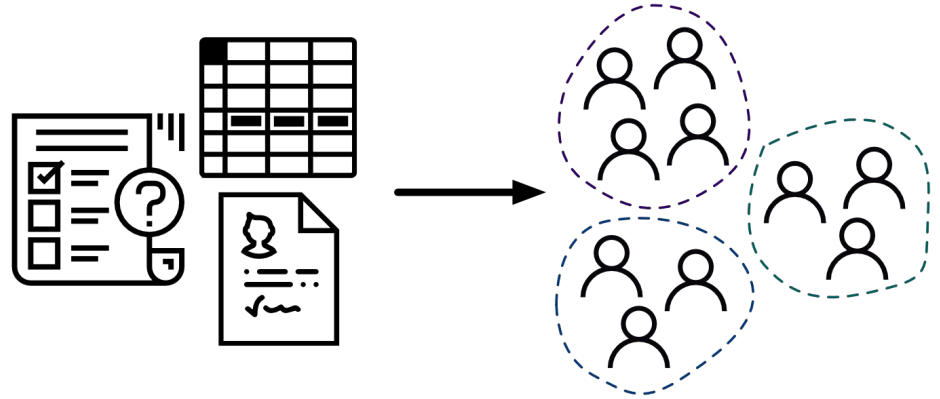# Customer Segmentation for Targeted Marketing

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.

Business KPI:

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

Value Generation:

X	process improvement (reduce costs)
	new product / feature / service (increase revenue)

Status Quo: current campaigns: 15% increase

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Solution Outline

Deliverables: ☒ **insights:** analysis of customers & segmentation   ☒ Build

☐ software   ☐ 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)

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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

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

Dr. Franziska Horn