AN APPAREL COMPANY

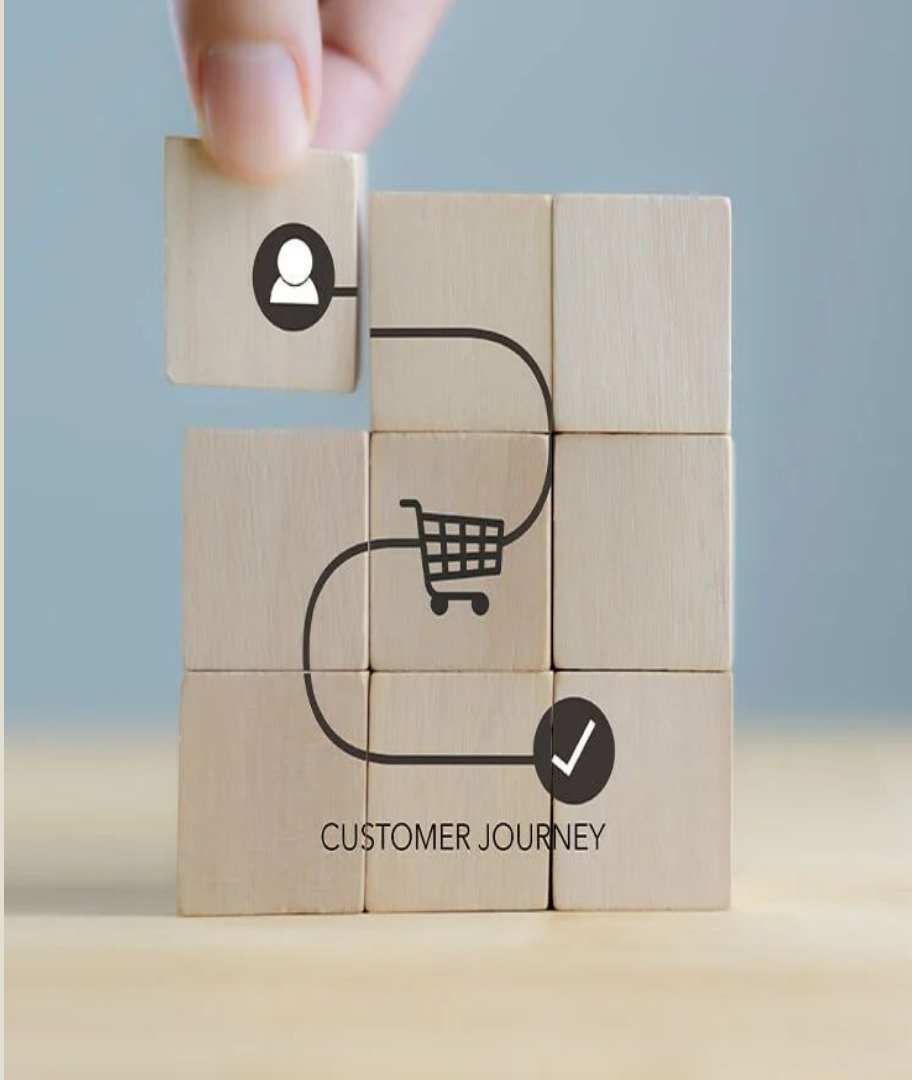
BUMK746
Team 6

What Will Your Next H&M Customer Spend?

BUSINESS PROBLEM:

What is the expected average order value (AOV) of a customer's next purchase, based on their previous product category purchases?

