

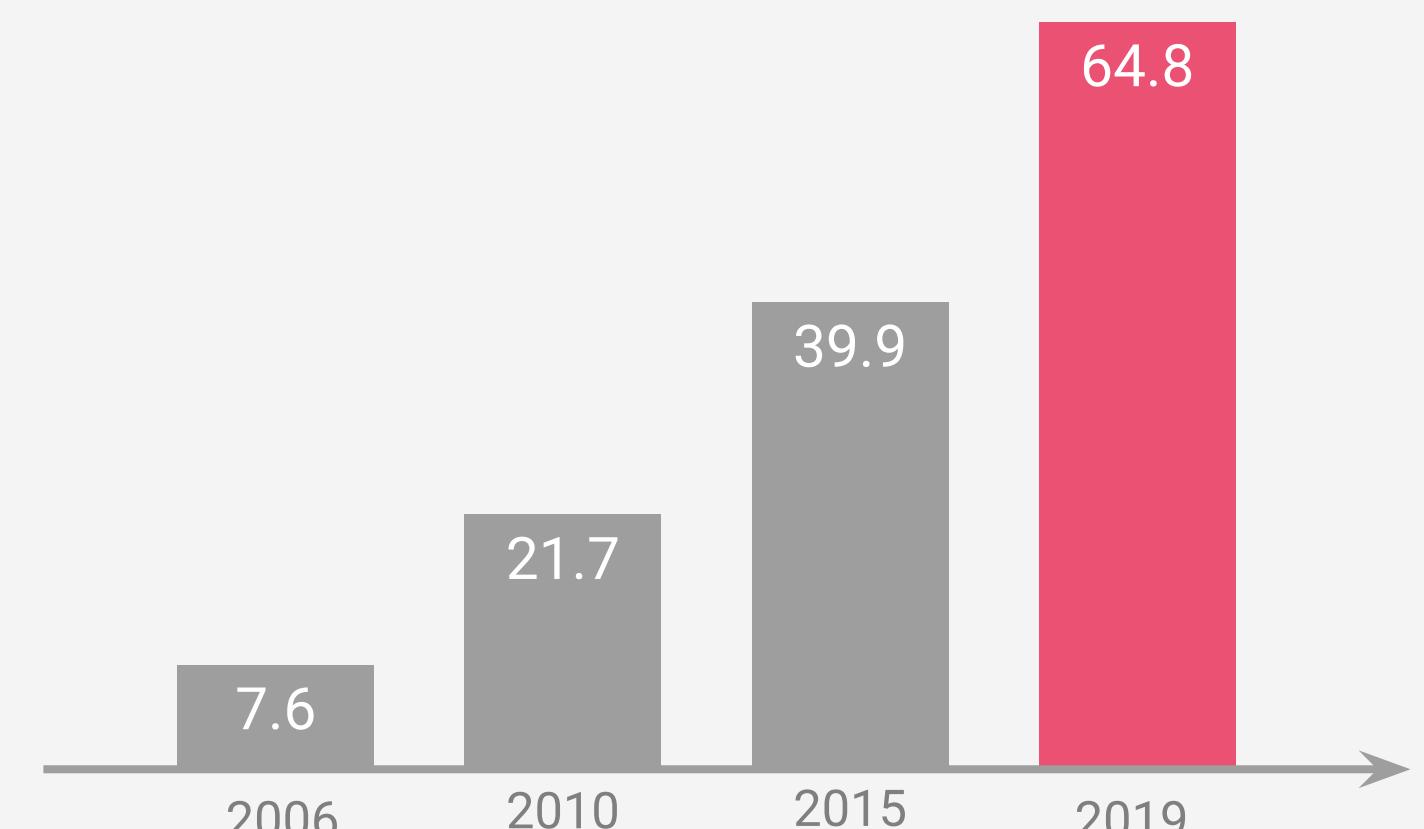
A black and white photograph of a woman with dark hair, looking directly at the camera with a neutral expression. She is positioned in front of a display of several large, semi-transparent spheres. These spheres are colored in a gradient from blue to red and appear to be glowing from within. The background is blurred, showing what looks like a store interior with shelves and products.

**SO1**  
SEGMENT OF ONE®

AI und individuelle Abverkaufsdaten  
**Automatisierte Targetierung von Promotions und Media**

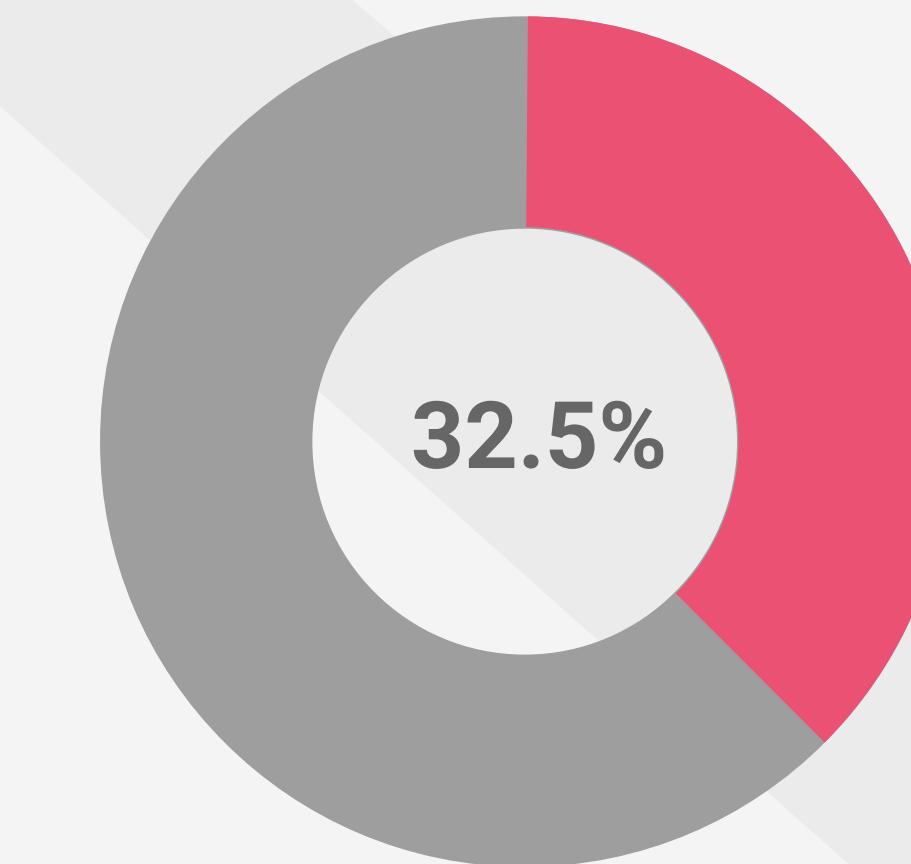
# Der Werbemarkt wächst rasant und wird von CPG und Retail dominiert

Online advertising revenues are quickly rising in Europe



Source: IAB Europe July 2020

32.5% share of CPG and Retail in % of Total Spending



Source: GroupM, December 2018

# Händler weltweit starten ihre eigenen Werbenetzwerke

Mit Margen über 35% und vollständig unsubstituierten Umsätzen

Digital Media Solutions » DMS Insights: Digital Advertising News » Retailers Innovating To Strip Market Share From G...

## Retailers Innovating To Strip Market Share From Google, Facebook, Amazon

NEWS



### **Walmart wants to become a big advertising player like Amazon**

By: Tribune Media Wire

Posted at 10:02 PM, Apr 12, 2019 and last updated 4:02 AM, Apr 13, 2019

Walmart is serious about giving Amazon a run for its money online. It's



BUSINESS INSIDER

HOME > MEDIA

## **Target is expanding its ad offerings to better monetize shopping data**

Audrey Schomer May 6, 2019, 3:55 PM

### **What's Up With the Rise of Retailer Media Networks?**

As advertisers seek to diversify product discovery and boost visibility, retailer media networks are finding the potential for great returns. Learn more here.



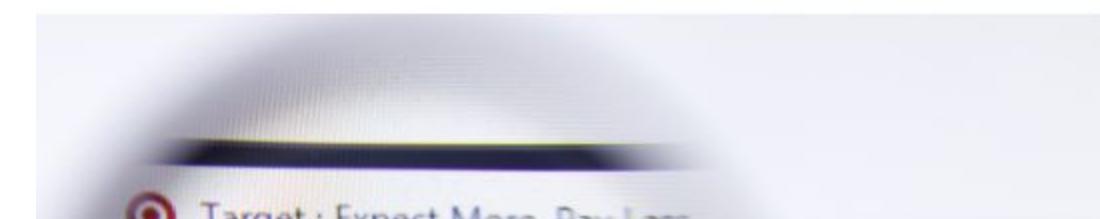
SUPERMARKETS ADDING 'MEDIA COMPANY' TO THE RÉSUMÉ

May 13, 2020 / 6 min read

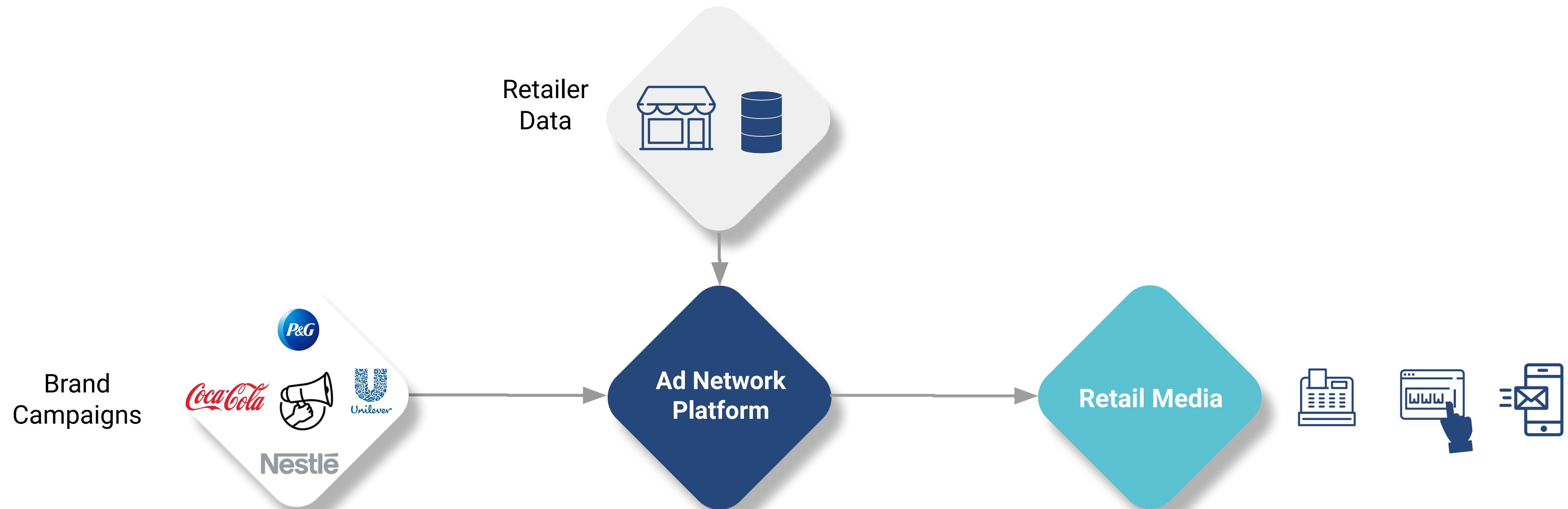
210 1.9K  
SHARES READS

### **Supermarkets Adding 'Media Company' to the Résumé**

By Abby Kleckler - 10/13/2020



Die Idee: Händler sind die einzige Instanz, die den Erfolg der Werbung effektiv kontrollieren und damit auch am besten targetieren kann



Die Werbenetzwerke der Händler wachsen in diesem Umfeld sehr schnell und sind bereits nach 1-3 Jahren im 3-stelligen Millionen Umsatzbereich



