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Using generative AI to analyze customer reviews at scale

Intellus Summit
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Emma Willaert

INTRODUCTION

Get to know us

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Jasper Verhulst

- At Torfs since Jan 2015
  - Technical & functional Analyst / DBA
  - From 2018 BI team lead / DBA
- Almost 20 years of experience in Database management and reporting

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Emma Wilaert

- Data Analytics Consultant at Intellus since 2020
- At Torfs 2022 – 2025
  - Azure Data Platform
  - Power Platform

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Schoenen Torfs

- Omnichannel shoeretailer
  - 75 stores (2 Walloon)
  - Belgium-based & profitable webshop
  - 2023: turnover 200 M

- 100% family owned (4th gen – 75y in ’23)
  - Care for employees, customers, environment
  - Doing well & doing good

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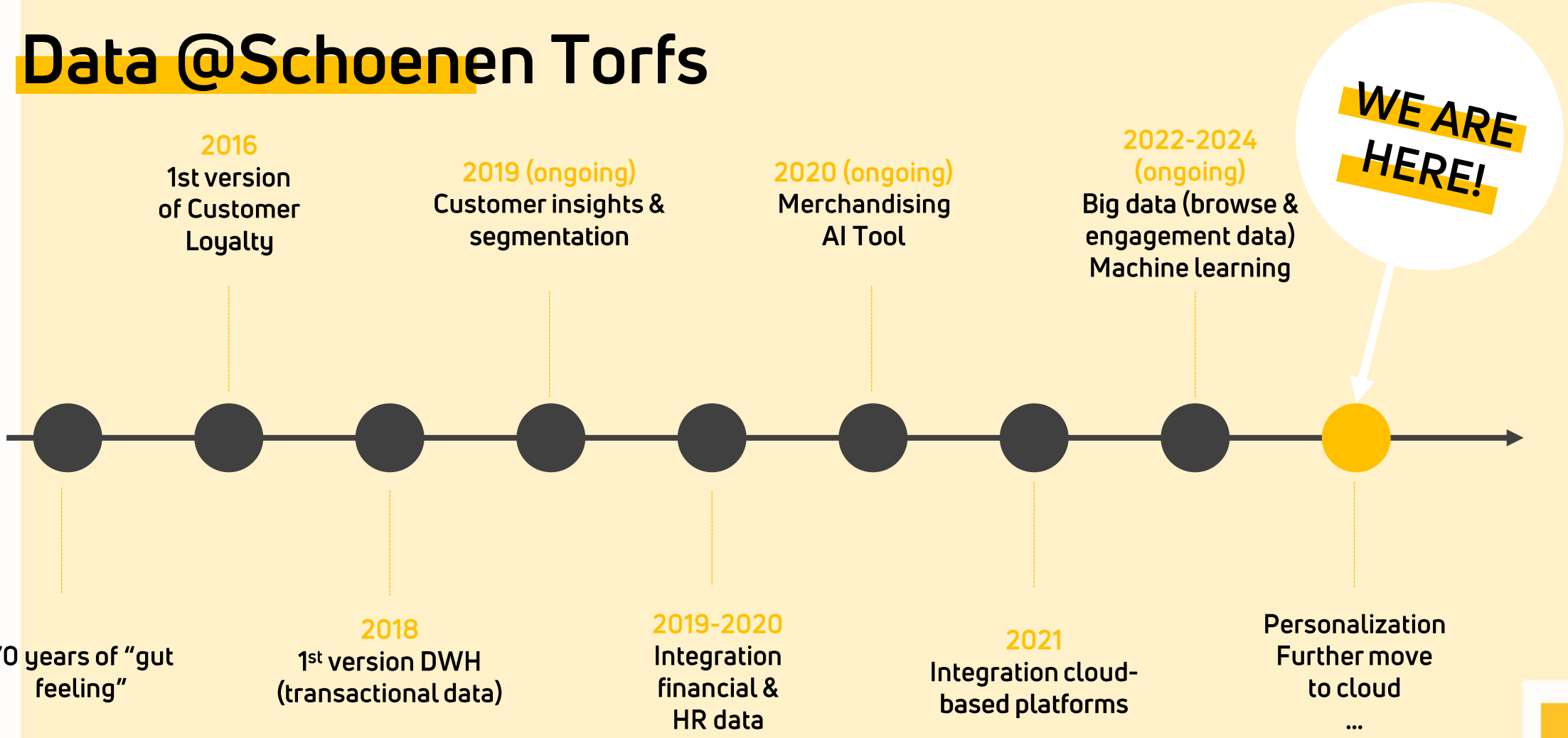
Data @Schoenen Torfs



