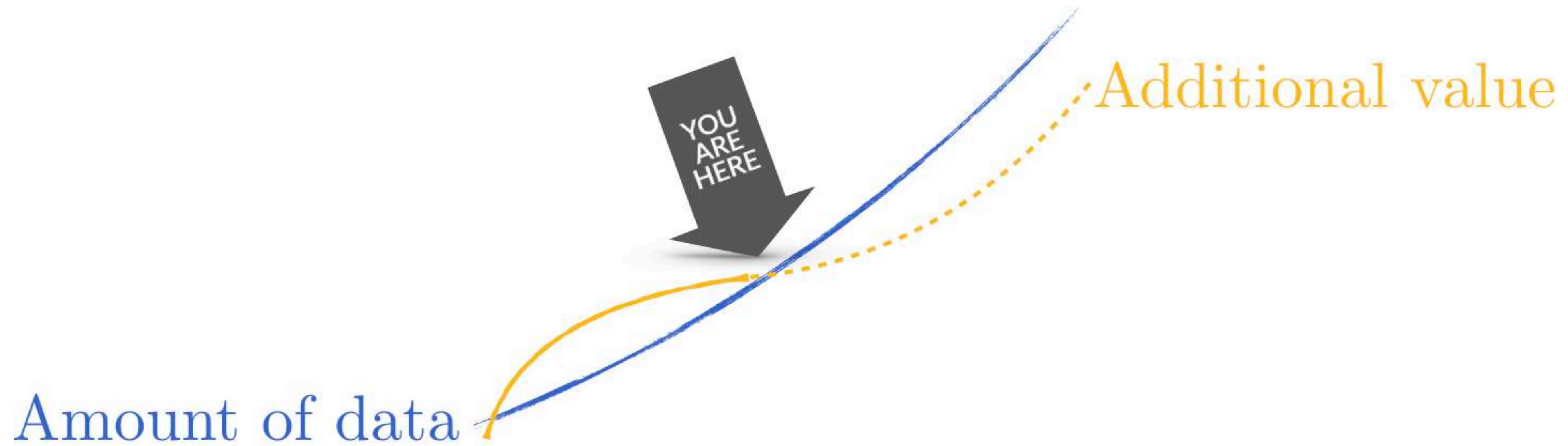
And so we built our own

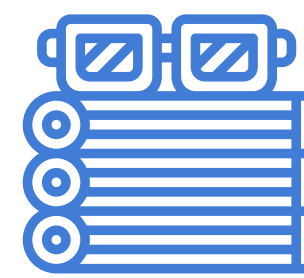
	Hit	Content	Interaction	Real-time	Ownership	Integration	Cost
Vendors	✓	✗	✓	✗	✗	🙄	😡&!#%
“M2”	👑😄	👑😄	👑😄	👑😄	👑😄	👓😄	👑🔑
Own - logs	✓	✗	✗	✓	✓	😎	✓

A brick wall with a teal-colored section in the center. The teal section is a vertical band that is wider in the middle and tapers towards the top and bottom. The rest of the wall is a light, off-white color. The bricks are arranged in a standard running bond pattern.
$$value = q(data) * q(methods)$$

**Where
to start?**

When it pays to invest in methods (yourself)





