

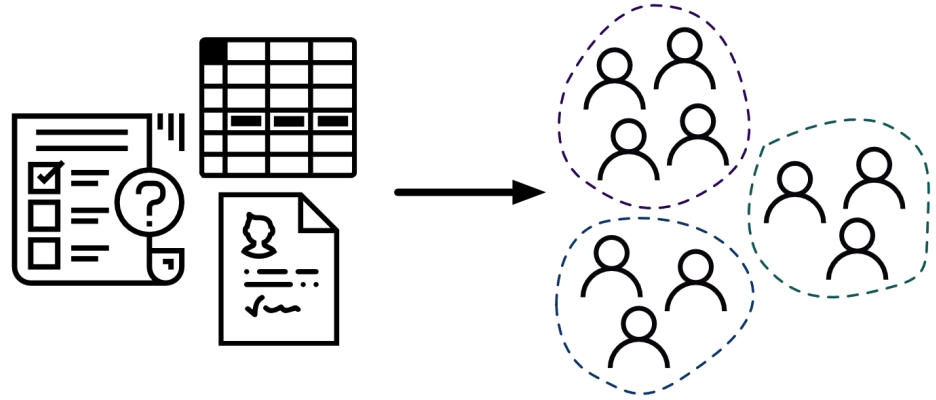
# Customer Segmentation for Targeted Marketing

Dr. Franziska Horn

# Motivation

## Situation / Problem / Goal:

We have a very diverse set of customers and suspect that our marketing campaigns don't reach and speak to everyone equally well. Better understanding our customer base should allow us to design more targeted marketing campaigns that hopefully increase sales more compared to our current campaigns.



## Value Generation:

- ☒ internal process optimization
- ☐ improves existing product
- ☐ new product / Software-as-a-Service
- ☐ other:

## Business KPI:

increase in sales after launching a new marketing campaign (relative to periods without an active campaign)

## Status Quo:

current campaigns: 15% increase

# Solution Outline

**Deliverables:** ☒ insights: analysis of customers & segmentation  
☐ software

☒ Build  
☐ Buy

## Inputs:

- ☒ (numeric) values: transaction history, survey
- ☐ image
- ☐ text
- ☐ other: (e.g., audio, video)

**1 Data Point:** a customer

## Workflow Integration:

get data from SAP database; present insights + action recommendations to marketing director

## ML Solution & Output:

- ☒ Dimensionality Reduction: 2D coordinates
- ☒ Outlier Detection: anomaly score
- ☒ Clustering: cluster index
- ☐ Regression: continuous value: \_\_\_\_\_
- ☐ Classification: discrete value (e.g., yes/no): \_\_\_\_\_
- ☐ Recommender Systems/Information Retrieval: ranking of items
- ☐ Deep Learning: other (e.g., image, text, ...): \_\_\_\_\_

## Additional Steps?

- ☐ Explain predictions (e.g., to identify root causes)
- ☐ Use model in optimization (to find optimal inputs)

# Challenges & Risks (+ Mitigation Strategies)

## What might go wrong?

## Probability:

## Can you do anything about this?

very little data about each customer

high

ask them to fill out a survey;  
can we somehow connect to additional data sources like social media?

identified customer clusters might not be useful

medium

try many different algorithms

a marketing campaign that is too targeted might be creepy ([as Target learned the hard way](#))

low

set up separate committee to cross-check and approve our campaigns

**Forbes**

Feb 16, 2012, 11:02am EST

**How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did**

Dr. Franziska Horn