

KPN Formulas

Retail Shops Case Study

Senior Data Scientist Assessment

Chris Comiskey

25 November 2019

Retail Shops Case Study

Revenue, Formulas, and Features

- Introduction
 - Data
 - Research questions
- Analysis
 - Approach
 - Results
- Conclusion
 - Takeaways
 - Next steps



Introduction

Shop Data

Formulas

- KPN, KPN XL, Telfort

Response

- Committed Revenue

Features

- no. residents, no. companies, no. retail shops
- Avg. house value, avg. house size

*None time-varying



Introduction

Research Questions

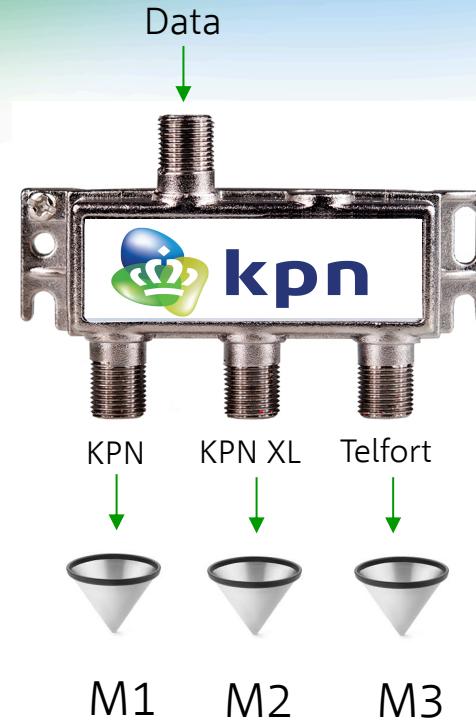
1. For each shop formula, which features meaningfully impact avg. revenue?
2. Which Telfort shops should we convert to KPN? The € impact?
3. Which five KPN shops should we convert to KPN XL? The € impact?

Analysis

Linear Regression

1. Sort by shop formula
2. Filter to meaningful features
3. Interpret Results

$$M_i: Avg_Rev_i = C_0 + C_{1,i}F_{1,i} + C_{2,i}F_{2,i} + \dots$$



Analysis

Important Features

KPN (95 shops)

- Shop average (coefficient = 7288, p-value = ~ 0.00)
- Closet KPN shop in km (- 42, 0.01)
- Number of companies in area (- 0.05, 0.04)
- Number of residents in place of sale (0.005, 0.12)

KPN_XL (15 shops)

- Number of retail shops in area (2.00, 0.02)
- Number of companies in area (-0.36, 0.02)
- Average household value in area (35.58, 0.01)

Telfort (29 shops)

- Shop average
- Number of retail shops in area
- Number of residents in place of sale

Bedankt voor uw aandacht