Learning to learn

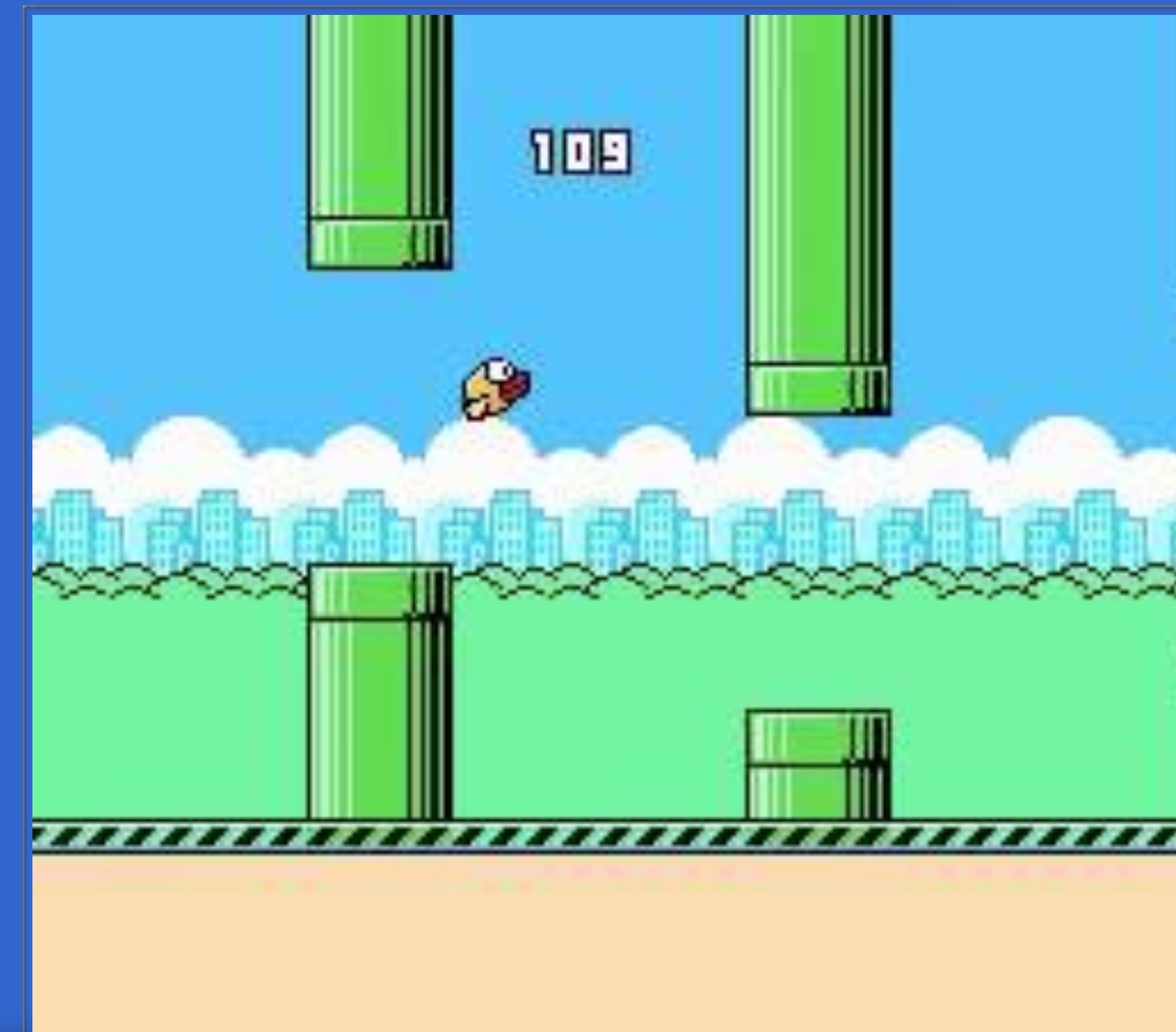
Initially



05:00



60:00






Predicting product categories

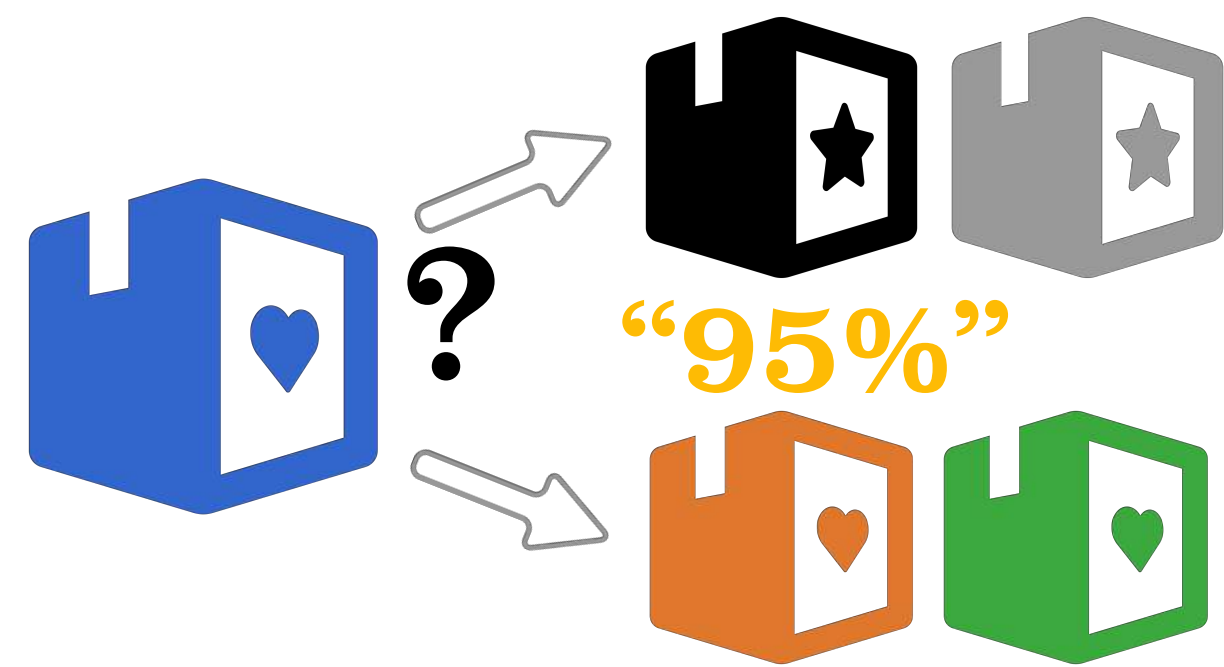
CHUNK NORRIS

Does Evolved Bliss - Roze - Vibrator belong on CD's?