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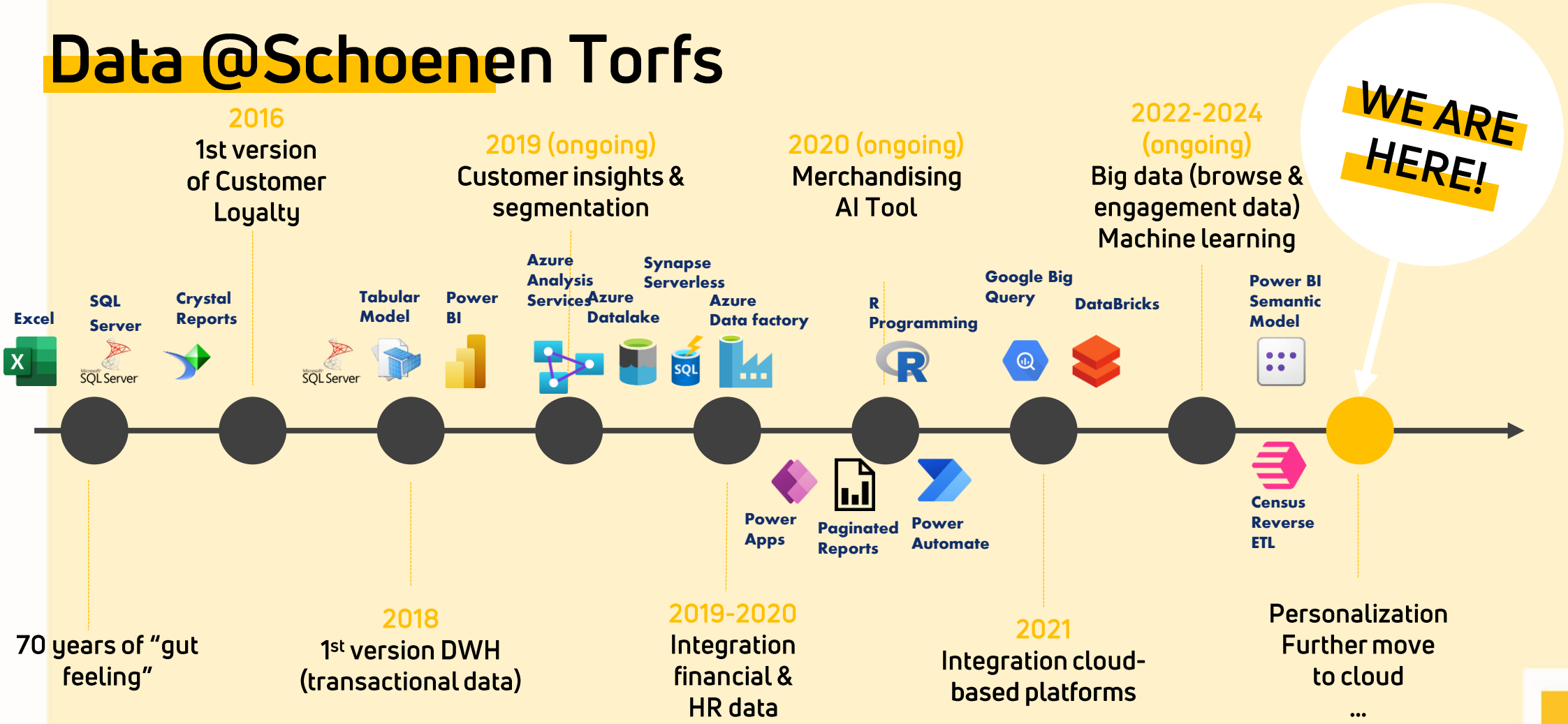
Data @Schoenen Torfs



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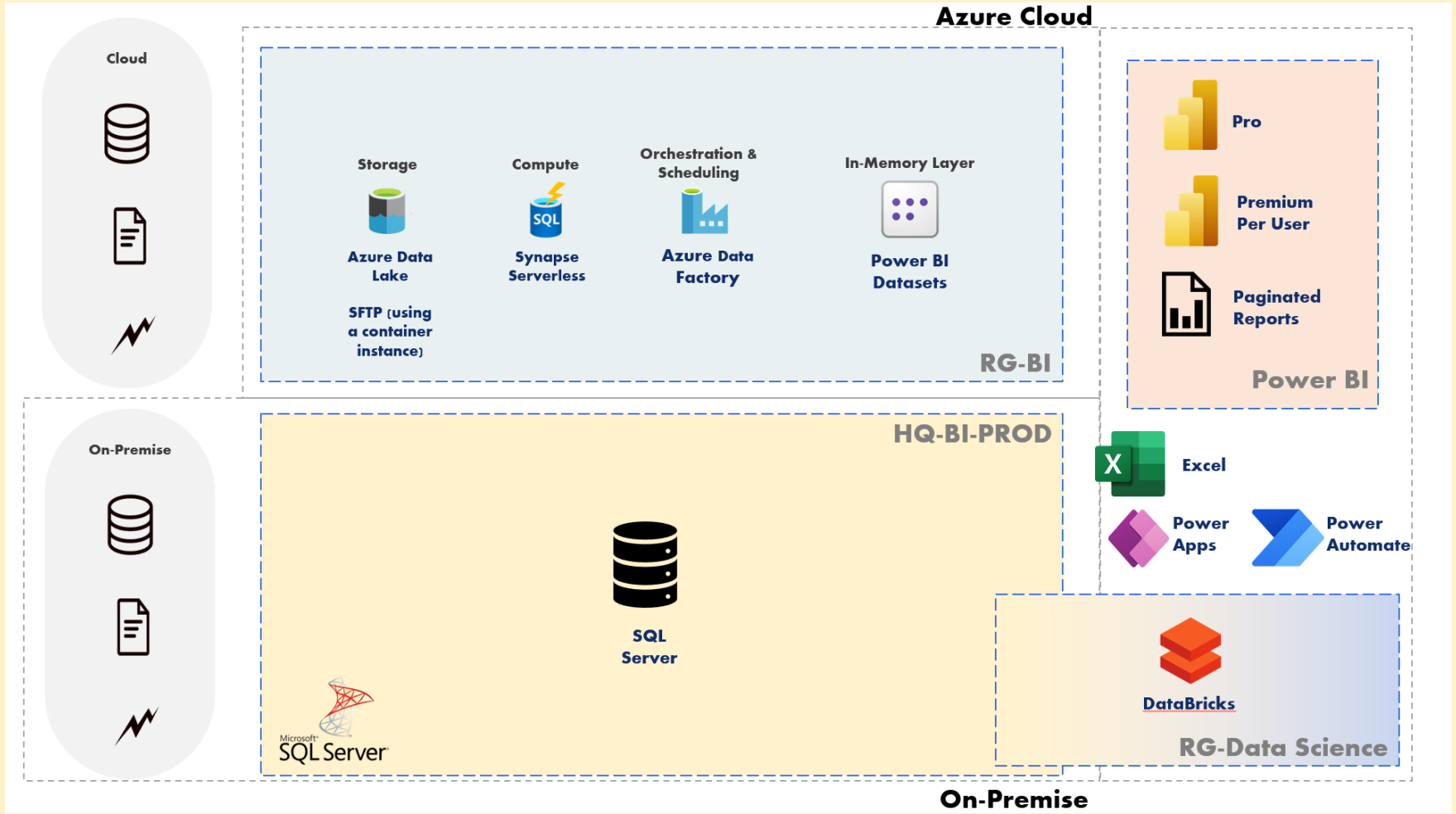
Set-up: lakehouse & cube



