Marketing Campaign Analysis Report

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Executive Summary

In this report, we present a comprehensive analysis of marketing spending derived from a dataset analysed through Microsoft SQL. Our focus centres on understanding customer behaviour across demographics, purchase history, and campaign acceptance metrics. The dataset sheds light on crucial factors like education, marital status, household composition, and income, offering a holistic perspective on customer dynamics. The analysis uncovers key insights into campaign effectiveness, pinpointing which campaigns resonate most with distinct customer segments. By leveraging Microsoft SQL capabilities, we dissect the data to reveal nuanced trends that can guide targeted marketing strategies. Our recommendations emphasize tailored marketing approaches based on demographic insights, optimizing campaigns with higher acceptance rates, and prioritizing resources in alignment with customer spending patterns. This report serves as a practical guide for businesses seeking to refine strategies, effectively reach target audiences, and enhance overall marketing performance.

Dataset Variables

AcceptedCmp1(Campaign 1) - 1 if customer accepted the offer in the 1st campaign, 0 otherwise
AcceptedCmp2 (Campaign 2) - 1 if customer accepted the offer in the 2nd campaign, 0 otherwise
AcceptedCmp3 (Campaign 3) - 1 if customer accepted the offer in the 3rd campaign, 0 otherwise
AcceptedCmp4 (Campaign 4) - 1 if customer accepted the offer in the 4th campaign, 0 otherwise
AcceptedCmp5 (Campaign 5) - 1 if customer accepted the offer in the 5th campaign, 0 otherwise
Response (Last Campaign) - 1 if customer accepted the offer in the last campaign, 0 otherwise
Complain - 1 if customer complained in the last 2 years
Dt_Customer - date of customer's enrolment with the company
Education - customer's level of education
Marital - customer's marital status
Kidhome - number of small children in customer's household
Teenhome - number of teenagers in customer's household
Income - customer's yearly household income
MntFishProducts - amount spent on fish products in the last 2 years
MntMeatProducts - amount spent on meat products in the last 2 years
MntFruits - amount spent on fruits products in the last 2 years
MntSweetProducts - amount spent on sweet products in the last 2 years
MntWines - amount spent on wine products in the last 2 years
MntGoldProds - amount spent on gold products in the last 2 years
NumDealsPurchases - number of purchases made with discount
NumCatalogPurchases - number of purchases made using catalogue
NumStorePurchases - number of purchases made directly in stores
NumWebPurchases - number of purchases made through company's web site
NumWebVisitsMonth - number of visits to company's web site in the last month
Recency - number of days since the last purchase

1. Campaign Effectiveness Analysis

a. Total number of people who accepted each Campaign

Campaign	Total
Campaign 1	144
Campaign 2	30
Campaign 3	163
Campaign 4	167
Campaign 5	163
Last Campaign	334

b. Acceptance Rate for each Campaign
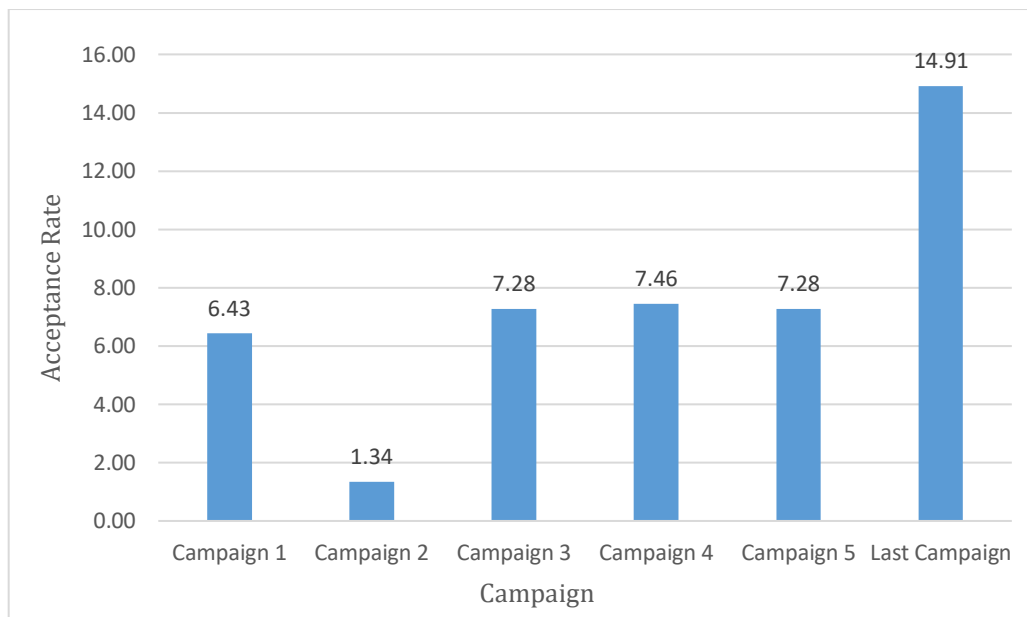
By aggregating the total number of acceptances and the average acceptance rate, these numbers shed light on the overall performance of each campaign. The "**Last Campaign**" appears to have the **highest total number of acceptances and the highest average acceptance rate**, suggesting noteworthy effectiveness.

