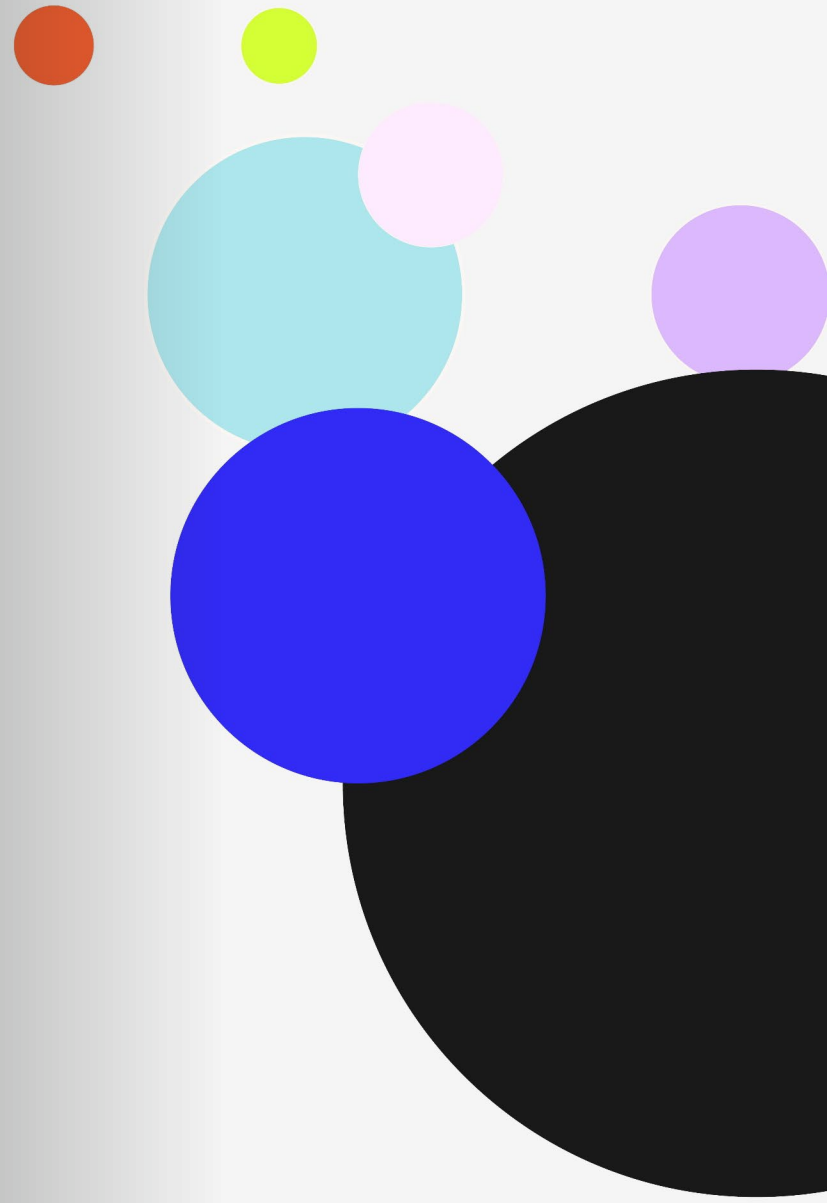
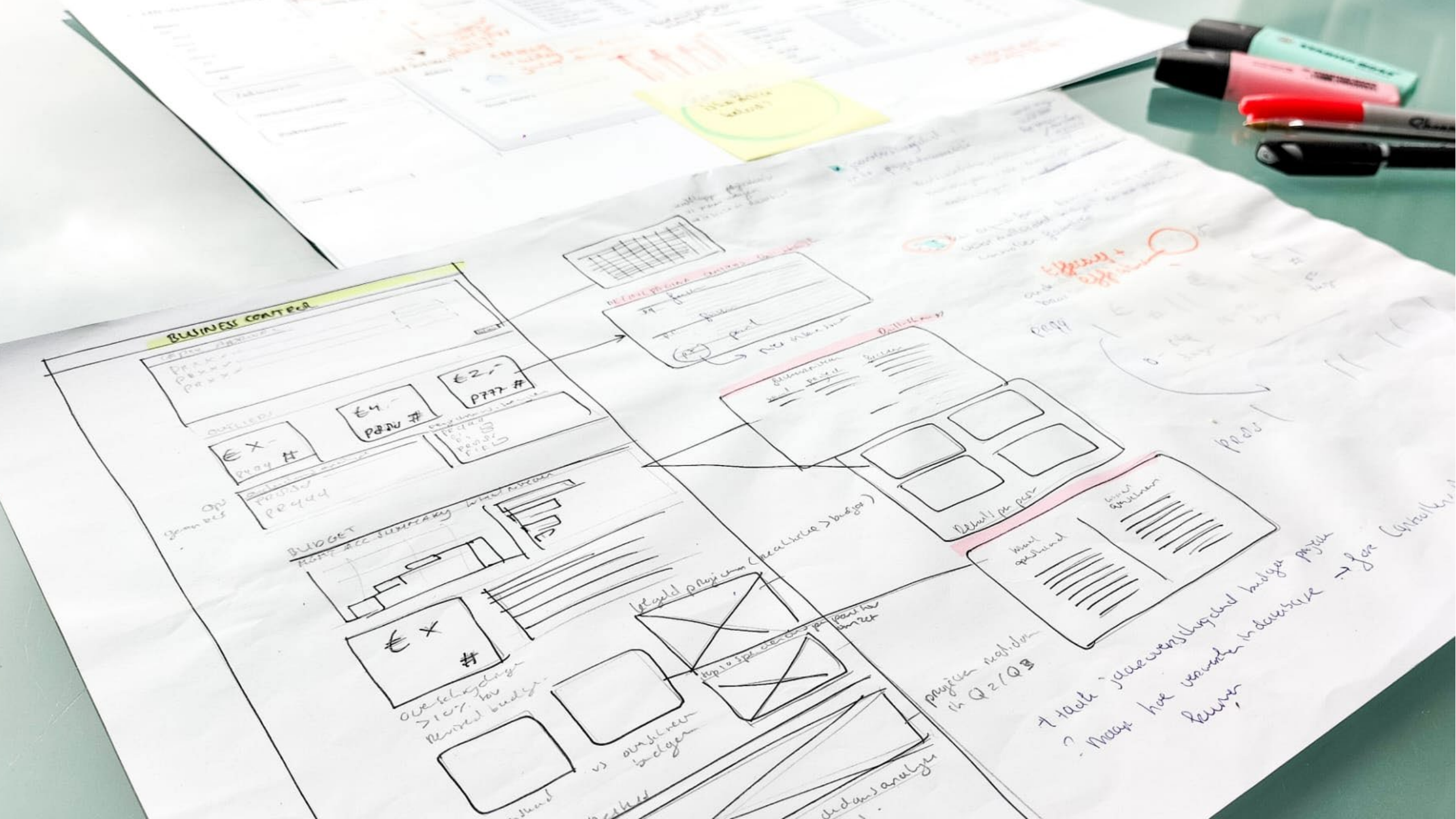
DataHues.

Van BI naar DI: Visualiseren voor het menselijk brein

Mariska van Kan




BUSINESS CONTROL
BUDGET

“Ik wil **gewoon** de top 10 klanten in een **bar chart**.”

Waarom?

Mariska van Kan

Eigenaar & Data Product Designer



DataHues.

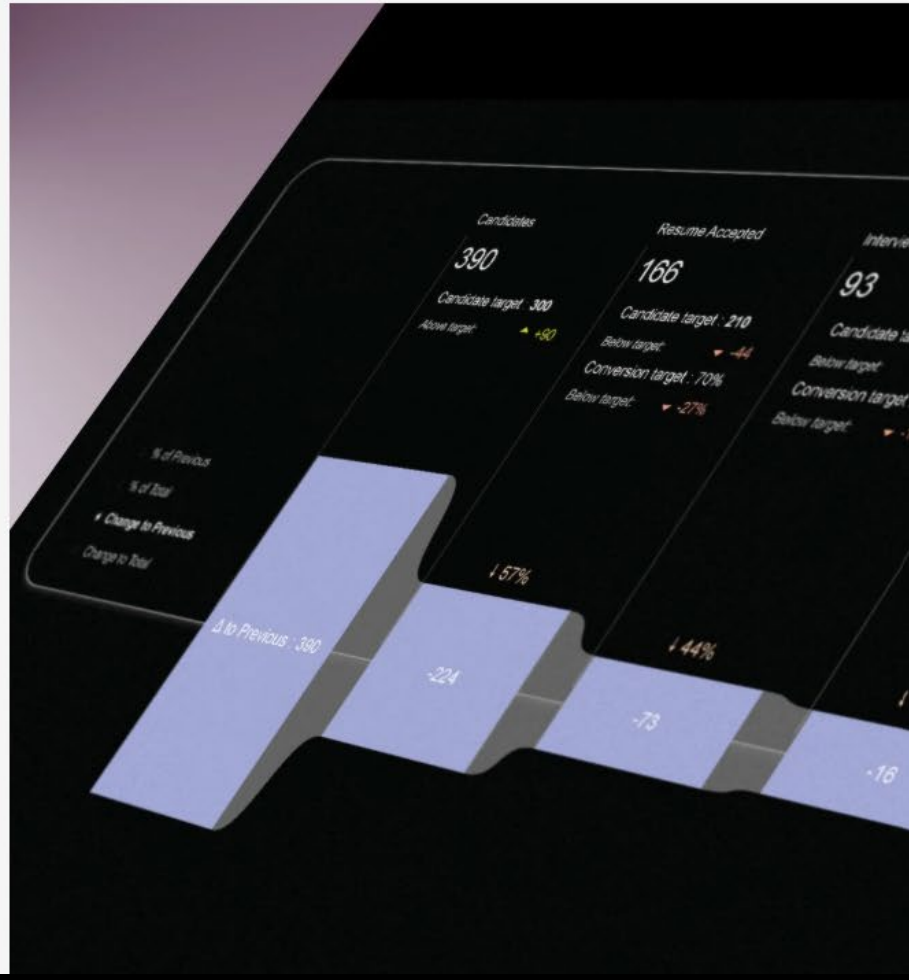
Audit Services Learn Portfolio Contact

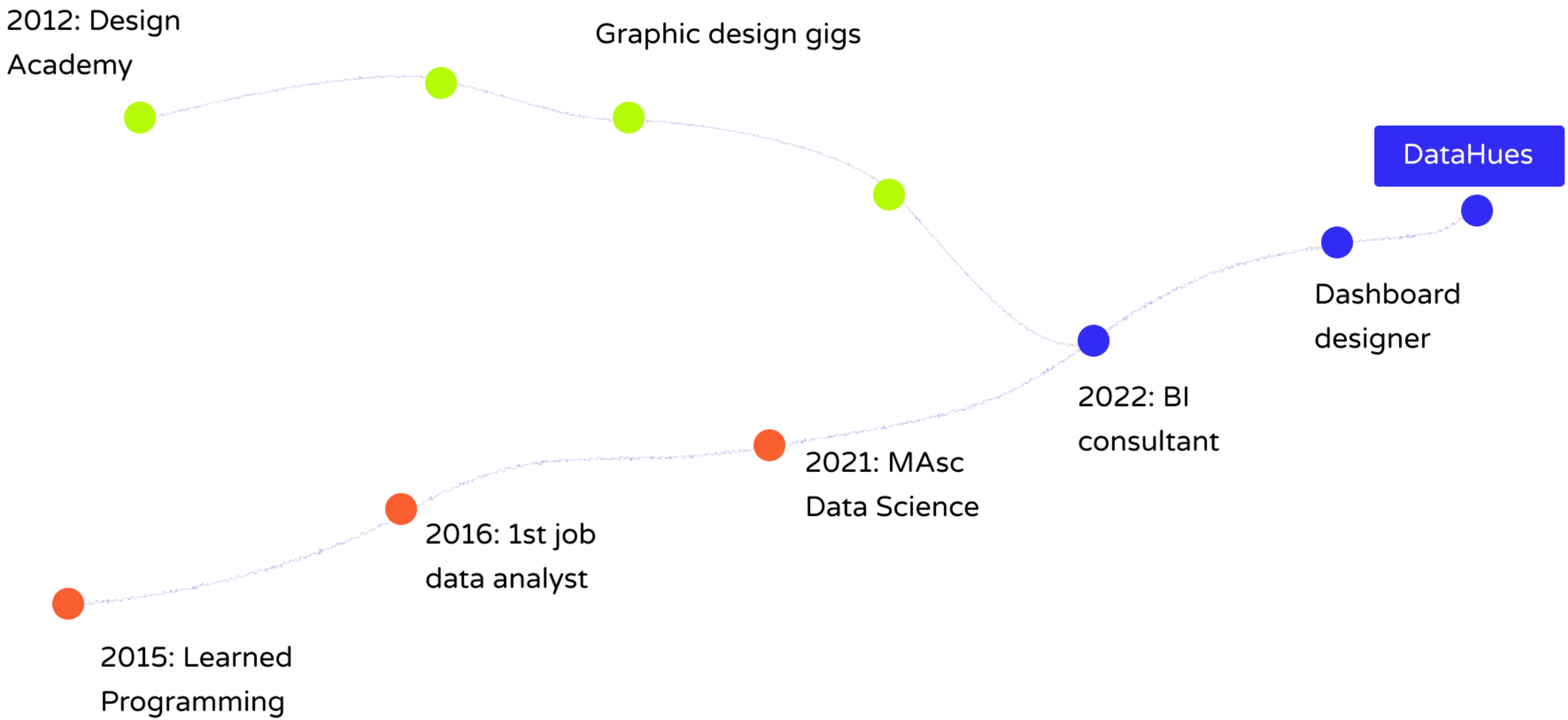
GOOD DESIGN®
Award Winner

Get the most out of your dashboard

Transform your data reports into strategic products with cognitive design.