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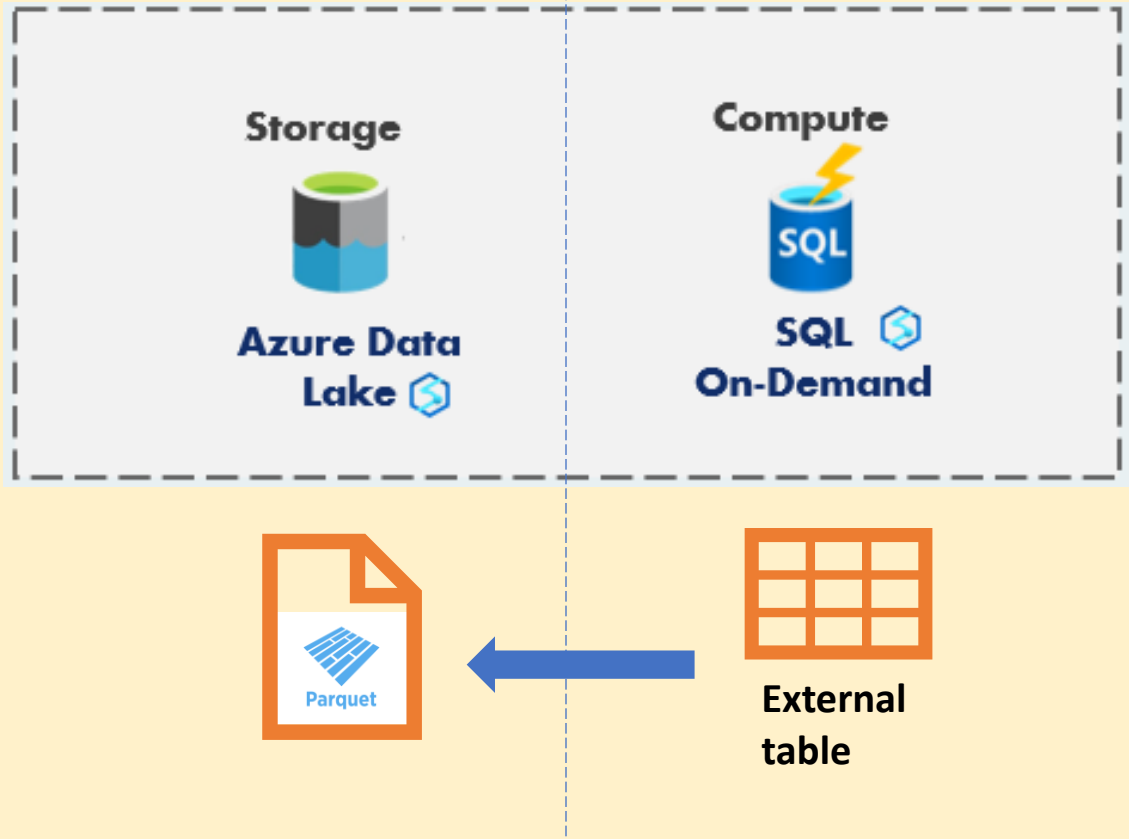
SQL Serverless

How Storage is linked to the Compute Database



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Goodbye Mystery Shoppers, Hello AI!

