Predictive Analytics with R in Power BI

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From Descriptive To Predictive Analytics

Agenda

- Descriptive Analytics
- Key Concepts
- Predictive Analytics
- Integration
1. What is our goal?

2. What are our constraints?

3. What are other important factors?
Business Scenario

Identify Our Top Performing Advisors

1. Who is bringing in the most revenue?
2. Advisory team & corporate budget
3. Baseline performance

Translate Business Analysis to our Data!
Power BI Report

Exploratory Analysis with Data Visualization

• We want to analyze Total Revenue

• We are constrained by:
  • Income
  • Position
Key Concepts

1. **Performance**: How well does our model predict the dependent variable?

2. **Generalization**: How well will our model perform on new data points?
K-Means Clustering

- Unsupervised
- Requires Interpretation & Configuration
- Iterative Process
  - Plot Centroids
  - Assign Data Points to Clusters
  - Re-plot Centroids
K-Means Clustering
K-Means Clustering
K-Means Clustering

1. Key Concepts

2. Centroid 2

3. Centroid 3
K-Means Clustering

1. Key Concepts
2. [Image of scatter plots]
3. [Image of scatter plots]
Linear Regression

- Supervised
- Requires Labeled Input
- Fit a linear equation to model relationship between target and predictor variables
Linear Regression
Linear Regression

Key Concepts
Classification Tree

• Supervised

• Requires Configuration

• Split data into groups with series of Yes/No questions
Classification Tree

- selected_by_percent < 1.7
  - yes: 3.8 (100%)
  - no: 3.1 (54%), 4.6 (46%)

Key Concepts
Basics with R

Assignment

filepath <- "C:/Users/Source Data.xlsx"

Functions

source_data <- read_excel(filepath, sheet = "data")

Piping

new_data <- source_data %>%
            select(id, total_revenue)
Where do we want to go?
Power BI & R

1. R Script Connector
2. Power Query – Run R Script
3. R Script Visual
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