BOOK A DASHBOARD AUDIT

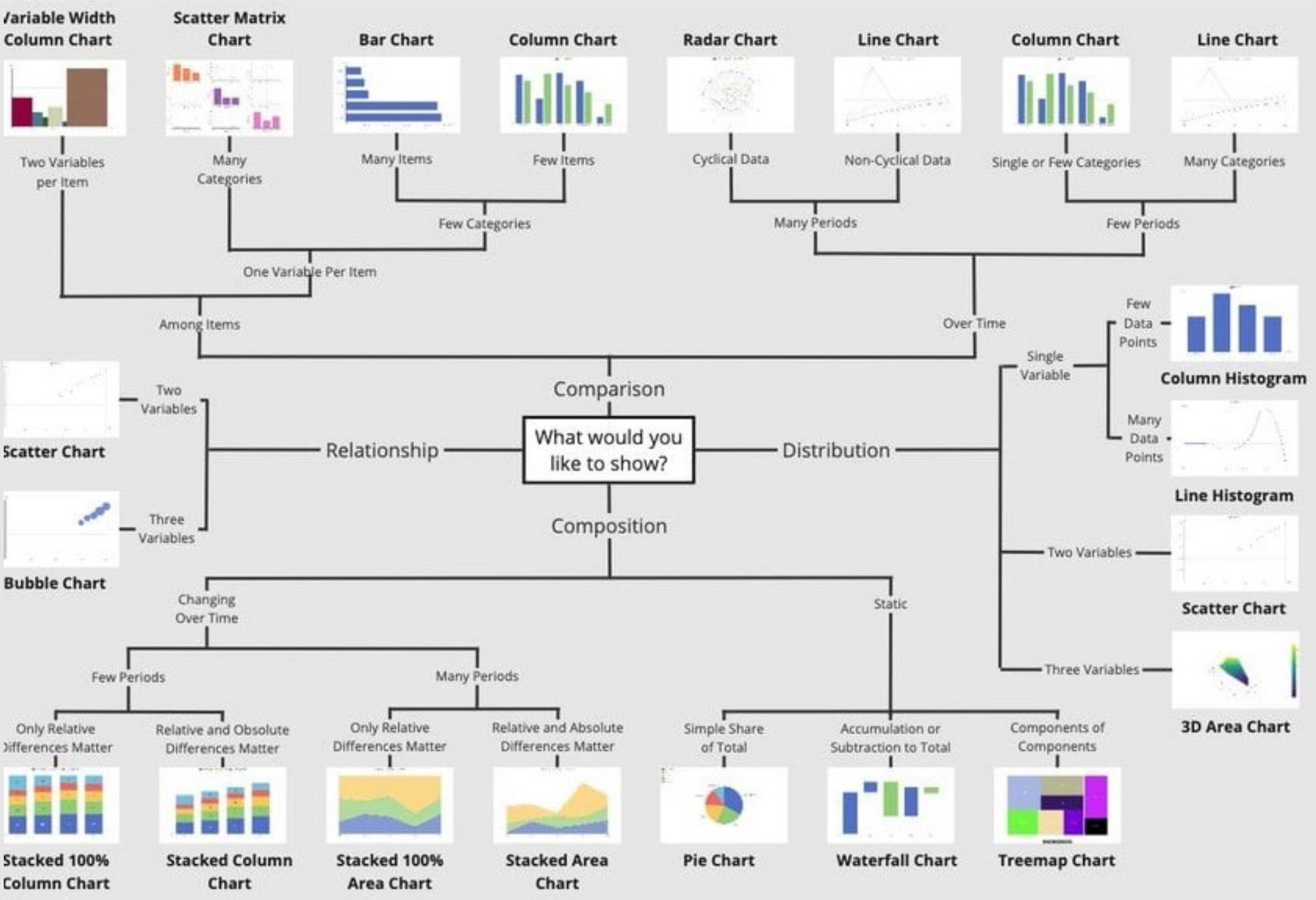



2012: Design Academy
Graphic design gigs
DataHues
Dashboard designer
2022: BI consultant
2021: MAsc Data Science
2016: 1st job data analyst
2015: Learned Programming


Graphic design
UX Design
UI Design
Interaction Design
Data modeling
Data visualization
Dashboard Design
Cognitive psychology
UI
Evolution psychology
Data analysis

Welke chart gebruik ik?




Variable Width Column Chart
Scatter Matrix Chart
Bar Chart
Column Chart
Radar Chart
Line Chart
Column Chart
Line Chart
Two Variables per Item
Many Categories
Many Items
Few Items
Cyclical Data
Non-Cyclical Data
Single or Few Categories
Many Categories
Few Categories
Many Periods
Few Periods
One Variable Per Item
Among Items
Over Time
Comparison
What would you like to show?
Relationship
Distribution
Composition
Two Variables
Three Variables
Scatter Chart
Bubble Chart
Single Variable
Few Data Points
Many Data Points
Column Histogram
Line Histogram
Two Variables
Scatter Chart
Three Variables
3D Area Chart
Changing Over Time
Static
Few Periods
Many Periods
Only Relative Differences Matter
Relative and Obsolute Differences Matter
Only Relative Differences Matter
Relative and Absolute Differences Matter
Simple Share of Total
Accumulation or Subtraction to Total
Components of Components
Stacked 100% Column Chart
Stacked Column Chart
Stacked 100% Area Chart
Stacked Area Chart
Pie Chart
Waterfall Chart
Treemap Chart


Klant **wil** bar chart
Ik **maak** bar chart
Champagne!



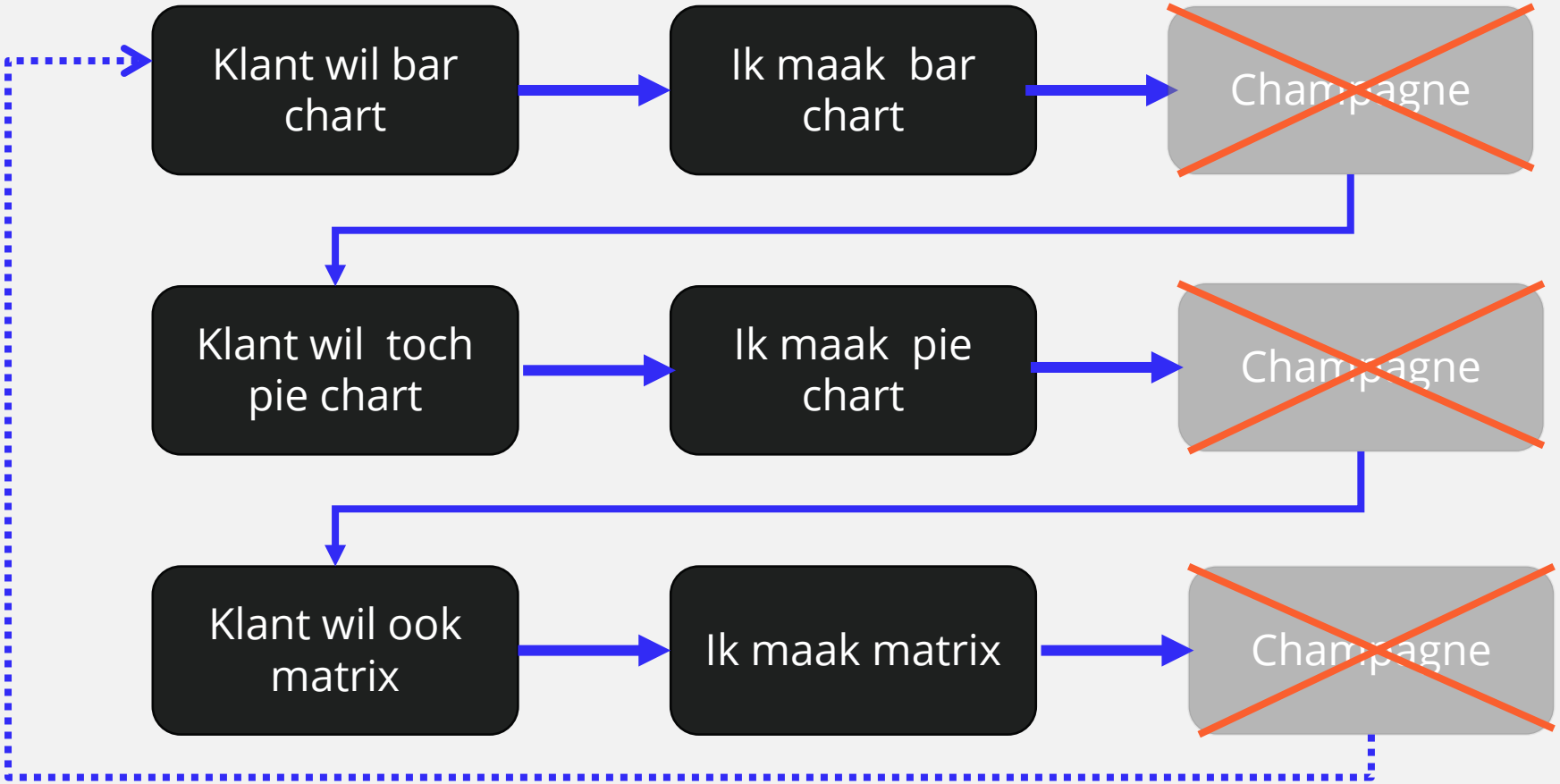
"Kan je ook nog deze visual toevoegen"

"Ik wil dit in een tabel"

"Waar kijk ik naar?"

"Ik heb liever een andere visual"

"Kan ik deze data exporteren?"


Klant wil bar chart
Ik maak bar chart
Champagne
Klant wil toch pie chart
Ik maak pie chart
Champagne
Klant wil ook matrix
Ik maak matrix
Champagne