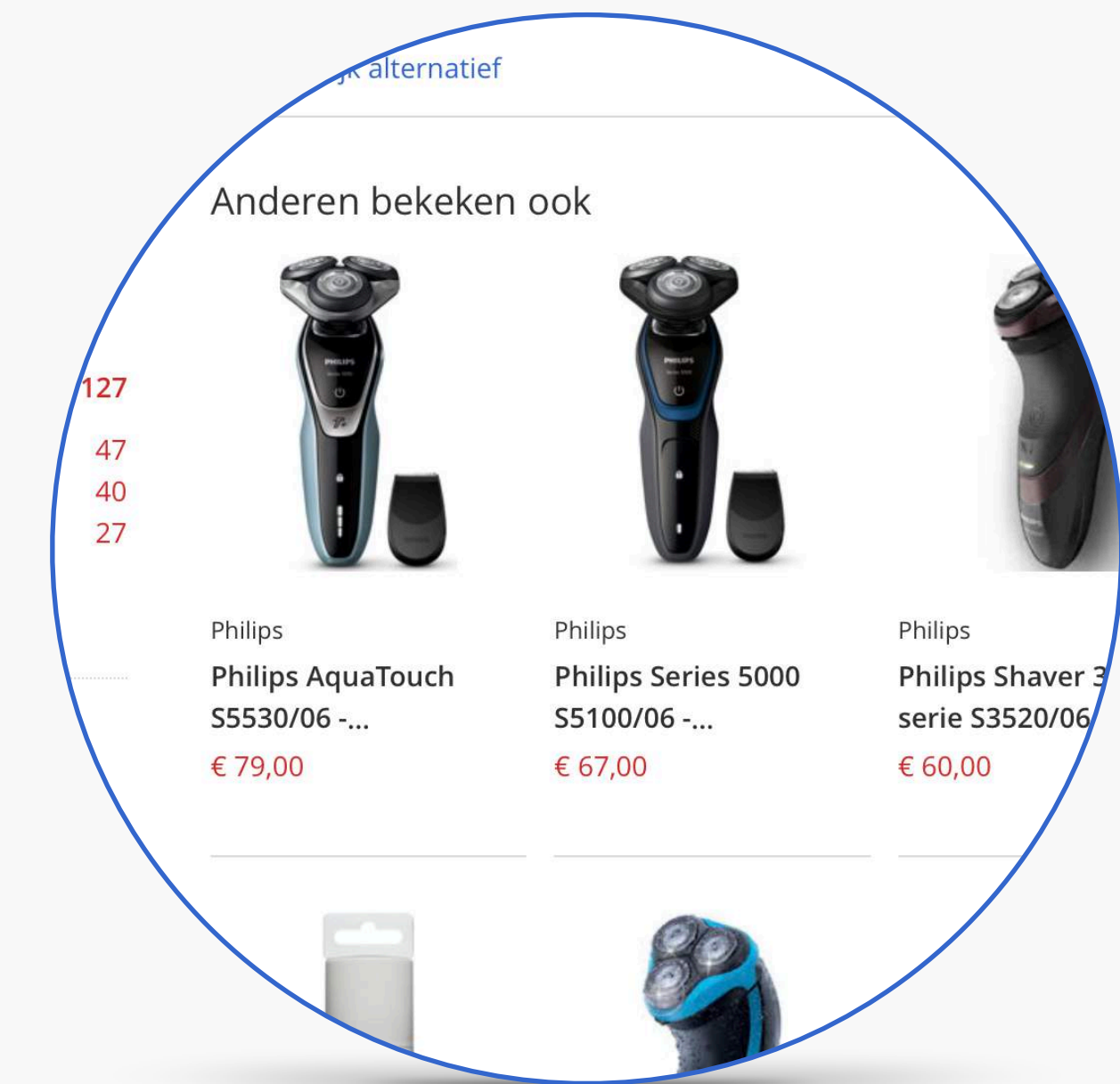
Product	
	
Global ID	9200000029871014
Predicted chunk	CD's
Current chunk	Vibrators
Content or Image	Flag for review
Link	Check

Good, or good enough?

Properly understand real-world metrics



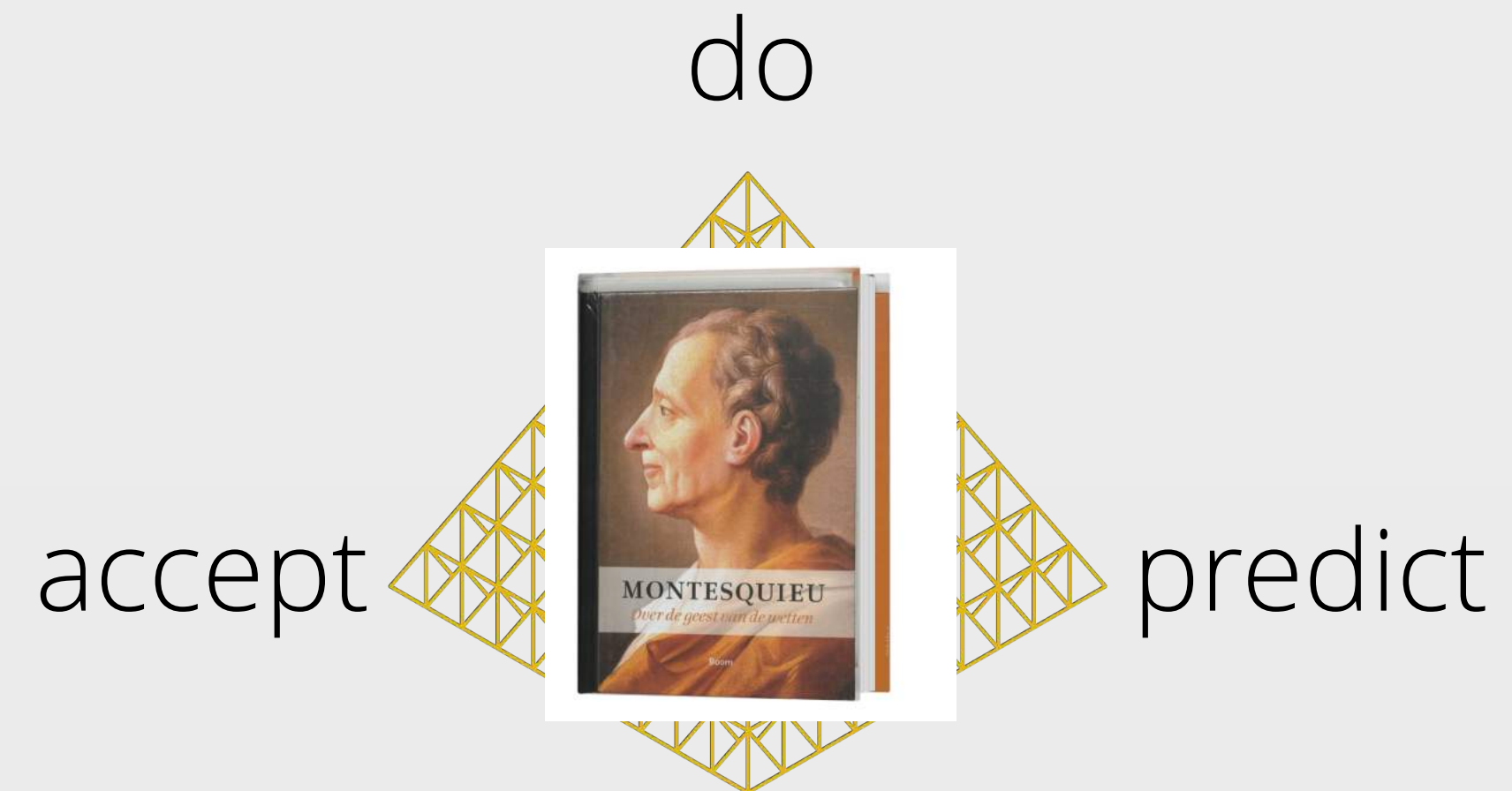
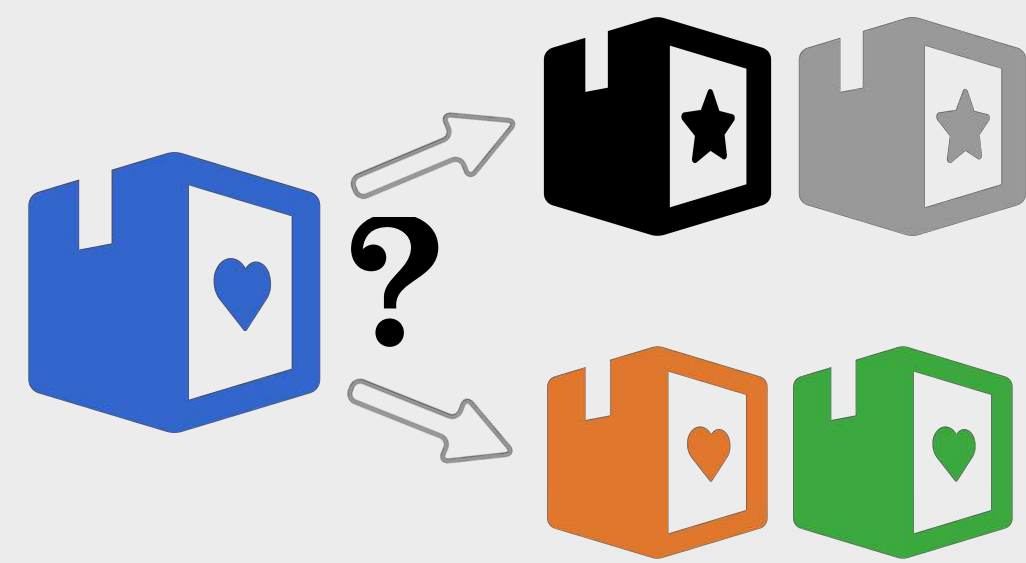
vs



