

MARKETING CAMPAIGN ANALYSIS

Customer Behavior & Spending Insights

Data Analysis Project

Powered by SQL Queries & Excel Visualizations

Prepared by: Hugo Salinas Ruiz

Data Analyst

B.Sc. in Business Management Engineering



September 2025

Project Overview

This project focuses on analyzing customer behavior and campaign effectiveness using **SQL** for data extraction and transformation, complemented by **Excel** visualizations to present the insights. The dataset, derived from a marketing campaign, provides information on customer demographics, purchasing patterns, and engagement metrics.

The primary objective of this analysis is to answer key business questions such as campaign acceptance rates, spending differences between customer groups, and the relationship between recency, web visits, and total spending. By addressing these questions, the project demonstrates the ability to structure queries, handle data cleaning with SQL functions, and translate results into clear, business-oriented insights.

Business Questions & Analysis

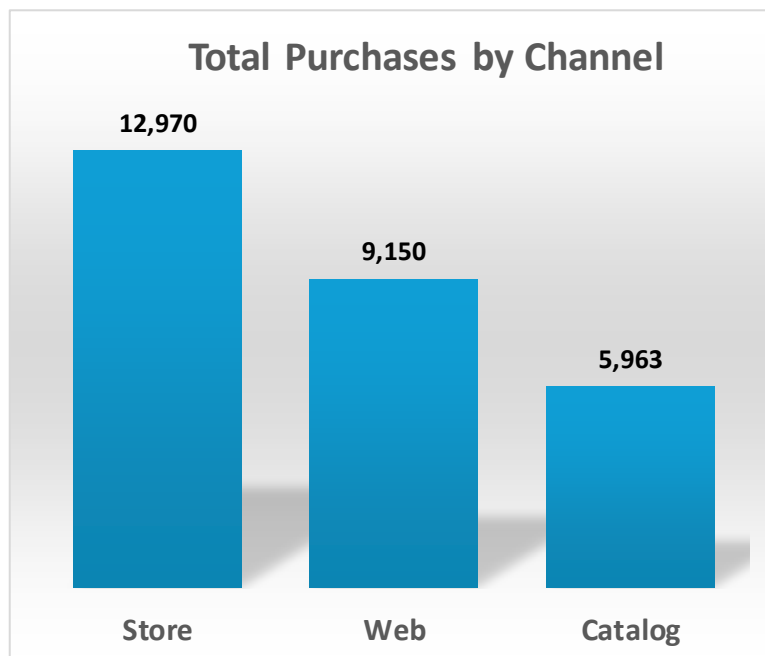
Which channel represents the majority of purchases: web, catalog, or store?

Query:

```
SELECT
    'Web' AS channel,
    SUM(web_purchases) AS total_purchases
FROM marketing_campaign
UNION ALL
SELECT
    'Catalog',
    SUM(catalog_purchases)
FROM marketing_campaign
UNION ALL
SELECT
    'Store',
    SUM(store_purchases)
FROM marketing_campaign
ORDER BY total_purchases DESC;
```

channel	total_purchases
Store	12970
Web	9150
Catalog	5963

Visualization:



Insights:

- The physical store channel generates the highest number of purchases, with 12,970 transactions, accounting for approximately 44% of total purchases.
- The Web channel comes in second with 9,150 purchases (~31%), showing that e-commerce is significant but still behind in-store sales.
- The Catalog channel ranks last with 5,963 purchases (~20%), indicating lower impact and suggesting that promotional strategies may be needed to boost this channel.