Menselijk brein:
200.000 jaar oud

Dashboard:
2 weken oud

Menselijk brein:
200.000 jaar oud

Bouw voor het brein

Dashboard:
2 weken oud

Evolutie biologie

1. Overleven
2. Calorie behoud
3. Biologisch limiet

...en dit is waarom je gebruiker afhaakt

Data communicatie principes

1. Cognitieve lading
2. Pre-attentive processing
3. Mentaal model

Data communicatie principes

1. Cognitieve lading management



Cognitieve capaciteit:
3 – 5 stukjes informatie

Cognitieve lading:
Intrinsieke moeilijkheid

Management:
lading < capaciteit

Data communicatie principes

2. Pre-attentive processing



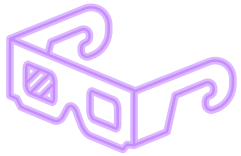
Visuele system:
Scant je hele beeld

Pre-attentive mechanisms
Prooi/gevaar/eten

Pre-attentive attributes
Kleur, contrast, grootte

Data communicatie principes

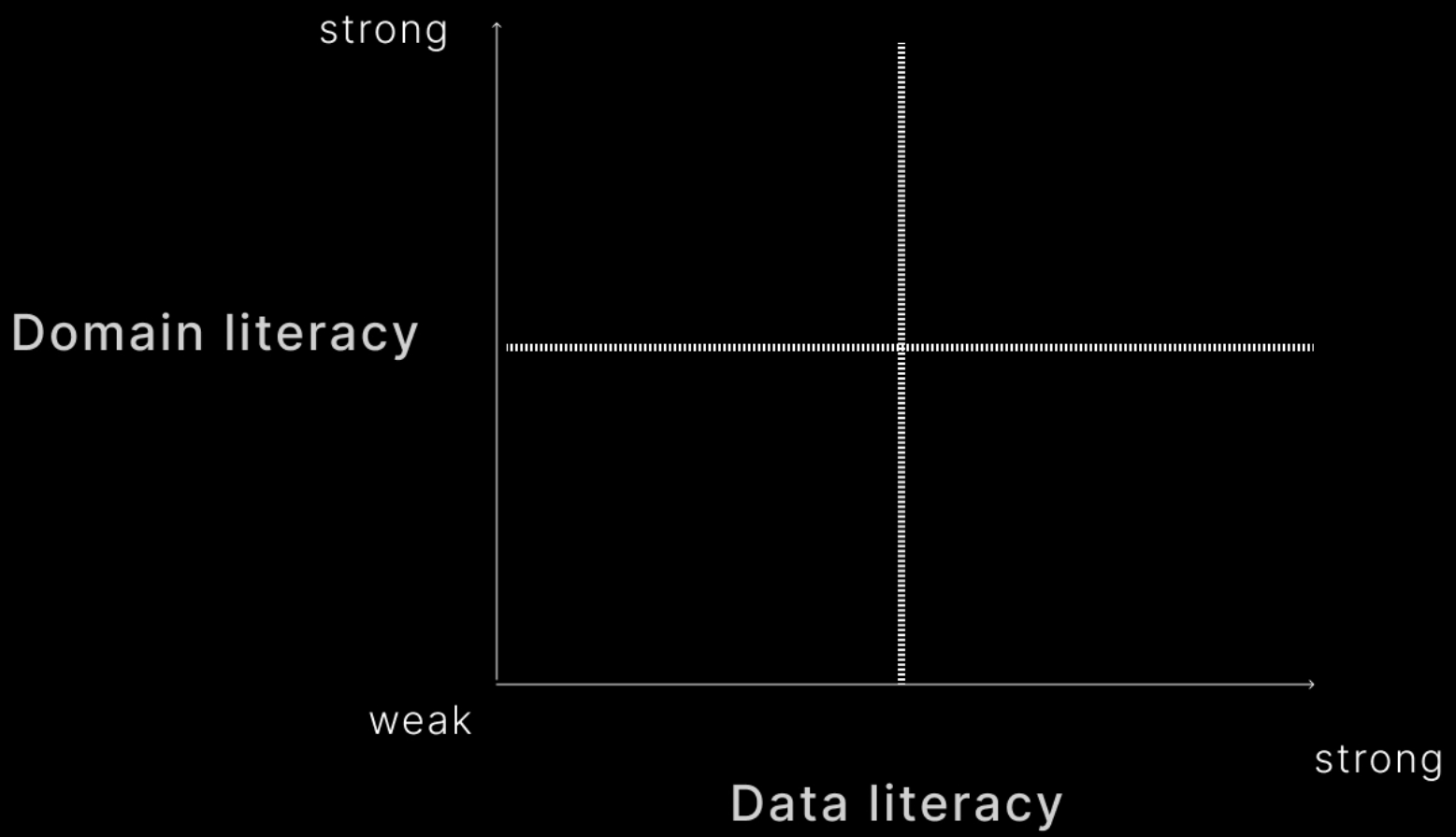
3. Mentaal model



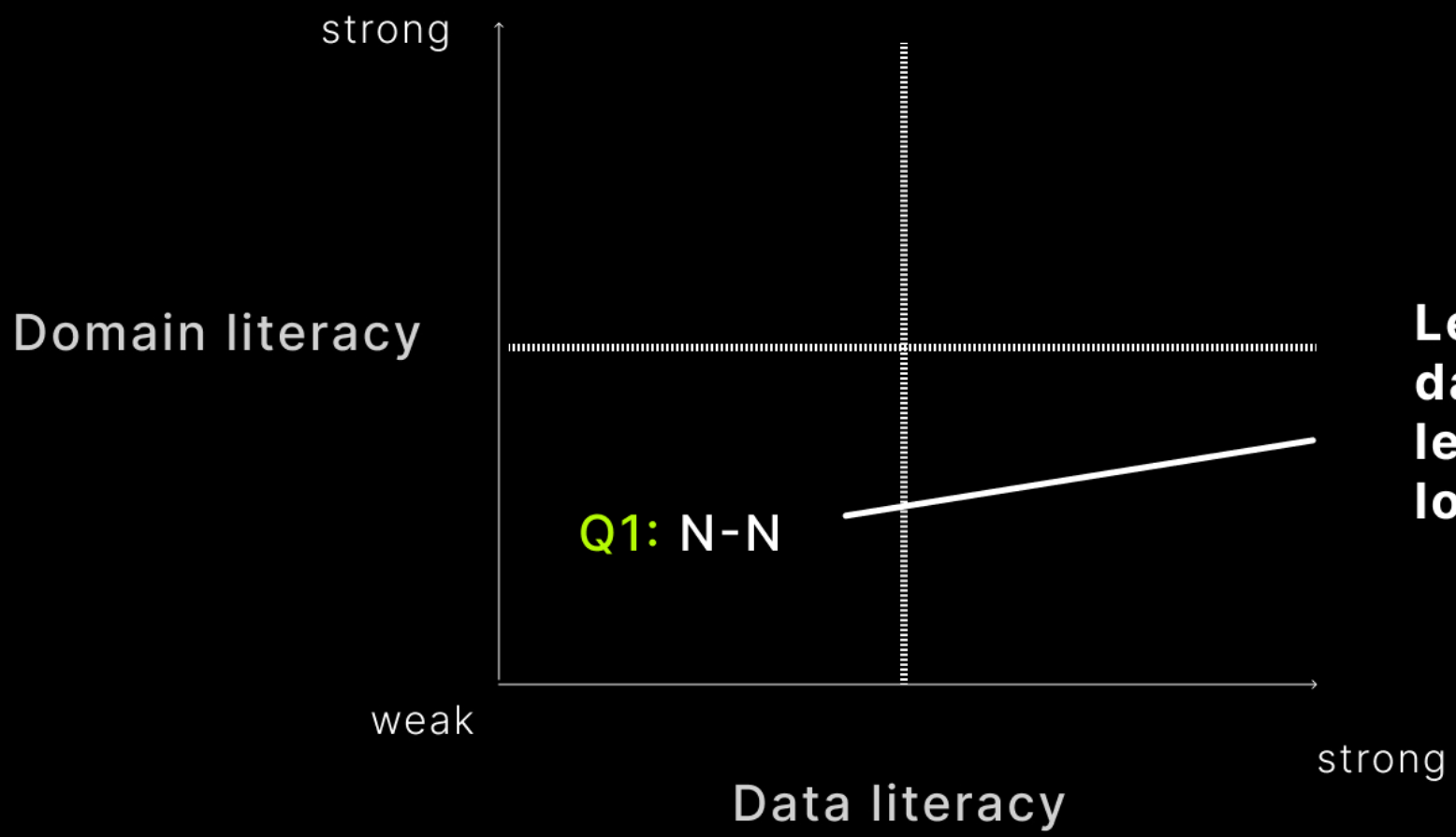
Ervaring
User experience design

Kennis van data
Data literacy

Kennis van inhoud
Domain literacy


strong
Domain literacy
weak
strong
Data literacy

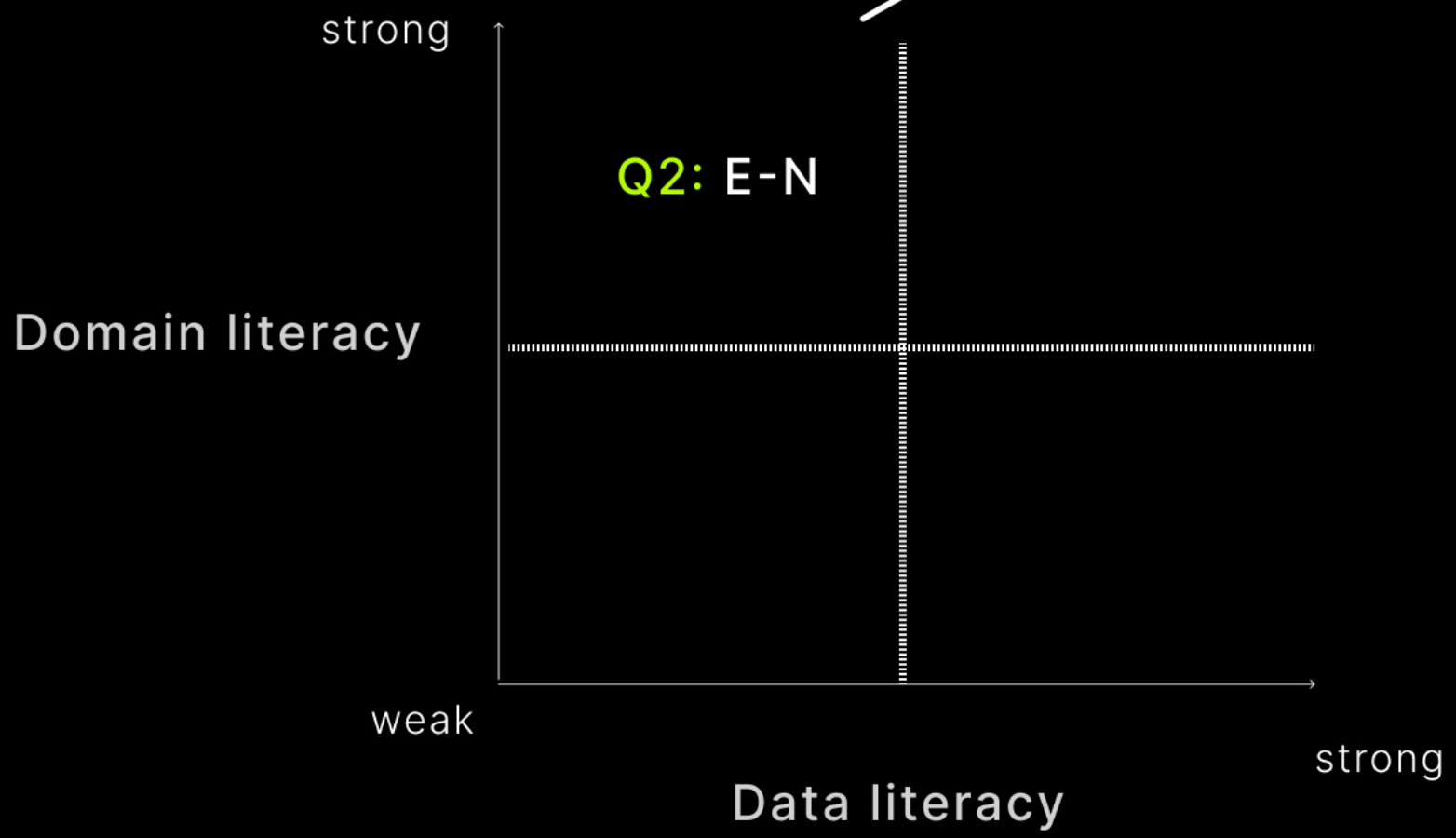
QUADRANT 1: Novice - Novice



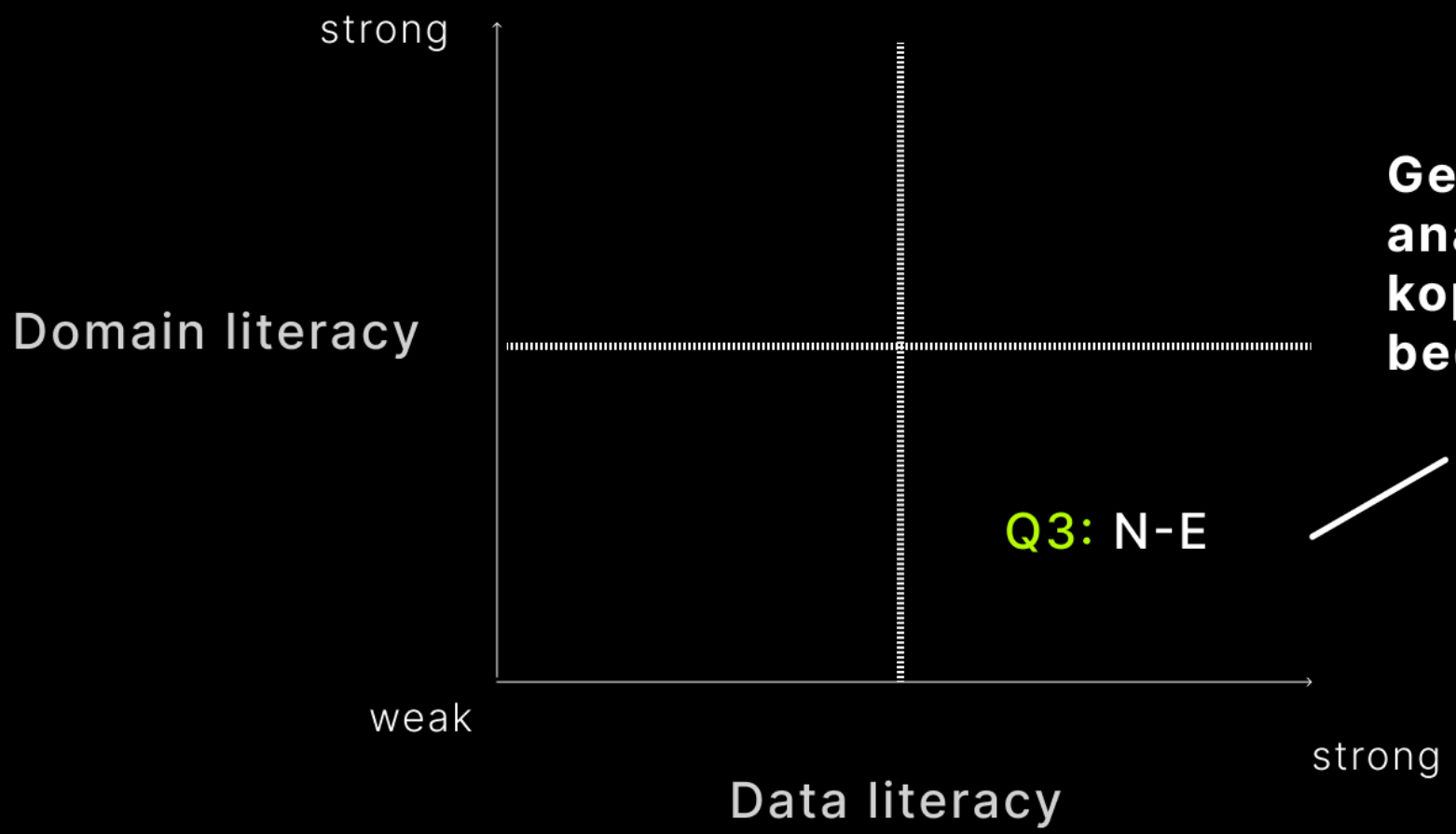
Leer hoe je datavisualisaties moet lezen en wat de business logic is.

QUADRANT 2: Expert - Novice

Gebruik uitgebreide data-annotatie voor complexere visualisaties die aansluiten bij de domeinexpertise.