Catalogue

Recommendations

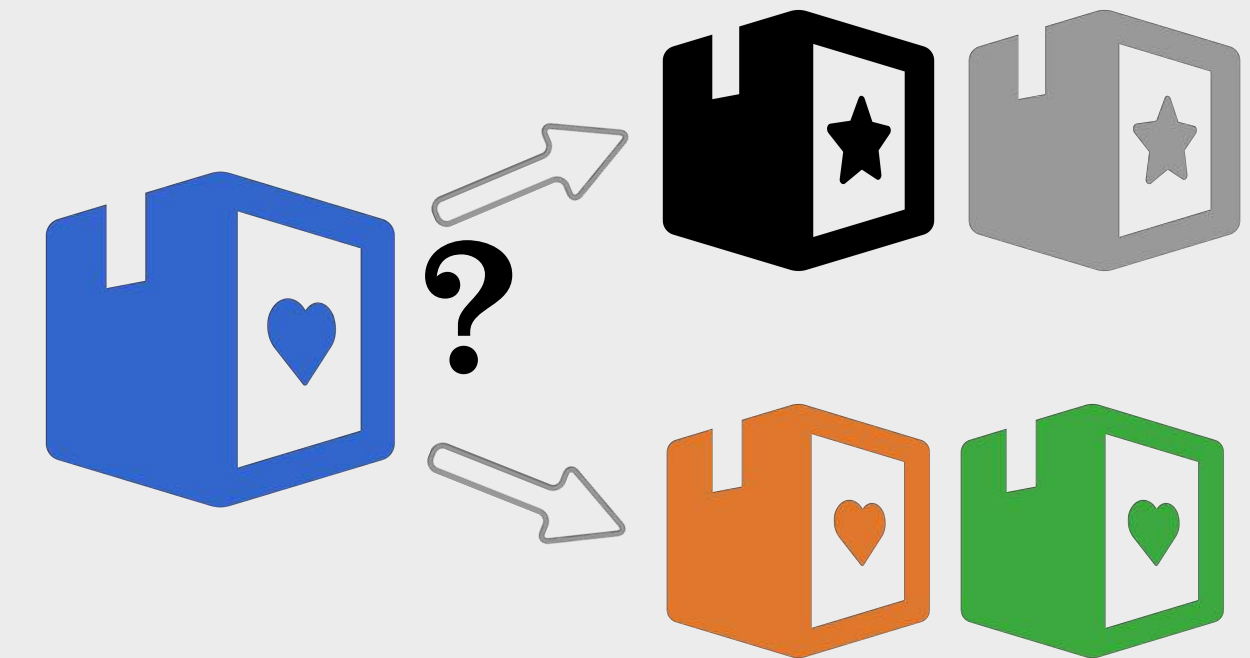
Implementing ~~AI-ML~~ == organizational change



