

## Objective

Assess the effectiveness of various marketing campaigns to refine future marketing strategies and budget allocations.

## Requirements

1. **Campaign Metrics Calculation**
  - **Conversion Rate**
  - **Cost per Click (CPC)**
  - **Cost per Conversion (CPA)**
  - **Return on Ad Spend (ROAS)**
2. **Channel Comparison**
  - Compare campaign performance across different channels based on CTR, conversion rate, CPC, and ROAS.
  - Highlight the channels that perform best based on conversion rate and ROAS.
  - Identify channels with high costs and low ROAS for budget review and adjustment.
3. **Demographic Analysis**
  - Segment campaign performance by demographics, including age, gender, and location, to pinpoint high- and low-performing segments.
  - Analyze which demographic groups are most responsive to specific channels or types of campaigns.
  - Provide recommendations for future targeting based on demographic insights.
4. **Time-Based Analysis**
  - Monitor campaign performance over time (weekly or monthly) to identify trends or seasonal peaks.
  - Examine whether certain times of the year lead to higher conversions or improved ROAS.
5. **Dashboard Requirements**
  - **KPIs Summary:** Include total impressions, total clicks, total conversions, total spend, total revenue, average CTR, and ROAS.
  - **Campaign Performance Overview:** Create bar or line charts that compare key metrics (CTR, conversion rate, ROAS) across campaigns.
  - **Channel Performance Breakdown:** Visualize the distribution of total spend, impressions, and conversions by channel using pie or stacked bar charts.
  - **Demographics Insights:** Use charts to show the breakdown of conversions and revenue by age, gender, and location.
  - **Trend Analysis:** Create a line or area chart to illustrate campaign metrics over time (impressions, clicks, conversions).

## Expected Insights

- **Top-Performing Campaigns and Channels:** Identify which campaigns and channels yield the highest conversions and revenue relative to the budget.

- **Demographic Insights:** Determine which customer demographics are most responsive to the campaigns.
- **Seasonal or Temporal Trends:** Identify patterns in campaign success related to specific times of the year.

**Budget Allocation Recommendations:** Suggest reallocations to high-performing channels and campaigns with a high ROAS while reducing spend on underperforming segments.

There is the database [link](#)