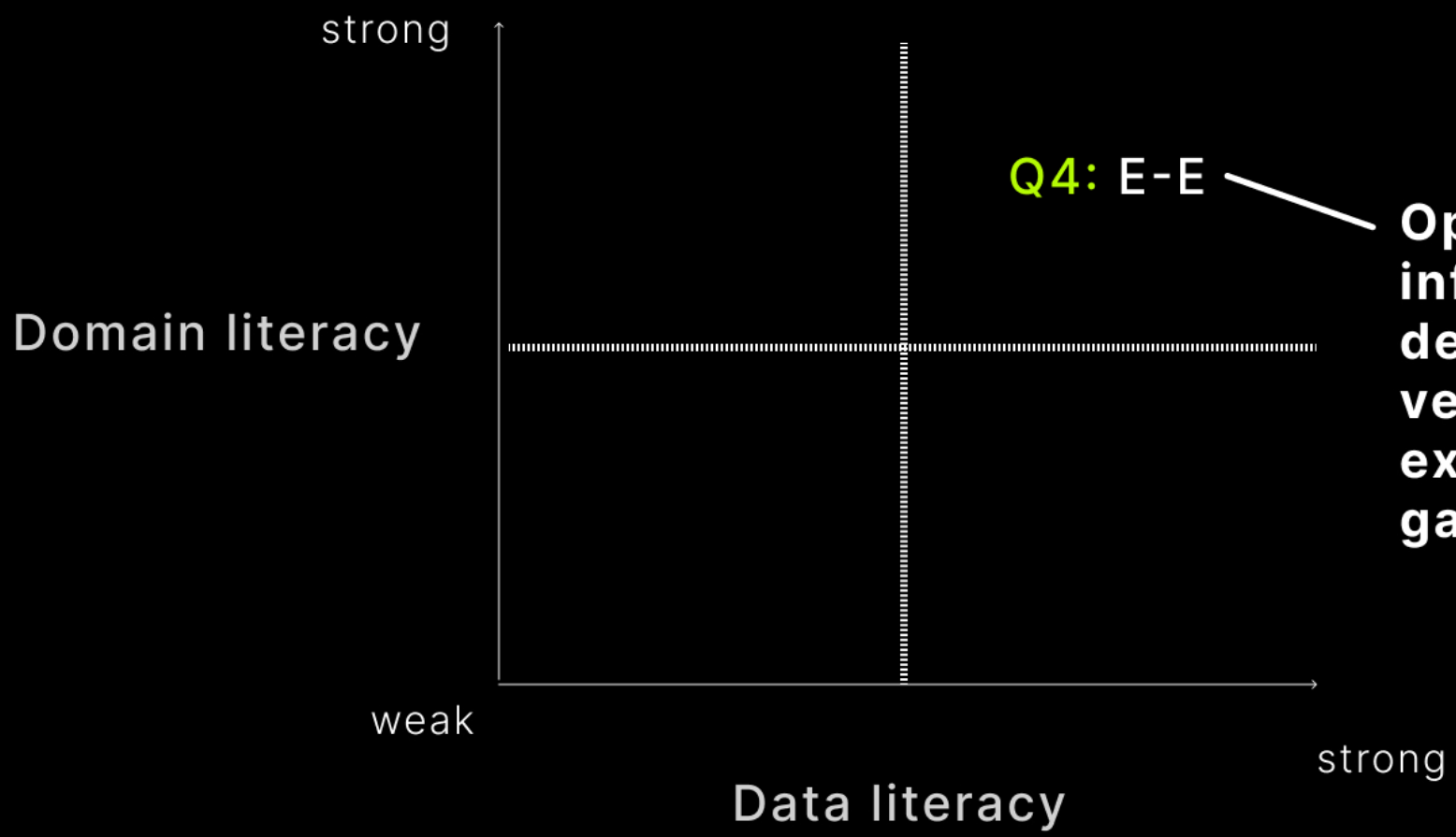


QUADRANT 3: Novice - Expert



Geef domeincontext om analytische patronen te koppelen aan de bedrijfscontext.

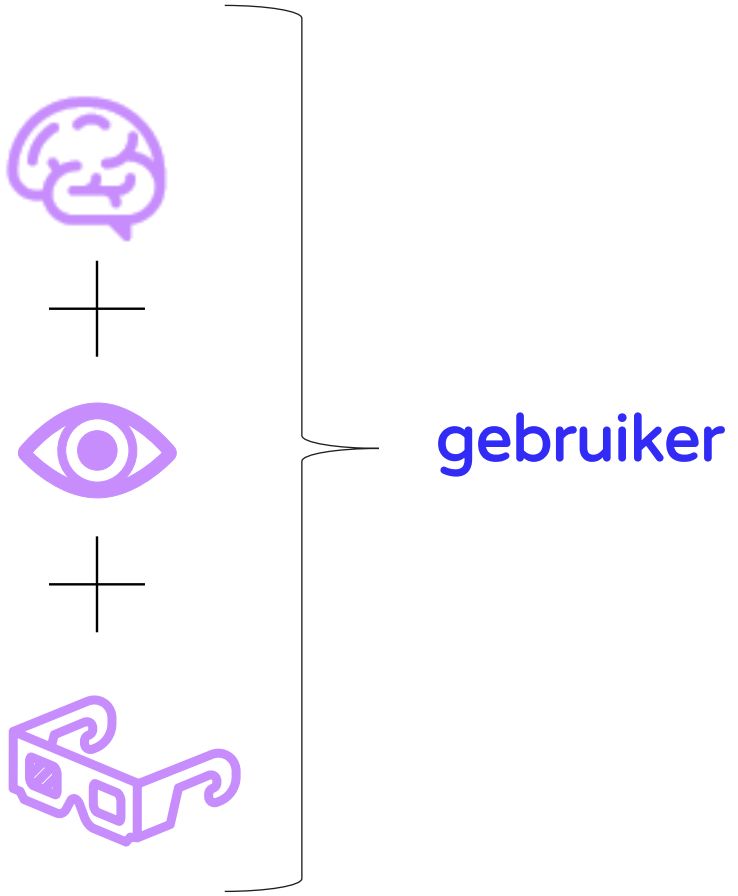
QUADRANT 4: Expert - Expert



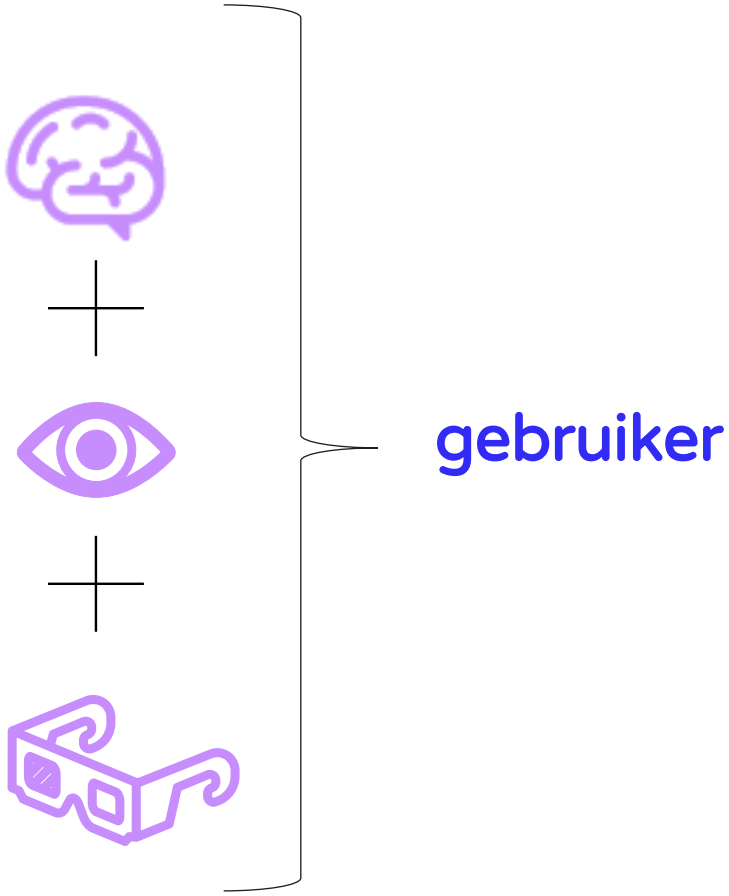
Q4: E-E

Optimaliseer de informatiedichtheid en de verkenning ervan, vertrouw op hun expertise en laat ze hun gang gaan.

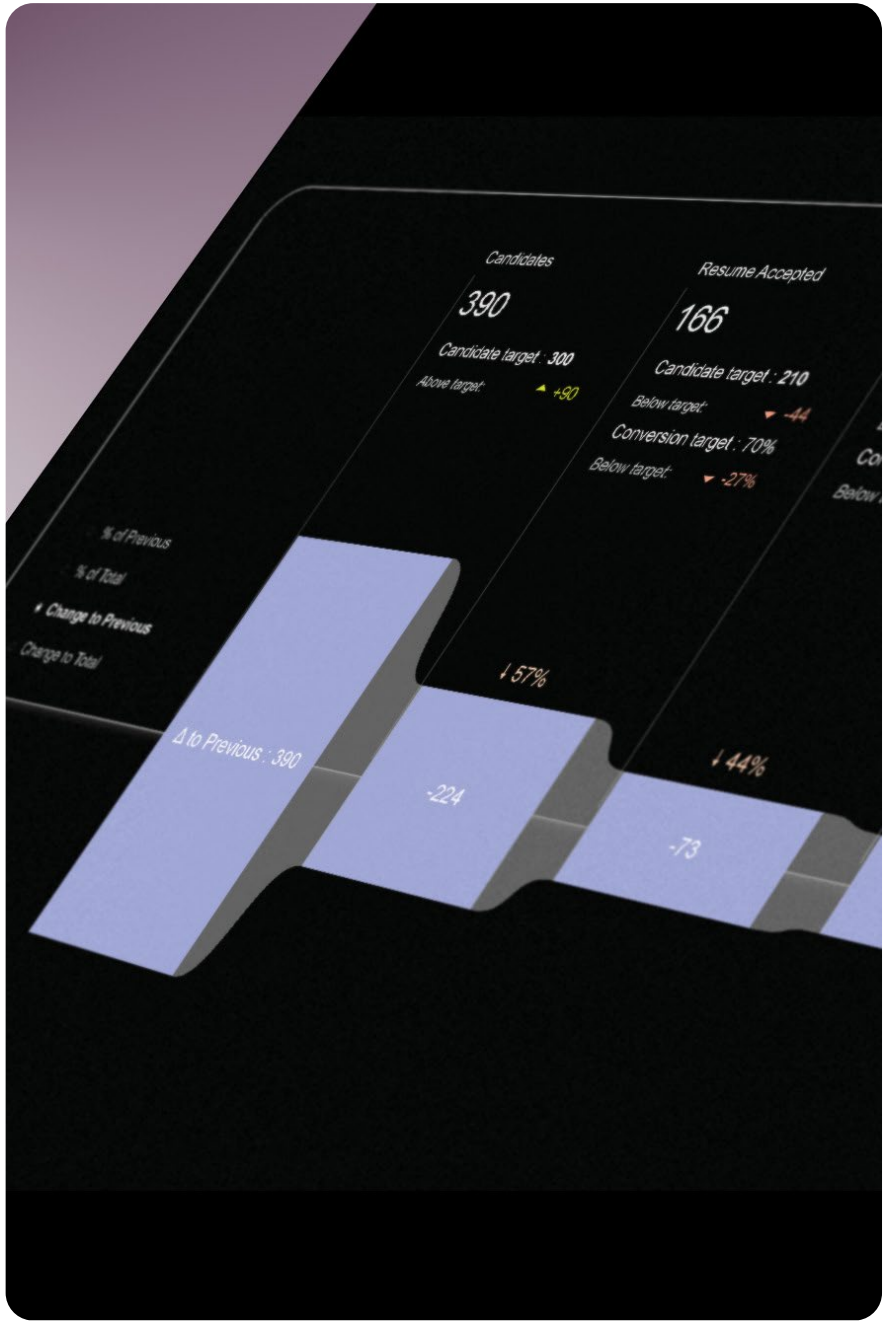
Data communicatie principes



Data communicatie principes



Als we dit goed doen zijn we design intelligent!

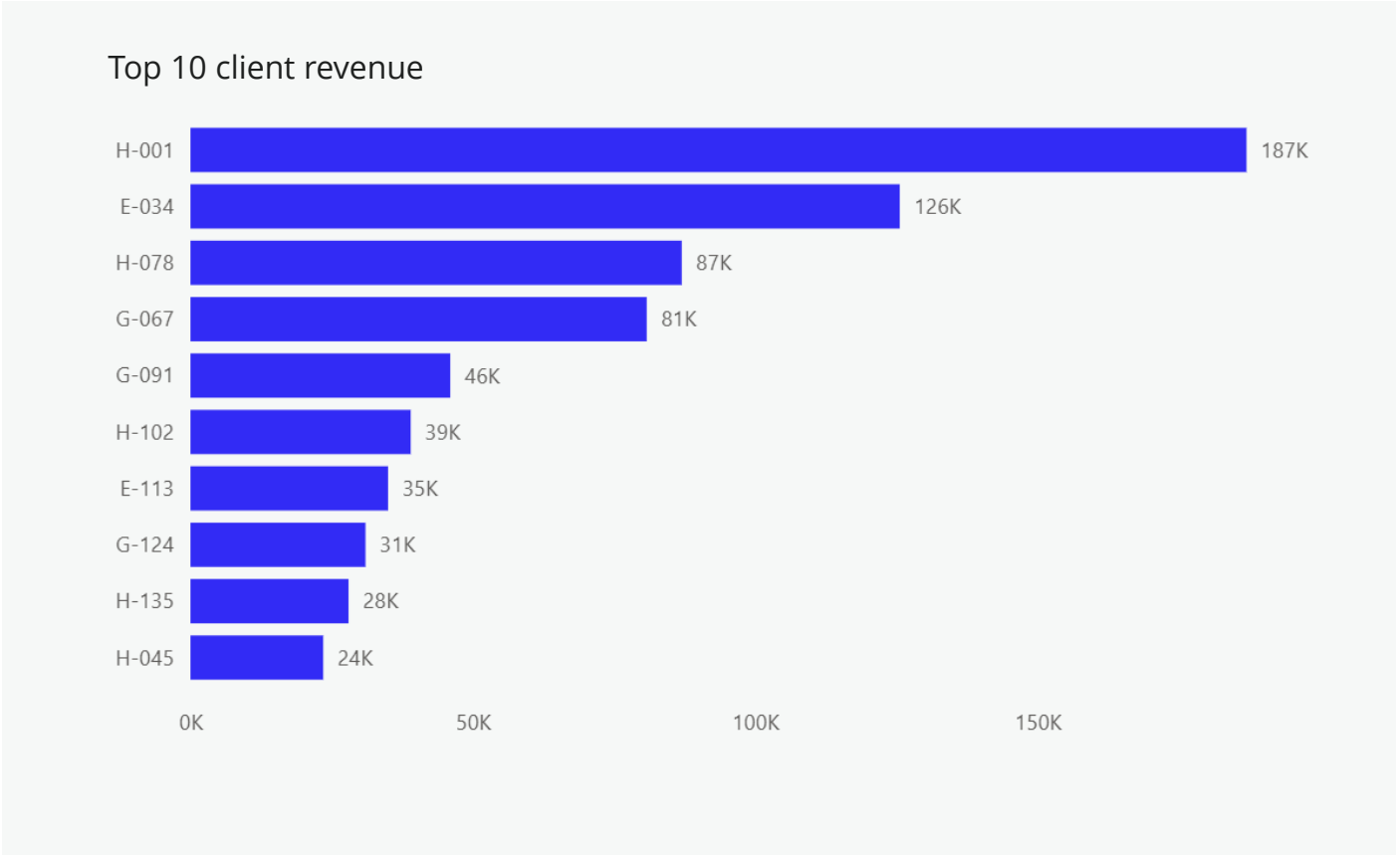


Design intelligence in 5 stappen

1. **Doel** bepalen
2. **Cognitieve lading** managen
3. **Pre-attentive processing** optimaliseren
4. **Mentaal model** respecteren
5. **UX** toepassen

DataHues.

