

MARKETING MASTERY: Understanding Consumer Interests

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ABSTRACT

This project presents a comprehensive analysis of marketing campaign data, focusing on key metrics such as leads generated, conversion rates, and overall campaign effectiveness. Through a series of interactive visualizations, we aim to uncover trends, patterns, and insights that can inform strategic marketing decisions. The visualizations will highlight the performance of various campaigns over time, emphasizing the relationship between investment and outcomes. By leveraging data-driven insights, this project seeks to provide marketers with actionable recommendations to optimize future campaigns, enhance customer engagement, and ultimately drive higher returns on investment.

INTRODUCTION

Customer Personality Analysis is a crucial aspect of modern marketing that helps businesses understand their customers' behaviors, preferences, and purchasing patterns. This analysis involves the use of customer data to segment consumers into distinct groups, making it easier to design targeted marketing strategies and optimize business decisions.

By analyzing customer personalities, businesses can move beyond traditional demographic categorizations like age, gender or income and delve into more sophisticated psychological traits such as spending habits, lifestyle choices and product preferences. This leads to the creation of more personalized and engaging marketing campaigns, enhancing customer satisfaction and increasing overall business performance.

The main questions that arise in customer personality analysis is who are the key customer segments, how can we group customer for targeted marketing, which customers are most valuable to the business, what factors contribute to a customer's lifetime value and much more.

DATA DESCRIPTION

Our data provides us the different aspects of our customers starting with their year of birth, education, marital status and income. They also provide us information about how many kids and teens reside in their homes and how recently have the customers bought from us. Important information like customer preferences of their purchasable products like meat, fish, wine, fruits, sweet and gold are also a part of our original data. These are the main aspects on which we are making a report on the customer personality analysis and making the best decisions about our customer satisfaction with also increasing business performance.

Column Descriptions

Customer ID: Unique identifier for each customer (likely alphanumeric). Year of Birth: The year in which the individual was born (numeric).

Education Level: The highest level of education achieved by the individual (categorical). Examples include: Graduation, Master, PhD, Basic, Secondary.

Marital Status: The current marital status of the individual (categorical). Examples include: Single, Married, Divorced, Widow, Together.

Income: The annual income of the individual (numeric). Number of Children: The number of children the individual has (numeric). Home Ownership: Indicates whether the individual owns a home (binary: 0 for no, 1 for yes).

Campaign Start Date: The date the marketing campaign began (date format).

Age: The age of the individual at the time of the campaign (numeric).

Tenure: Likely the duration of the individual's relationship with the company (numeric).

Various Behavioral Attributes: A series of numerical features that might relate to consumer behavior, preferences, or previous interactions. These attributes might represent different metrics, such as: Number of previous purchases, Engagement scores, Product preferences, Customer satisfaction ratings, Response rates to previous campaigns.

