

Technology and Software

Optimizing Marketing Spend: A Market Mix Modeling Case for a SaaS/Tech Firm





Problem Statement

A leading SaaS company specializing in cloud-based solutions for enterprise clients sought to optimize its marketing strategy. The company was investing over **\$10 million annually** across various channels—**digital advertising (40% of spend)**, **content marketing (20%)**, **email campaigns (15%)**, **webinars (15%)**, and **partner programs (10%)**—but faced challenges in forecasting the ROI of each channel and identifying whitespace opportunities for growth.

With **over 500 campaigns annually** targeting **more than 1,000 enterprise clients**, the need for a data-driven approach to maximize channel effectiveness and uncover growth potential was crucial.



Solution

We implemented a Market Mix Modeling (MMM) approach using advanced data science techniques:

▶ **Data Collection and Preprocessing:**

Data was gathered from multiple sources, including marketing spend, customer acquisition, revenue, and external economic factors. Preprocessing ensured data was clean, normalized, and ready for analysis.

▶ **Model Development:**

- **Regression Analysis:** Multiple linear regression models were developed to quantify the impact of each marketing channel on key business outcomes, including revenue and customer acquisition.
- **Time Series Forecasting:** Time series models were used to forecast the effects of marketing efforts over time, capturing lagged and cumulative impacts.
- **Attribution Modeling:** A multi-touch attribution model was employed to allocate credit to different marketing channels, improving the accuracy of attribution and helping the company understand which channels drove conversions.

▶ **Optimization and Scenario Planning:**

- **Optimization Algorithms:** Gradient Descent and other optimization algorithms were used to find the ideal marketing mix, maximizing ROI and identifying whitespace opportunities for future campaigns.
- **Scenario Analysis:** Monte Carlo simulations were conducted to assess the impact of different budget allocations under various market conditions, enhancing decision-making and predictive accuracy.

▶ **Continuous Monitoring and Model Refinement:**

The models were continuously updated with new data, leveraging machine learning techniques to improve the accuracy of predictive models and ensure alignment with business goals.

Improved Business Outcomes

Improved Business Outcomes:



**20% Increase in
Marketing ROI**



**10% Reduction in
Marketing Spend on Low-
Impact Channels**



**15% Increase in Customer
Acquisition**



**25% Improvement in
Campaign Effectiveness
Prediction Accuracy**



**12% Year-over-Year
Revenue Growth**



**Identification of Key
Whitespace Opportunities
for Future Growth**



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