Data Analytics Portfolio

A sample by Lumen

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Rossmann Sales Analysis

A comprehensive data-driven approach to optimising retail performance using the STAR methodology

Project Overview

Challenge

Uneven sales performance across Rossmann's retail network required strategic intervention

Approach

Data-driven analysis using Excel and statistical methods to identify performance drivers

Impact

Delivered actionable recommendations with potential 5-7% sales increase

Situation

The Challenge

Rossmann, a major retail chain, faced significant variations in sales performance across their store network. Leadership recognised the need for evidence-based strategies rather than costly trial-and-error approaches.

- Inconsistent revenue generation between locations

- Pressure to improve performance without blind cost-cutting

- Need for data-backed promotional strategies

Task

Primary Objective

Analyse historical sales data to identify key performance drivers across the Rossmann store network

Deliverable Goals

Develop actionable strategies to increase revenue through targeted interventions and optimised promotional timing

Success Metrics

Provide quantifiable recommendations with measurable impact potential for leadership decision-making

Action: Data Preparation

01

Data Collection

Worked on three years of comprehensive sales data from selected Rossmann stores, ensuring data quality and completeness

02

Data Cleaning

Standardised formats, handled missing values, and validated data integrity to ensure reliable analysis foundations

03

Variable Preparation

Categorised store types, promotional campaigns, and temporal factors for systematic comparison analysis

The dataset is available at the [Lumen github Repository](#)

Action: Analysis Methodology

Excel PivotTable Analysis

Leveraged Excel's analytical capabilities to systematically compare performance across multiple dimensions:

- Store type performance segmentation
- Weekday vs weekend sales patterns
- Promotional campaign effectiveness
- Cross-variable interaction analysis

Statistical Validation

Applied fundamental statistical methods to ensure findings were significant rather than coincidental:

- Significance testing of performance differences
- Trend validation across time periods
- Confidence interval calculations

Key Findings

Promotions increase Sales by 86%

Average Daily Sales per Store w/o
Promotions: €4175,69/-

Average Daily Sales per Store with
Promotions: € 7766,54/-

Key Findings

Sales are consistently Rising YoY

- Q1 and Q2 are the weakest while
  Q3 and Q4 are strongest

Key Findings

Sales directly rely on Customer Traffic

Key Findings

86%

Promotional Impact

Higher average sales in stores running active promotional campaigns

29%

Weekend Boost

Additional sales increase when promotions aligned with weekend shopping peaks

Strategic Recommendations

Expand Targeted Promotions

Roll out promotional campaigns to underperforming stores, focusing on proven high-impact product categories and discount structures

Optimise Timing Strategy

Align promotional activities with weekend shopping patterns to maximise customer traffic and conversion rates

Monitor and Scale

Implement systematic tracking to measure impact and refine promotional strategies based on real-world performance data

Results and Impact

5-7%

Projected Sales Increase

Evidence-based strategy could deliver significant revenue growth across the Rossmann network, translating to substantial annual impact when scaled across all stores.

Recommendations based on robust historical trend analysis and statistical validation, providing leadership with confidence in implementation decisions.

Technical Skills Demonstrated

Excel Proficiency

Advanced PivotTable analysis, data cleaning, and statistical validation techniques

Statistical Analysis

Applied significance testing and trend analysis to ensure reliable, actionable insights

Strategic Thinking

Translated complex data patterns into clear, implementable business recommendations

This project exemplifies my ability to drive business value through systematic data analysis and evidence-based strategic recommendations.

Portfolio created as part of Lumen Data Analytics Program!

Reach out to know more!

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