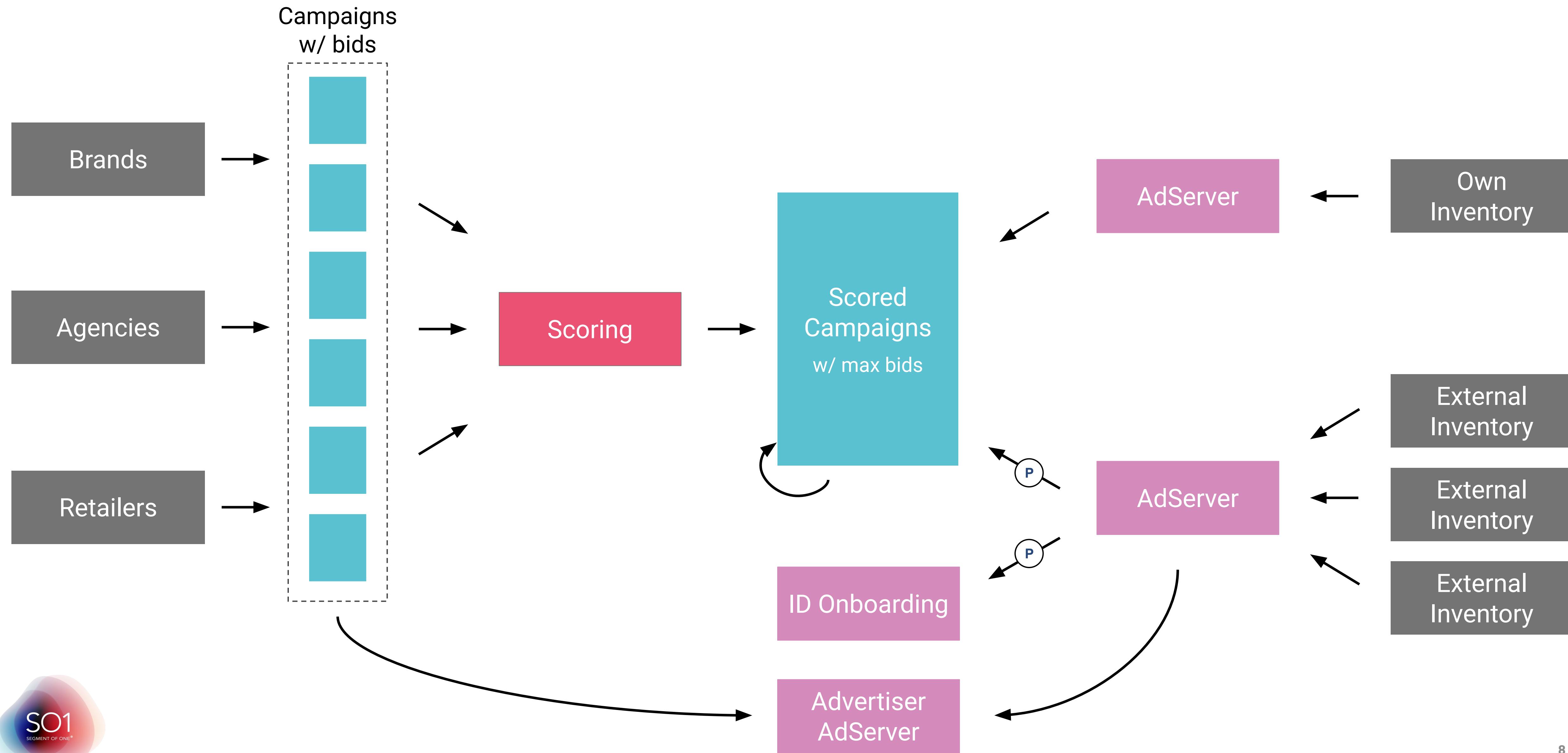
Die erfolgreichsten Werbenetzwerke werden jene sein, die Kampagnen den erfolgversprechendsten Konsumenten zuordnen können



Der Score einer Kampagne wird getrieben von Erfolgserwartungen, Kosten und dem Gebot des Werbetreibenden

$$f(\text{Expected Sales}, \text{Advertiser's Bid}, \text{Costs of Ad}) = \text{SO1 Score}$$

# Werbetreibende legen Kampagnen an und bieten auf diese



# Die Kampagnenanlage und Erfolgskontrolle

The image shows three tablets displaying the SO1 campaign management interface. The left tablet shows the login screen with a 'Welcome to the SO1 Portal!' message. The middle tablet shows the 'Edit SEGMENTS Settings' page, specifically the 'Campaign' tab, where a budget of 1000.00 is set, and a Coca-Cola bottle is selected as the creative. The right tablet shows a 'Predicted Conversion' card with a 3.38% conversion rate for a budget of 1000.00 and a line chart and table below showing actual performance data over time.

**Edit SEGMENTS Settings**  
Define the campaign and parameter setup for a SEGMENTS campaign. Any shopper universe from the Universe Builder can be used. Running campaigns can be found under 'Executions'.

**Campaign Tab**

Budget: 1000.00

Products: Manage products

Shopper Universe: Create Universe

Activity period: 22/01/2021 to dd/mm/yyyy ∞

Incentive: 13%

Creative: Coca-Cola bottle

Frequency caps: Add frequency caps

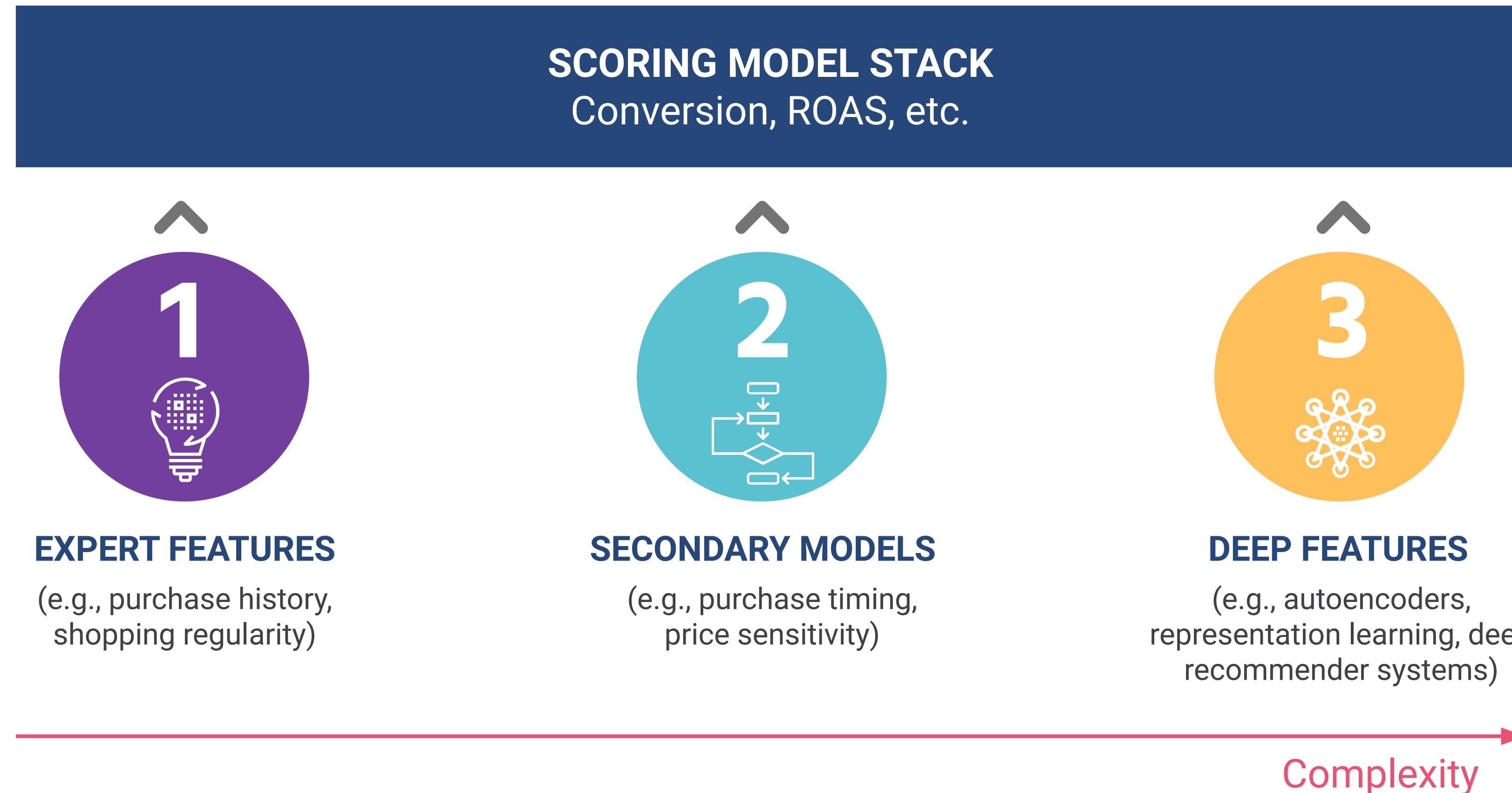
**Predicted Conversion**  
For Budget: €1000.00  
3.38%  
Update

**Today's Special**  
The newest Coke -13%

**Conversion Rate**

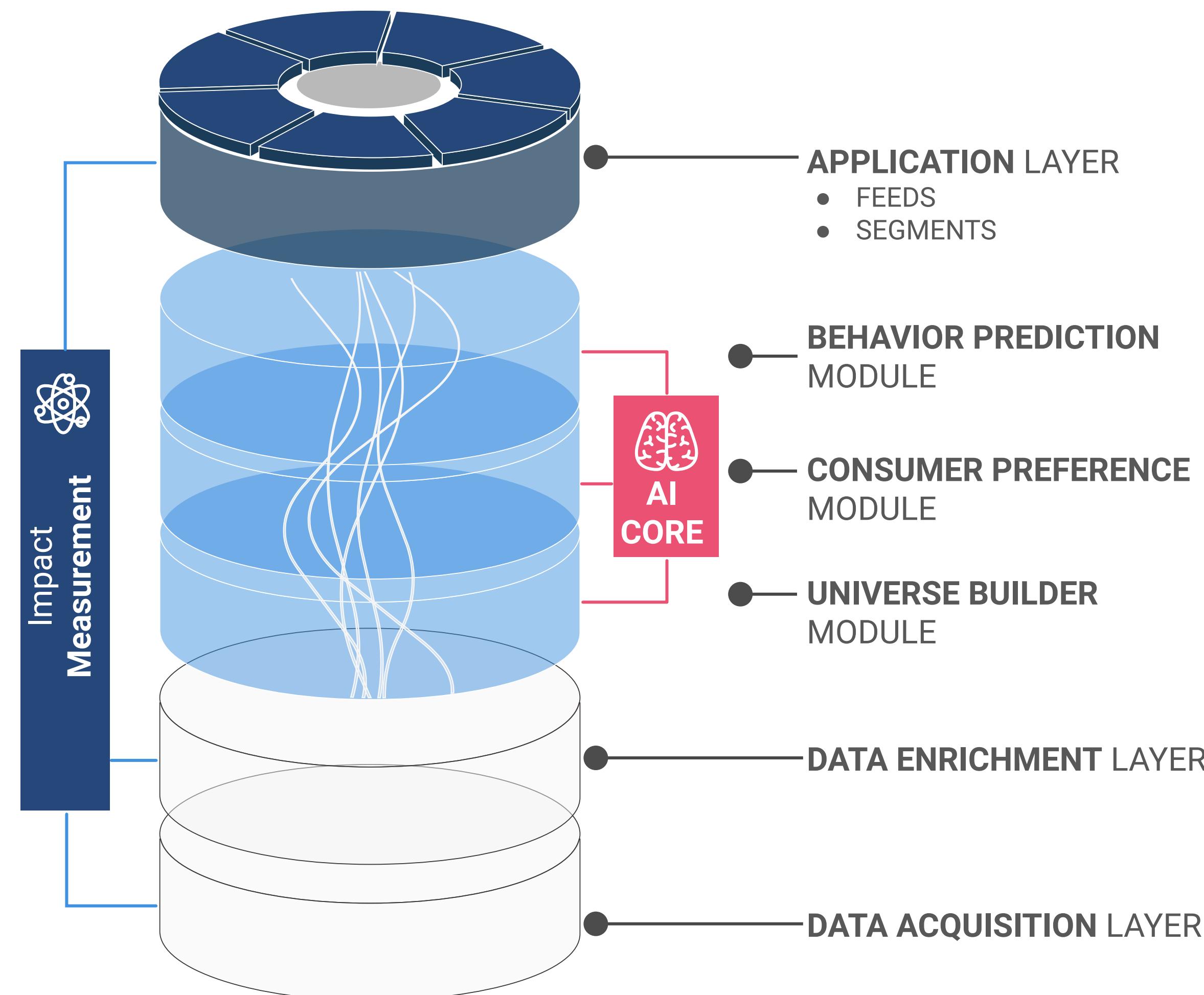
Series Color	Conversion Rate	Distribution Rate	Actions
Blue	8.82%	0.33%	Edit
Red	13.92%	0.84%	Edit
Green	0.00%	0.06%	Edit
Yellow	0.00%	0.70%	Edit
Orange	9.76%	0.22%	Edit
Purple	33.33%	0.01%	Edit