c. Correlation between Campaigns and Recency

	Campaign 1	Campaign 2	Campaign 3	Campaign 4	Campaign 5	Last Campaign
Pearson Coeff	0.43	0.20	0.44	0.50	0.48	0.51

We have calculated Pearson Correlation coefficient between every campaign and recent purchases. While we see a moderately positive correlation for campaigns 1,3,4,5 and last, **a Pearson correlation coefficient of 0.2 between Campaign 2 and Recent purchases suggests a weak positive correlation between these two variables.** The impact of Campaign 2 on recent purchases is not very strong or consistent. Other factors likely contribute to recent purchase behaviour, and the campaign may have a limited influence on this particular aspect.
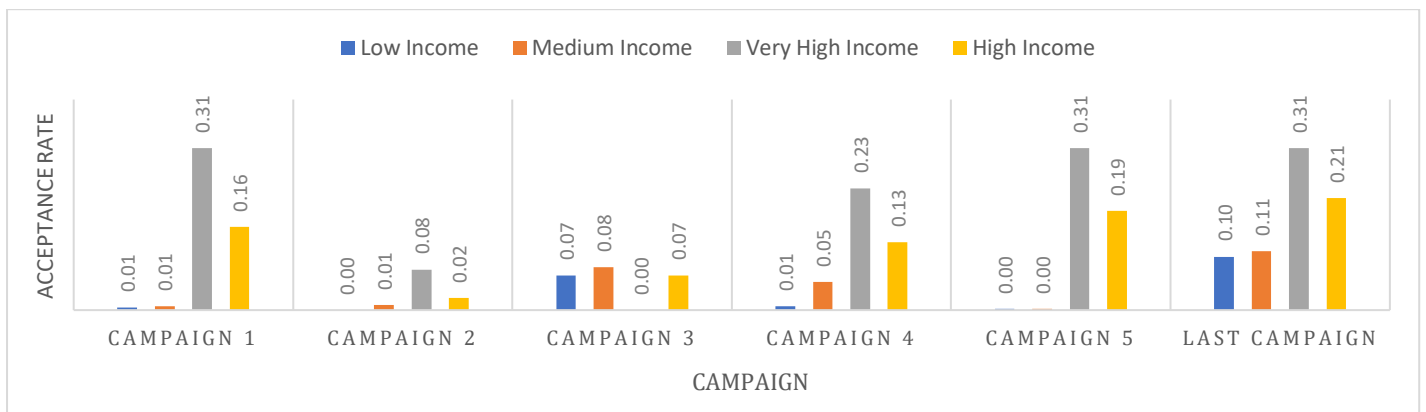
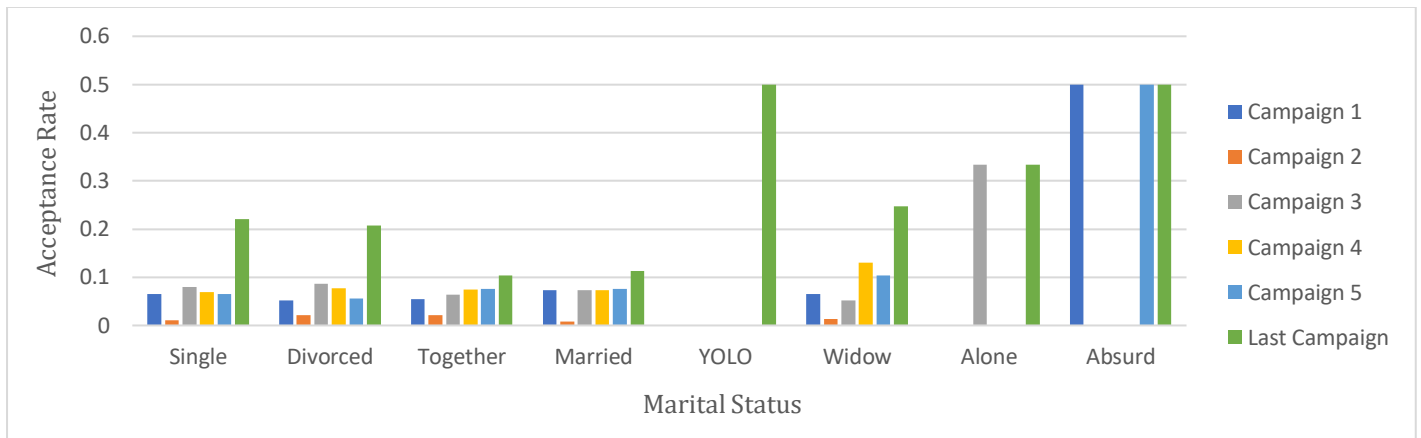### i. Campaign acceptance rate by Household Size