Why This Matters for H&M

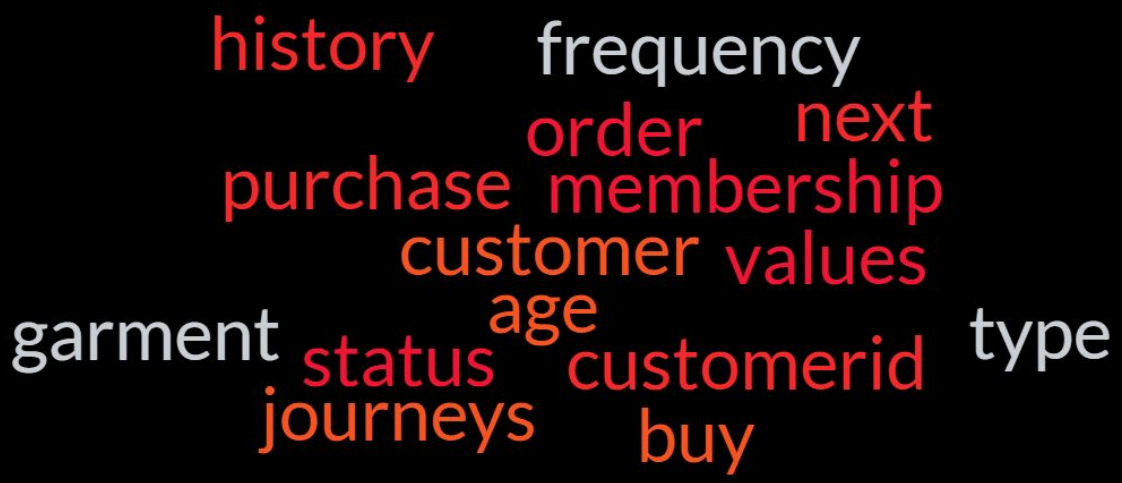


Our Data: Every Purchase Tells a Story

10 Million+
Observations

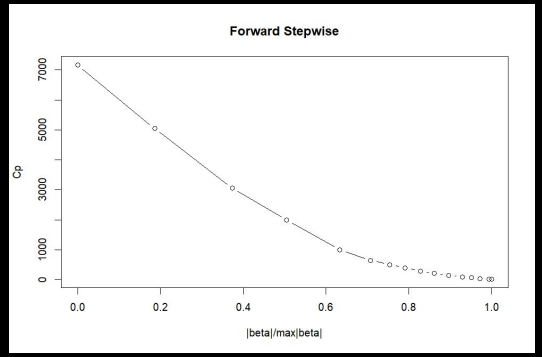
Thousands
of real H&M
customer journeys

50k sample
observations
analysed



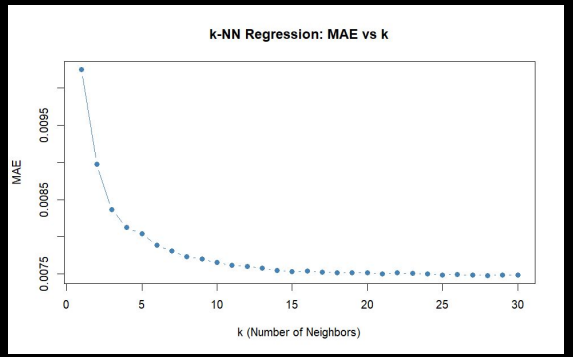
WHAT DRIVES THE MOST SPEND?

Modeling Approach



Forward Stepwise Linear Regression

- **Baseline model** for interpretability
- Simple,parsimonious
- Stepwise selection using Mallow's Cp
- **All 16 features selected**



k-NN Regression

- Simple, non-parametric benchmark
- **Customer similarity logic**
- Different groups of K were tested
- The optimal k: **28**

Why this model?

Approach & Result

Modeling Approach

Decision Tree Regression

- Interpretable “**if-else**” rules
- Capture threshold effects
- **Cost-complexity pruning** (Mallow’s Cp)
- Pruned at cp = 0.0007

Random Forest Regression

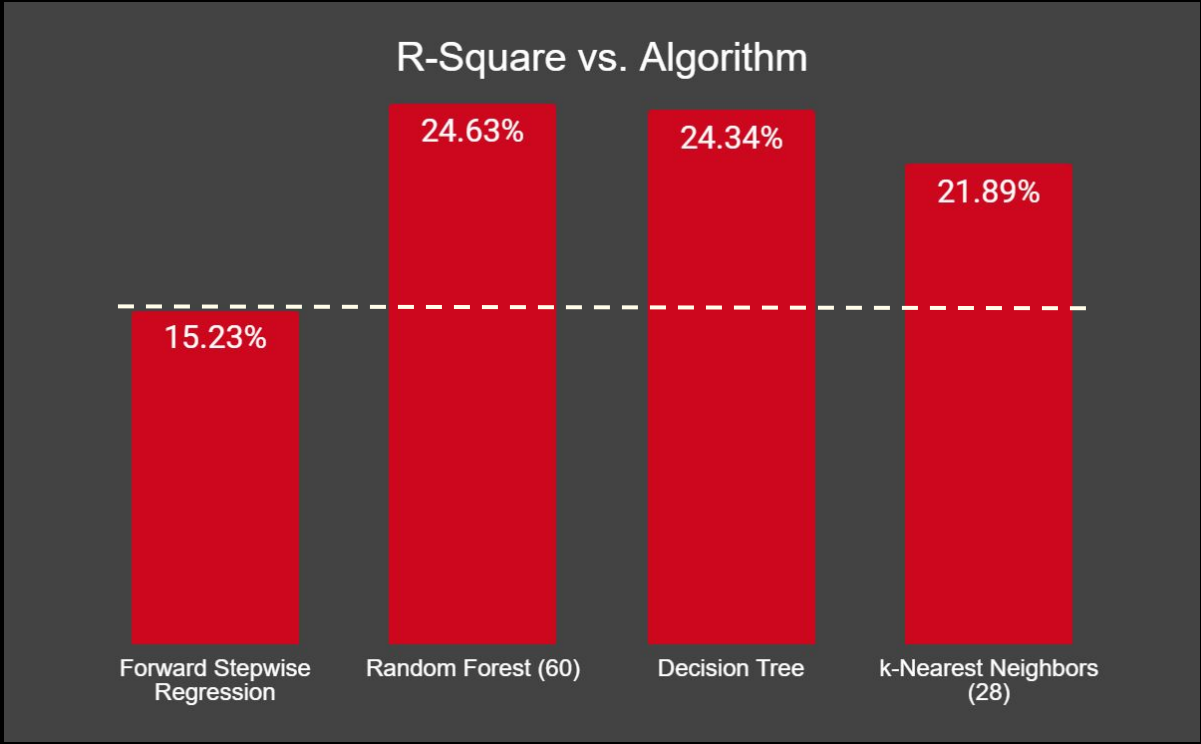
- Capture complex interactions
- Reduce overfitting through **ensemble averaging**
- Tested number of trees
- Pruned at best number: 60