# Die Vorhersage des Scores basiert auf einem Machine Learning Stack

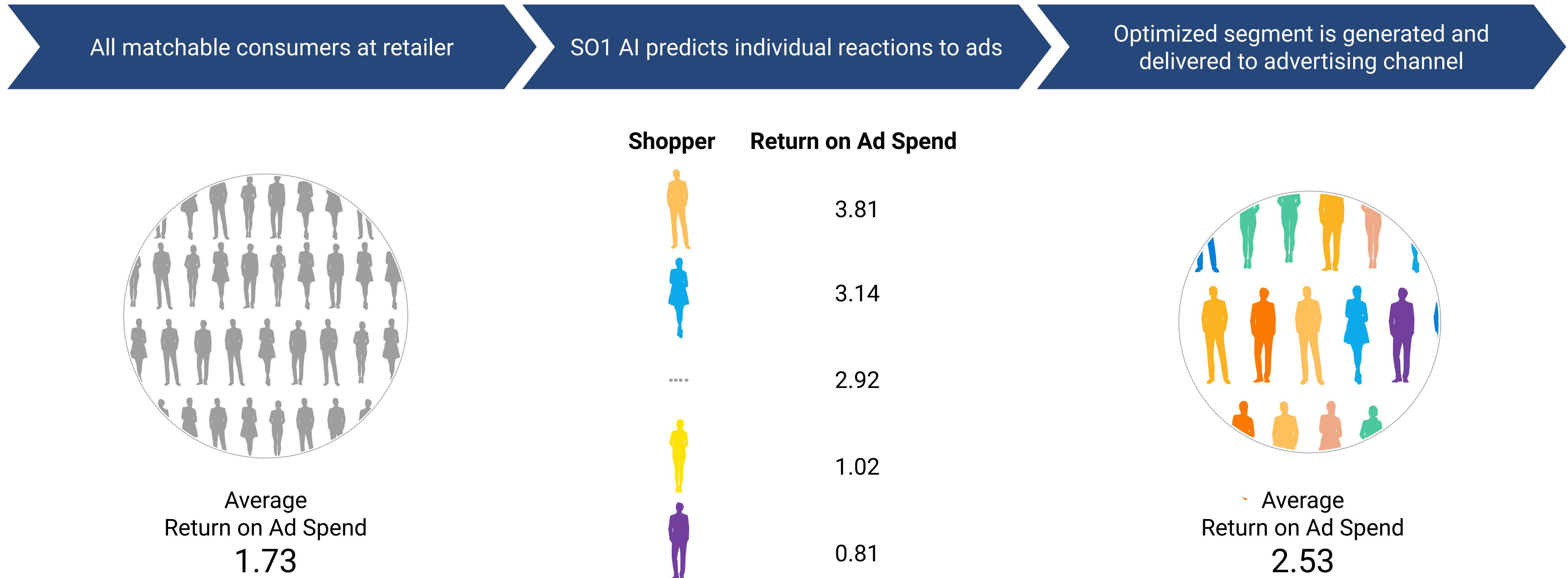


# Dieser ML Stack ist Teil einer voll skalierbaren Architektur

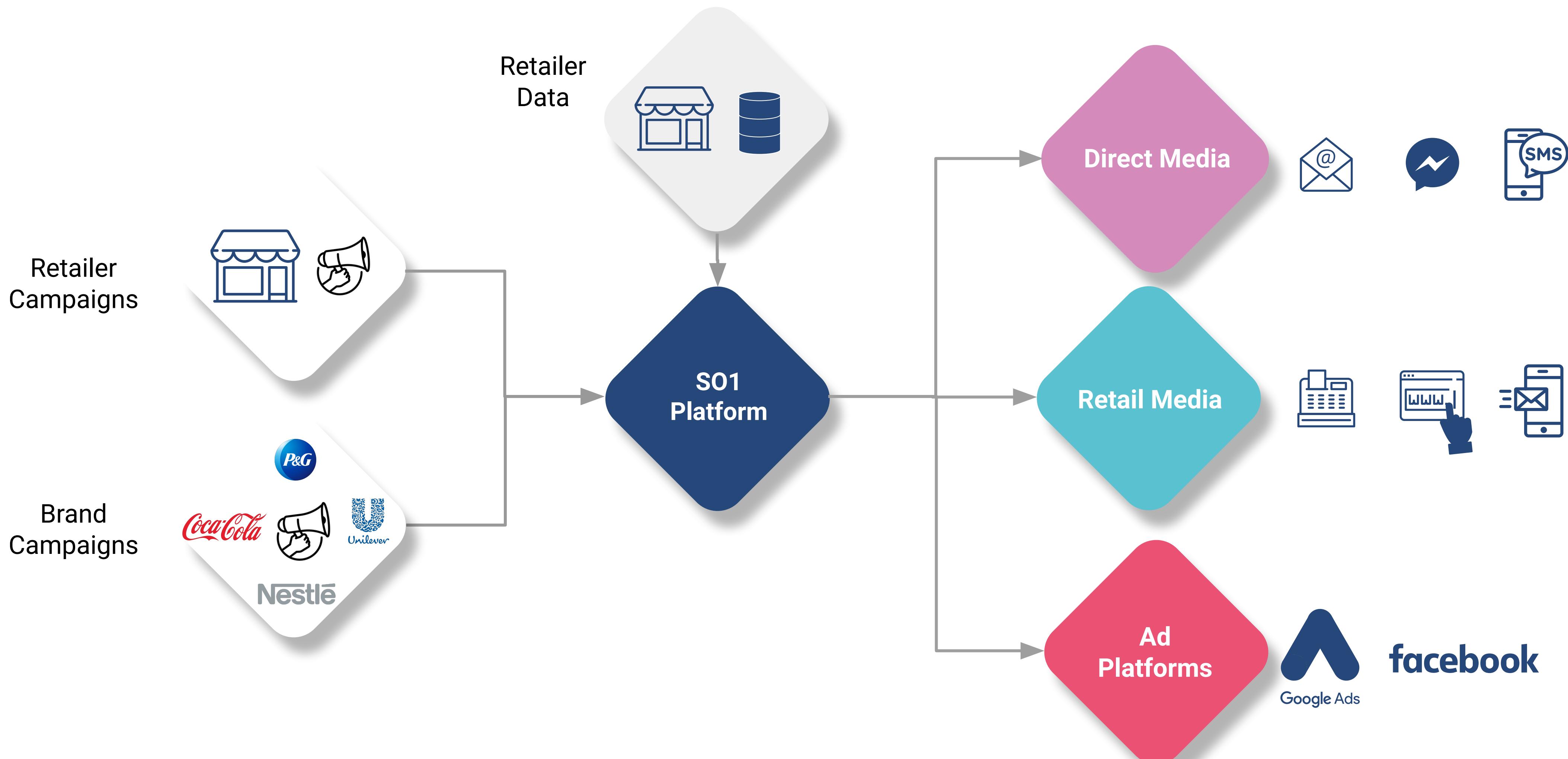
Cloud native, microservices, dockerized, and autoscaling



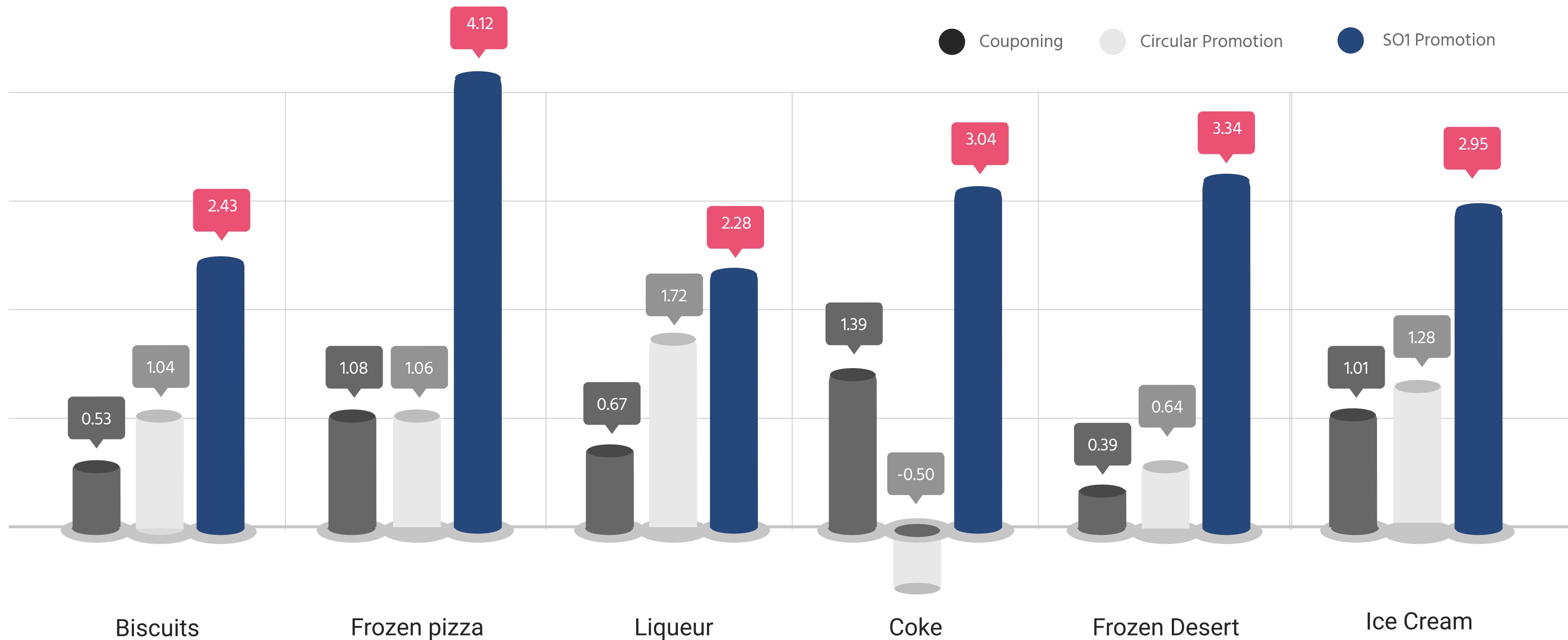
# Für jede Kanal-Kampagnen Kombination kann so der erwartete Erfolg vorhergesagt werden - in Echtzeit für rund 100M Konsumenten



# Nicht nur die klassischen "Retail Media" Kanäle können so genutzt werden, sondern vor allem die grossen Werbenetzwerke



# Händlerwerbenetzwerke lohnen sich sowohl für Werbetreibende ...

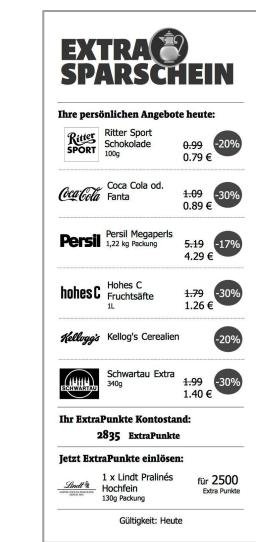


# ... als auch für die Händler

SO1 drove substantial value ...