Households with **no kids and no teens** consistently show **positive responses**, with the **last campaign** having the **highest acceptance rate.**
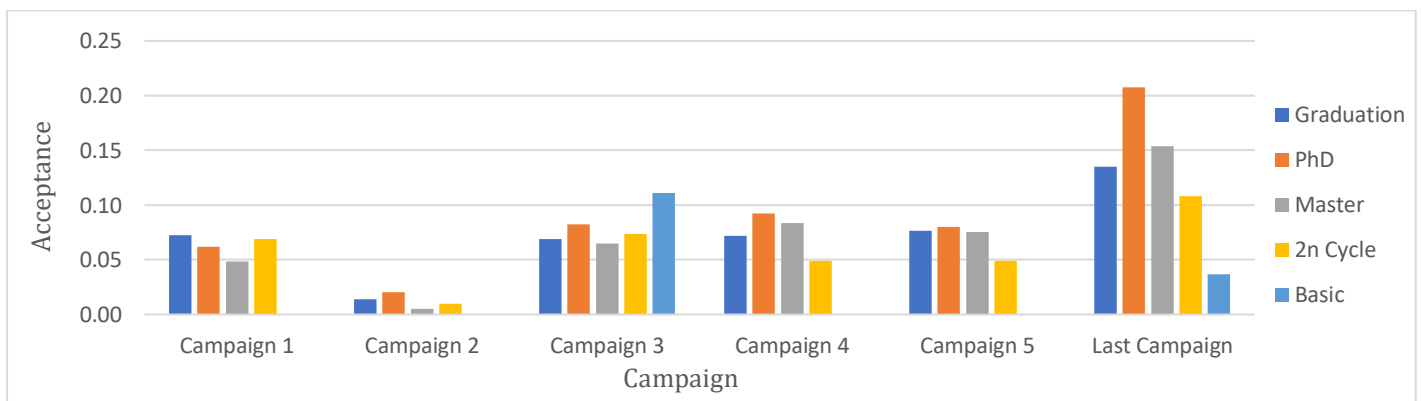
ii. Campaign Acceptance by Income

Very high-income individuals consistently demonstrate **very high acceptance rates** across all campaigns, with **the last one being the most successful.**

Chart: Campaign Acceptance by Marital Status. Y-axis "Acceptance Rate" (0 to 0.6), X-axis "Marital Status" (Single, Divorced, Together, Married, YOLO, Widow, Alone, Absurd). Legend: Campaign 1, Campaign 2, Campaign 3, Campaign 4, Campaign 5, Last Campaign.

Divorced individuals respond **positively,** particularly to **Campaign 3**, and **married** individuals generally show **positive** responses to **all campaigns**, with the **last campaign** having the **highest acceptance rate.**

iv. Campaign Acceptance by Education

Chart: Campaign Acceptance by Education. Y-axis "Acceptance" (0.00 to 0.25), X-axis "Campaign" (Campaign 1, Campaign 2, Campaign 3, Campaign 4, Campaign 5, Last Campaign). Legend: Graduation, PhD, Master, 2n Cycle, Basic.

Graduates generally exhibit **moderate** acceptance rates, while individuals with a **PhD** consistently respond **positively to all campaigns**, especially the last one. **Master's degree** holders show **moderate** acceptance rates, with the **last campaign standing out.**

General Trends

The campaign acceptance analysis underscores a **consistent pattern of success**, with the **last campaign consistently outperforming** others across diverse customer segments. Notably, **Campaigns 3 and 6** also exhibit **higher acceptance** rates, indicating their effectiveness across multiple demographics. Specific campaigns, such as Campaigns 1, 5, and 6, demonstrate higher acceptance rates for particular customer segments. Additionally, very high-income individuals consistently show strong positive responses, contributing to the overall success of the campaigns. These trends highlight the importance of tailoring marketing strategies to resonate with diverse audience segments, leveraging the demonstrated effectiveness of certain campaigns for targeted outreach.