Data Types

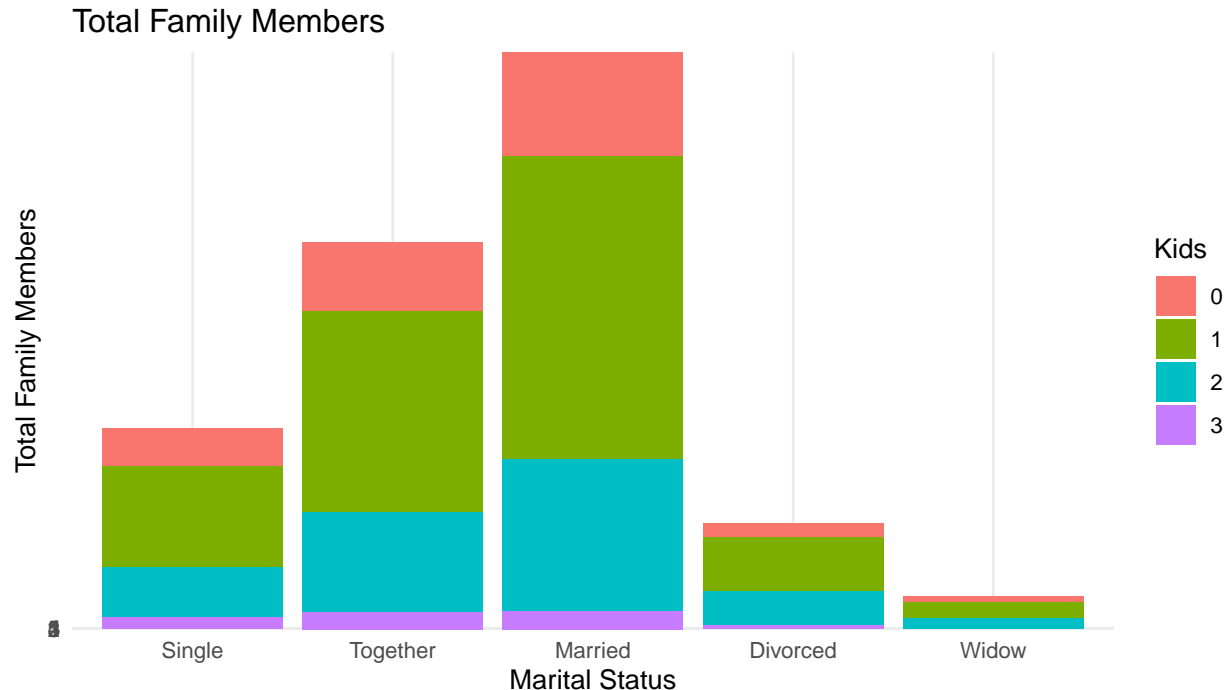
Numeric: Integer values for years, income, number of children, age, tenure, and various behavioral attributes.

Categorical: String values for education level and marital status.

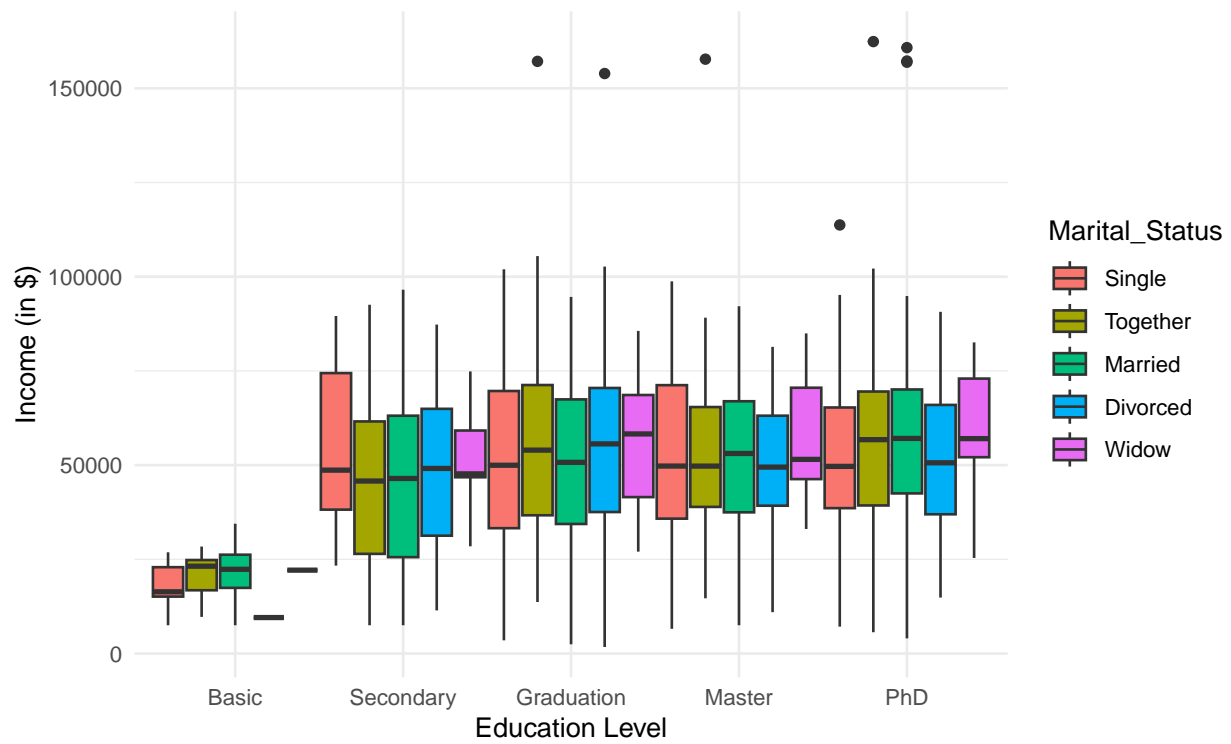
Date: The campaign start date, which is formatted as a date type.