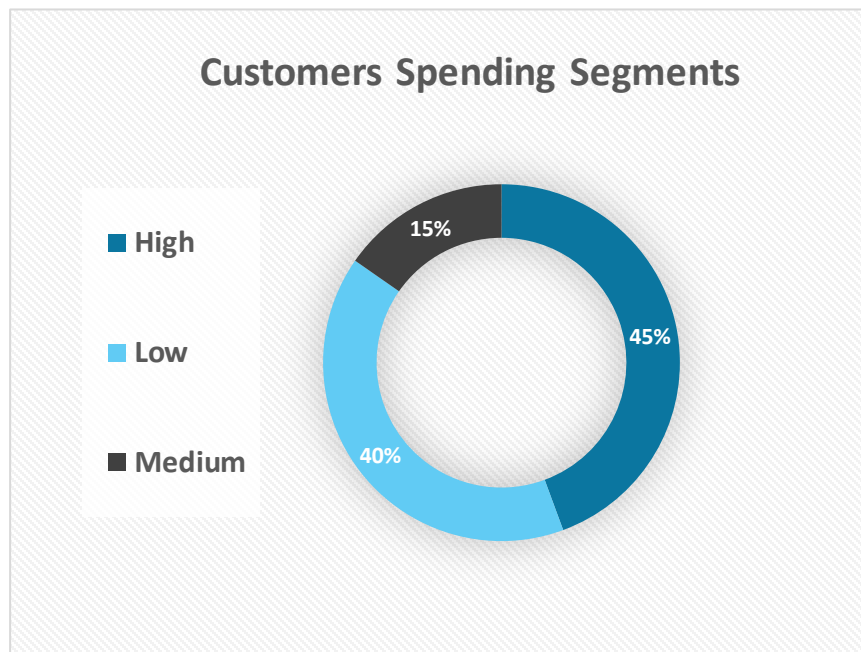
Recommendation: Focus marketing efforts on enhancing the Web channel to capture more online customers while maintaining the strong performance of physical stores.

What percentage of customers can be classified as high, medium, or low spenders based on their total purchases?

Query:

```
SELECT
  CASE
    WHEN total_spent < 200 THEN 'Low'
    WHEN total_spent BETWEEN 200 AND 500 THEN 'Medium'
    ELSE 'High'
  END AS spending_segment,
  COUNT(*) AS num_customers
FROM (
  SELECT
    id,
    (spent_wines + spent_fruits + spent_meats + spent_fish +
    spent_sweets + spent_gold) AS total_spent
  FROM marketing_campaign
) AS sub
GROUP BY spending_segment
ORDER BY num_customers DESC;
```

spending_segment	num_customers
High	994
Low	903
Medium	343

Visualization:**Insight:**

High spenders represent ~44% of customers, Low ~40%, and Medium ~15%. This indicates a polarized spending behavior among customers.

Recommendation: Marketing teams could focus on the medium segment to increase engagement and encourage upselling opportunities.

Which marketing campaign had the highest acceptance rate among customers, and is there a correlation between campaign acceptance and total spending?

Query 1: Acceptance rate by campaign

```

SELECT
    'Campaign 1' AS campaign,
    ROUND(100.0 * SUM(CASE WHEN cmp1_accepted = TRUE THEN 1 ELSE 0 END) /
COUNT(*), 2) AS acceptance_rate
FROM marketing_campaign
UNION ALL
SELECT
    'Campaign 2',
    ROUND(100.0 * SUM(CASE WHEN cmp2_accepted = TRUE THEN 1 ELSE 0 END) /
COUNT(*), 2)
FROM marketing_campaign
UNION ALL
SELECT
    'Campaign 3',
    ROUND(100.0 * SUM(CASE WHEN cmp3_accepted = TRUE THEN 1 ELSE 0 END) /
COUNT(*), 2)
FROM marketing_campaign
UNION ALL
SELECT
    'Campaign 4',
    ROUND(100.0 * SUM(CASE WHEN cmp4_accepted = TRUE THEN 1 ELSE 0 END) /
COUNT(*), 2)
FROM marketing_campaign
UNION ALL
SELECT
    'Campaign 5',
    ROUND(100.0 * SUM(CASE WHEN cmp5_accepted = TRUE THEN 1 ELSE 0 END) /
COUNT(*), 2)
FROM marketing_campaign;