The introduction of customer reviews

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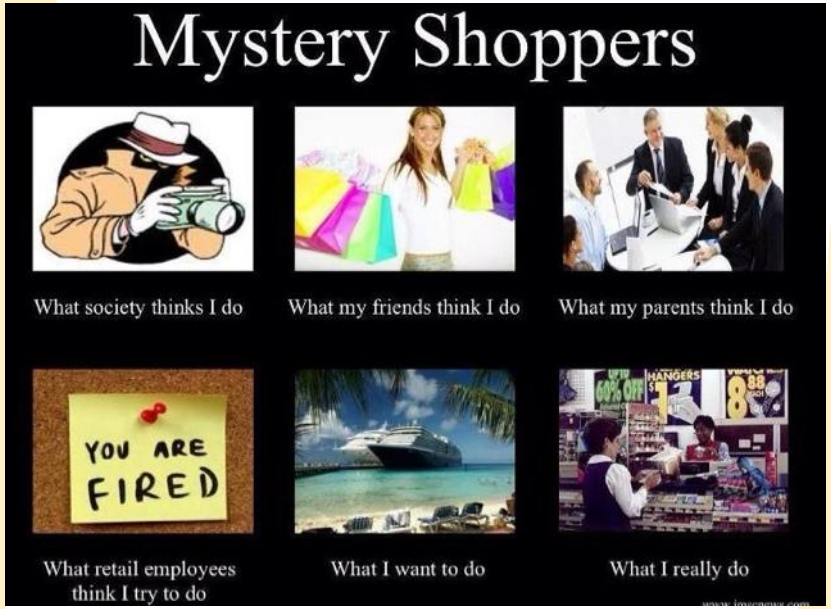
Mystery Shopper Era

- Customers with a secret mission
- Stressful, unfair, incomplete evaluations
- Employees were anxious, overly cautious
  - Neglecting other important tasks, like stock
  - Consequences were missed sales and delayed customer orders



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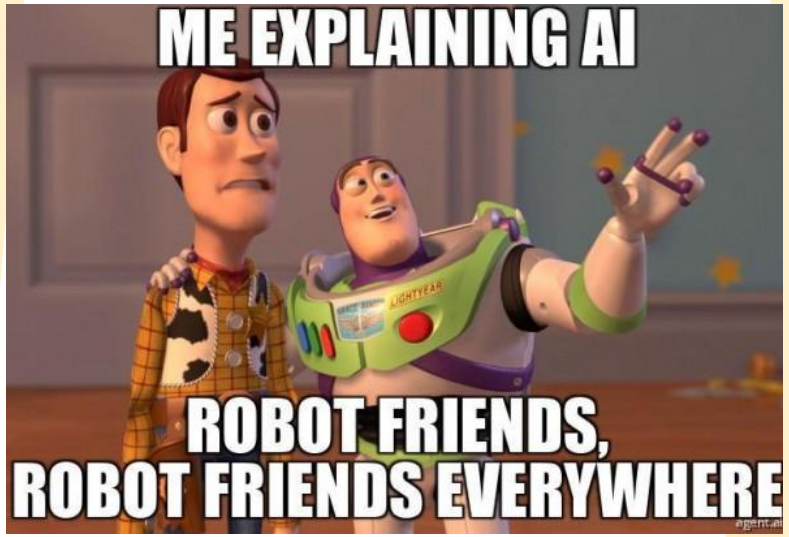
AI-powered customer feedback

- Not feasible to analyze and evaluate all customer reviews manually
- AI processes tens of thousands reviews for clear, actionable insights



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Resulting in …

HAPPIER TEAMS

INCREASED SALES

IMPROVED CUSTOMER SATISFACTION

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A Sneak Peek at the AI Setup