Start where the feedback is

Because feedback = learning

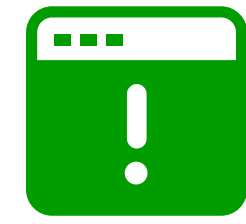
Artikel	Schermdiagonaal	Kleur	
Samsung UE55NU7100W - 4K tv Samsung EAN 8801643164294 Televisie Bewerk productinformatie	55 inch (140 cm)	Zwart	ONTKOPPEL
Samsung UE49NU7100W - 4K tv Samsung EAN 8801643164270 Televisie Bewerk productinformatie	49 inch (124 cm)	Zwart	ONTKOPPEL
Samsung UE75NU7100W - 4K tv Samsung EAN 8801643164348 Televisie Bewerk productinformatie	75 inch (191 cm)	Zwart	ONTKOPPEL



Automatisch gevonden varianten

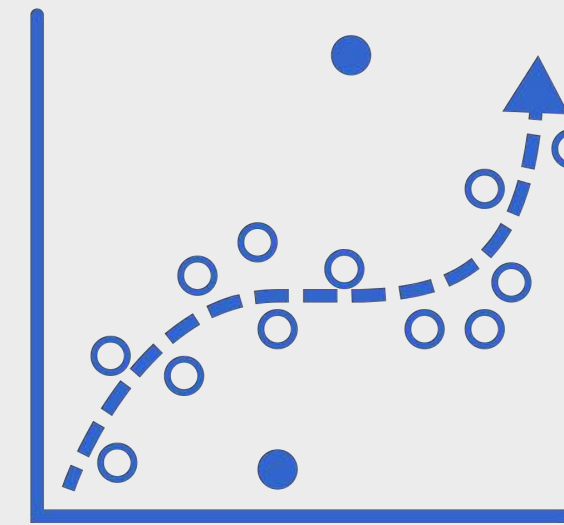
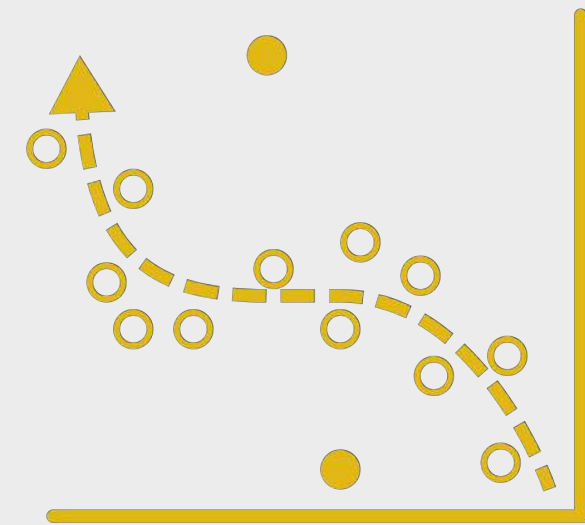
Hieronder zie je mogelijke nieuwe varianten die zijn gevonden voor je productfamilie. Wil je deze aan je productfamilie toevoegen?

Artikel	Kleur	Cartridge formaat	
Epson Inktcartridge / Zwart Epson EAN 25966 Cartridge Bewerk productinformatie	Zwart	Standaard formaat	ONTKOPPEL
Epson 29XL - Inktcartridge / Magenta Epson EAN 8715946601656 Cartridge Bewerk productinformatie	Paars	...	VARIANT GEEN VARIANT

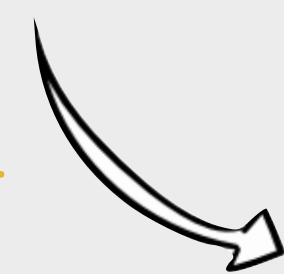


Optimise for learning.