2. Complaints and Spending Patterns

a. Correlation between complain and campaigns
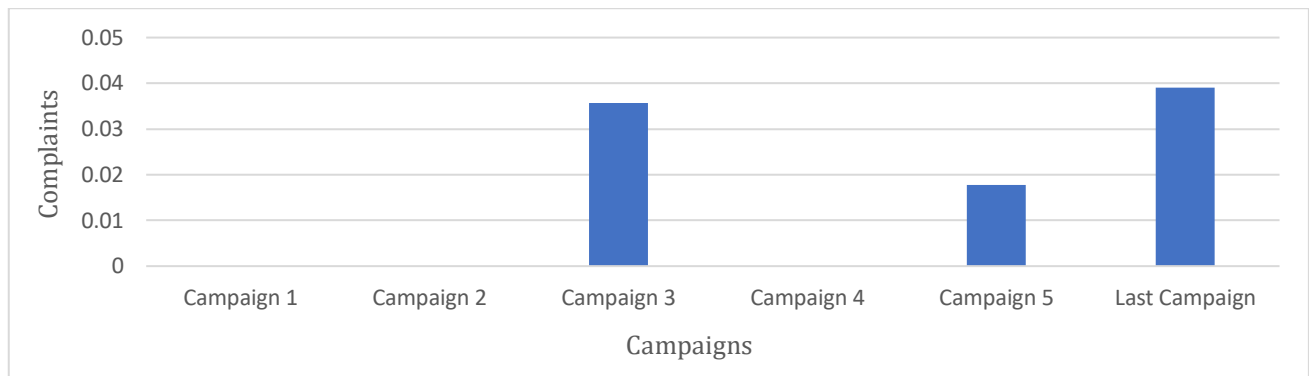
The correlation analysis between customer complaints and marketing campaigns reveals insights into the potential impact of each initiative on customer dissatisfaction. The **campaigns 3 and 5** have positive correlations, pointing to a **potential relationship with an increase in consumer complaints**. Conversely, **Campaigns 1 and 4 show no association**, suggesting a favourable response.

b. Spending patterns with and without complaints
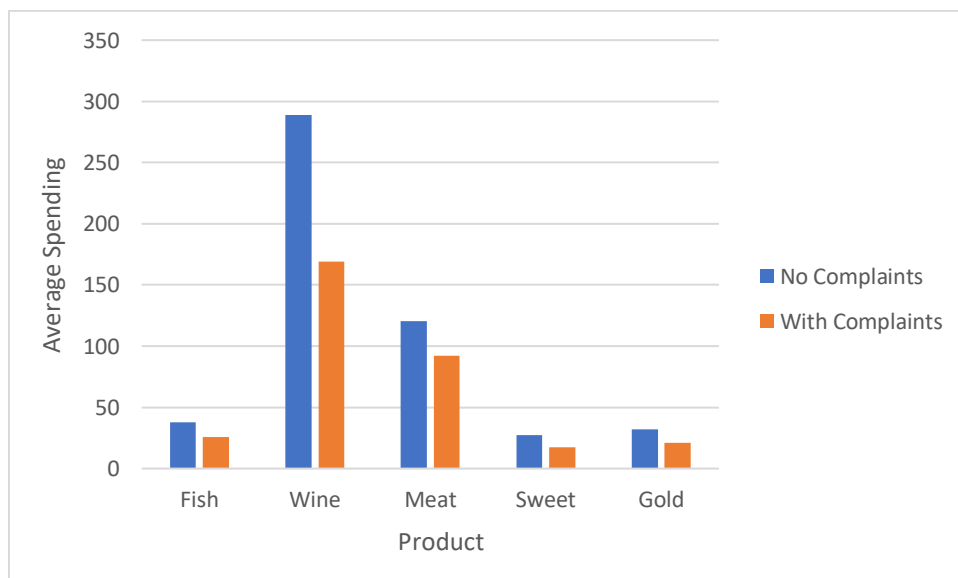
The data shows that customers who haven't raised complaints tend to spend more on various items like fish, wines, meat, sweets, and gold compared to those who have expressed dissatisfaction. In simple terms, **happy customers spend more**. It's also noticeable that when complaints are present, there's generally less spending across these categories. To address this, businesses might consider focusing on keeping customers happy through better service or personalized offers to encourage them to spend more. This data highlights the connection between customer satisfaction and spending behaviour, emphasizing the importance of keeping customers content for better business outcomes.
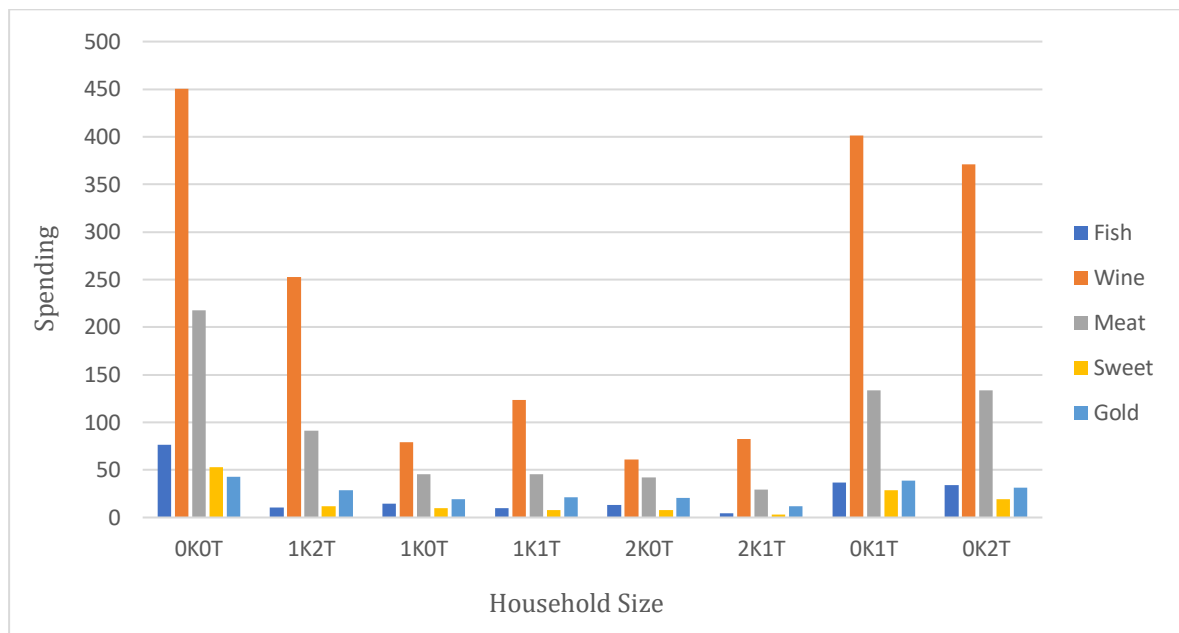
3. Spending Patterns