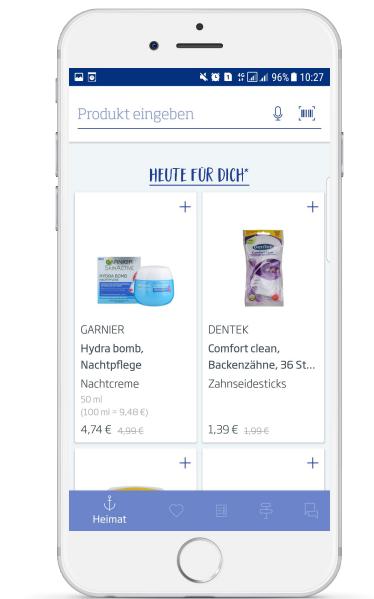
... on different media channels



print on receipt



Email

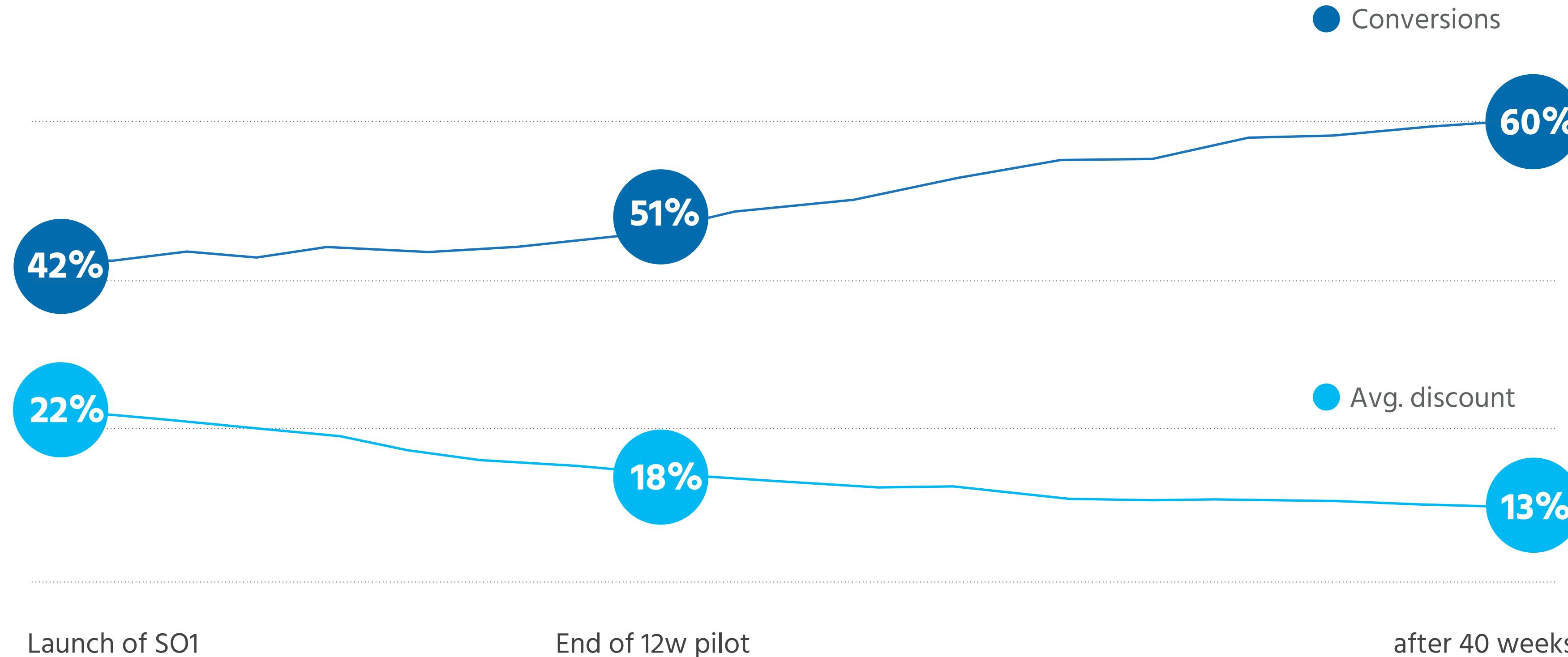


Apps



Kiosk Systems

Je früher diese Netzwerke gestartet werden, desto höher die Chance zu den führenden Netzwerken der Zukunft zu gehören, weil die AI stetig lernt



# CRAFTING THE FUTURE OF RETAIL

Raimund Bau  
[bau@segmentof.one](mailto:bau@segmentof.one)

# **Backup CASE STUDIES**

# SO1 promotions are redeemed more often with higher unit sales at lower discounts and are thus pushing revenues and profits

## Case 1

### Retailer

- National German supermarket chain (>\$15bn)

### Initial situation

- Low efficiency of existing loyalty scheme
- High effort within manual campaign mgmt processes

### Goal

- Compare retailer's offers (grey) with SO1's Optimized Discounts (blue)

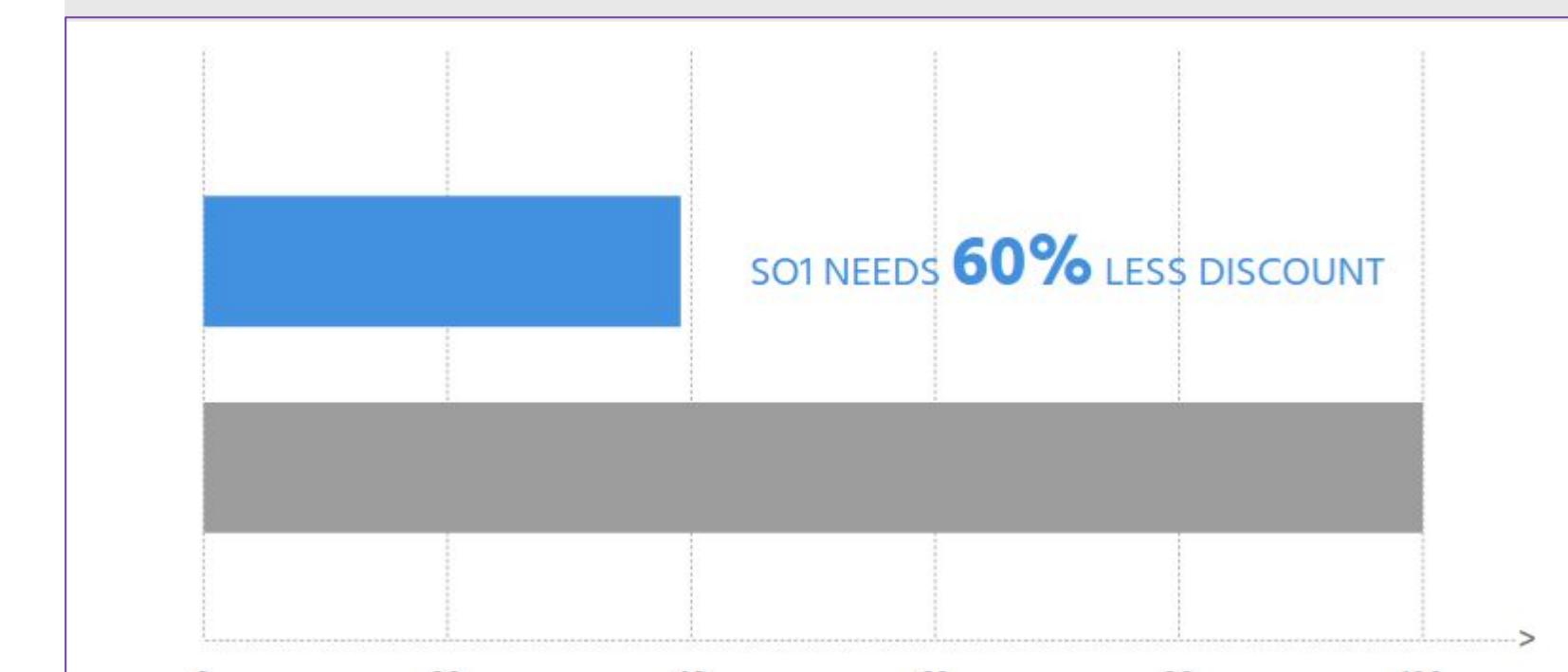
### A/B test setup

- 800 campaigns
- Max discount acc. to leaflet
- Communication via check-in kiosk