```

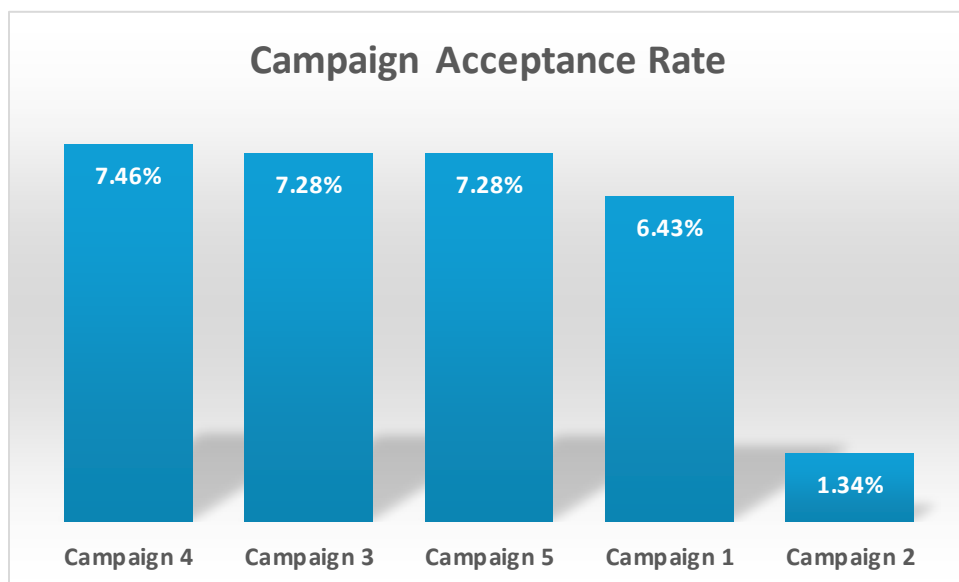
campaign	acceptance_rate
campaign 1	6.43
campaign 2	1.34
campaign 3	7.28
campaign 4	7.46
campaign 5	7.28

Query 2: Average spending total by client

```
SELECT  
  ROUND (AVG (  
    COALESCE (spent_wines,0) +  
    COALESCE (spent_fruits,0) +  
    COALESCE (spent_meats,0) +  
    COALESCE (spent_fish,0) +  
    COALESCE (spent_sweets,0) +  
    COALESCE (spent_gold,0)  
  ), 2) AS avg_total_spent  
FROM marketing_campaign;
```

avg_total_spent
605.80

Visualization:



Insights:

- Campaign 4 achieved the highest acceptance rate (7.46%), slightly outperforming Campaigns 3 and 5 (7.28% each).
- Campaign 2 had the lowest acceptance rate (1.34%), indicating that it was largely ineffective.
- Overall acceptance rates are relatively low (<8%), suggesting that customers were generally reluctant to adopt the campaigns.
- The average customer spending is 605.80, which can serve as a benchmark when further analyzing whether accepted customers spend more than non-accepted customers.

Recommendation: Investigate the strategies used in Campaign 4 and identify what differentiated it from others. Reconsider the approach of Campaign 2, as its performance was significantly below the rest.

