

Domain Knowledge Document

Meta Ads Performance Analytics

1. Business Context

Meta advertising platforms such as Facebook and Instagram generate large volumes of event-based data including impressions, clicks, engagements, and purchases. This dataset simulates real-world Meta Ads data and is designed to support marketing performance analysis, campaign optimization, and ROI measurement.

2. Dataset Overview

The data captures advertising interactions across campaigns, ads, and users. It supports analysis of campaign effectiveness, funnel performance, audience behavior, and budget efficiency.

3. Data Model Structure

The solution follows a star schema design:

- Fact Table: `ad_events` – stores impressions, clicks, shares, comments, and purchases.
- Dimension Tables: `ads`, `campaigns`, and `users` – provide creative details, budgets, targeting, and demographics.

4. Table-Level Purpose

`ad_events`: Captures every interaction between a user and an ad and acts as the foundation for all KPIs and funnel metrics.

`ads`: Stores creative attributes, platform information, and targeting criteria to evaluate creative and platform performance.

`campaigns`: Stores campaign timelines and budgets to support cost, pacing, and ROI analysis.

`users`: Stores demographic and geographic attributes to enable audience segmentation and targeting effectiveness analysis.

5. Analytical Use Cases

- Funnel analysis (Impressions → Clicks → Purchases)
- Campaign and platform benchmarking
- Creative performance comparison
- Audience segmentation and geo-performance analysis
- Budget utilization and marketing ROI evaluation

6. Business Value

This domain structure enables marketing teams to understand what drives engagement and conversions, identify high-performing campaigns and audiences, and make informed budget optimization decisions.