

# Overview

We will build a predictive performance model using historical Meta (Facebook/Instagram) Ads data to identify which controllable media variables most reliably influence revenue and conversion outcomes—enabling results to be forecast prior to budget deployment.

The model will use multivariate regression in Peltarion, trained on weekly ad set-level performance data exported directly from Meta Ads Manager.

This cross-account modeling system is designed to quantify which media levers most consistently drive performance across brands.

## Variables

### Outcome Variables (One per model run)

Select one target per experiment:

- Purchases
- Purchase Conversion Value (Revenue)
- ROAS
- Landing Page Views
- Other funnel metrics (as needed)

### Predictor Variables (Candidate Inputs)

Base delivery + engagement metrics (safe):

- Reach
- Impressions
- Link Clicks
- Landing Page Views
- (Optional) Content Views\*, ATC\*, IC\*, Payment Info\*, Leads\*

Cost metrics (safe):

- Amount Spent
- CPM
- CPC
- CTR

Structure flags (safe):

## Paid Media Performance Modeling Framework

- Cold vs Retargeting
- Catalog vs Conversion objective
- Attribution window (7-day vs 7+1)

### Derived ratios (use only when they don't include the outcome)

- CVR, AOV, ROAS, RPV (*eligible only when they do not include the target outcome*)

\*Used when data integrity is verified.

**Important:** Predictor variables cannot mathematically include the selected outcome variable (to prevent circular predictions). For example, if forecasting *Purchase Conversion Value*, do not include ROAS, AOV, RPV, or Purchases-derived ratios as predictors.

## Data Preparation

1. Export weekly ad set data from Meta Ads Manager.
2. Consolidate into a master Google Sheet.
3. Ensure:
  - Headers formatted as text
  - All data cells formatted as numeric
  - No mixed data types
4. Remove non-numeric date text.
5. Export final dataset as CSV.
6. Upload to modeling platform.

## Data

Source: Meta Business Manager exports

Accounts: [redacted list]

Timeframe: October 2021 – April 2022

Granularity: Weekly, ad set-level, delivered only

## Modeling Approach

- Select all eligible predictor variables.
- Select one outcome variable per experiment.
- Train multiple model iterations.
- Evaluate prediction error and variance.
- Refine until validation error is within ±10% of actuals.

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- Deploy the best-performing model.

## Deployment & Forecasting Workflow

Once the optimal model is identified:

1. Create a forecasting input sheet (.xlsx).
2. Include:
  - Exact predictor header names used in the deployed model
  - Predictor variables only (exclude outcome variable)
3. Connect Excel to the deployed model using API credentials.
4. Input new predictor values.
5. Call the model to generate forecasted outcomes.