Technical overview

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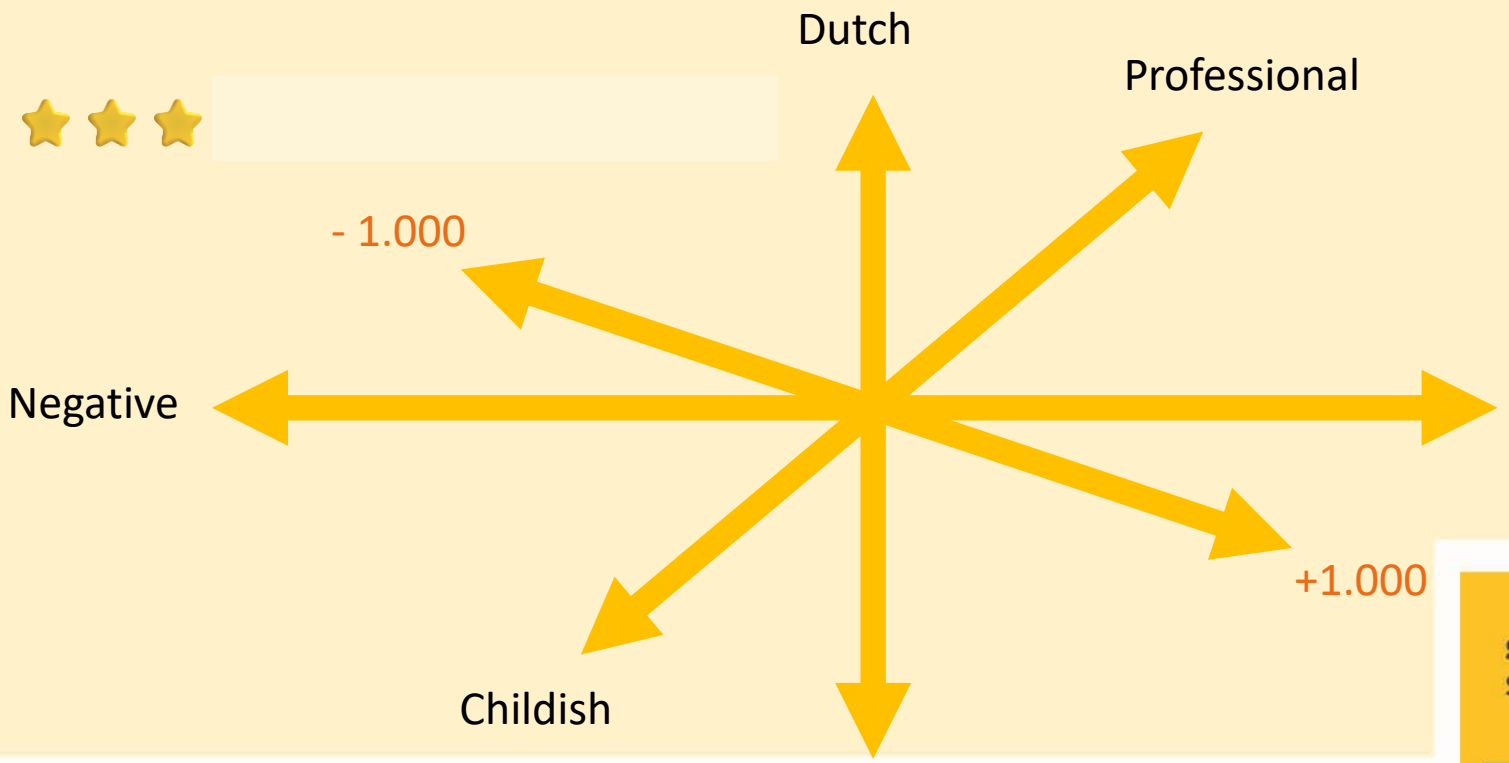
What is Vector/Embedding?

"Mooie kinderschoenen"

"The shoe is haunted, I'm convinced the shoe has a soul/sole."

…



Ada2: 1536
3 small: 1536
3 large: 3072

! Oversimplified Example

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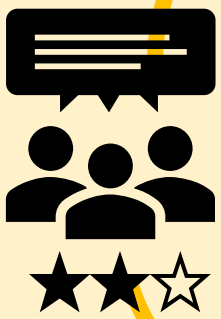
What is Vector/Embedding?

Individual Shop Feedback
Small Data Path

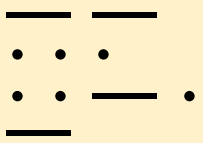


"bediening, verkoopsters, aandachtig, weinig tijd, gemak, snel, ontvangst, personeel, professioneel, service, helpen, vriendelijk, behulpzaam, attent, geduldig, advies, hulp"

v_1 = Shop
v_2 = Service
v_3 = Product
v_x = ...

Variables can also be generated by clustering

Big Data Path
Lots of reviews for analytical needs.

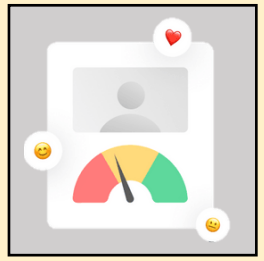


Conversion to Embedding/Vector

v_1	v_2	v_3	v_x
82%	**95%**	12%	**81%**
13%	11%	**86%**	35%
42%	**87%**	13%	42%

Cosine **Similarity.**
Cut-Off: 80%

v_1	v_2	v_3	v_x
1	**1**	0	**1**
0	0	**1**	0
0	**1**	0	0



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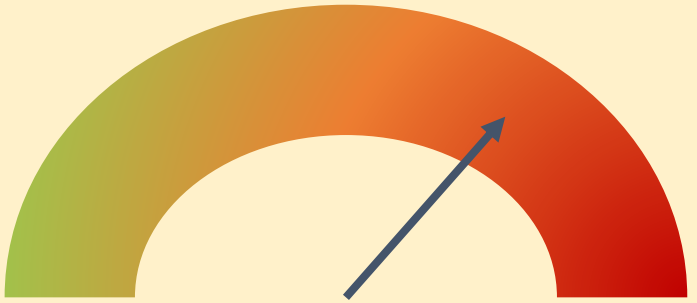
Sentiment Analysis



- Using Natural Language Processing to determine the writer's attitude within the tekst: positive, negative or neutral.