Why this model?

Approach & Result

Model Performance - Who Wins?

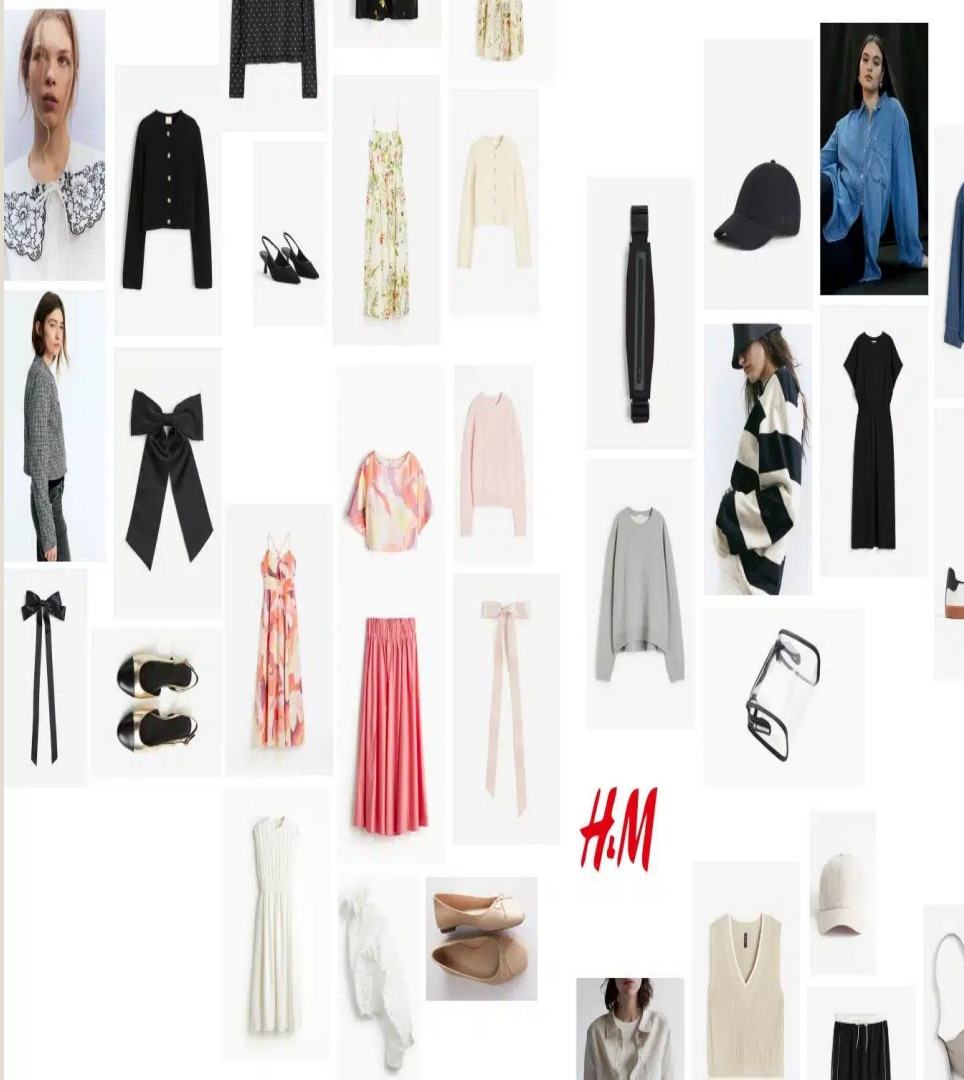
Random Forest outperforms regression by nearly 10-percentage points