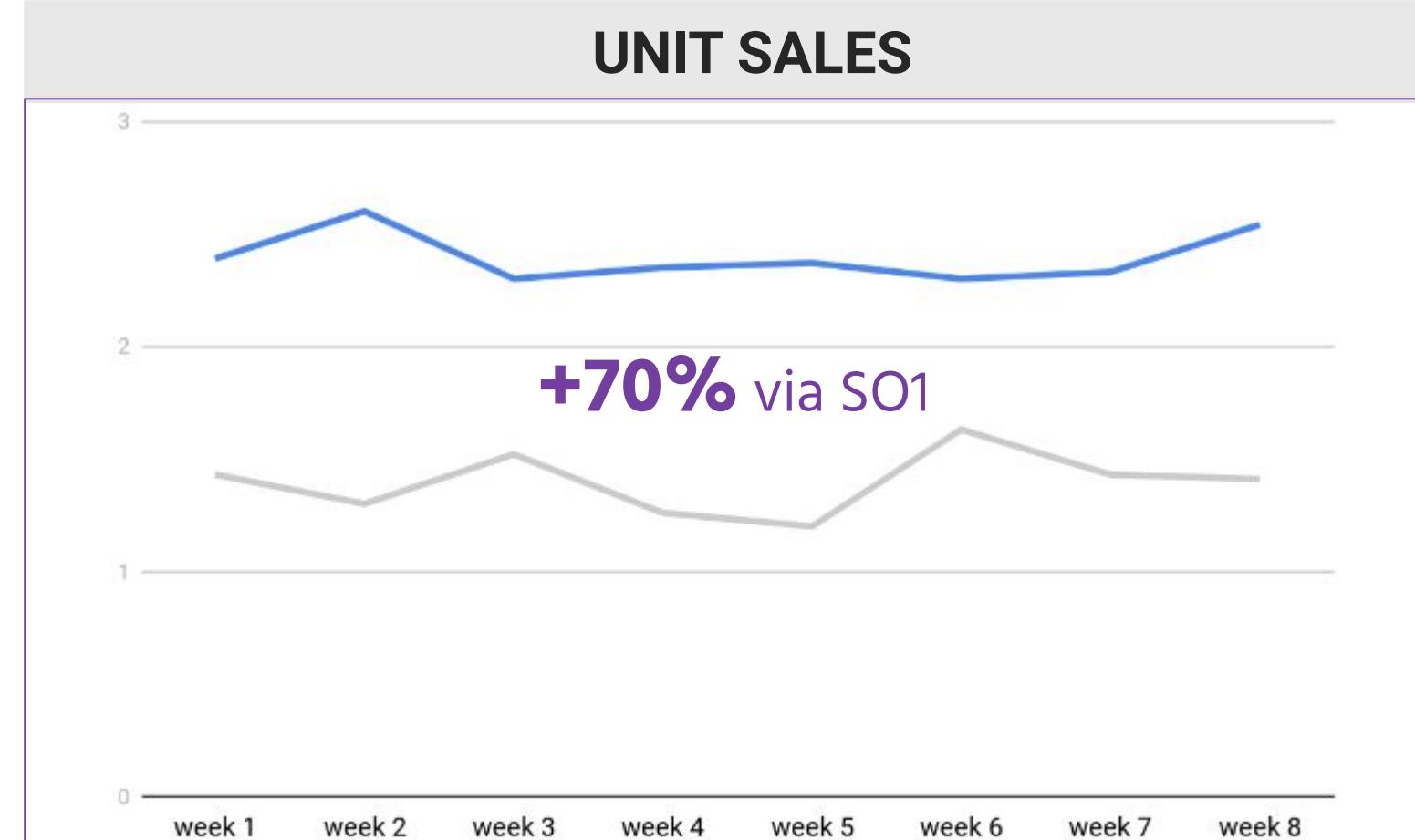
### REDEMPTION RATE



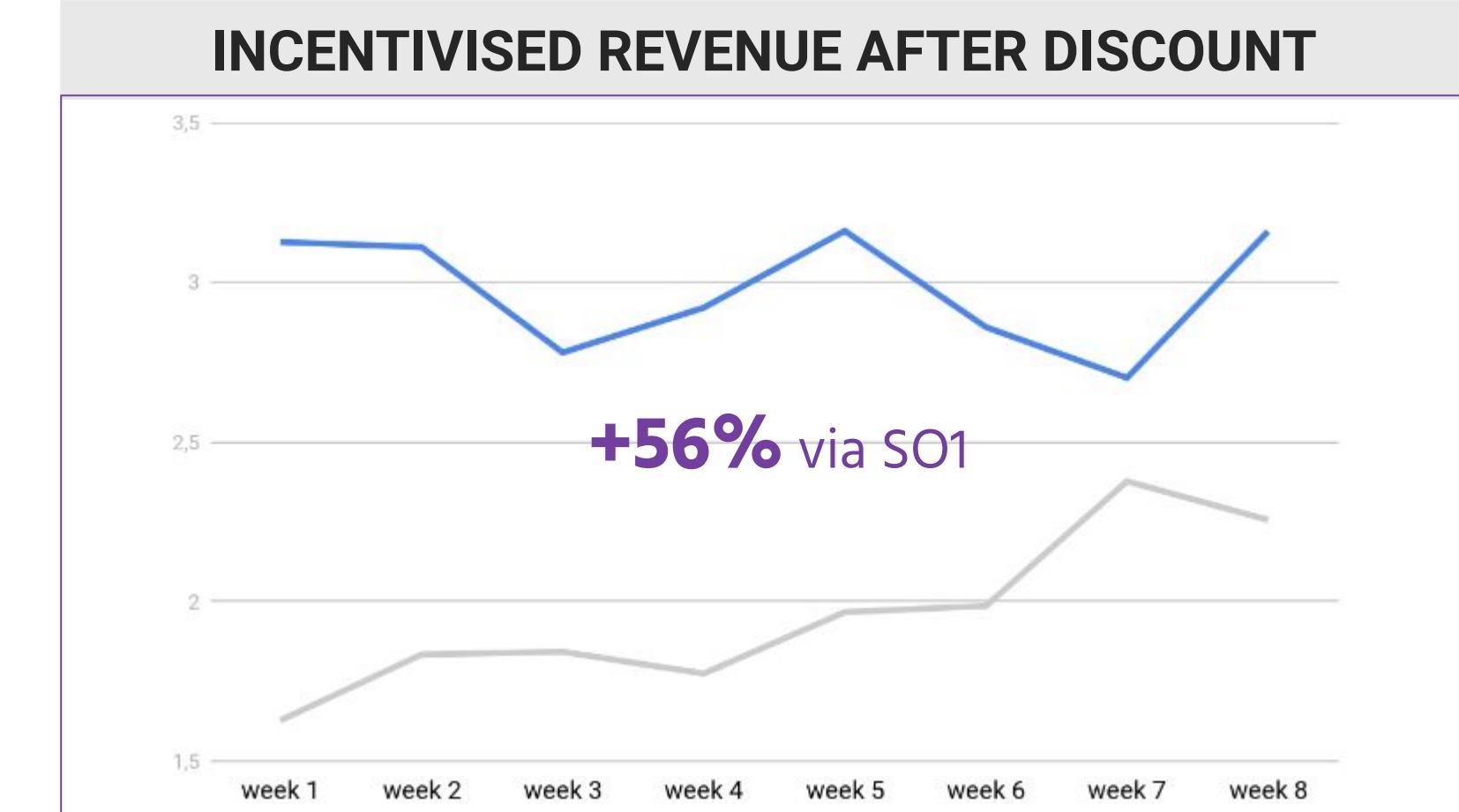
### DISCOUNT APPLIED



### UNIT SALES



### INCENTIVISED REVENUE AFTER DISCOUNT



8 week A/B test. 100+ identical campaigns. Week 38 - 45 2017. Client name cannot be disclosed

# SO1's algorithmic learning continuously improves KPIs

## Case 2

### Retailer

- National German food discount chain (\$5bn)

### Initial situation

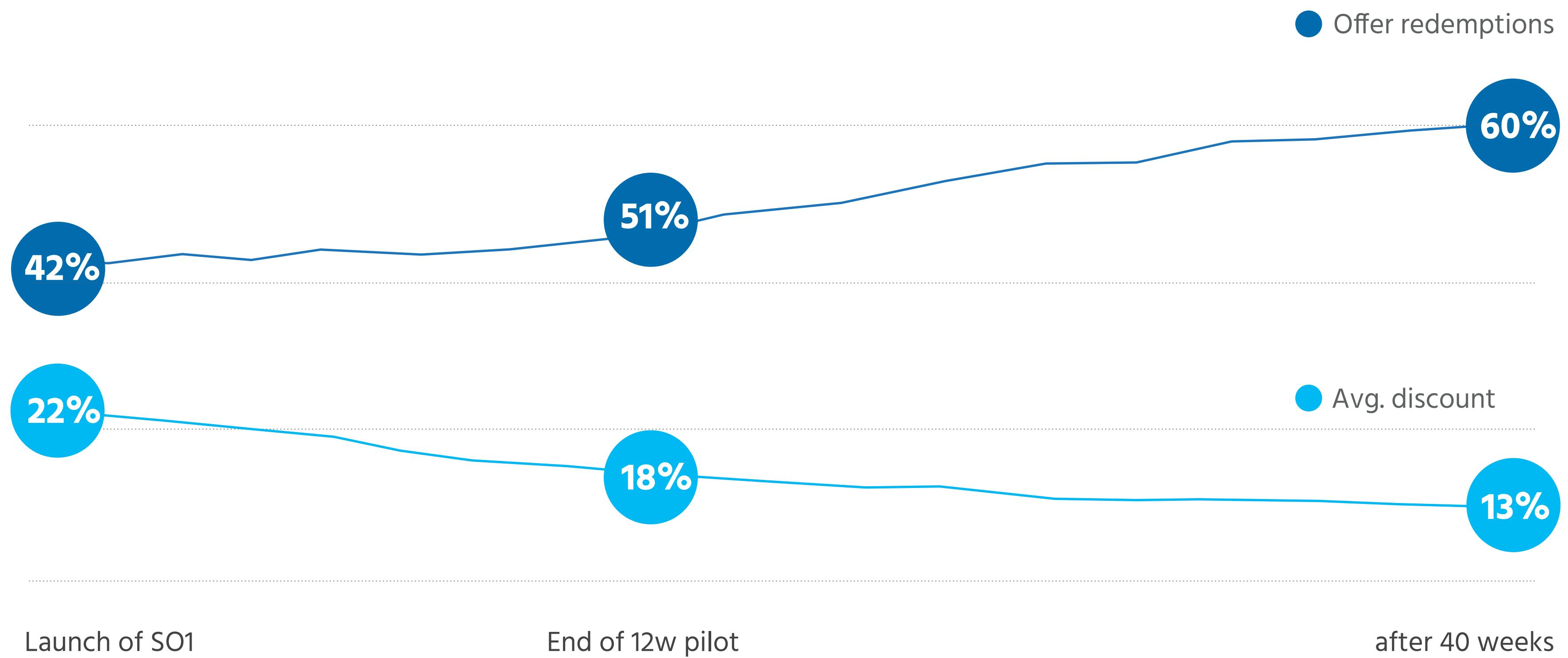
- No previous loyalty card
- Low redemptions of coupons based on sociodemographics and simple heuristics

### Goal

- Create a personalized promotion experience that follows retailer's financial goals

### A/B test setup

- 100 stores, 3 regions, random assignment of customers to cohorts



Results confirmed by Retailer

# The S01 Engine outperforms existing targeting engines and gets better over time

## Case 3

### Retailer

- Regional US supermarket chain (400 stores, \$15bn)

### Initial situation

- Rule based targeting engine provided by leading solution provider

### Goal

- Maximize redemption rate (consumer happiness)

### S01 solution

- Smart Recommendations

### A/B test setup

- >500 campaigns
- > 1M email recipients
- Identical discounts
- Unchanged mailing process

### Uplift redemption rate S01 AI vs. current targeting engine



# SO1 predictions outperform real coupons targeted by the global leader in couponing

## Case 4

### Retailer

- National US drugstore chain (2,500 stores, \$22bn)

### Initial situation

- Targeting algorithm by global coupon provider

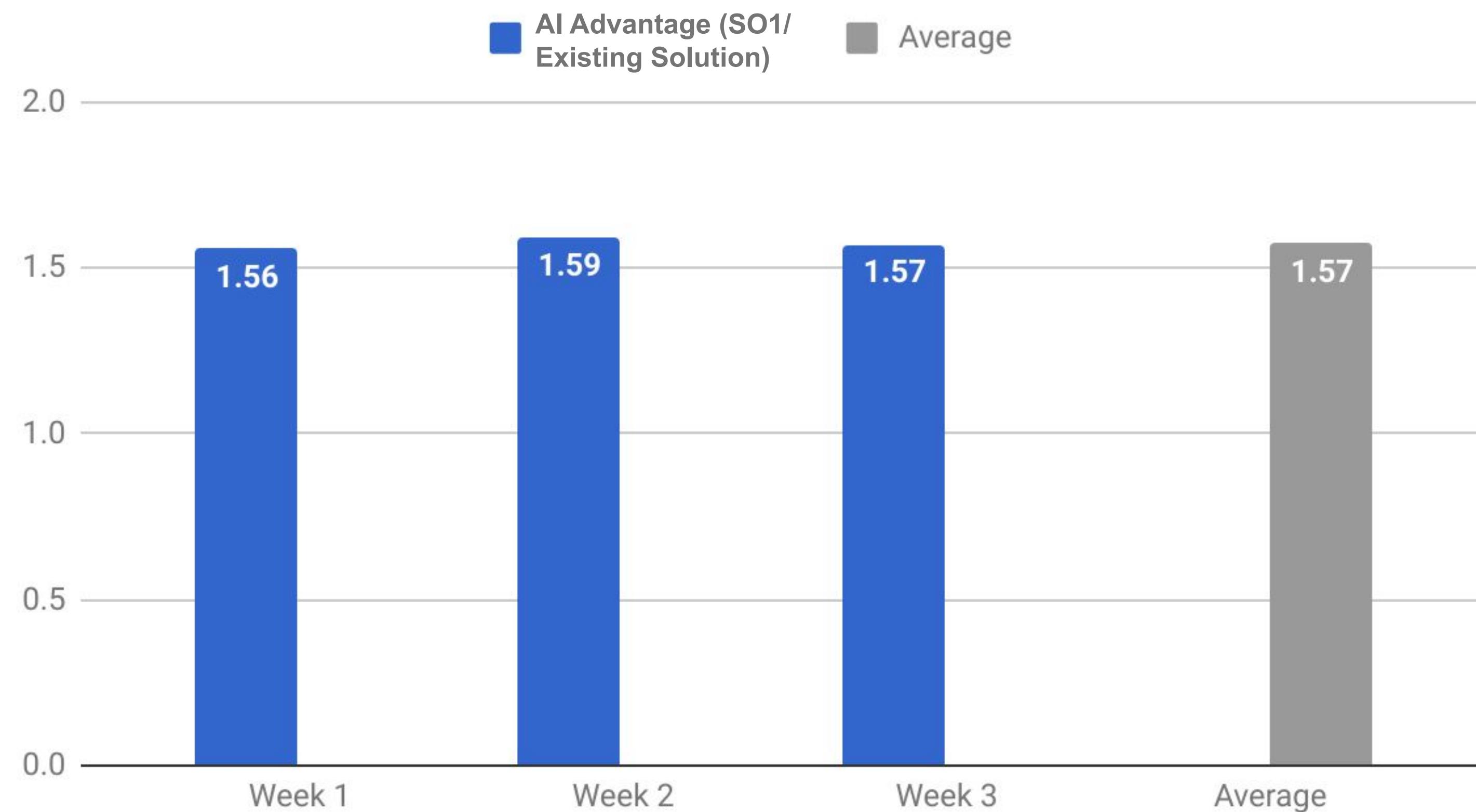
### Goal

- Compare 3rd party solution with SO1's AI

### A/B test setup

- Communication via check-out
- Cohort Size: 1 M Shoppers
- SO1 Engine in "shadow mode" parallel to the existing solution