EXPLORATORY DATA ANALYSIS

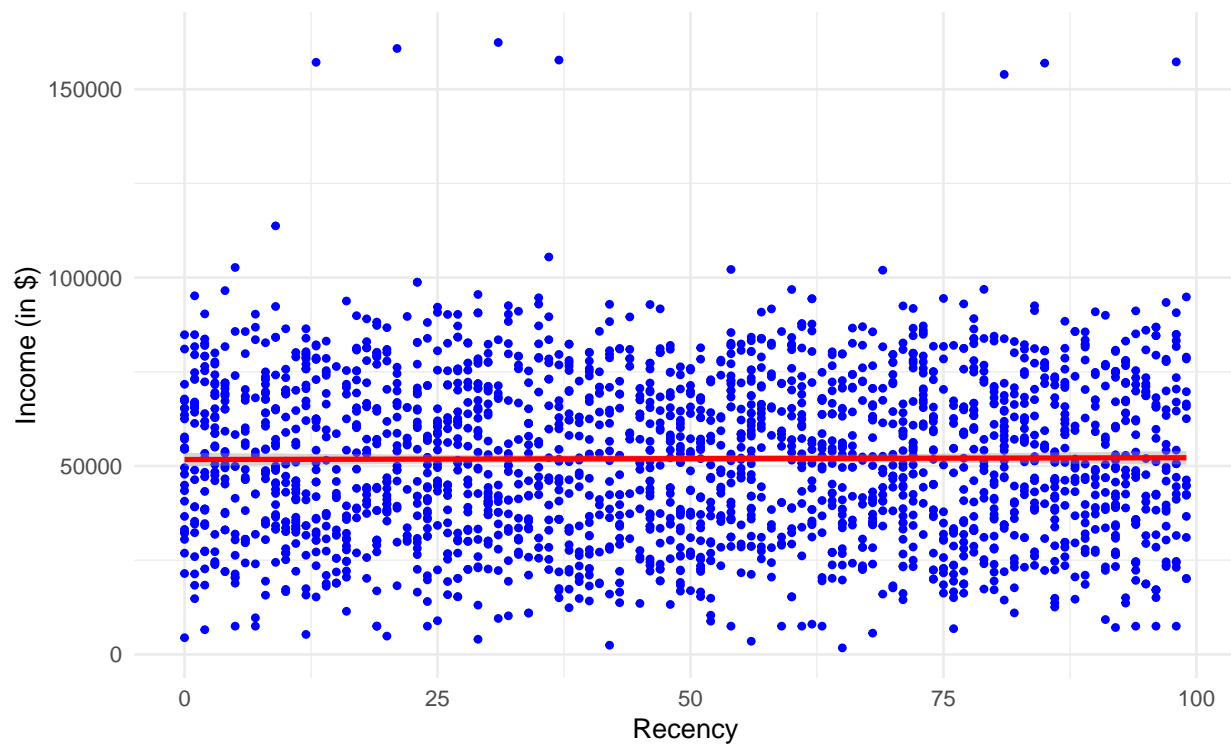
Now we will take the data to be represented into visualization aspect and compare the different factors with graphs and charts to get the best sense of value about our customers.