Important Variables

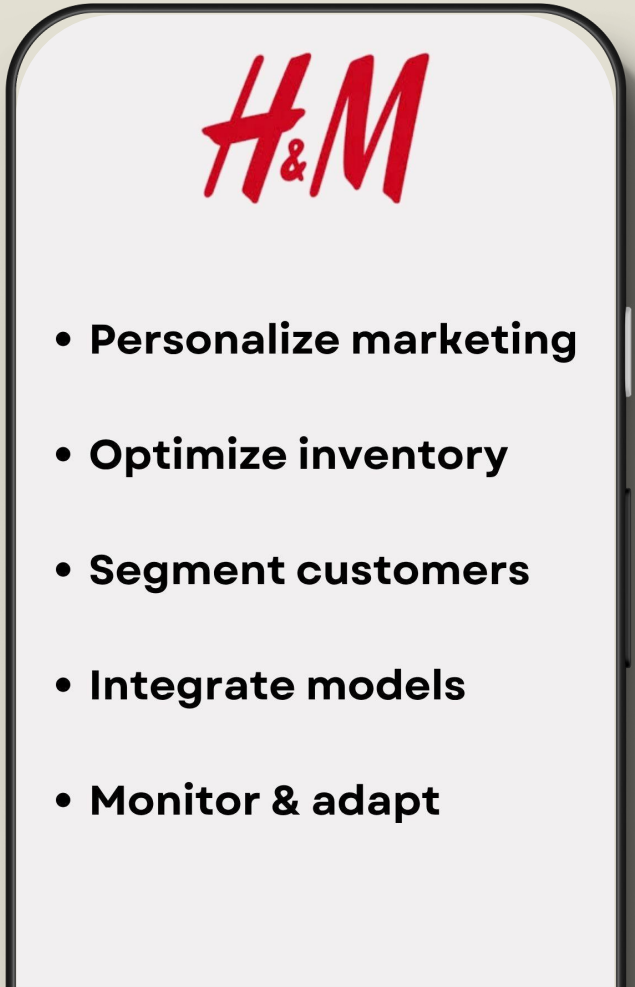
Random Forest

- Trousers
- T-Shirts
- Average Age
- Dresses, Jumpsuits & Sets
- Accessories

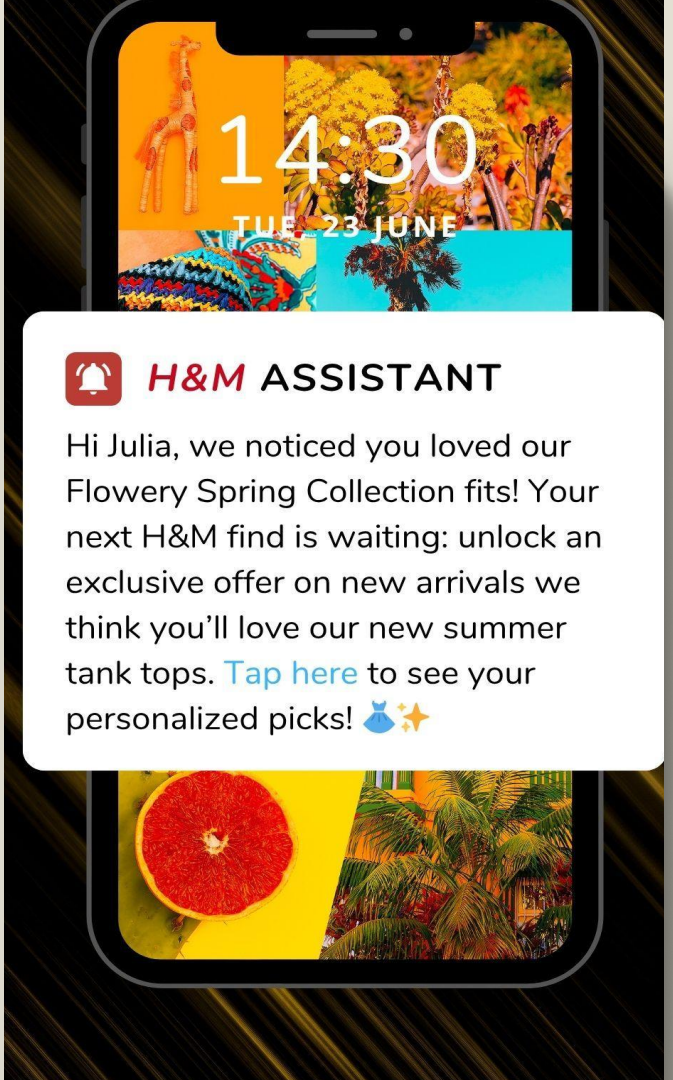


How H&M Can Use These Insights

What H&M Should Do Next - Predict Personalise Prosper



A Personal H&M Ai Assistant - Personalised Marketing



THANK YOU