Doel bepalen

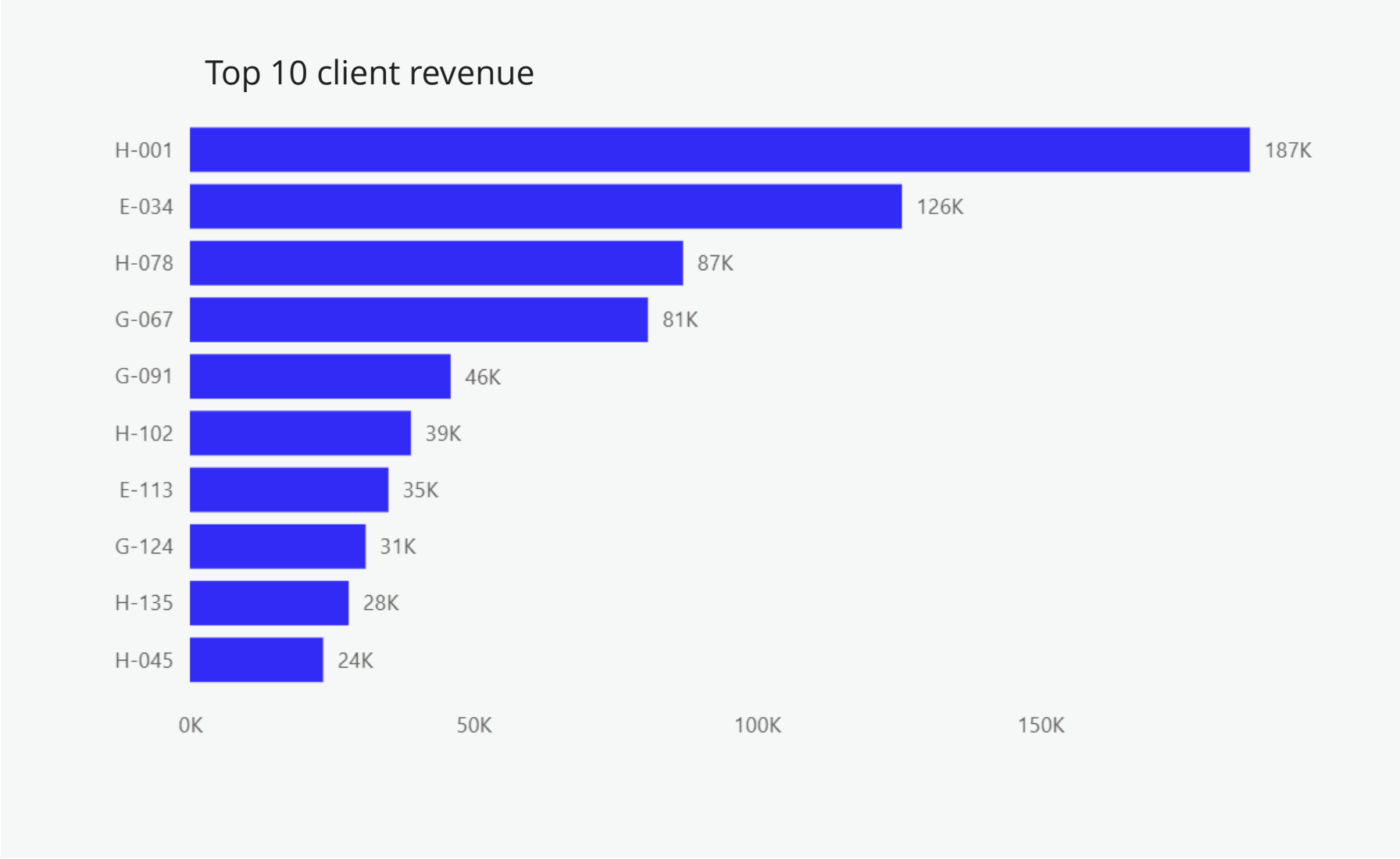


DataHues.

“Het is een must-have, want ik moet weten welke klanten de grootste **impact op onze winst** hebben als we ze verliezen.

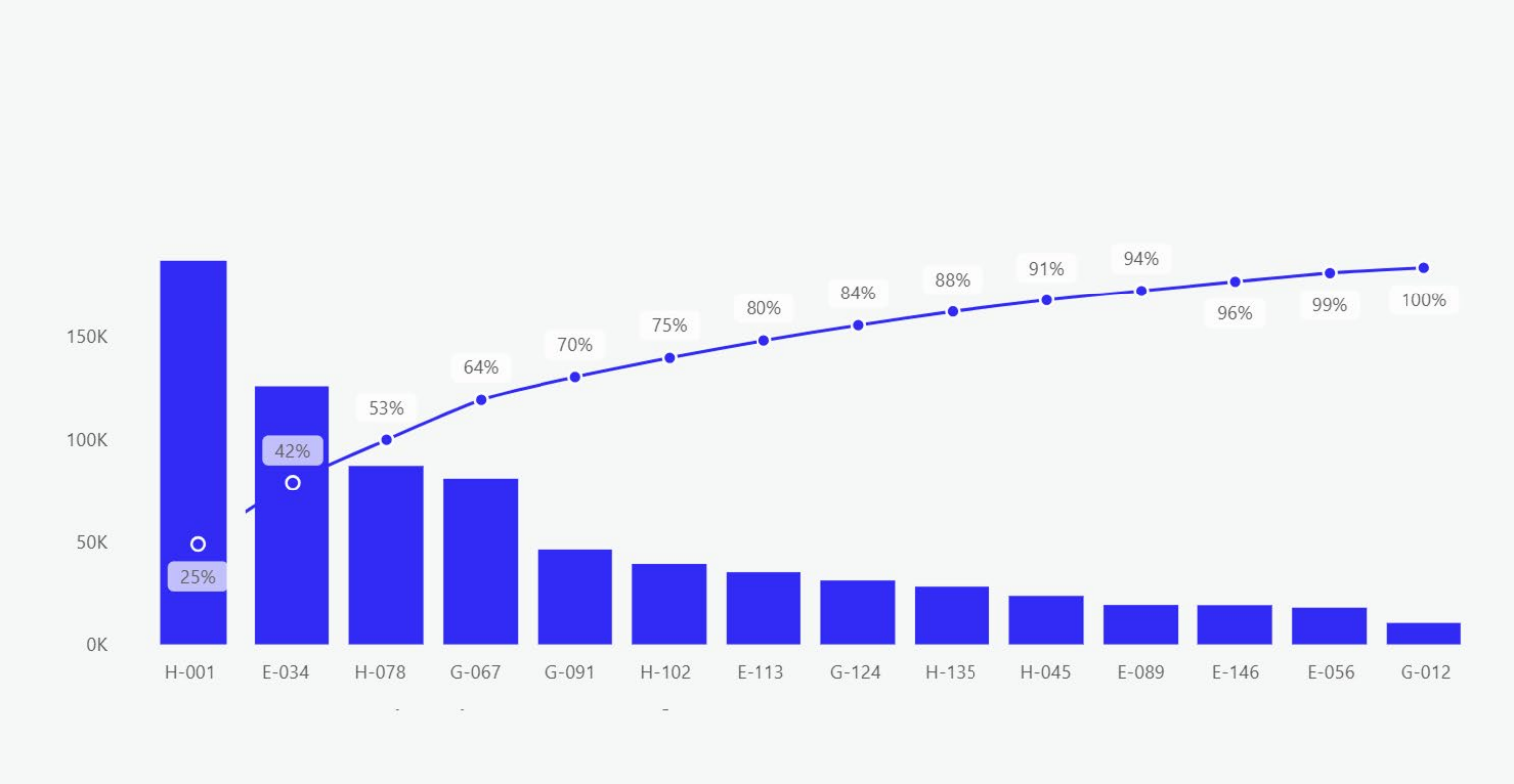
Zo weet ik van tevoren welke klanten het hoogste rendement opleveren qua tijdsinvestering en wat het **grootste risico** voor onze winst is.”

DataHues.


Top 10 client revenue
H-001
187K
E-034
126K
H-078
87K
G-067
81K
G-091
46K
H-102
39K
E-113
35K
G-124
31K
H-135
28K
H-045
24K
0K
50K
100K
150K

DataHues.