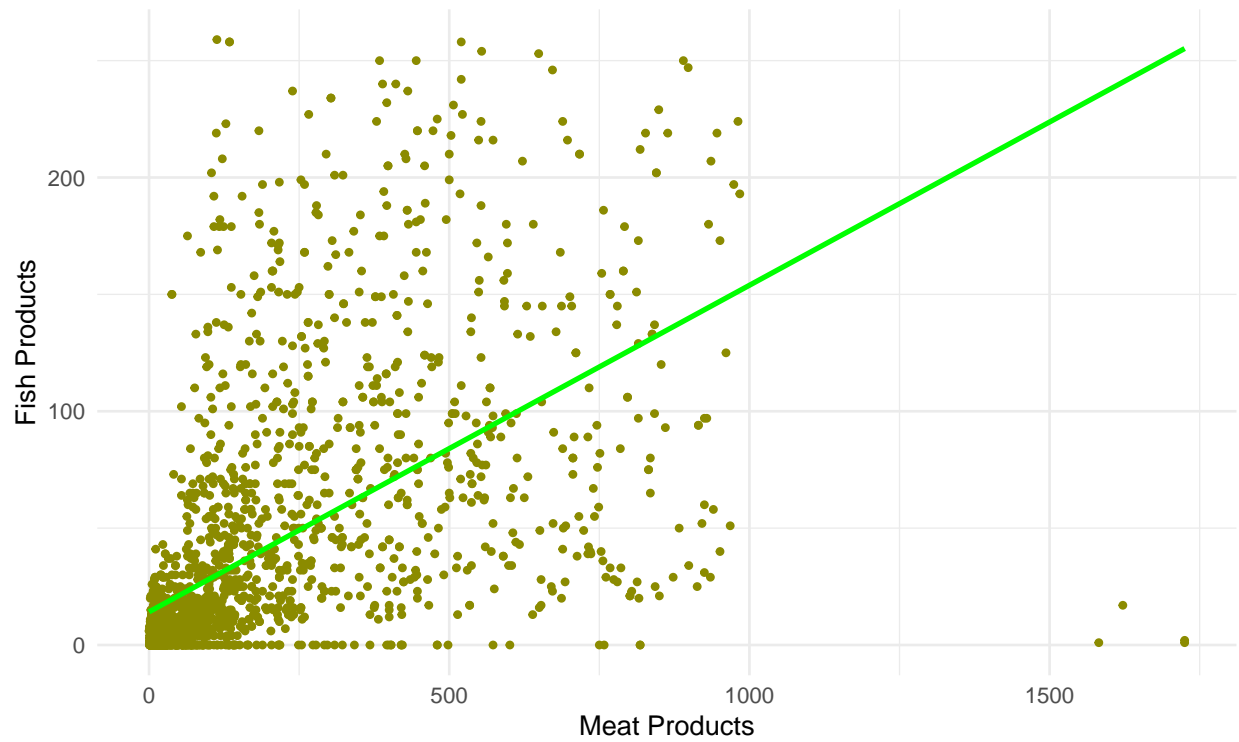
Income Distribution by Education Level with Marital Status