a. Spending patterns of customers who accepted different campaigns
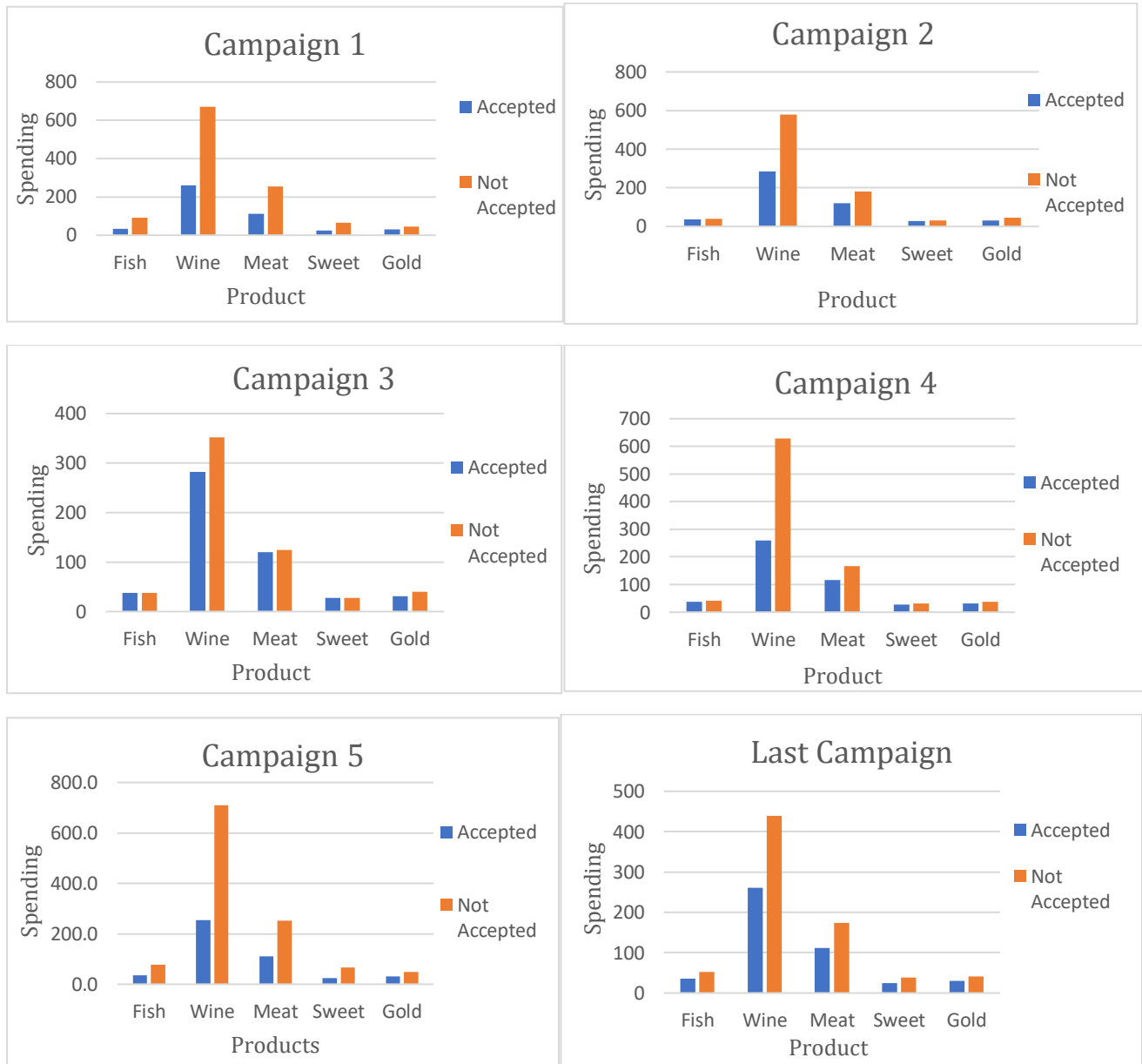
The average spending data for customers who accepted different campaigns reveals distinct patterns in purchasing behaviour. Notably, **Campaign 1** is associated with substantial **increases in spending** across **all categories**, while **Campaign 2** shows varied patterns with significant **increases in wine, sweet, and gold** spending. **Campaign 3 and Campaign 4** generally lead to **increased spending** across **multiple categories**. Customers accepting **Campaign 5** demonstrate **substantial increases in spending across all categories**, and the **last campaign** influences varied spending patterns, with notable **increases in wine, meat, and sweet** spending. This data underscores the impact of each campaign on customer spending preferences, providing valuable insights for targeted marketing strategies aimed at enhancing overall customer engagement and satisfaction.