"Mooie kinderschoenen" ★★ → ☺

"The shoe is haunted, I'm convinced the shoe has a soul/sole." ★★★ → 😐

"I was not happy with my visit!!!" ★★★★★ → ☹

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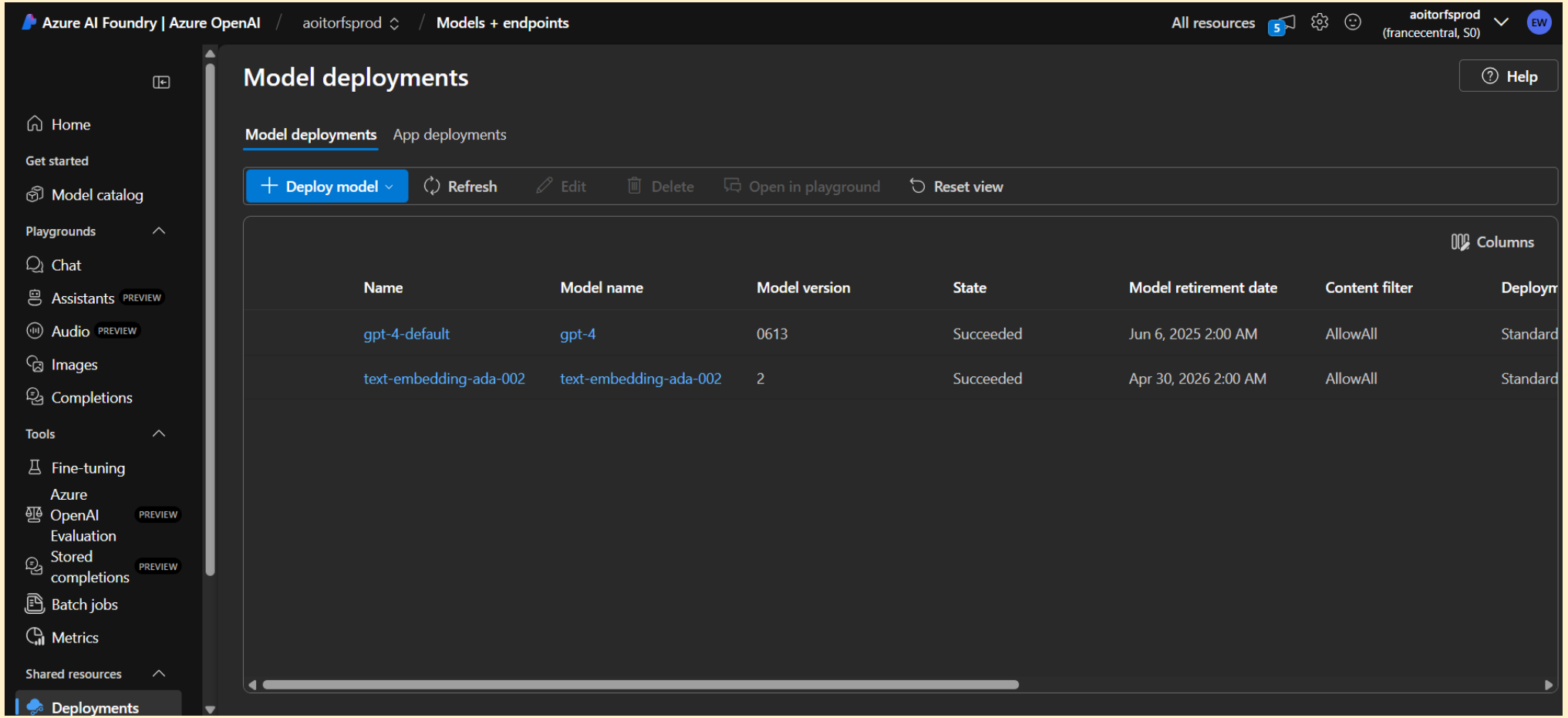
Azure Open AI