Redemption uplift of SO1's AI vs retailer's current 3rd party solution



# SO1 Programmatic Promotions are more efficient than other tools

## Return on Ad Spend

### Case 5

#### Retailer

- Cross retailer approach (supermarkets, drugstores, discounters in Germany)

#### Initial situation

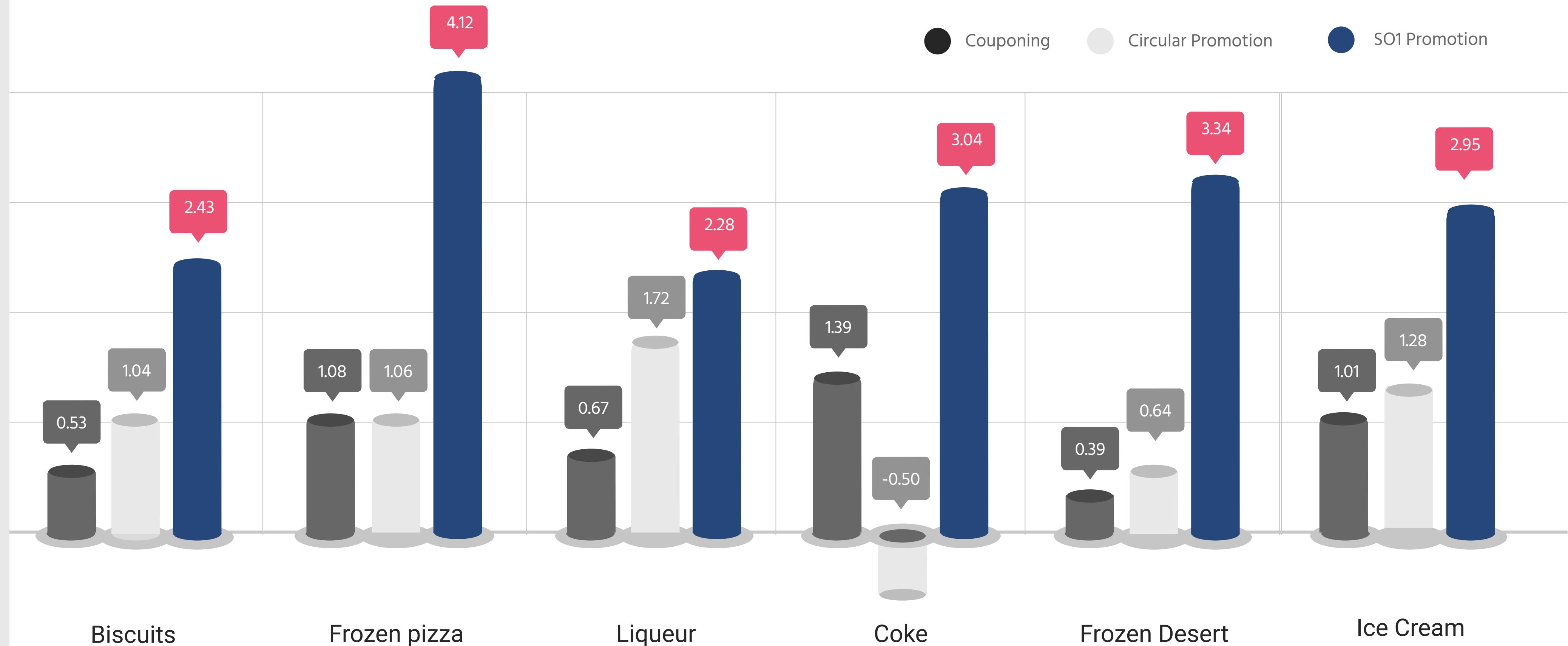
- Use of leaflets and coupons

#### Goal

- Maximize ROAS

#### A/B test setup

- Compare all known costs and incremental revenue per option (e.g. discounts, distribution, clearing)



# SO1 is effective from day 1

## Case 6

### Retailer

- National German supermarket chain (\$2bn)

### Initial situation

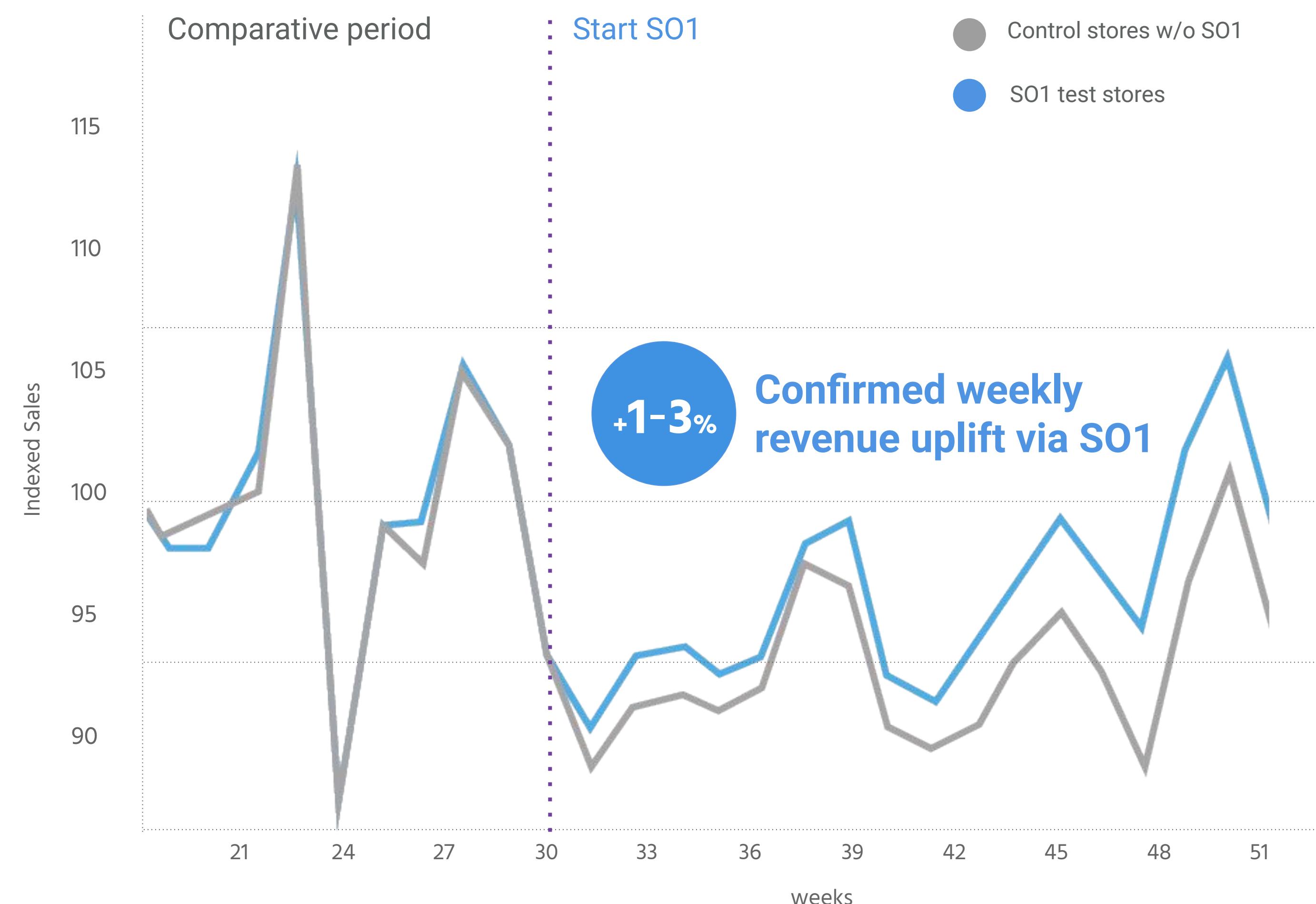
- No previous loyalty card
- Perceived as “expensive”
- Losing margins with mass promotions
- High customer churn

### Goal

- Improve price perception and satisfaction

### A/B test setup

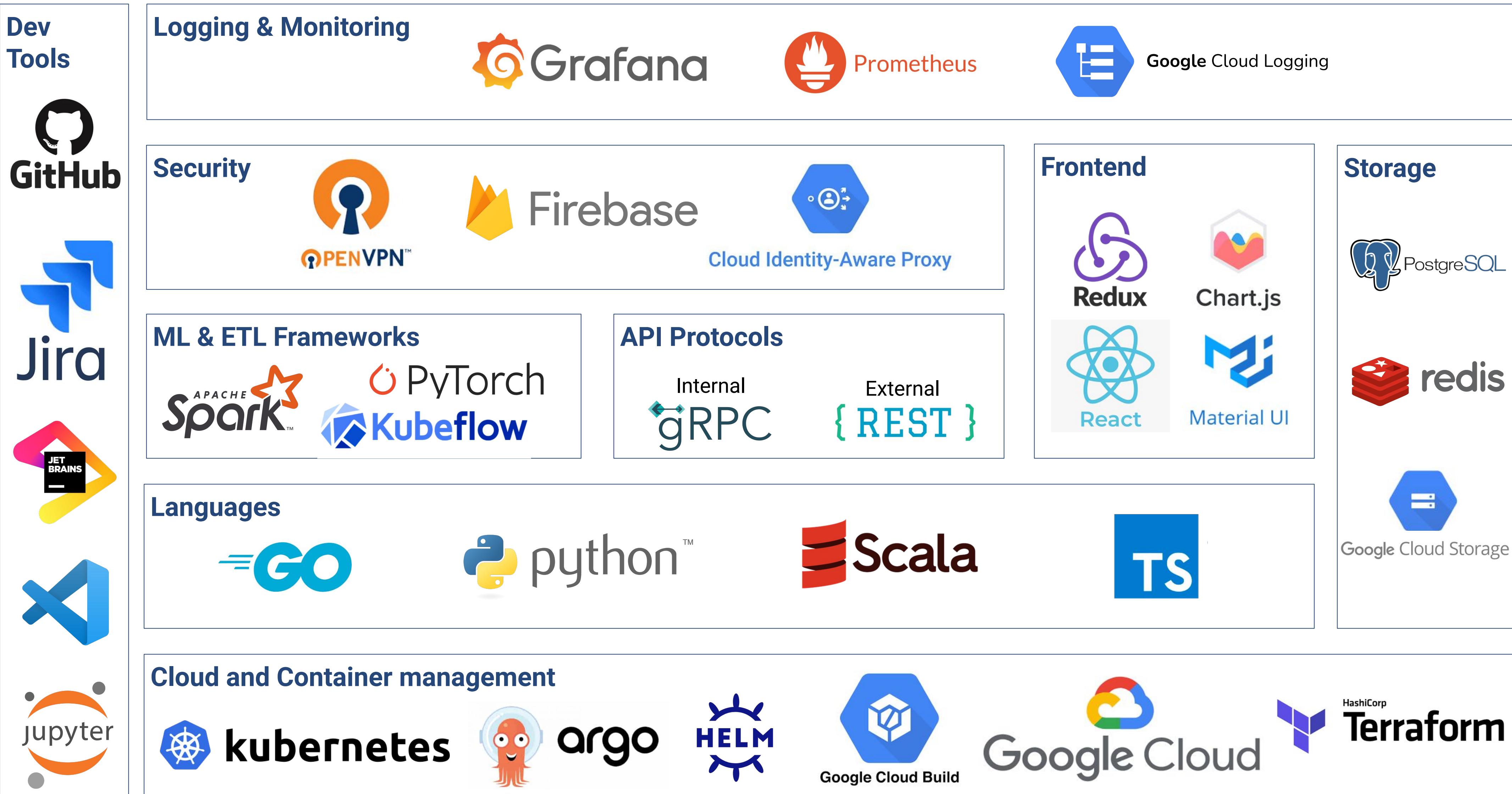
- Retailer defined and evaluated an equal number of test and control stores



