Power BI Marketing Campaign Dashboard Report

Introduction

This project was carried out to design and build a marketing campaign dashboard using Microsoft Power BI Desktop. The goal was to analyze campaign performance across products, categories, and marketing channels while tracking revenue, ad spend, ROI, impressions, clicks, and conversions.

The report explains the entire process, from launching Power BI Desktop to creating the final dashboard visuals.

Step 1: Launching Power BI Desktop

The project started by launching **Power BI Desktop**, which served as the main tool for data modeling, visualization, and dashboard creation.

Step 2: Importing the Dataset

- I imported the dataset into Power BI Desktop by selecting **Home → Get Data → Excel Workbook**.
- After choosing the source file, I previewed the tables in the Navigator Pane and loaded them into Power BI.

Step 3: Data Cleaning and Transformation (Power Query Editor)

I used the **Power Query Editor** to prepare the dataset before analysis:

1. Removed duplicate rows.
2. Checked for and removed null/blank values.
3. Standardized column names for consistency.

4. Ensured numerical columns (Ad Spend, Revenue, Impressions, Clicks, Conversions) were in the correct data types.

After cleaning, the transformed dataset was loaded back into the Power BI Model.

Step 4: Data Modeling

- DAX formula was used to create a calendar table for time-based analysis

```
Calendar =
VAR BaseCalendar =
    CALENDARAUTO()
RETURN
ADDCOLUMNS(
    BaseCalendar,
    "Year", YEAR([Date]),
    "Quarter", QUARTER([Date]),
    "Month No", MONTH([Date]),
    "Week Num", WEEKNUM([Date]),
    "Week Day", WEEKDAY([Date]),
    "Day", DAY([Date]),
    "Month Name", FORMAT([Date], "MMMM"),
    "MonthN", FORMAT([Date], "MMM"),
    "Week", FORMAT([Date], "dddd"),
    "Quarter Number", "Q" & QUARTER([Date]),
    "Year Month", FORMAT([Date], "YYYY MMMM"),
    "Weekending", [Date] + (7 - WEEKDAY([Date]))
)
```

- Established a relationship between the calendar table and the campaign date in the dataset using the star schema connection.
- DAX measures were created for key calculations:
    - **Total Revenue =** `TotalRevenue = SUM('marketing'[Revenue (INR)])`
    - **Total Ad Spend =** `Ad Spend = SUM('marketing'[Ad Spend (INR)])`
    - **Total Profits =** `TotalProfit = [TotalRevenue] - [Ad Spend]`
    - **Total Impressions =** `TotalClicks = SUM('marketing'[Impressions])`
    - **Total Clicks =** `TotalClicks = SUM('marketing'[Clicks])`
    - **Total Conversions =** `Total conversions = SUM(marketing[Conversions])`

Step 5: Dashboard Design and Visualization

The dashboard was divided into **two main pages** for clarity:

Page 1: Campaign Dashboard

1. **KPI Cards (Top Row)**
    a. I used **Card visuals** to display:
    i. Total Ad Spend
    ii. Total Revenue
    iii. Total ROI
    iv. Total Profits
    v. Total Impressions
2. **Slicers (Left Column)**
    a. I used **Slicer visuals** to filter data by:
    i. Product Name
    ii. Category
    iii. Marketing Channel
    iv. Month

These slicers allowed users to filter and analyze campaign performance from different perspectives.

3. **Revenue by Product:** I used a **horizontal bar chart** for revenue by product.
4. **Ad Spend by Marketing Channel:** I used a **horizontal bar chart** for ad spend across marketing channels.
5. **ROI by Category:** I used a **horizontal bar chart** for ROI by category.

Page 2: Traffic Analysis

1. **KPI Cards (Top Row)**

    I used **Card visuals** for:

    i. Total Ad Spend

ii. Total ROI
iii. Total Impressions
iv. Total Clicks
v. Total Conversions

2. **Slicers (Left Column):** I repeated the same slicers for consistency: Product, Category, Channel, Month.
3. **Monthly Ad Spend vs Impressions**

   I used a **combo chart (column + line)** to show Ad Spend (columns) vs Impressions (line).

4. **Monthly Clicks vs Impressions**

   I used a **combo chart (column + line)** to compare Conversions (columns) against Impressions (line).

5. **Conversion by Category**

   I used a **horizontal bar chart** to show conversions by category.

6. **Daily Clicks vs Conversions**

   I used a **line chart** to track daily clicks and conversions.