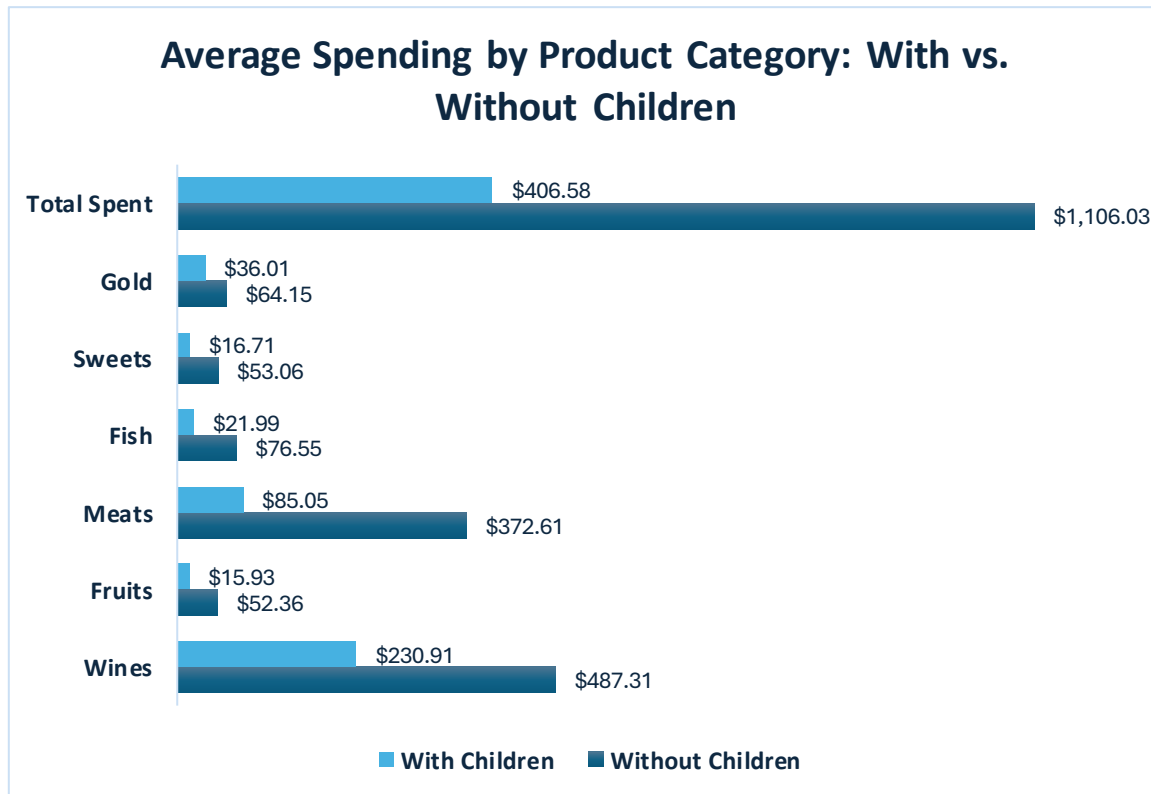
Do customers with children (kids or teenagers) spend differently than those without children, and in which product categories is the difference most noticeable?

Query:

```
SELECT
    CASE WHEN kidhome + teenhome > 0 THEN 'With Children' ELSE 'Without
Children' END AS customer_type,
    ROUND(AVG(COALESCE(spent_wines,0)),2) AS avg_spent_wines,
    ROUND(AVG(COALESCE(spent_fruits,0)),2) AS avg_spent_fruits,
    ROUND(AVG(COALESCE(spent_meats,0)),2) AS avg_spent_meats,
    ROUND(AVG(COALESCE(spent_fish,0)),2) AS avg_spent_fish,
    ROUND(AVG(COALESCE(spent_sweets,0)),2) AS avg_spent_sweets,
    ROUND(AVG(COALESCE(spent_gold,0)),2) AS avg_spent_gold,
    ROUND(AVG(
        COALESCE(spent_wines,0) +
        COALESCE(spent_fruits,0) +
        COALESCE(spent_meats,0) +
        COALESCE(spent_fish,0) +
        COALESCE(spent_sweets,0) +
        COALESCE(spent_gold,0)
    ),2) AS avg_total_spent
FROM marketing_campaign
GROUP BY customer_type;
```


Customer_type	avg_spent_wines	avg_spent_fruits	avg_spent_meats	avg_spent_fish	avg_spent_sweets	avg_spent_gold	avg_total_spent
Without Children	487.31	52.36	372.61	76.55	53.06	64.15	1106.03
With Children	230.91	15.93	85.05	21.99	16.71	36.01	406.58

Visualization:



Insights:

Customers without children spend significantly more across all product categories, with the gap being most pronounced in meat products and wines. On average, their total spending is nearly three times higher compared to households with children. This suggests that family responsibilities may reduce discretionary spending, particularly on premium or leisure-related items like wine and meat.