Source: Controlling department of a German Retailer

# Backup Technology

# SO1 Technology Stack



# Data Enrichment: Deep learning replaces product master data

## CLASSIC APPROACH

	Brand	Kellogg's
	Subbrand	Crunchy Nut
	Size	500
	Size Type	g
	Formula	N/A
	Flavor	Honey Nut
	Fragrance	N/A
	Calories	120
	Fat	2%
	Sugar	11g
	Vitamin D	10%
	Brand	Scrubbing Bubbles
	Subbrand	N/A
	Size	946
	Size Type	ml
	Formula	Foam Spray
	Flavor	N/A
	Fragrance	Rainshower
	Calories	N/A
	Fat	N/A
	Sugar	N/A
	Vitamin D	N/A

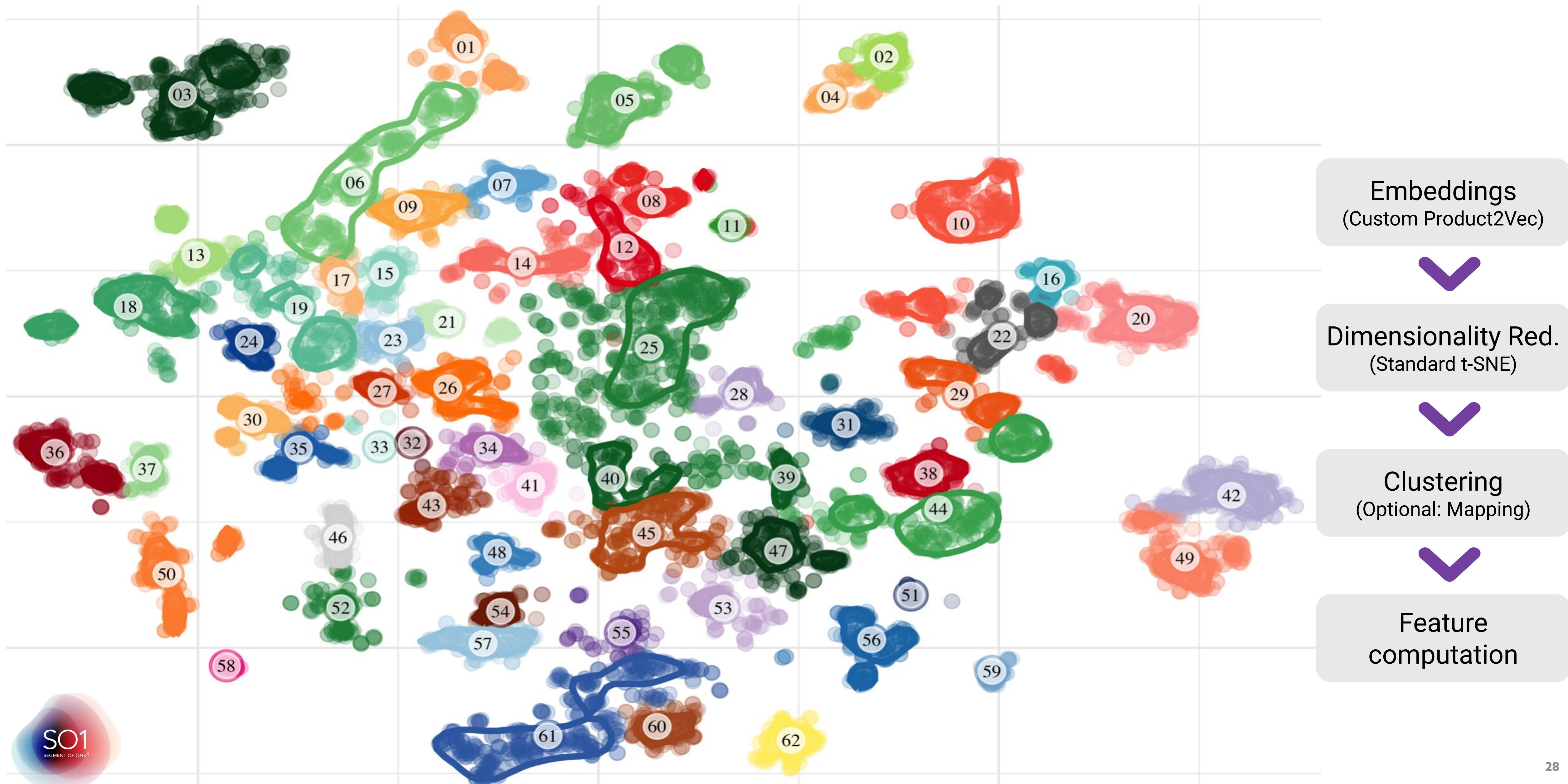


## SO1 APPROACH

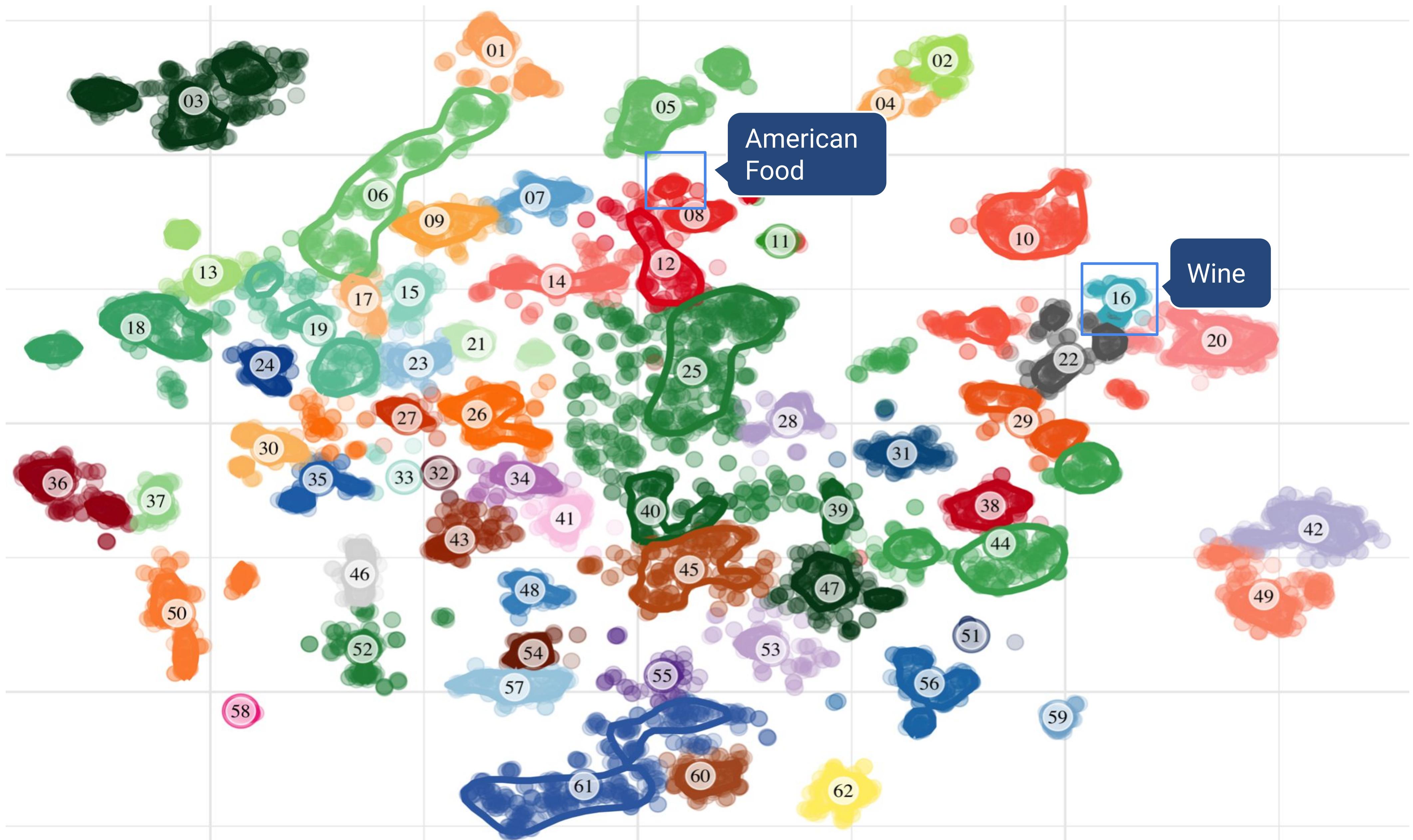
derived by applying Deep Learning to market basket data

	D0001	D0002	D0003	...	D0798	D0799	D0800
	0.105	0.213	-0.633	...	0.981	0.102	0.081
	0.780	0.211	0.991	...	0.321	0.107	0.112
	-0.890	0.532	0.398	...	-0.781	0.002	-0.108
	0.221	0.900	0.123	...	-0.120	-0.167	0.917
	-0.281	-0.421	0.922	...	0.398	-0.172	0.924
...	...	...	...	...	...	...	...

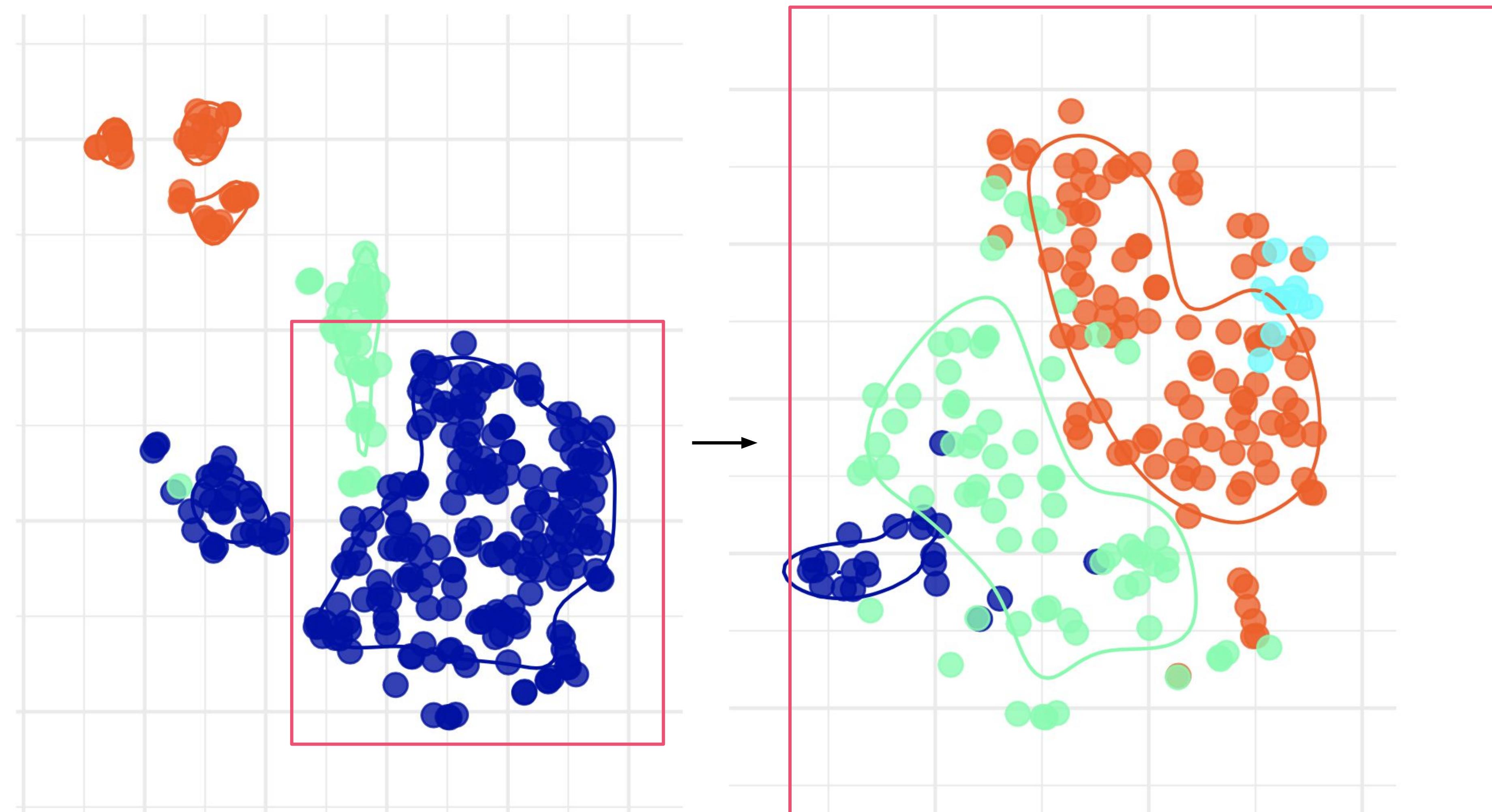
# Data Enrichment: Inferring Categories from Product Embeddings



