

TIGER ANALYTICS

Market/Media Mix Models (MMM)

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MARKETING MIX

- The marketing mix refers to the set of actions, or tactics, that a company uses to promote its brand or product in the market.
- The 4Ps make up a typical marketing mix –



Product



Price



Promotion



Place



MARKET/MEDIA MIX MODELING (MMM)

- Market Mix Modeling (MMM) is a technique which helps in quantifying the impact of several marketing inputs on sales or Market Share

BUSINESS PROBLEM

- How does their current marketing tactics impact future sales?
- How to quantify the impact of a specific marketing plan or strategy on business sales.
- How this effects the success or failure of a product or service in the market .

**TO IMPROVE FUTURE MARKETING
RETURN ON INVESTMENT (ROI)**

Objective

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- What is the Right mix of spend allocation that drives the highest ROI?
- Simulate sales in future from investment spent on the Market mix and alternate media plan.
- Identifying key drivers of sales (including marketing channels, price, competition, weather and macro-economic factors)
- How will channels perform in the future based on their optimized spend allocation?
- Build a user-friendly simulation and optimization tool.
- What media investment is needed for a say, 20% revenue increase?



FEATURES

- Base and incremental volume
- Media and advertising
- Trade promotions
- Pricing
- Distribution
- Launches
- Competition

BASE VARIABLES

- Price
- Distribution
- Seasonality
- Macro-economic variables:
 - I. GDP
 - II. growth rate
 - III. consumer sentiment

MARKET VARIABLES

- ATL (Above-the-Line) marketing
- BTL (Below-the-Line) marketing
- TTL (Through-the-Line) marketing:

OTHER VARIABLES

- Competition
- Halo and Cannibalization Impact

DATA REQUIRED FOR MARKETING MIX MODELING

- Product Data
- Promotion Data
- Advertising Data
- Seasonality
- Geographical Data
- Macroeconomic Data
- Sales



DATA GRANULARITY

- Granular data is detailed data, or the lowest level that data can be in a target set. It refers to the size that data fields are divided into, in short how detail-oriented a single field is.
- At which level we have sales and advertising data in our database? Is it at hourly / daily or weekly level? Some data points can be at monthly level, while others are measured every week. We need to be very careful while merging data from multiple sources



DIFFERENT TYPES OF MODELS

- Linear regression
- Multiplicative regression:
 - I. Semi-logarithmic models
 - II. Logarithmic Models
- SVR
- GaussianProcessRegressor
- DecisionTreeRegressor
- Random forest model
- XGBoost

VARIABLE TRANSFORMATION

- There are generally three practical applications of data transformation in Non-linear models :
 - ❑ Ad-stock effect/advertising carry-over:
 - ❑ Diminishing marginal returns or Saturation effect
 - ❑ Lag effect

PERFORMANCE METRIC

- R-Squared
- Adjusted R-Squared
- Mean Absolute Error
- Mean Squared Error
- **Mean Absolute Percentage Error**
- Confusion Matrix and related metrics
- F1 Score
- AUC-ROC Curve

BUSINESS METRIC

- Contribution calculation
- Due-to analysis
- Budget optimization