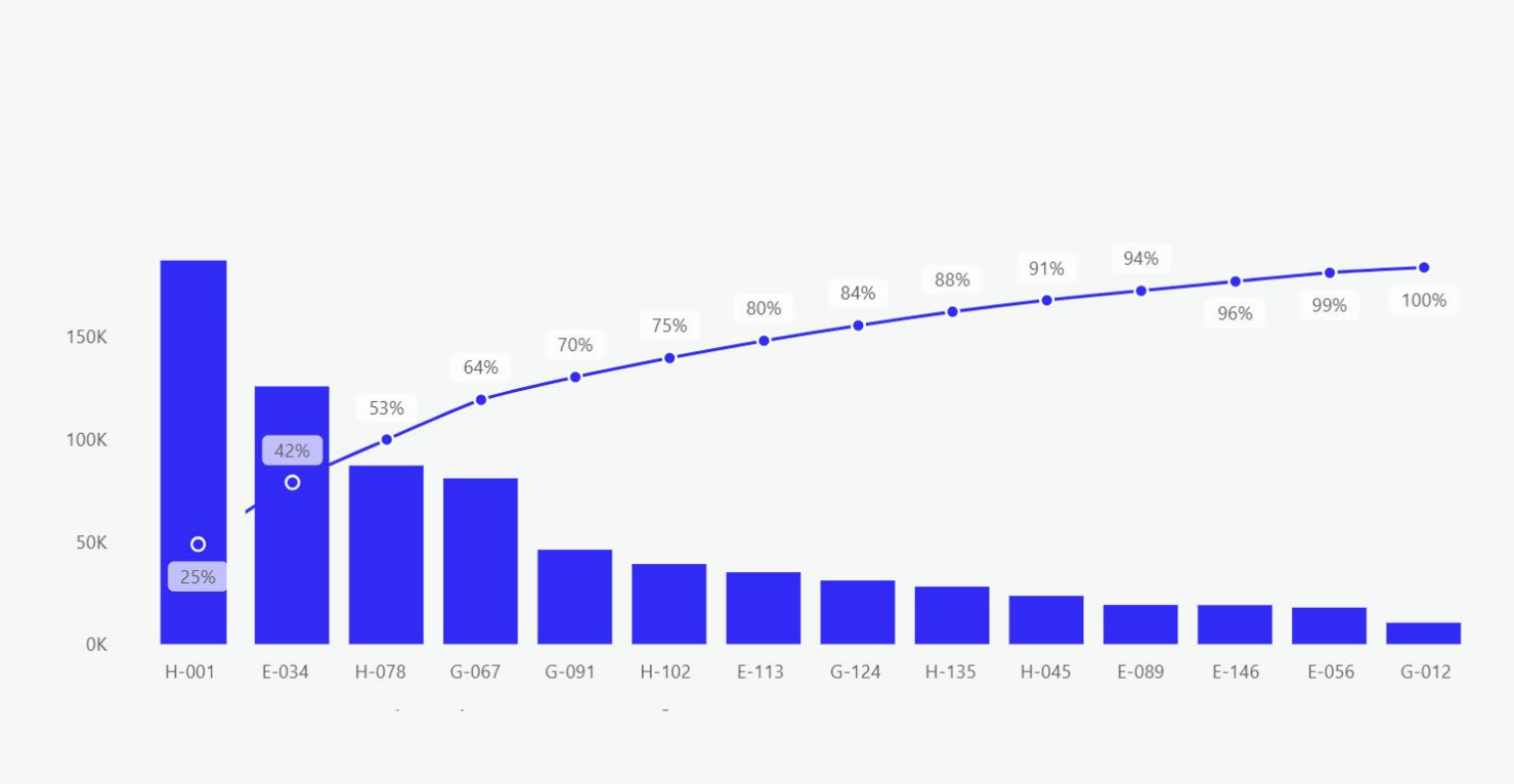
Cognitieve lading



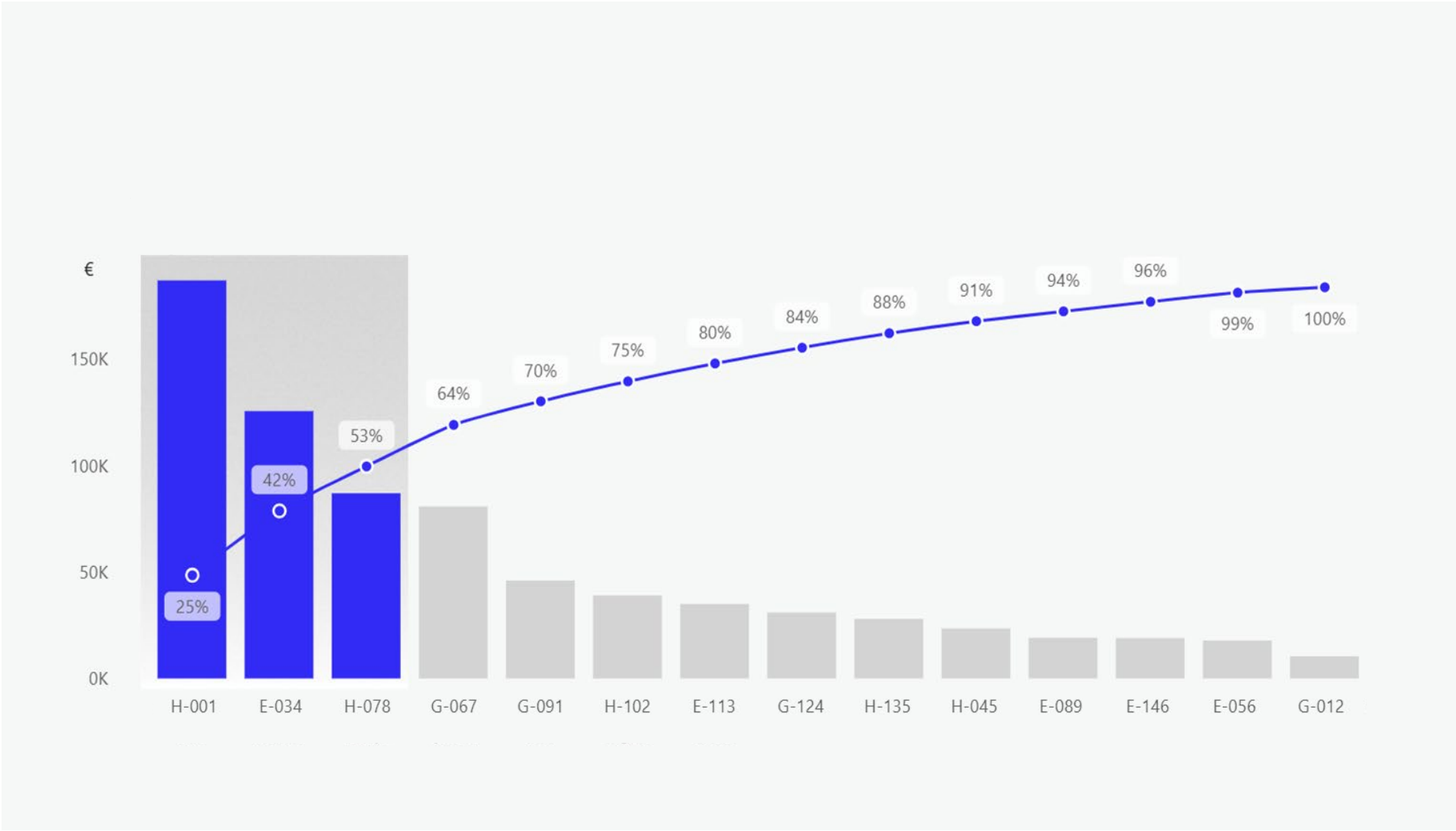
1 2 3 4 5

DataHues.

Pre-attentive processing

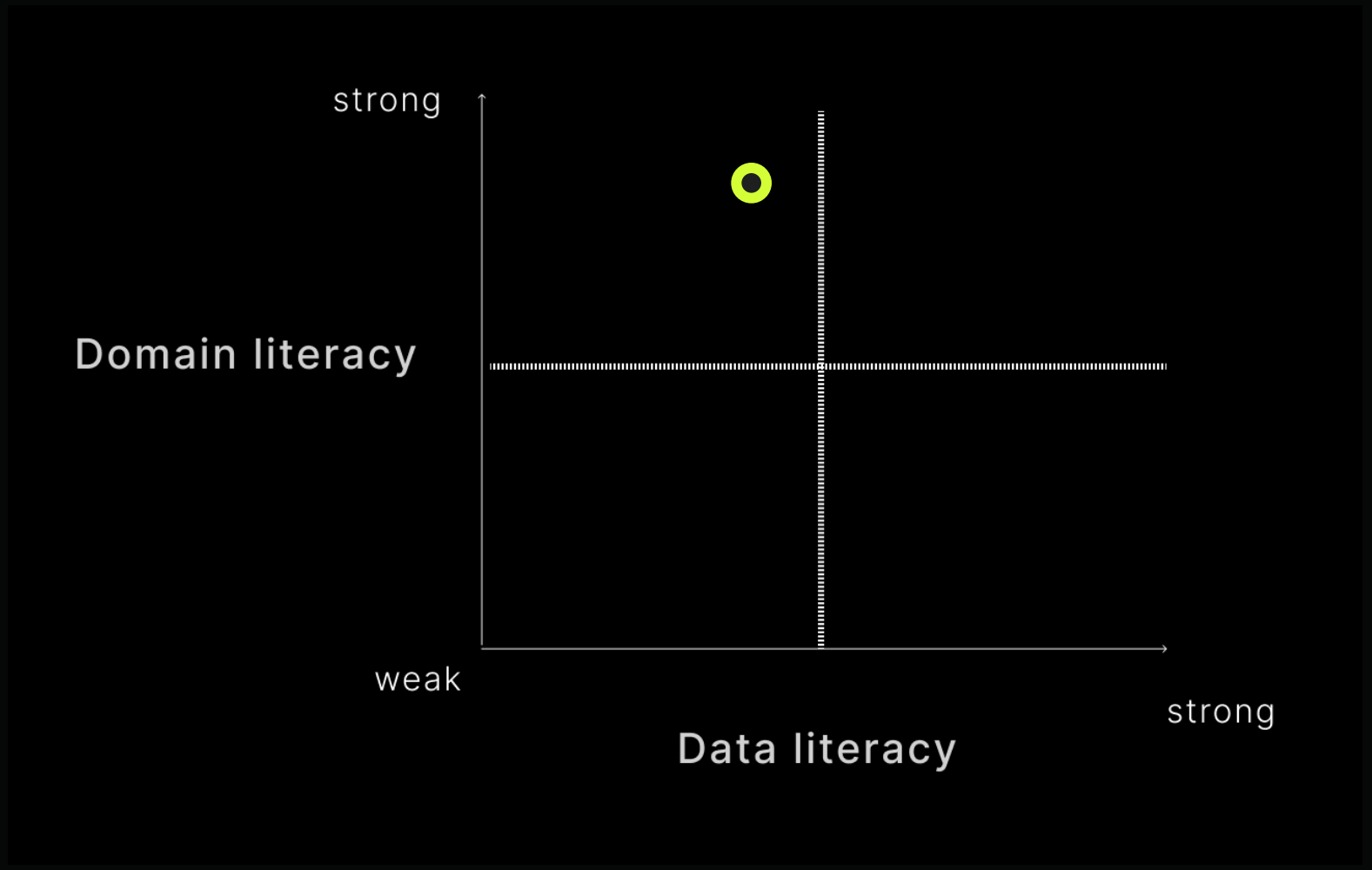


DataHues.


€
150K
100K
50K
0K
25%
42%
53%
64%
70%
75%
80%
84%
88%
91%
94%
96%
99%
100%
H-001
E-034
H-078
G-067
G-091
H-102
E-113
G-124
H-135
H-045
E-089
E-146
E-056
G-012

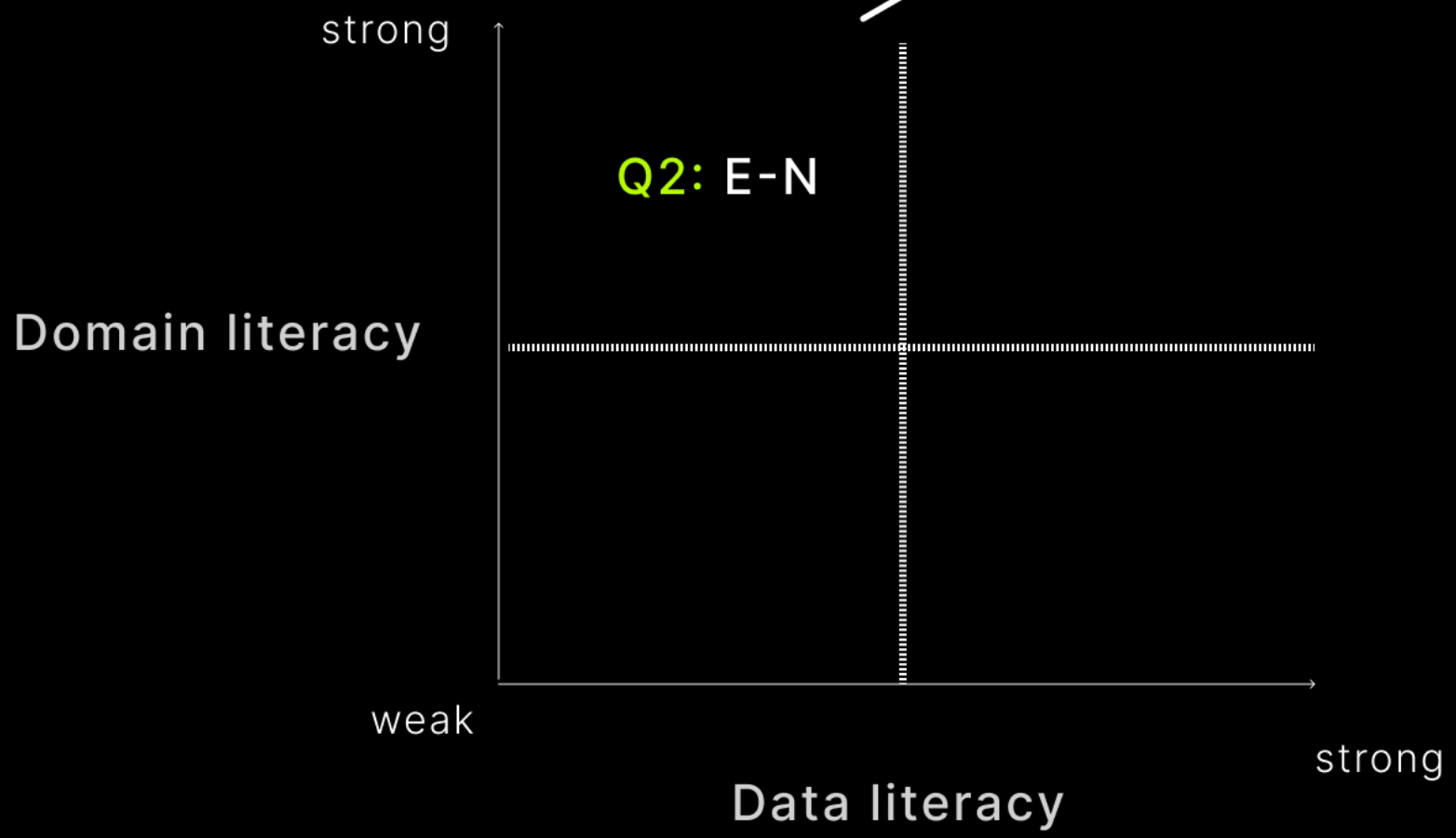
DataHues.

Mentaal model

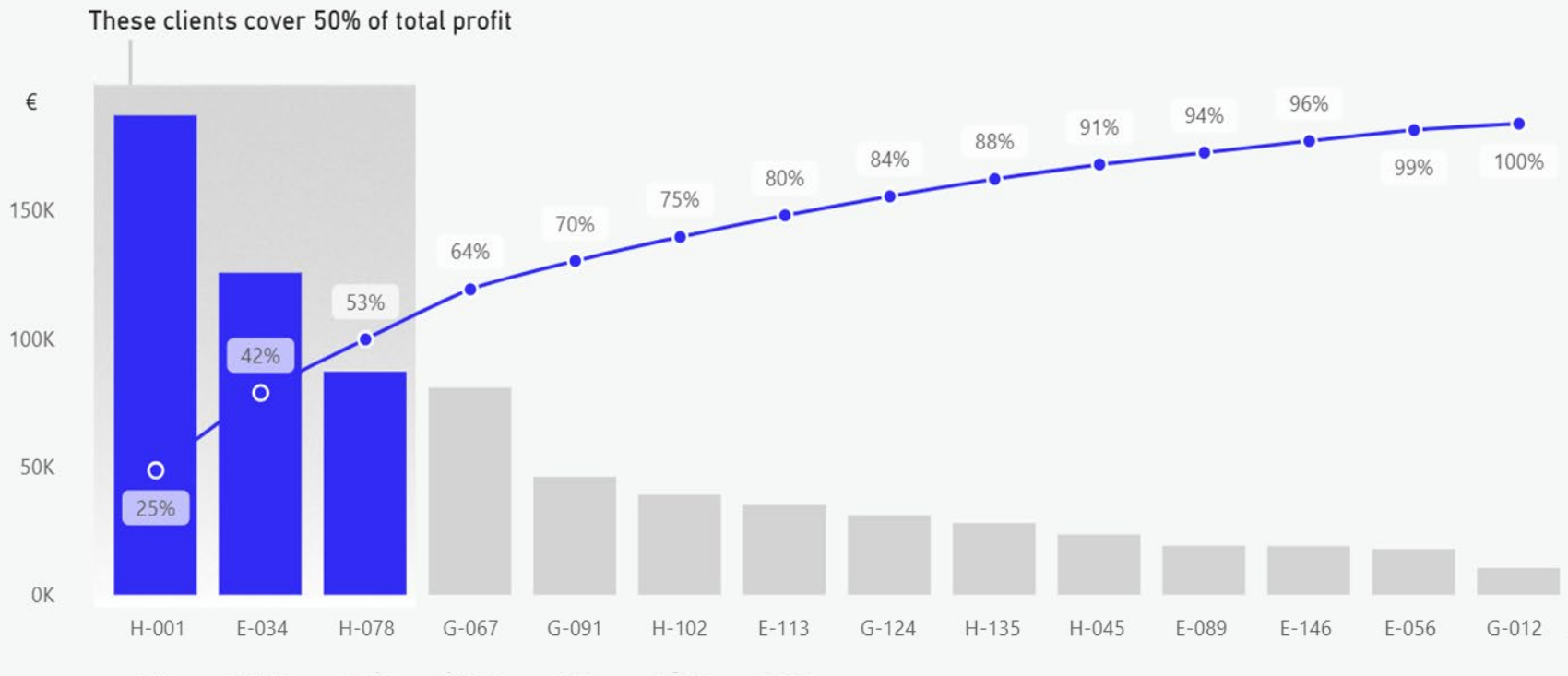


QUADRANT 2: Expert - Novice

Gebruik uitgebreide data-annotatie voor complexere visualisaties die aansluiten bij de domeinexpertise.