7. **Daily Ad Spend vs ROI**

   I used a **line chart** to display daily Ad Spend compared to ROI.

Step 6: Design Preparation in PowerPoint

- I designed a **simple background layout** (wireframe) in PowerPoint for a clean and professional look.
- Exported the design as an image and imported it into Power BI as a **dashboard background**.

Step 7: Arranging & Formatting Visuals

- Positioned visuals neatly within the background template.
- Used **consistent formatting**:
    - Readable font sizes for labels and titles.
    - Clear page titles: *"Channel Performance"* and *"Traffic Analysis"*.

Step 8: Creating Dashboard Pages

- **Page 1 (Channel Performance)**: Focused on overall marketing performance with KPIs, Revenue by Product, Ad Spend by Channel, and ROI by Category.
- **Page 2 (Traffic Analysis)**: Focused on time-based trends with impressions, clicks, conversions, and spend analysis.

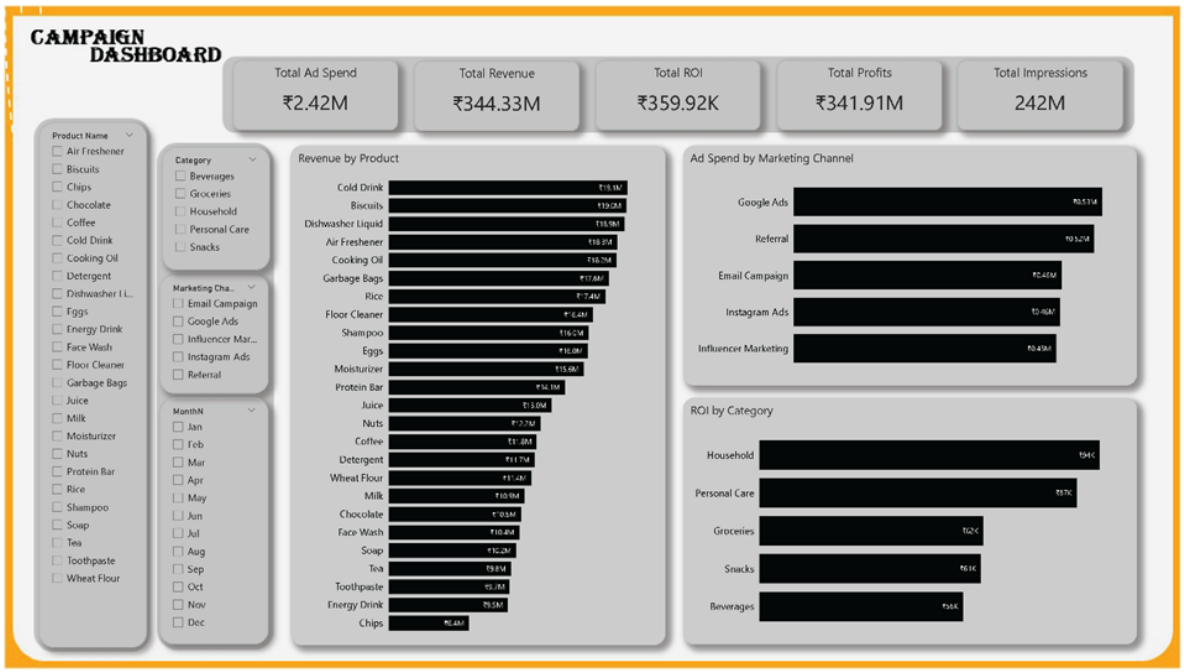
Final Output & Insights

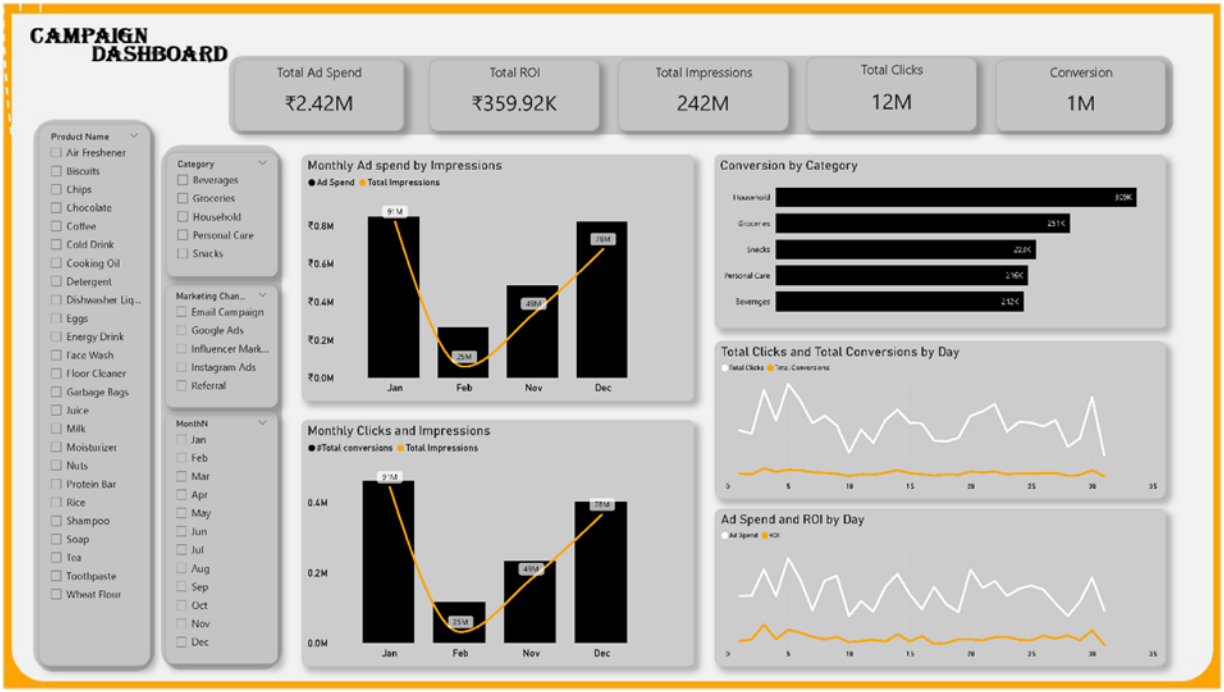
The final dashboard was **two interactive pages** providing:

- **High-level KPIs** (spend, revenue, ROI, conversions, impressions).
- **Channel & Product Performance** (which channels/products perform best).
- **Time-based Analysis** (trends of spend, clicks, impressions, ROI).
- **Category Insights** (profitability and conversion patterns by category).
- **Interactive Filtering** (slicers allow filtering by product, category, channel, or month).

This dashboard helps the team:

- Monitor overall marketing performance.
- Compare different channels and categories.
- Identify top-performing products.