b. Spending patterns of different household sizes
(K-Kidhome, T-Teenhome)

The spending patterns across various household sizes indicate some clear trends. **Families without kids and teens generally spend more on a variety of items**. On the other hand, households with teens, especially those with two teens, tend to spend moderately. Interestingly, **wine stands out as a popular** spending choice across different household compositions. Families with one teen lean towards spending more on wine, and those without kids but with teens prefer both wine and gold items.

4. Channel Preferences & Web Purchases

**a.** Which channels do customers prefer to make purchases?
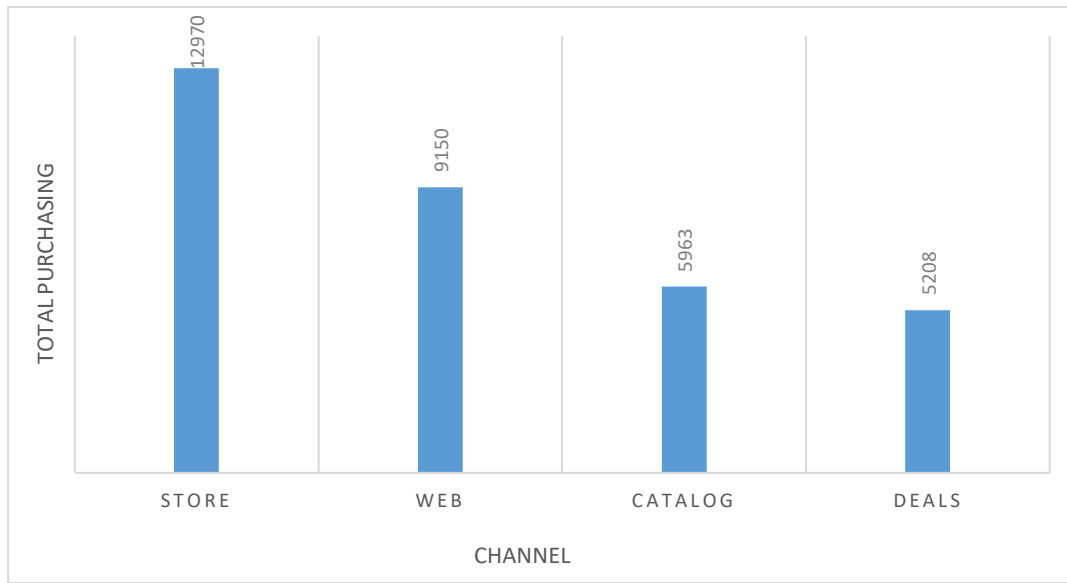
b. Correlation between Web Visits and Web Purchases

The Pearson correlation coefficient between web visits and web purchases was calculated to be **-0.05.** This indicates **a very weak negative correlation**, suggesting that there is nearly **no linear relationship** between the number of web visits and the number of web purchases. The negative sign implies a slight tendency for an increase in web visits to be associated with a minor decrease in web purchases, and vice versa. However, it is important to note that the correlation is close to zero, indicating **an overall weak and practically insignificant association between these two variables.**