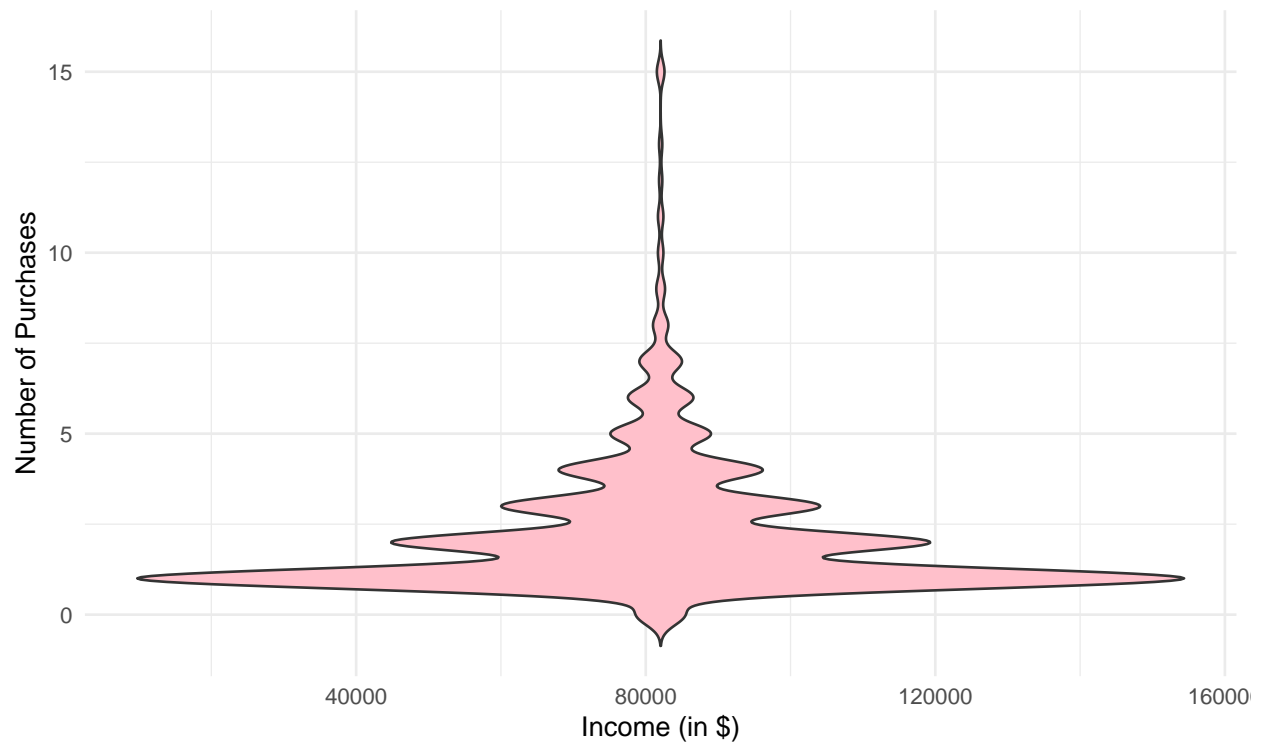
Scatter Plot of Recency vs Income with Trend Line



Meat Products vs Fish Products



Number of Purchases Distribution by Income



RESULTS

Total Family Members: A histogram depicting all the family members of the customers starting from 1 to 5 with respect to marital status of the customers also displaying the number of kids in each type of household. Most of the customers are married with higher percentage of 2 children.

Income Distribution by Education Level with Marital Status: A box plot of the income of the consumers by their education level also depicting their marital status in colour of the box plot. Higher education level shows more income affecting the purchasable quality.

Scatter Plot of Recency vs Income with Trend Line: A scatter plot of recency of the customers according to their income value with a trend line. The trend shows that the recency factor of the customers does not much depend on their income.

Meat Products vs Fish Products: A scatter plot and a trend line of the meat products bought vs the fish products bought. The trend line shows that household with higher meat items also buy higher fish items with most amount concentrated around 0.

Number of Purchases Distribution by Income: A violin plot of the number of purchases vs the income of the customers indicating an decrease of purchases with both sides of the income around the median.

CONCLUSION and DISCUSSION

More people are visiting the shops when they are together or married with children, making campaigns to attract such more customers would be better also changing policies to attract more of the single customers with children will be of better of the marketing strategy.

Studies show that people with higher education level also earning more are better customers also decreasing prices for those with low income level will help the campaign.

Income does not affect the recency of the customers with all type of customers being fairly recent to largely not recent. Making policies to attract more older customers with large recency gaps will be helpful to the marketing strategies.

Households with less consumers of meat and fish products are dominant in the customers but there are also plentiful of meat and fish consumers with a few bending towards the meat products, also people buy more amount of fish products than compared to meat products. Large stacking of meat products for the consumers will benefit the marketing more.

Large of smaller income of the customers does not always depict more of items buying from them as shown in the violin plot, median of the income people are the ones buying the most number of items. Targeting the customers on both side of the median income with marketing policies will help the business a lot.