Azure OpenAI

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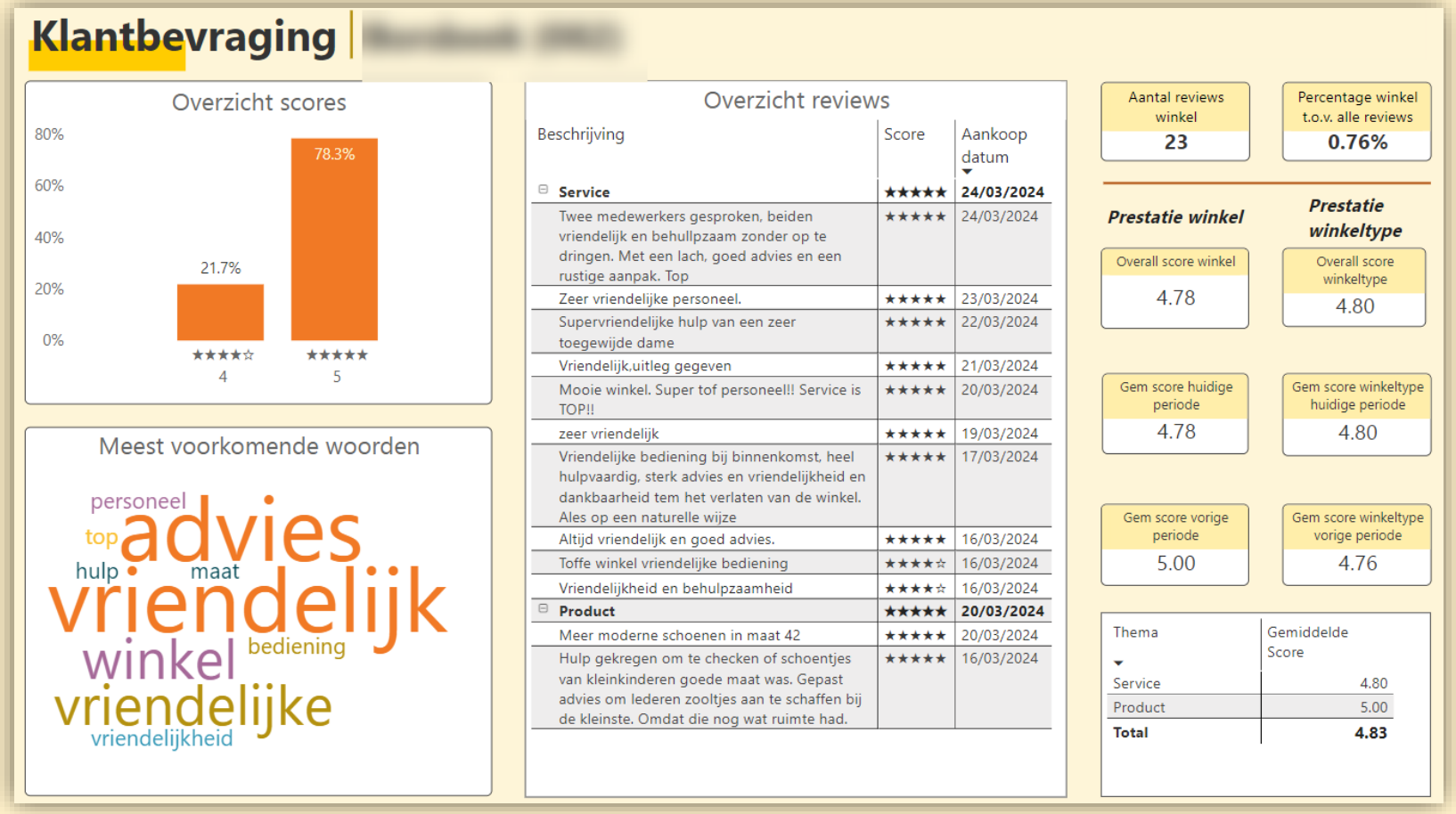
Reporting in Power BI



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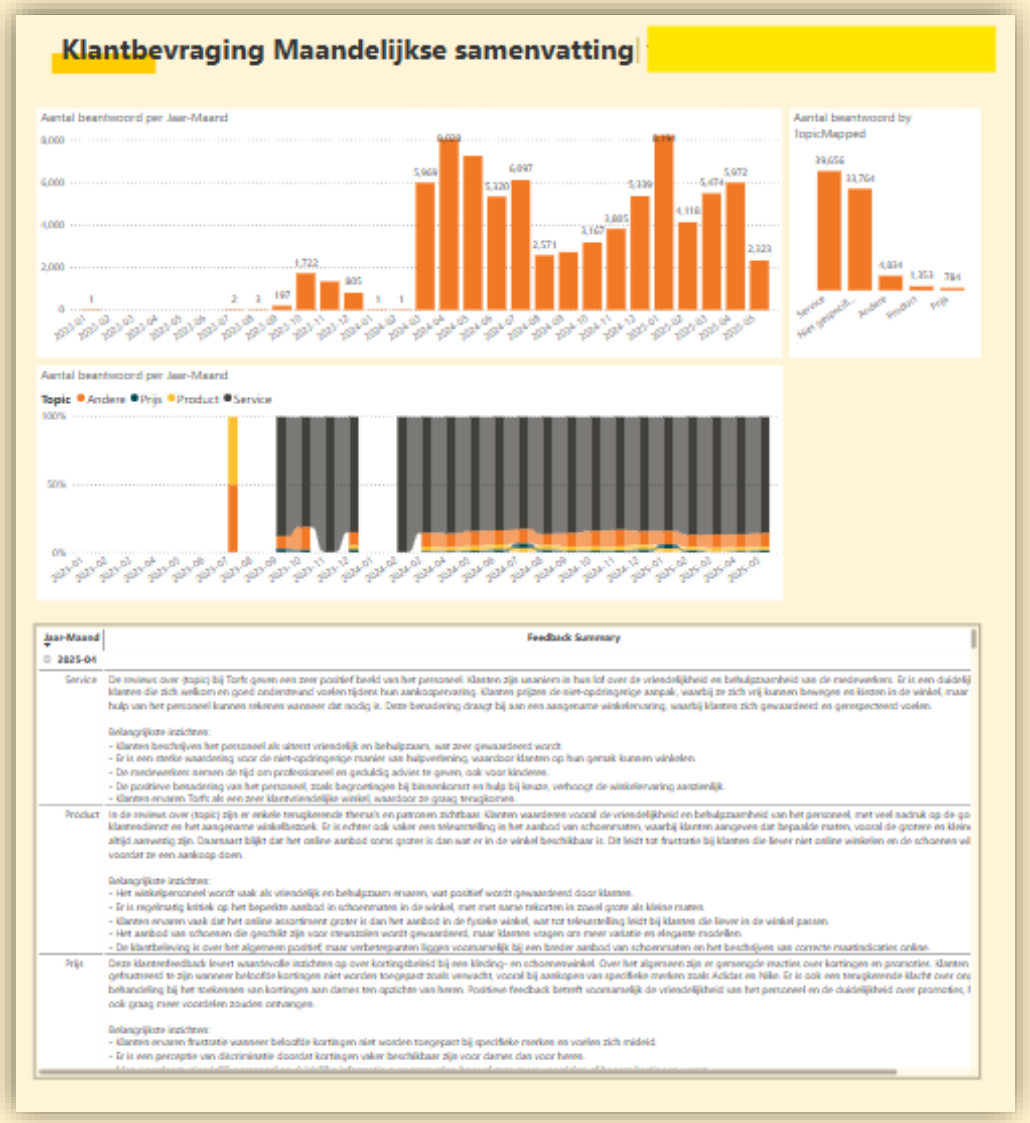
Reporting in Power BI