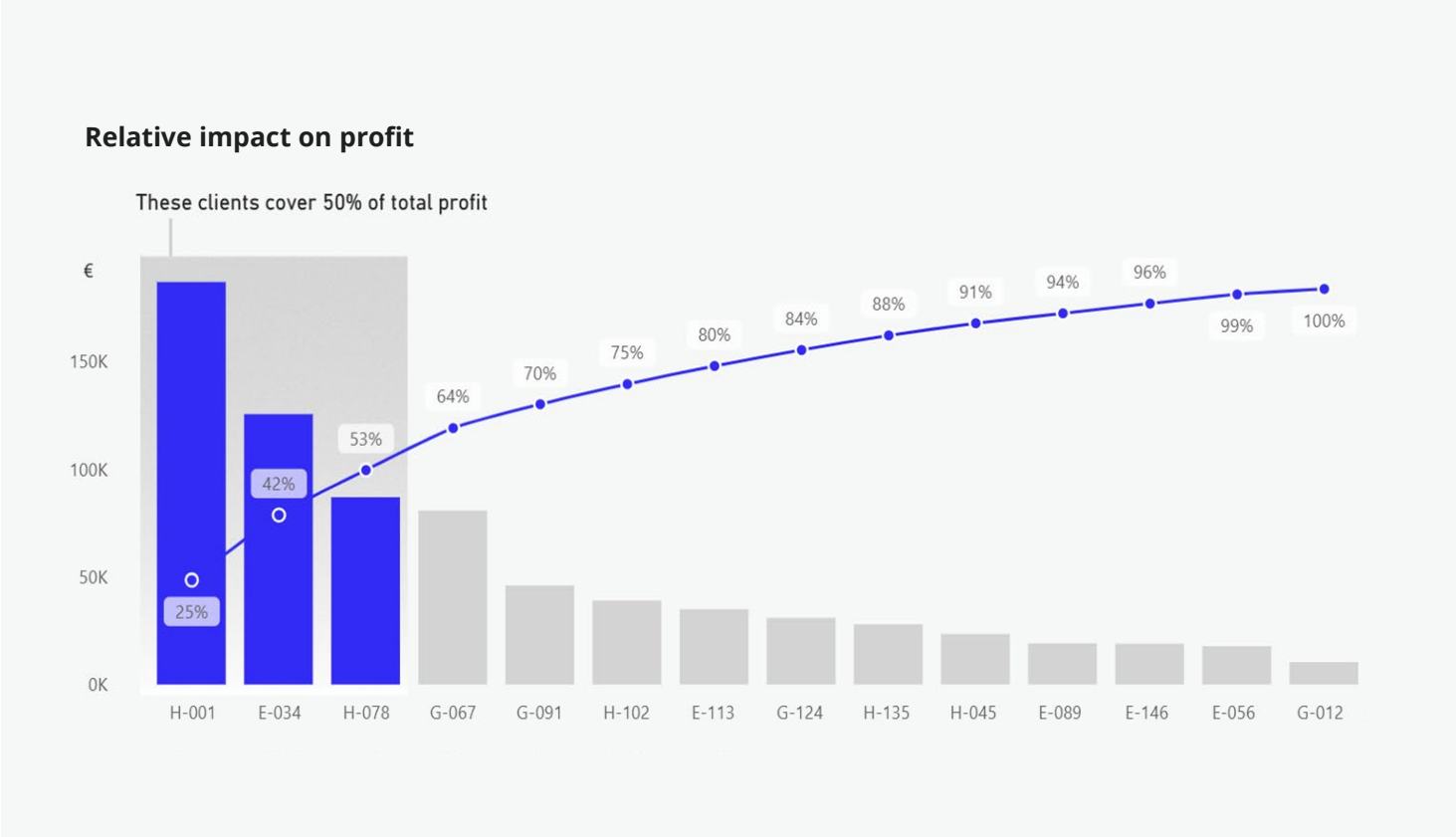
Relative impact on profit



1 2 3 4 5

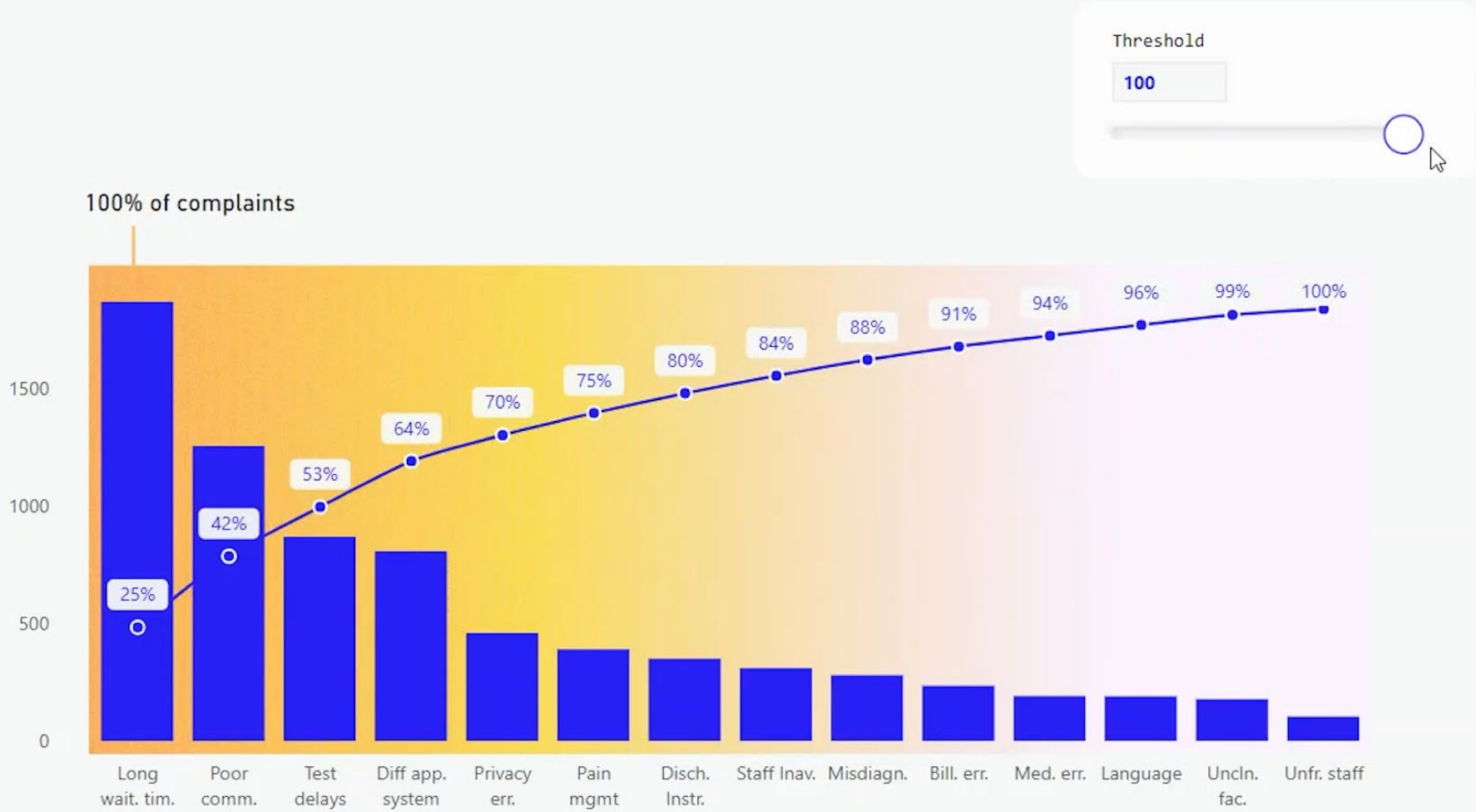
DataHues.

UX Design

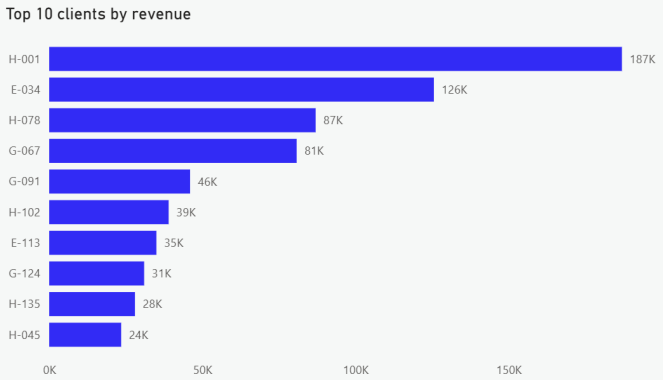


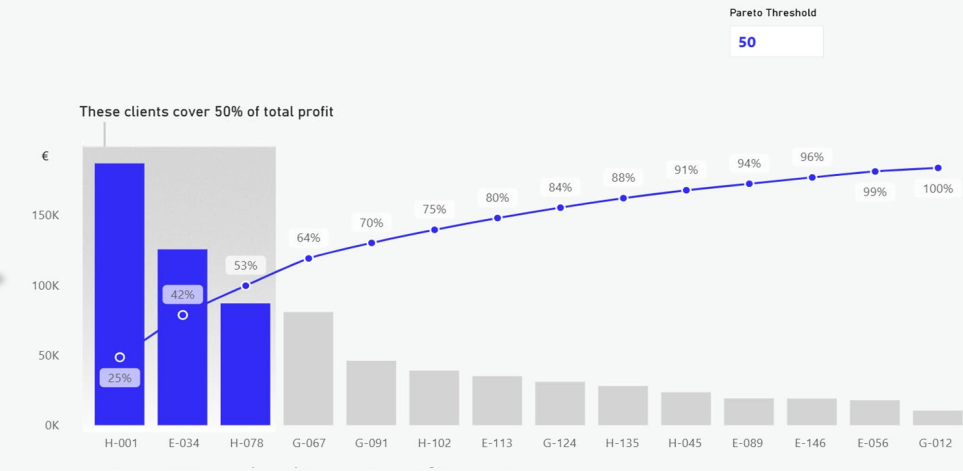
1 2 3 4 5

DataHues.


Threshold
100
100% of complaints
1500
1000
500
0
25%
42%
53%
64%
70%
75%
80%
84%
88%
91%
94%
96%
99%
100%
Long wait. tim.
Poor comm.
Test delays
Diff app. system
Privacy err.
Pain mgmt
Disch. Instr.
Staff Inav.
Misdiagn.
Bill. err.
Med. err.
Language
Uncln. fac.
Unfr. staff

DataHues.

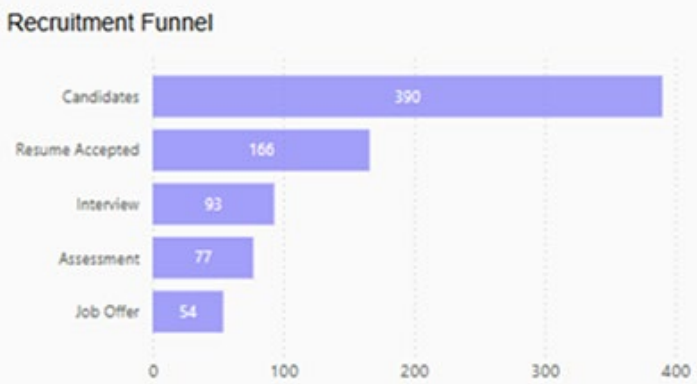


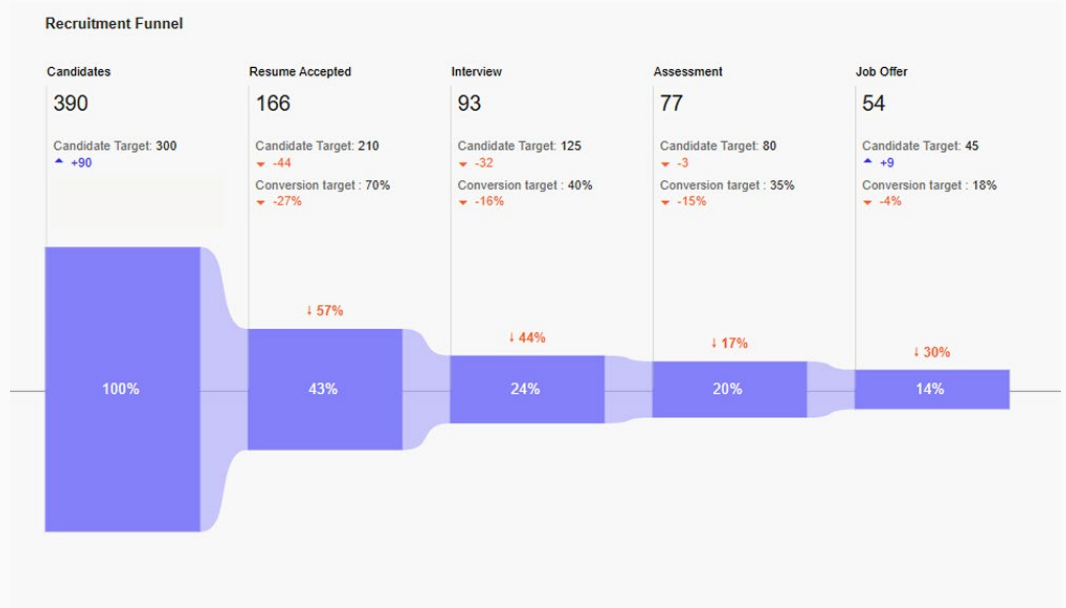


“Laat me de top 10 klanten op basis van omzet zien”

“Laat me de impact op de winst zien als we de grootste klanten verliezen”

DataHues.