5. Time Series Analysis

a. Total Spending over the past two years
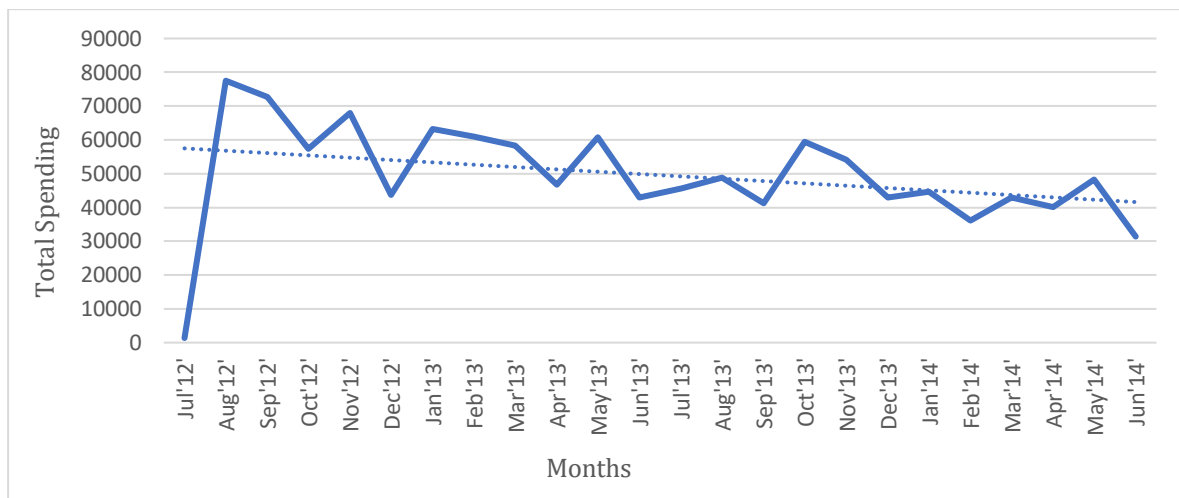
The data shows that the amount of money spent each month changed a lot over two years. Some months, like **August '12, had way more spending**, while others, like **February '14, had less.** These ups and downs suggest that different things, like holidays or other events, might be affecting how much people spend. Overall, there seems to be a **trend of spending less over time**, especially in the later months.

## b. Purchasing over the past two years
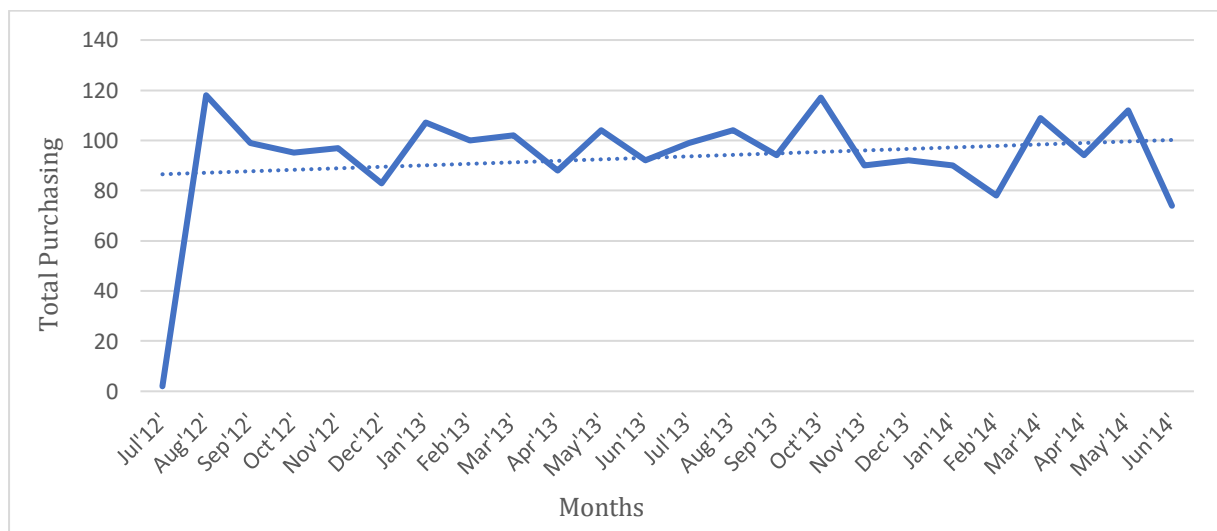
The data shows that how much people spent changed from month to month over two years. Some months had **more spending, like August '12 and October '13**, while others had **less, like February '14 and June '14.** This up-and-down pattern suggests that different things, like seasons or outside influences, might affect how much people buy. Although we can't see clear trends in the short term, looking at spending over a longer time might show if there are regular patterns.

