

1. Overview

This report summarizes the key visualizations and metrics developed using marketing customer data. The dashboards provide insights into customer behavior, spending patterns, and campaign effectiveness based on various demographic and behavioral dimensions.

2. Calculated Metrics

Metric Name	Formula
Total Spend	MntWines + MntFruits + MntMeatProducts + MntFishProducts + MntSweetProducts + MntGoldProds
Household Size	Kidhome + Teenhome
Campaign Acceptance Rate	(AcceptedCmp1 + AcceptedCmp2 + AcceptedCmp3 + AcceptedCmp4 + AcceptedCmp5 + Response) / 6

| Preferred Purchase Channel |

SQL

```
CASE
  WHEN NumWebPurchases >= NumCatalogPurchases AND NumWebPurchases >= NumStorePurchases THEN "Web"
  WHEN NumCatalogPurchases >= NumWebPurchases AND NumCatalogPurchases >= NumStorePurchases THEN "Catalog"
  WHEN NumStorePurchases >= NumWebPurchases AND NumStorePurchases >= NumCatalogPurchases THEN "Store"
  ELSE "Unknown"
END
```

| Income Range |

SQL

```
CASE
  WHEN Income <= 30000 THEN "<=30k"
  WHEN Income > 30000 AND Income <= 60000 THEN "30k-60k"
  WHEN Income > 60000 AND Income <= 90000 THEN "60k-90k"
  WHEN Income > 90000 AND Income <= 120000 THEN "90k-120k"
  WHEN Income > 120000 THEN "120k+"
END
```

✔ Note: "Unknown" values were filtered out for a cleaner and more meaningful visualizatio

### 3. Visualizations

#### ● Pie Chart: Education-wise Total Spending

- **Dimension:** Education
- **Metric:** Total Spend
- This chart shows how customer spending varies with education level. Helps identify key high-spending demographics.

#### ● Bar Chart: Campaign Acceptance by Marital Status

- **Dimension:** Marital\_Status
- **Metric:** Campaign Acceptance Rate
- Allows marketers to understand which groups are more receptive to campaigns.

#### ● Line Chart: Avg. Recency by Income Range

- **Dimension:** Income Range (bucketed)
- **Metric:** Average Recency
- Insight into how recently customers have interacted with the brand across income brackets.

#### ● Table: All KPIs per Customer Segment

- **Dimension:** Combined (Education + Marital Status)
- **Metrics:**
  - Total Spend
  - Campaign Acceptance Rate
  - Recency
  - Income
  - Household Size
  - Preferred Purchase Channel
- This comprehensive table highlights performance across customer segments.

#### ● Scorecard / Heatmap: Conversion Metrics

- Metrics include:
  - Response
  - Campaign Acceptance Rate
- Useful for quickly evaluating performance of marketing campaigns and identifying high/low-performing segments.