DIGITAL MARKETING CAMPAIGN PERFORMANCE DASHBOARD

1. PROJECT OVERVIEW

The company runs multiple digital marketing campaigns across various channels. The goal of this project was to design and build an interactive Power BI dashboard that tracks campaign performances, answers key business questions and provides insights to optimize future strategies.

2. DATA SET OVERVIEW:

Data set contained 1000 rows and 11 columns

- Columns:
    1. **Campaign ID** – unique identifier for each campaign
    2. **Product Name** - the advertised products
    3. **Category of Product** – the product group e.g. household, beverages
    4. **Ad Spend (INR)** - Money spent on campaign
    5. **Impressions**- Number of times the ad was displayed
    6. **Clicks** – Number of times the ad was clicked
    7. **Conversions** – Number of purchases or number of persons who completed the full buying actions
    8. **Revenue (INR)** – Sales generated from the campaign
    9. **ROI** (Return on Investment) – Profitability of the campaign
    10. **Campaign Date** – Time period covered (November 2024 – February 2025)
    11. **Marketing Channel**s – Platforms used for the advertisements (Email, Google Ads, Instagram Ads, Referral, Influencer Marketing)

3. DATA PREPARATION AND MODELLING

- Imported the dataset into Power BI and performed initial checks for missing values, null entries, and incorrect data types. ***(Fig 1 in appendix)***
- Ensured proper formatting of columns (e.g., dates, currency, integers).
- Created a **Fact Table** (Campaign Performance) and **Dimension Tables** (Product, Channels, Dates*)* merging them. ***(see Fig 2 in appendix)***
- Established relationships between the fact and dimension tables to create a star schema model ***(see Fig 3 in Appendix)***.

- Built a **Calendar Table** to support accurate time intelligence ***functions (see Fig 4 in appendix).***

4. KEY DAX MEASURES

To properly analyses campaign effectiveness, custom measures were created

- Click Through Rate (CTR)

```
CTR = DIVIDE([Total Clicks], [Total Impressions], 0)
```

- Conversion Rate

```
Total Conversions = SUM(_F_Campaign[Conversions])
```

- ROI (Return On Investment)

```
Overall ROI = DIVIDE([Total Revenue] - [Total Ad Spend], [Total Ad Spend], 0)
```

- **Additional Measures Created:**

1. Total Ad Spend = `SUM(_F_Campaign[Ad Spend])`
2. Total Revenue = `SUM(_F_Campaign[Revenue])`
3. Total Impressions = `SUM(_F_Campaign[Impressions])`
4. Total Clicks = `SUM(_F_Campaign[Clicks])`

5. Dashboard Visualization

Designed the dashboard to be clean, interactive using slicers with drop-down for Campaign date, Product name, Category, and Marketing Channels as seen in Fig 5 below.

Key Visuals:

- KPI Cards; Total Ad spend, Total Impressions, Total Clicks, Total Conversions, Total Revenue, Overall ROI
- Charts
  - Ad Spend by Marketing Channel: Bar Chart
  - Sum of Impressions & Clicks by Marketing Channel: Combo Chart (Line + bar)
  - Conversion Rate by Product Category: Column Chart
  - Revenue by Product Name: Column chart
  - Trends over time (Ad spend, conversions, ROI, Clicks): Line chart
  - ROI by Product (conditional formatting): bar chart

- Filters (Slicers)
    - Campaign Date
    - Category
    - Product Name
    - Marketing Channel

Fig 5: Final Dashboard Visualization

5. INSIGHTS & FINDINGS

The following were identified from the dashboard:

- Overall Performance
    - The campaigns achieved an **ROI of 14,151%**, indicating they were highly profitable.
    - **Revenue (344.3M INR)** far exceeded the total **Ad Spend (2.4M INR)**, showcasing exceptional marketing efficiency.

- Channel Performance and Analysis:
    - **Google Ads** recorded the highest ad spend but demonstrated varying ROI across campaigns.
    - **Influencer Marketing** had the lowest spend but delivered strong ROI, making it highly cost-effective.
    - **Instagram Ads** showed moderate spend and a strong ROI, making it an efficient platform.

- Click-Through-Performance
  - Referral achieved the highest CTR, indicating strong engagement and effective conversion.
  - **Instagram Ads** recorded the lowest CTR but still converted relatively well compared to other channels, suggesting high conversion efficiency once users clicked.