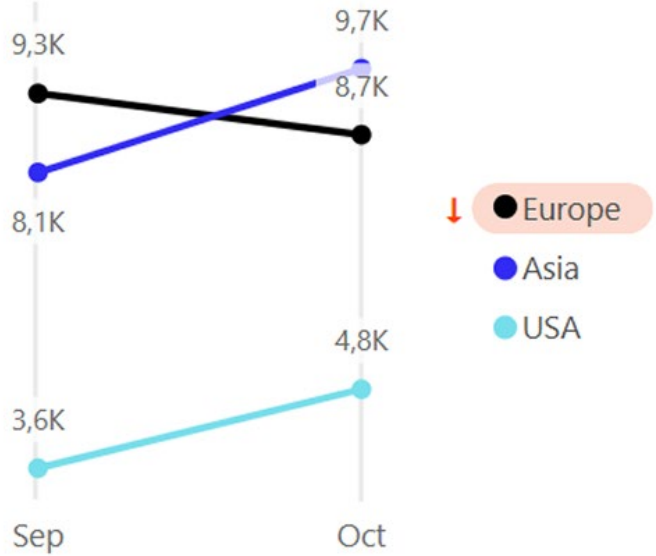

Recruitment Funnel
Candidates
Resume Accepted
Interview
Assessment
Job Offer
390
166
93
77
54
0
100
200
300
400


Recruitment Funnel
Candidates
390
Candidate Target: 300
+90
Resume Accepted
166
Candidate Target: 210
-44
Conversion target : 70%
-27%
Interview
93
Candidate Target: 125
-32
Conversion target : 40%
-16%
Assessment
77
Candidate Target: 80
-3
Conversion target : 35%
-15%
Job Offer
54
Candidate Target: 45
+9
Conversion target : 18%
-4%
100%
43%
↓ 57%
24%
↓ 44%
20%
↓ 17%
14%
↓ 30%

DataHues.


USA
5K
0K
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Europe
10K
5K
0K
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Asia
10K
5K
0K
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec




9,3K
9,7K
8,7K
8,1K
4,8K
3,6K
Sep
Oct
Europe
Asia
USA

DataHues.


Sales
Target
2000
1500
1000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


2024
2025
2026
Sales targets gap analysis
Target
450
557
320
80
-250
-300
-500
-300
-170
-70
100
480
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

DataHues.

Veelvoorkomen de fouten

Valkuil #1

De data bepalend laten zijn voor de chart keuze

Valkuil #2

Information overload door meer te laten zien dan nodig

Valkuil #3

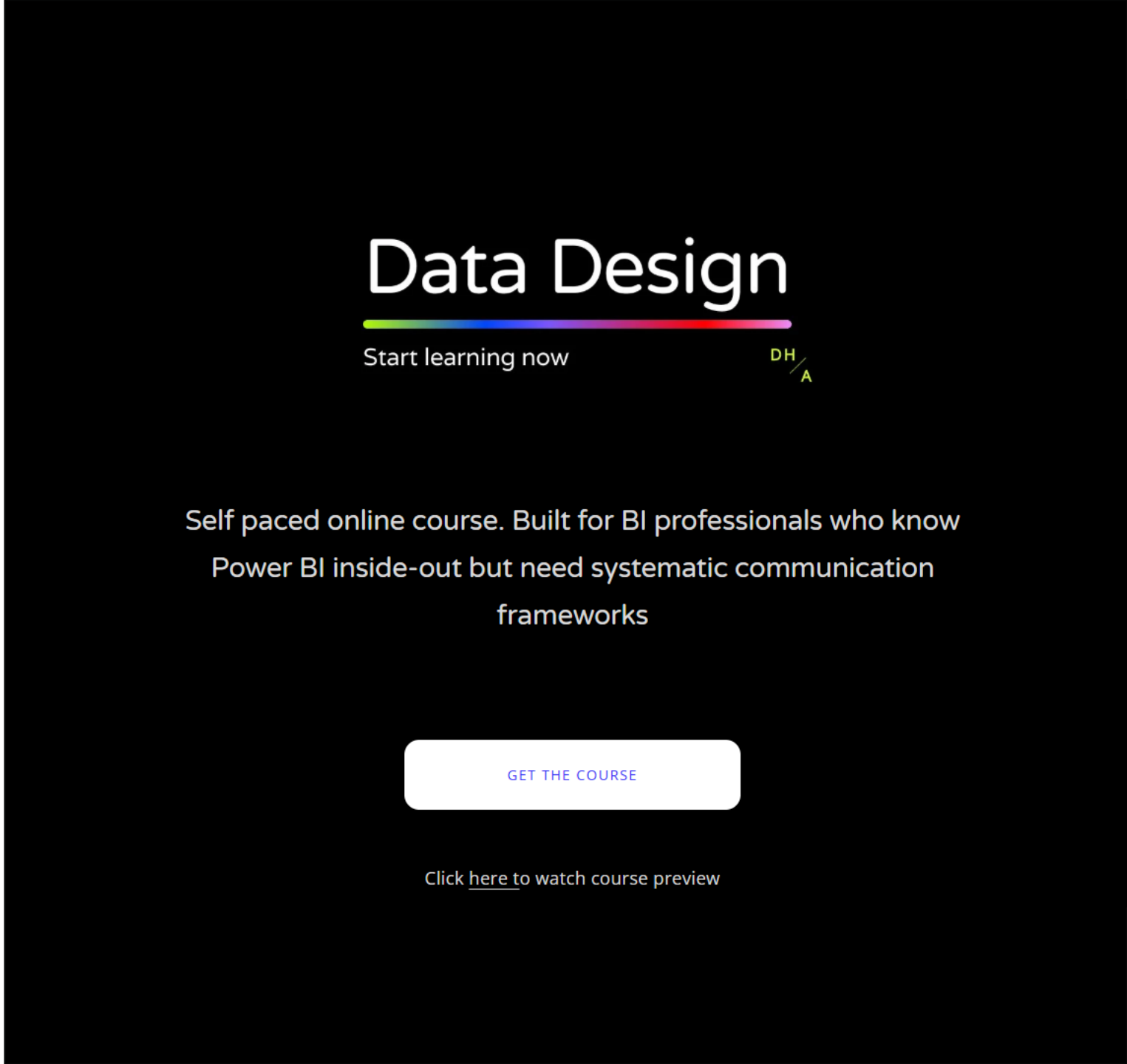
Te veel highlights is geen highlights

Valkuil #4

Te weinig context

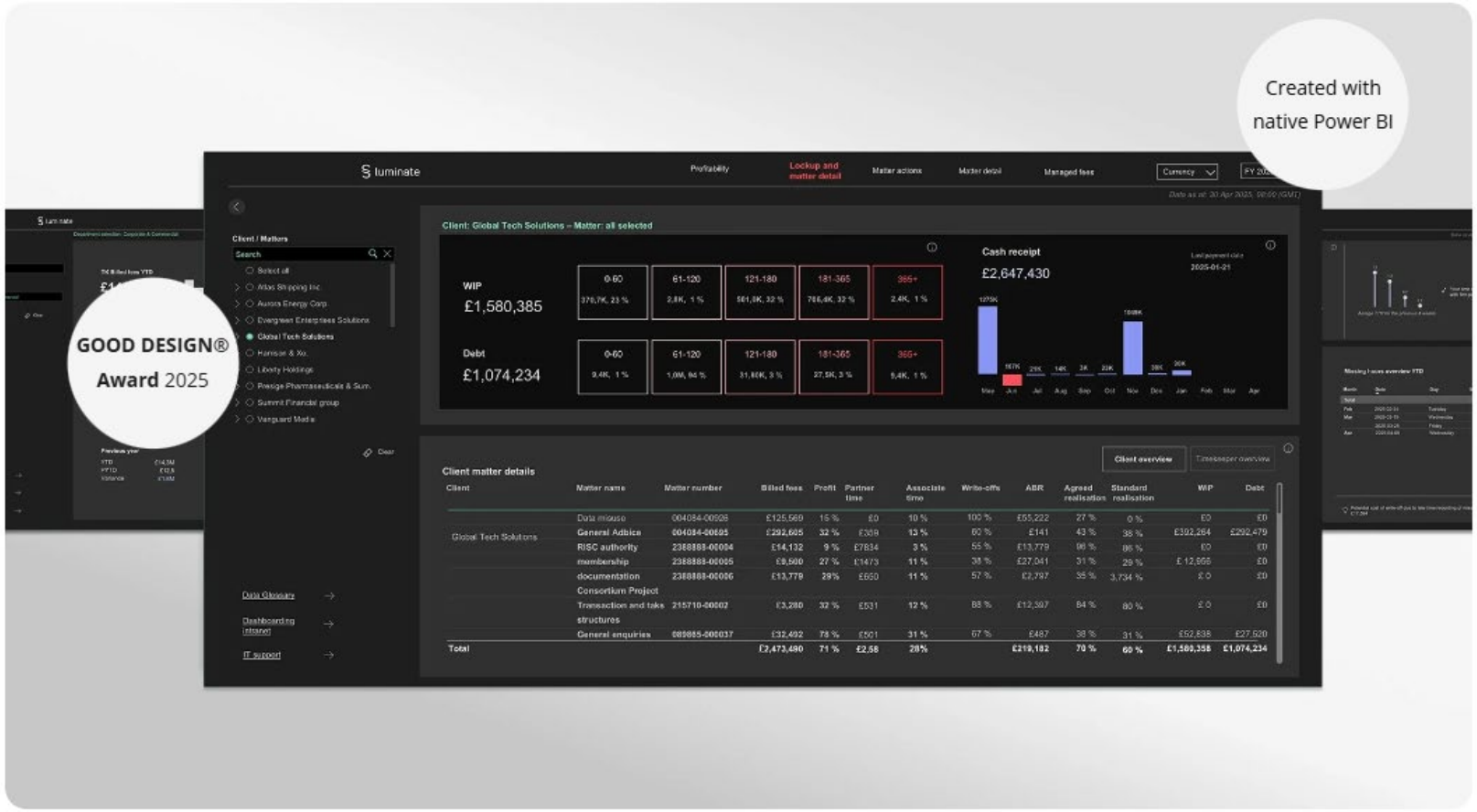
DataHues.

Meer leren? Vraag even een kortingscode ☺



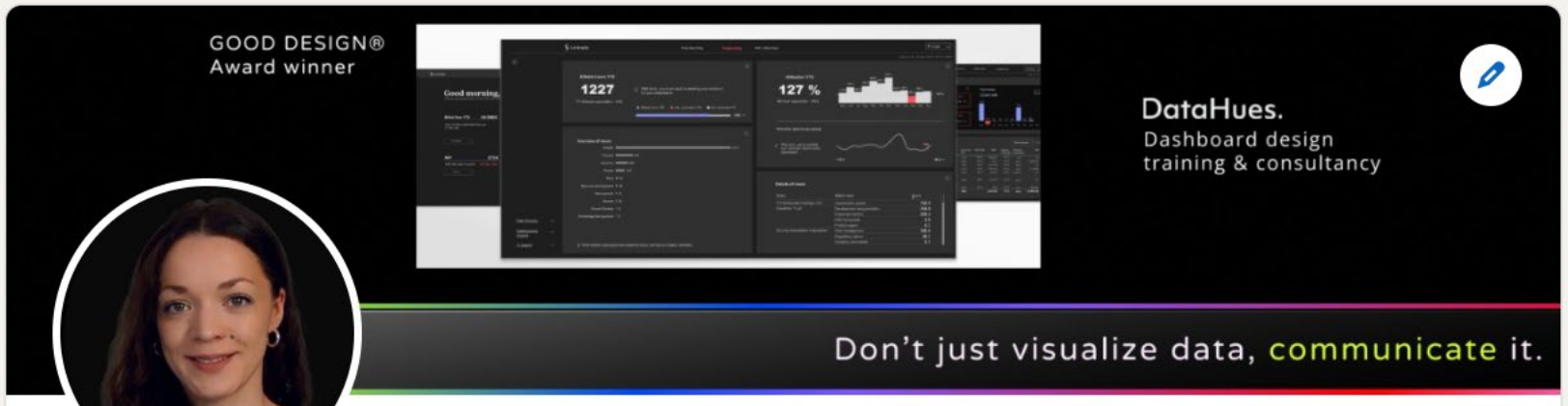
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Mariska van Kan

DataHues. DataHues

Data Designer | Award Winning Dashboard Through Cognitive Psychology & UX | Power BI | Founder @DataHues

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Optimise for the right skillset to keep up with AI.