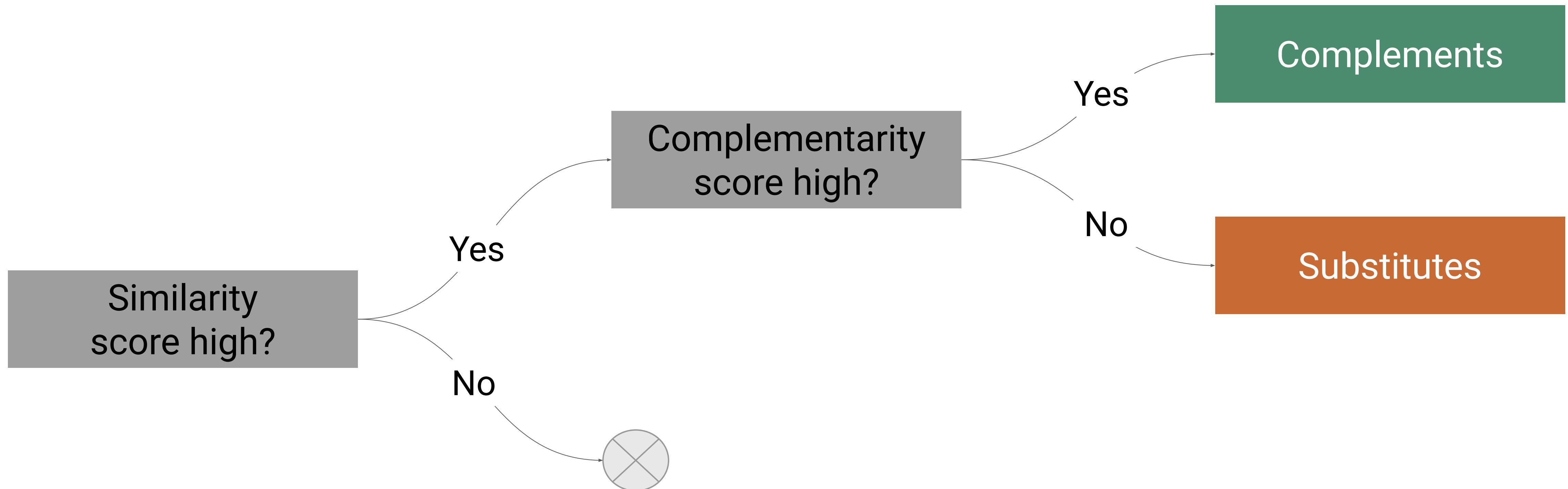
# The final product map (t-SNE)



# Map excerpt “Wine”



# Differentiating substitutes and complements



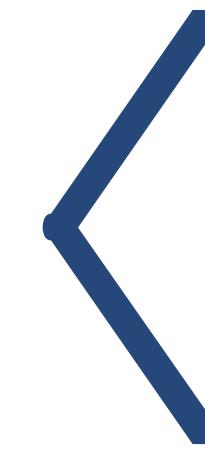
# Differentiating substitutes and complements



# Differentiating substitutes and complements

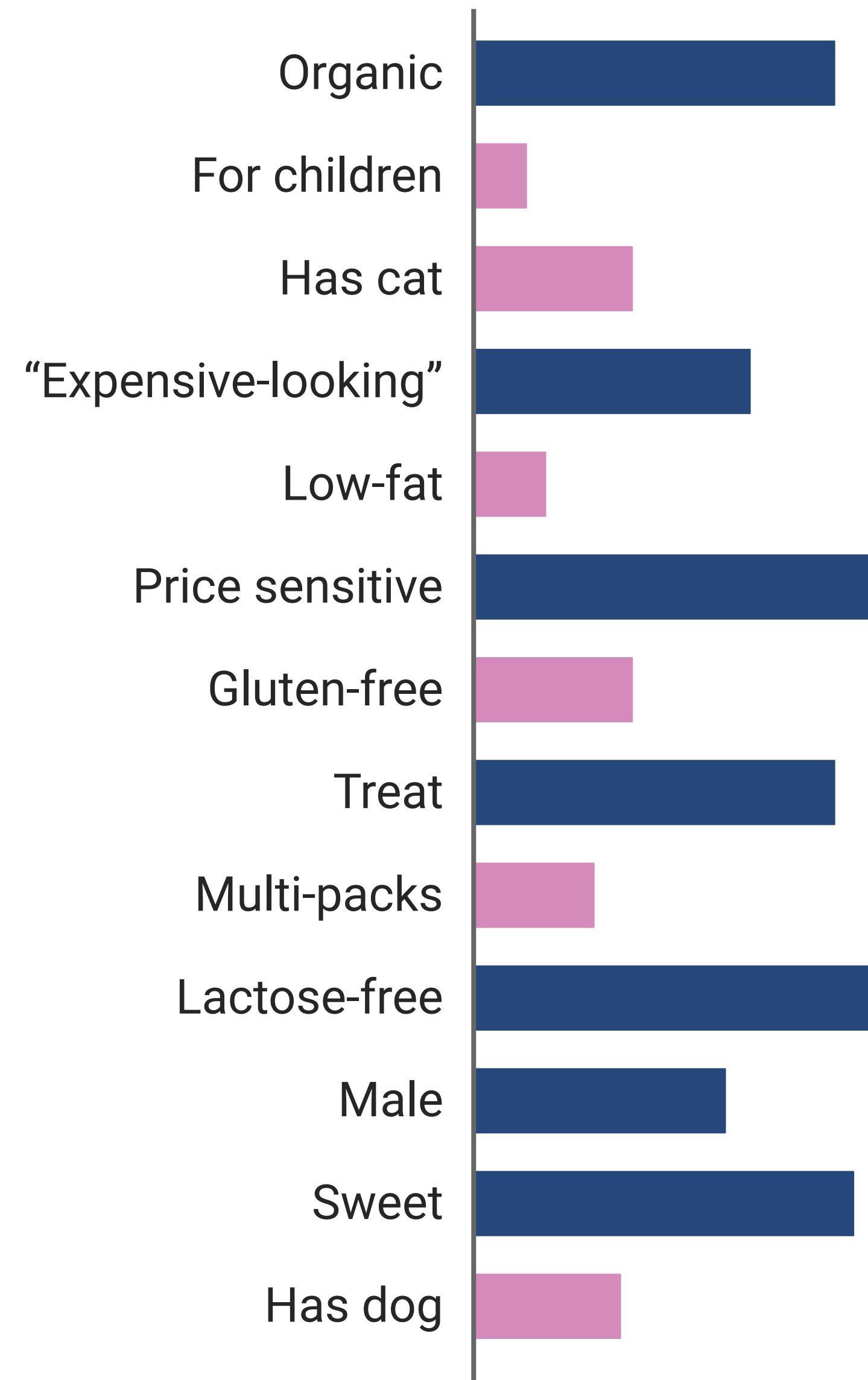


# Data Enrichment: Deep Learning on shopping baskets reveals product properties

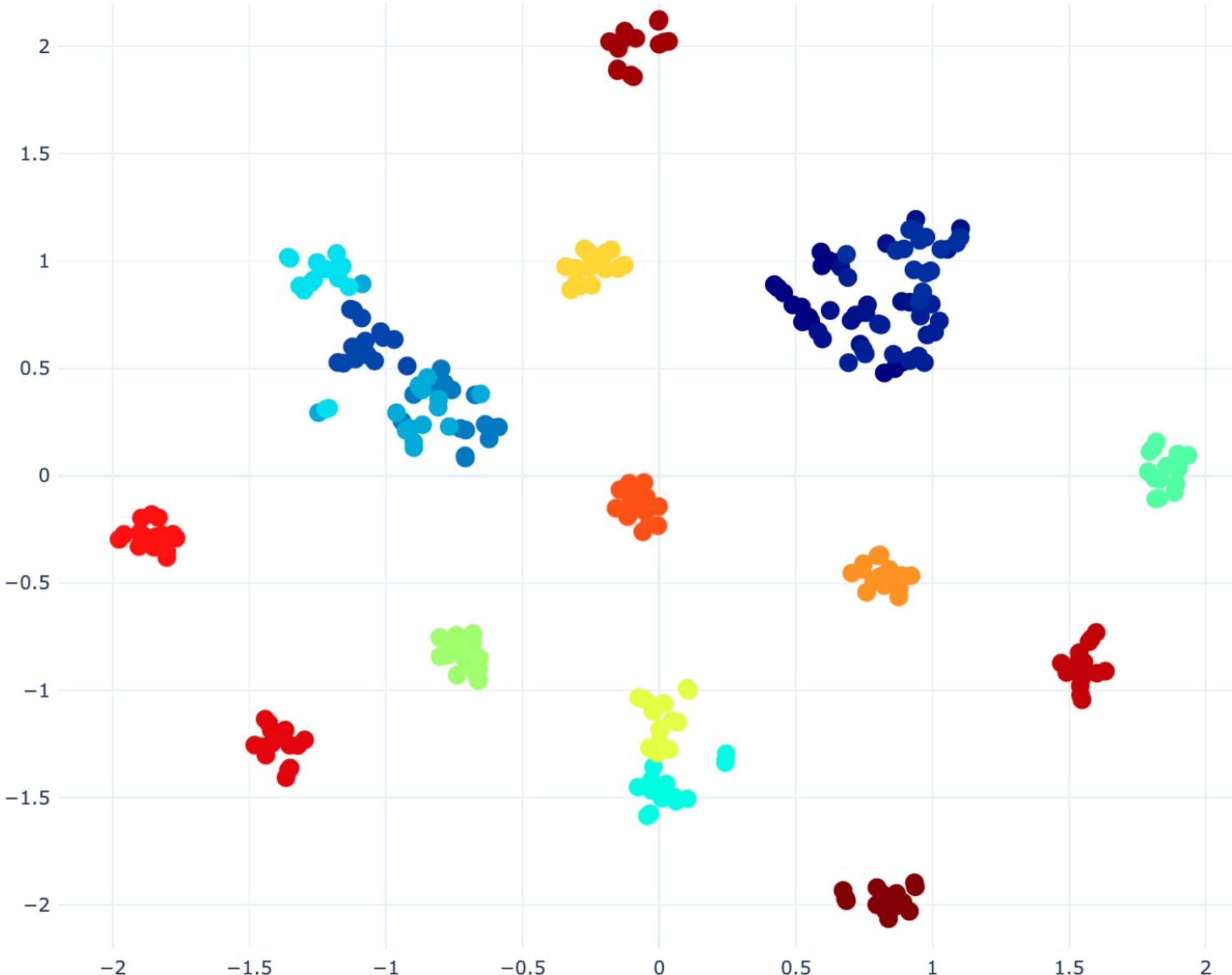


healthy  
lactose-free  
male  
“selective indulger”  
“expensive looking”

# Consumer Preferences: SO1's automated user profiling algorithm



# Summary



- **High quality development approach**
  - Standardized ML platform
  - Reproducible experiments
  - Easily maintainable (and reviewed) code
  - Cost efficient experimentation
  
- **Custom Machine Learning IP**
  - Deep understanding of problem and solution
  - Customized algorithms
  - Careful validation w/ synthetic data
  - Validation through comparison w/ reference models