- Conversions by Category & Product
  - **Household and Grocery categories** converted better than others, with high ROI — signaling where future investment should be prioritized.
  - **Personal Care products** consumed high ad spend but yielded the lowest ROI, reflecting poor spend efficiency and the need to re-strategize for this category.

- Time Trends
  - ROI peaked during the festive campaigns (**Dec 2024 – Jan 2025**) at **14,701%**, indicating a strong seasonal effect.
  - Some individual products achieved ROI as high as **29,670%**, while others dropped to around **6,842%**, highlighting inefficiencies that need to be addressed.
  - After the peak, ROI declined (falling below **13,530%** from mid-January to February), likely due to **ad fatigue** and reduced consumer excitement post-holidays.

6. RECOMMENDATIONS

Based on the analysis, the following recommendations are proposed:

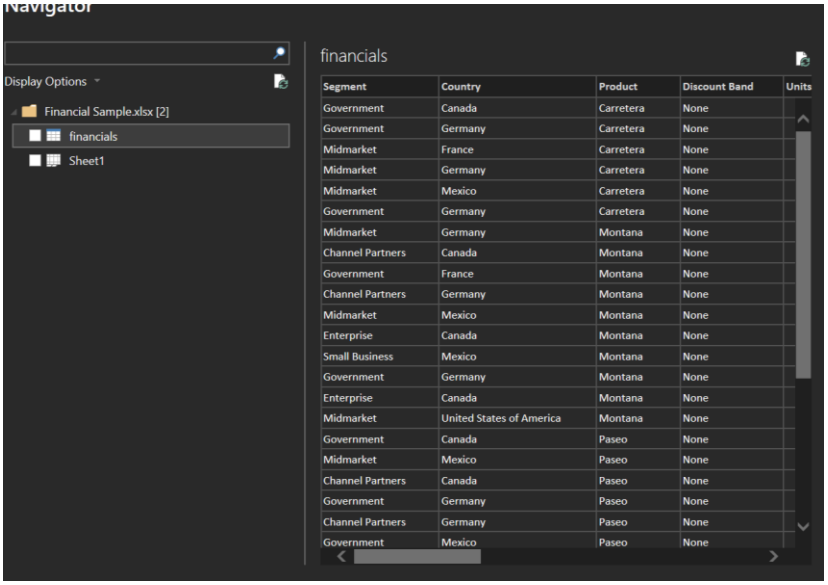
- **Channel Optimization** – Reallocate budget toward high-performing channels such as Referral Marketing, Instagram Ad and Influencer Marketing, while reviewing spend on underperforming ones.
- **Category Focus** – Increase ad spend on Household and Grocery categories where ROI is consistently strong. Reduce budget allocation for Personal Care until campaign strategies are improved.
- **Seasonal Strategy** – Maximize spending during peak festive seasons (December–January) to take advantage of higher ROI.
- **Creative Refresh** – Address ad fatigue by rotating creatives more frequently, especially in February where ROI declines.
- **Conversion Funnel Analysis** – Investigate why Instagram ads have low CTR but relatively high conversion to optimize both engagement and conversion stages.
- **Future Improvements** - Add predictive analysis to forecast expected ROI by campaign type.

7. CONCLUSION

The Power BI dashboard successfully transformed raw campaign data into **actionable insights**. It allows the marketing team to track performance, identify opportunities, and optimize campaign strategies dynamically.

Appendix

Figure 1: Prepping Dataset into power bi



Segment	Country	Product	Discount Band	Units
Government	Canada	Carretera	None	
Government	Germany	Carretera	None	
Midmarket	France	Carretera	None	
Midmarket	Germany	Carretera	None	
Midmarket	Mexico	Carretera	None	
Government	Germany	Carretera	None	
Midmarket	Germany	Montana	None	
Channel Partners	Canada	Montana	None	
Government	France	Montana	None	
Channel Partners	Germany	Montana	None	
Midmarket	Mexico	Montana	None	
Enterprise	Canada	Montana	None	
Small Business	Mexico	Montana	None	
Government	Germany	Montana	None	
Enterprise	Canada	Montana	None	
Midmarket	United States of America	Montana	None	
Government	Canada	Paseo	None	
Midmarket	Mexico	Paseo	None	
Channel Partners	Canada	Paseo	None	
Government	Germany	Paseo	None	
Channel Partners	Germany	Paseo	None	
Government	Mexico	Paseo	None	