Most feedback + highest tolerance for error



50% var **A**



Anderen bekeken ook



Philips
Philips AquaTouch
/06 -...
€ 60,00



Philips
Philips Series 5000
S5100/06 -...
€ 67,00



Philips
Philips Shaver 3
serie S3520/06
€ 60,00



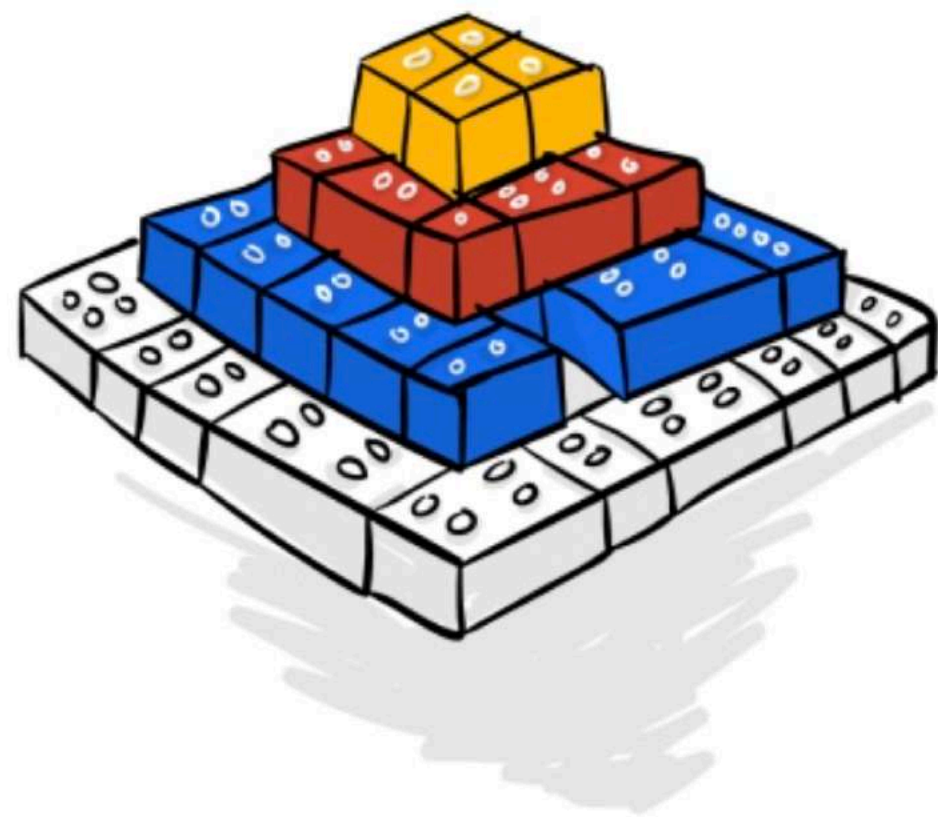
50% var **B**



Drive the car, don't design the route

30

Don't base your venture on a plan.
Instead base it on a strategic foundation.

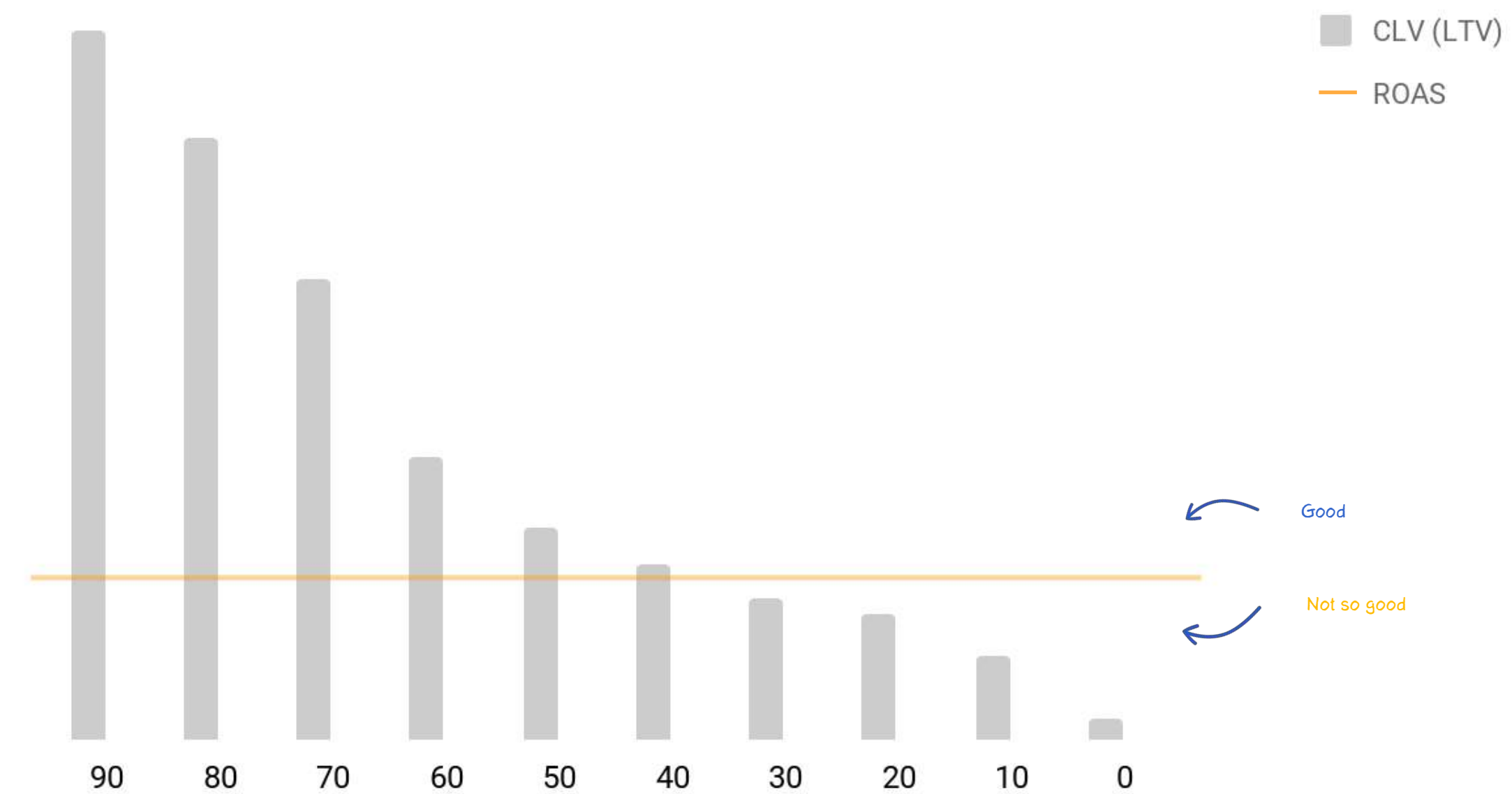


You can have a plan,
but know that it will change,
probably a lot.



The plan is *fluid*,
the foundation *stable*.