- Optimize campaign strategies based on ROI and conversions.


CAMPAIGN DASHBOARD
Total Ad Spend
₹2.42M
Total Revenue
₹344.33M
Total ROI
₹359.92K
Total Profits
₹341.91M
Total Impressions
242M
Product Name
Air Freshener
Biscuits
Chips
Chocolate
Coffee
Cold Drink
Cooking Oil
Detergent
Dishwasher Li...
Eggs
Energy Drink
Face Wash
Floor Cleaner
Garbage Bags
Juice
Milk
Moisturizer
Nuts
Protein Bar
Rice
Shampoo
Soap
Tea
Toothpaste
Wheat Flour
Category
Beverages
Groceries
Household
Personal Care
Snacks
Marketing Cha...
Email Campaign
Google Ads
Influencer Mar...
Instagram Ads
Referral
MonthN
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Revenue by Product
Cold Drink
Biscuits
Dishwasher Liquid
Air Freshener
Cooking Oil
Garbage Bags
Rice
Floor Cleaner
Shampoo
Eggs
Moisturizer
Protein Bar
Juice
Nuts
Coffee
Detergent
Wheat Flour
Milk
Chocolate
Face Wash
Soap
Tea
Toothpaste
Energy Drink
Chips
Ad Spend by Marketing Channel
Google Ads
Referral
Email Campaign
Instagram Ads
Influencer Marketing
ROI by Category
Household
Personal Care
Groceries
Snacks
Beverages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Wheat Flour
Category
Beverages
Groceries
Household
Personal Care
Snacks
Marketing Chan...
Email Campaign
Google Ads
Influencer Mark...
Instagram Ads
Referral
MonthN
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Monthly Ad spend by Impressions
Ad Spend
Total Impressions
₹0.8M
₹0.6M
₹0.4M
₹0.2M
₹0.0M
Jan
Feb
Nov
Dec
Monthly Clicks and Impressions
#Total conversions
Total Impressions
0.4M
0.2M
0.0M
Jan
Feb
Nov
Dec
Conversion by Category
Household
Groceries
Snacks
Personal Care
Beverages
Total Clicks and Total Conversions by Day
Ad Spend and ROI by Day