Figure 2 i: Created Facts and Dimensions Table and Merging

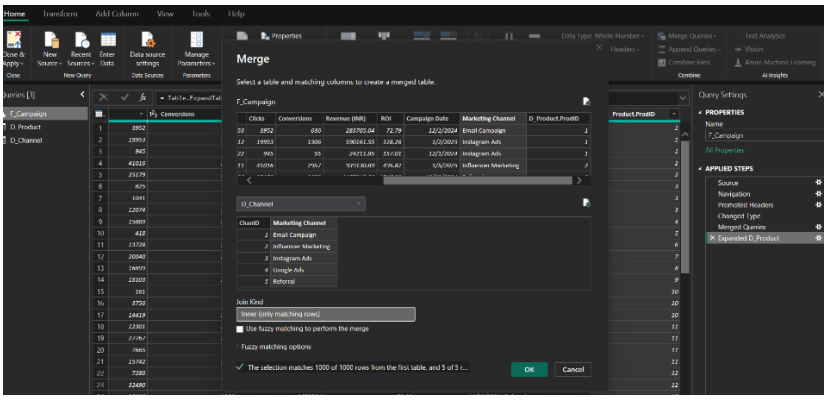


Figure 2ii: Final look after Merging

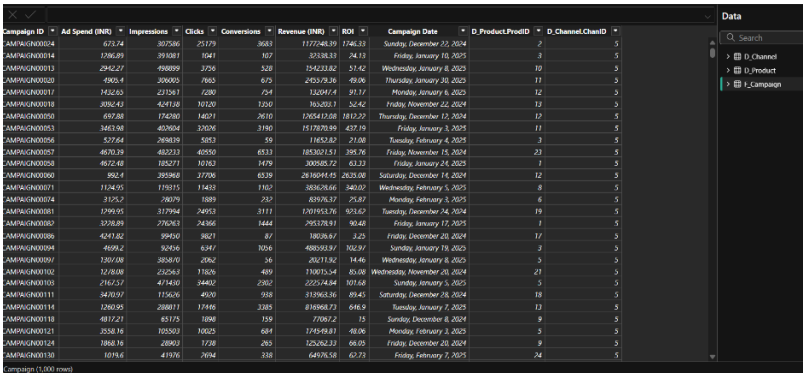


Figure 3: Relationship Connection

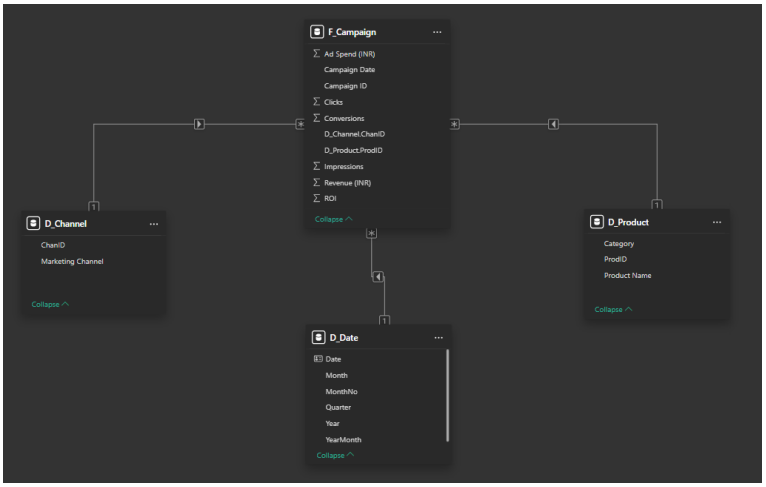


Figure 4: Creation of Calendar Table using DAX

```
D_Date =
VAR MINDATE = MIN(_F_Campaign[Campaign Date])
VAR MAXDATE = MAX(_F_Campaign[Campaign Date])
RETURN
ADDCOLUMNS(
    CALENDAR(MINDATE, MAXDATE ),
    "Year", YEAR( [Date]),
    "MonthNo", MONTH([Date]),
    "Month", FORMAT([Date],"MMM" ),
    "YearMonth", FORMAT ([Date], "YYYY-MM" ),
    "Quarter", "Qtr" & FORMAT([Date],"Q" )
    )
```

Date	Year	MonthNo	Month	YearMonth	Quarter
11/12/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/13/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/14/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/15/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/16/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/17/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/18/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/19/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/20/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4
11/21/2024 12:00:00 AM	2024	11	Nov	2024-11	Qtr4