CLV bins

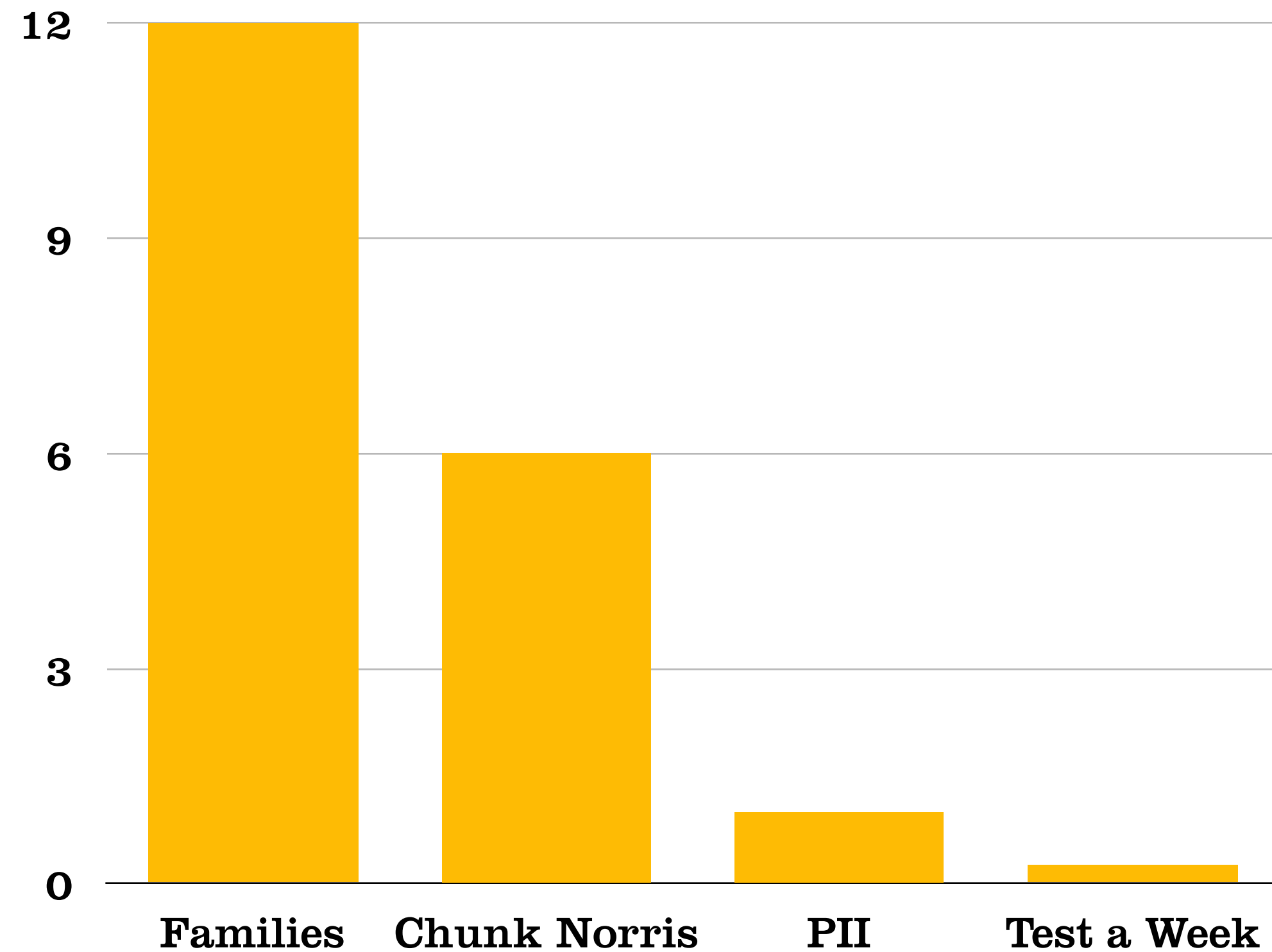


31

Optimise (and organise) for learning

As learning compounds *fast*

Time to value

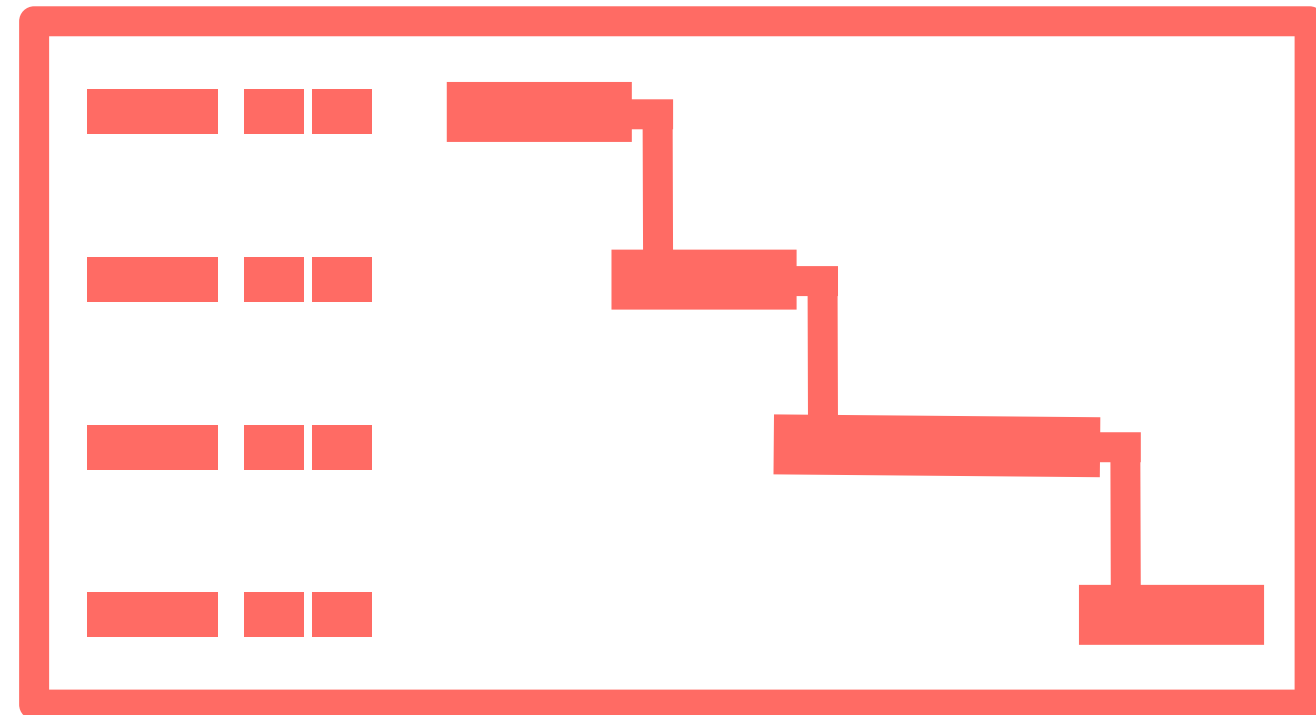


```
Python Console
/Users/pnauts/Documents/GitHub/CherryPII/venv/bin/python "/Applications/PyCharm CE.app/Contents/helpers/pydev/pydevconsole.py" 56122 56123
Python 2.7.10 (default, Oct 6 2017, 22:29:07)
>>> from cherryPII.src.classifier import classify
>>> print(classify("NO jail for Jurrie", False))
{
  "PII": true,
  "predictions": {
    "0": {
      "confidence": 1.0,
      "prediction": "Name",
      "subvalue": "NO jail for Jurrie",
      "type": "Type 1"
    }
  },
  "size": 1,
  "value": "NO jail for Jurrie"
}
>>> |
```