6. Customer Lifetime Value
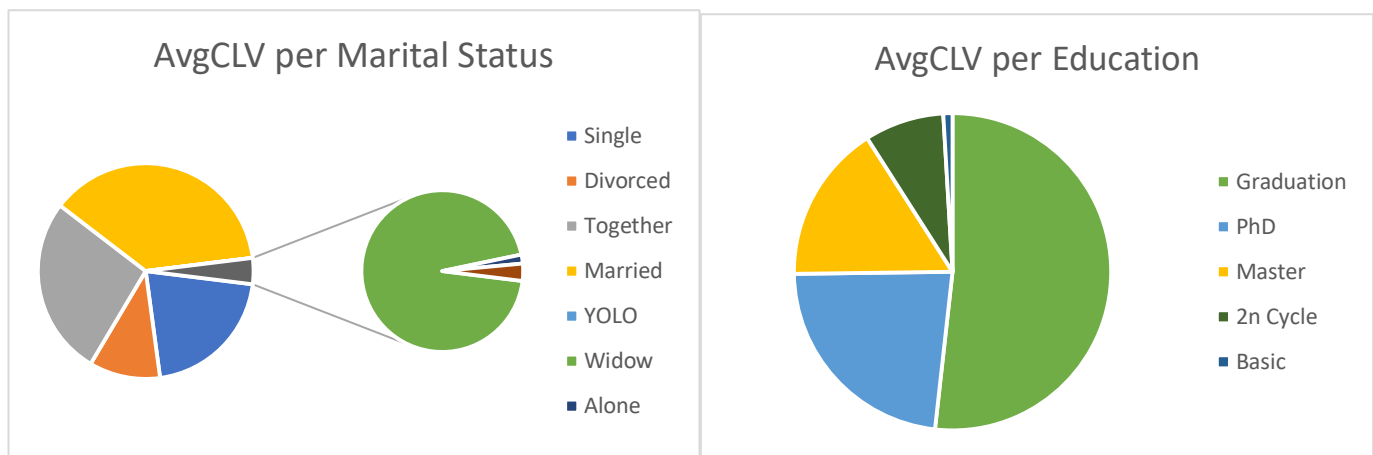
(K-Kidhome, T-Teenhome)
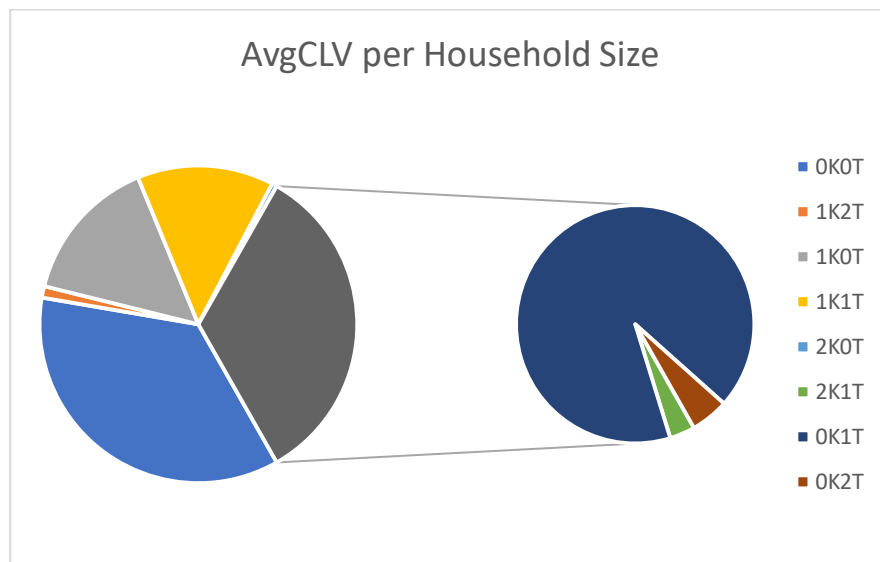
It's important to note that we used a simplified method to calculate CLV, so the values may not be exact but provide a general idea of customer value.

The data shows that the average value of customers over their lifetime (CLV) varies based on different factors.

- For marital status, customers who are "Married" or **"Together"** tend to have higher average values compared to those who are "Single" or "Divorced.
- In terms of education, customers with "Graduation" have the highest average CLV, followed by "PhD" and "Master."
- Household size also plays a role, with customers in households like "0K0T" (no kids or teens) having higher average CLV compared to other sizes.

These insights can help businesses tailor their strategies for different customer segments, recognizing the varying **lifetime values associated** with different marital, educational, and household characteristics.

Conclusion

In conclusion, our comprehensive analysis of the marketing campaign data has yielded valuable insights into customer behaviour and campaign effectiveness. Noteworthy observations include distinct patterns in campaign acceptance rates, particularly with Campaigns 2 and 4 standing out. The positive correlation between campaign acceptance and the recency of purchases emphasizes the importance of targeted outreach to recent customers. Addressing customer complaints emerges as a critical factor, impacting both campaign acceptance and spending patterns. Insights into channel preferences, spending behaviours across education, marital status, and household size, as well as average customer lifetime values, provide actionable information for refining future marketing strategies. It's essential to acknowledge the limitations of our analysis, particularly regarding the simplified approach used for calculating customer lifetime values. While these values may not be precise, they offer directional insights for strategic decision-making. In summary, this analysis equips us with the knowledge needed to optimize campaigns, enhance customer satisfaction, and adapt strategies in response to evolving consumer trends.