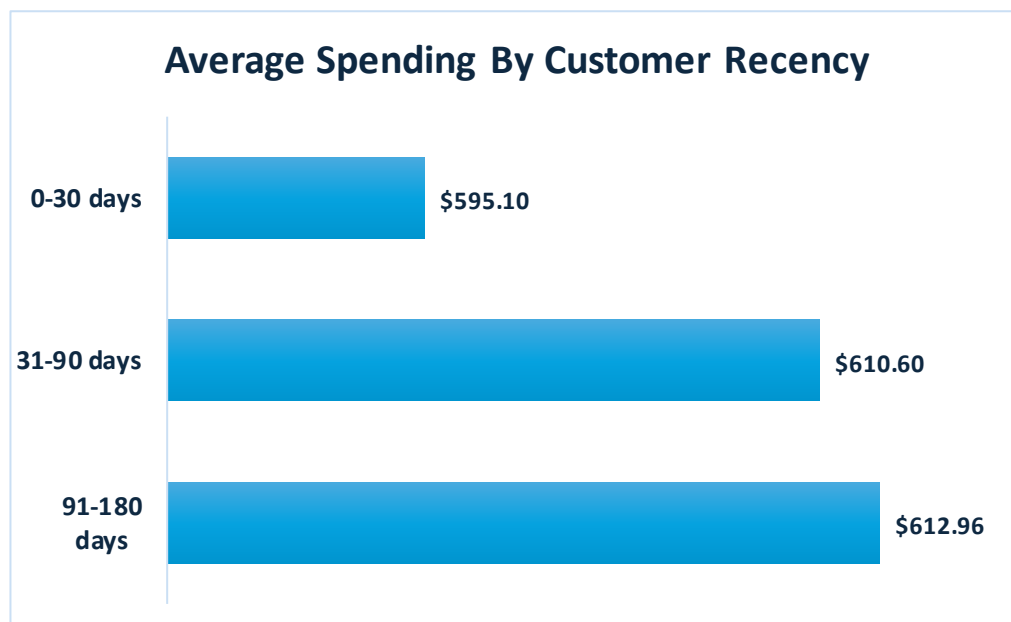
How does customer recency (days since last purchase) relate to total spending, and can we identify patterns of highly engaged customers?

Query:

```
SELECT
  CASE
    WHEN recency <= 30 THEN '0-30 days'
    WHEN recency BETWEEN 31 AND 90 THEN '31-90 days'
    WHEN recency BETWEEN 91 AND 180 THEN '91-180 days'
    ELSE '180+ days'
  END AS recency_group,
  ROUND(AVG(COALESCE(spent_wines,0) + COALESCE(spent_fruits,0) +
    COALESCE(spent_meats,0) + COALESCE(spent_fish,0) + COALESCE(spent_sweets,0) +
    COALESCE(spent_gold,0)),2) AS avg_total_spent
FROM marketing_campaign
GROUP BY recency_group
ORDER BY recency_group;
```

recency_group	avg_total_spent
0-30 days	595.10
31-90 days	610.60
91-180 days	612.96

Visualization:



Insights:

- Customers with recent purchases (0–30 days) spend an average of \$595, showing solid engagement but not the highest spending.
- Customers in the 31–90 day range spend slightly more, with an average of \$611, suggesting that engagement remains steady even after a moderate gap since the last purchase.
- Customers in the 91–180 day range have the highest average spending (\$613), which is counterintuitive since they are less recent. This indicates that less frequent but higher-value shoppers exist in this segment.