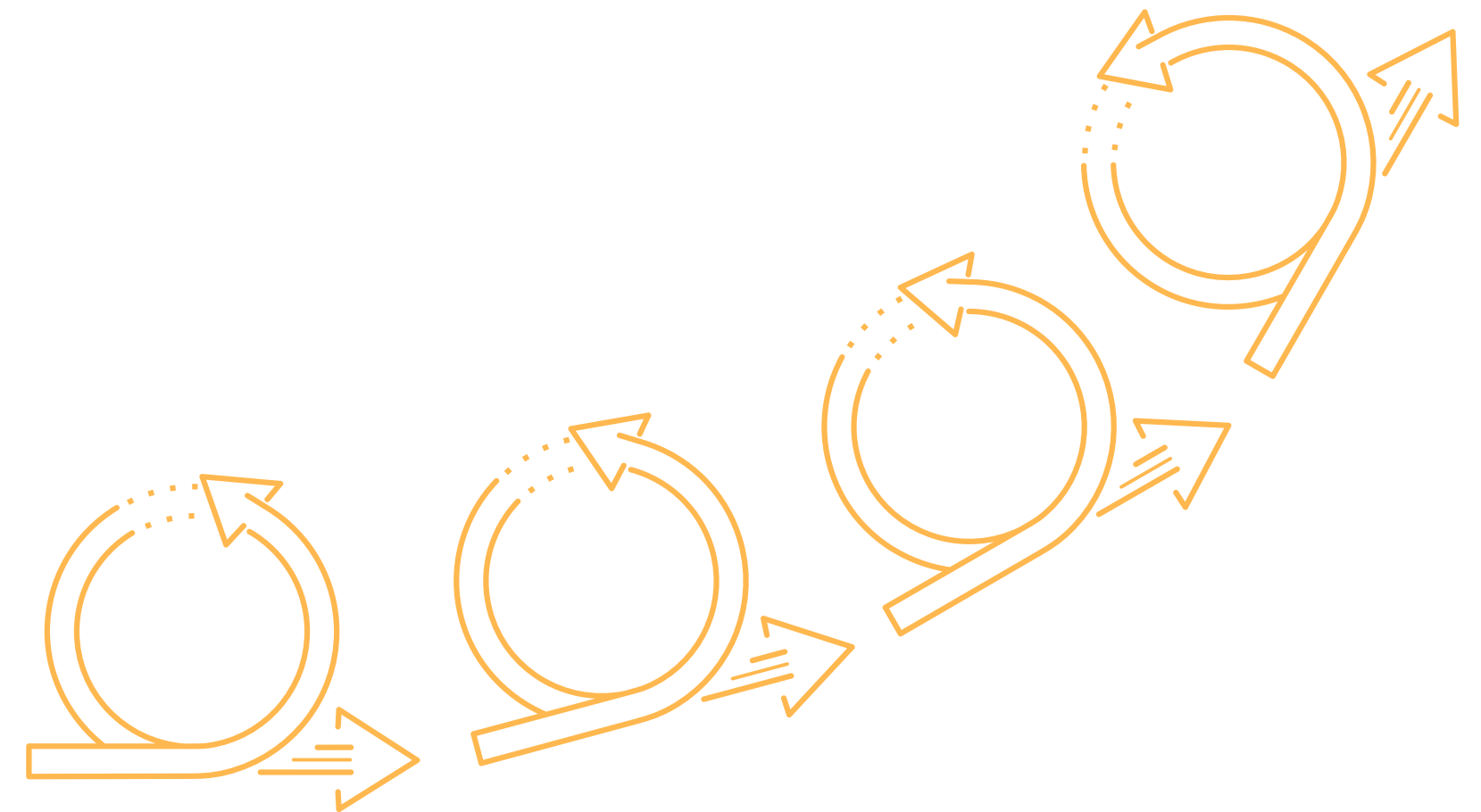
CherryPII: one week

A project is not a product

Constantly iterate, because value comes from the improvement, not the achievement



≠



BONUS

Engineering

matters

[\(more\)](#)

**We want our teams to
span the spectrum**

data

science

engineering

My 3 main points



Data is NOT the new oil.

Take control and try to drive down the unit cost.



Learn to learn.

(from your data)

In digital, the fastest learners win.



Optimise for learning

Finding your first failure is much easier. Start where there's feedback and high tolerance for error.

Learning to learn

DDMM
DATA
DAG