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Example Review

> **I visited store X to buy a pair of Nike sneakers. The staff was very friendly and together we found the perfect pair! Unfortunately, my size was not available in the store anymore. This was not a problem, since I could order the correct size online via the web screen.**

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Example Review - analysis

> **I visited store X to buy a pair of Nike sneakers. The staff was very friendly and together we found the perfect pair! Unfortunately, my size was not available in the store anymore. This was not a problem, since I could order the correct size online via the web screen.**

- Vector Embedding
  - Shop: 70 %
  - Service: 60 %
  - Product: 90 %
- Sentiment Analysis
  - Score: 0.5
- Key Words
  - Pair, Friendly, Size, Order, …

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Real Life Story

The positive impact of customer reviews

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Size Availability

Challenge
Customers identified issues with size availability in footwear.

AI Solution
🔍 Analyzed customer reviews to detect trends:

- **High demand for larger sizes** linked to increasing average foot size.
- **Unique local demand** in Limburg for smaller sizes (due to a local Italian community).

Action Taken
📦 Adjusted purchasing strategy:

- Increased stock of larger sizes globally.
- Tailored inventory for Limburg with more smaller sizes.

Results
✅ Improved customer satisfaction
📈 Boosted sales through smarter stock alignment
🎯 Achieved better market localization

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Wrap Up by Numbers

Evaluating Insights

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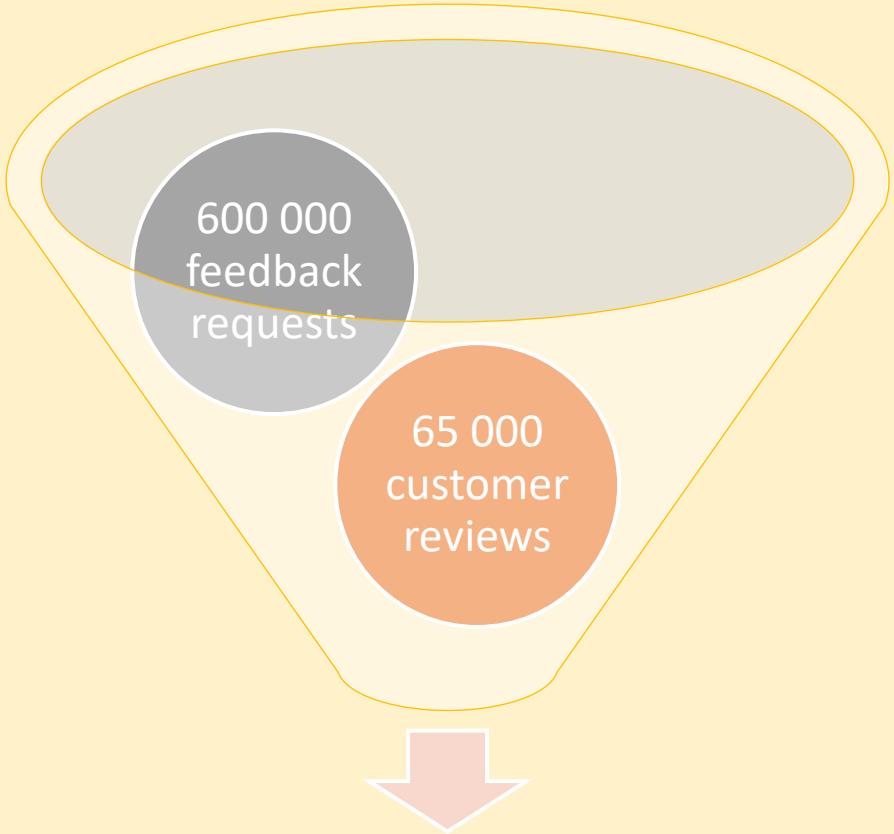
Customer reviews



65 000 customer voices driving continuous improvement

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Cost comparison

Previous Mystery Shopper Program:

€ 12 000/year

AI Feedback System:

€20/month

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TE STAAN.

OOK DE KOMENDE 75 JAAR.