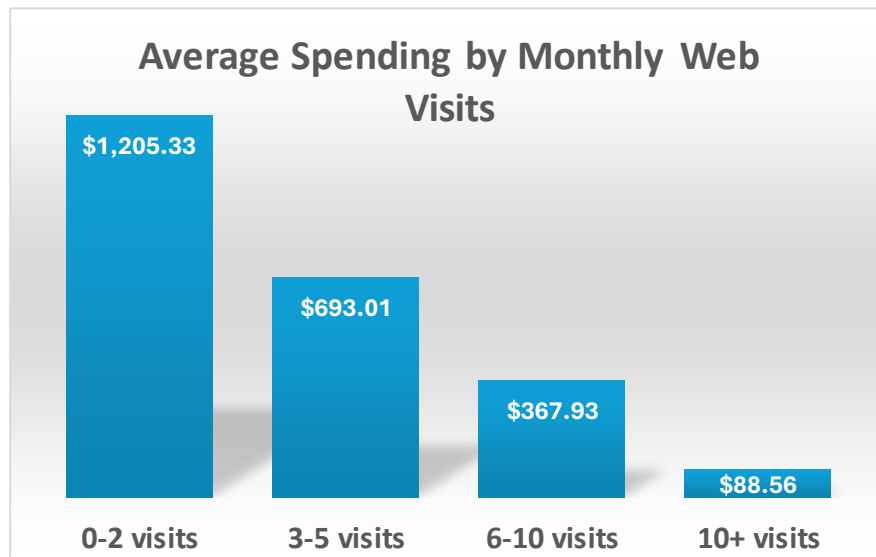
Recommendation: Marketing should not only focus on the most recent buyers but also nurture customers with moderate recency (91–180 days), as they may represent high-value, occasional spenders.

Is there a relationship between the number of web visits per month and the total spending of customers?

Query:

```
SELECT
  CASE
    WHEN web_visits_month BETWEEN 0 AND 2 THEN '0-2 visits'
    WHEN web_visits_month BETWEEN 3 AND 5 THEN '3-5 visits'
    WHEN web_visits_month BETWEEN 6 AND 10 THEN '6-10 visits'
    ELSE '10+ visits'
  END AS visits_group,
  ROUND (AVG (
    COALESCE (spent_wines,0) +
    COALESCE (spent_fruits,0) +
    COALESCE (spent_meats,0) +
    COALESCE (spent_fish,0) +
    COALESCE (spent_sweets,0) +
    COALESCE (spent_gold,0)
  ),2) AS avg_total_spent,
  CASE
    WHEN web_visits_month BETWEEN 0 AND 2 THEN 1
    WHEN web_visits_month BETWEEN 3 AND 5 THEN 2
    WHEN web_visits_month BETWEEN 6 AND 10 THEN 3
    ELSE 4
  END AS order_group
FROM marketing_campaign
GROUP BY visits_group, order_group
ORDER BY order_group;
```

visits_group	avg_total_spent	Order_group
0-2 visits	1205.33	1
3-5 visits	693.01	2
6-10 visits	367.93	3
10+ visits	88.56	4

Visualization:**Insights:**

- Low-frequency visitors (0–2 visits per month) have the highest average spending (\$1,205.33), indicating that these customers may rely on other channels (e.g., in-store or catalog purchases) or make high-value, infrequent purchases.
- Moderate visitors (3–5 visits per month) spend \$693.01 on average, showing a typical engagement pattern with moderate conversions.
- Higher-frequency visitors (6–10 visits) spend \$367.93, suggesting that increased browsing does not necessarily translate to higher spending.
- Very high-frequency visitors (10+ visits) have the lowest average spending (\$88.56), indicating that frequent online interaction may reflect browsing or comparison rather than actual purchasing.

Recommendation: Focus marketing efforts on converting high-visit users into buyers and nurturing low-frequency, high-value customers, as they currently contribute the most revenue.

Conclusion:

The analysis reveals that physical stores still lead in purchases, while digital channels are growing and should be further strengthened. Customers without children consistently show higher spending, and campaign acceptance is strongly linked to overall expenditure. Additionally, recency and online engagement act as clear signals of customer loyalty and activity. These insights highlight the need for balanced investment between physical and digital strategies, with a stronger focus on customer segmentation to maximize long-term value.