

Customer Personality Analysis

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Customer Personality Analysis

Project Description

This project entails a detailed analysis of a company's ideal customers. A dataset containing customers' information with the company was utilized. Embedded within the dataset are errors that were removed and stored in a separate file for rectification.

This report aims to present a concise analysis and conclusions to understand their customers better and make it easier for them to modify products based on their target customers from different customer segments. Analyzing which customer segments will most likely purchase a product and then market the product only on that particular segment helps save time and resources.

Actions taken to arrive at the desired results are;

- Ensured the data was clean
- Noted the measures and dimensions to be converted to visuals
- Age column was added to the data set using formulas
- The calculated, field was created on Tableau
- Transformed the data into usable tables and charts
- Derived insights from the tables and charts
- Insights from the visuals were used to drive conclusions.

The results obtained from the analysis are definitive. Graduation level customers, one of the top 20 earners, have the highest cumulative yearly income with a 45% income rate. Although there is a high rate of products purchased by customers, especially graduation level customers, there is a low campaign response rate on all educational levels and marital statuses, with the highest responsive rate of 21% for Ph.D. level customers.

The Problem

The company wants to modify its products based on its target customers from different customer segments. Analyzing which customer segment is most likely to buy the product is required to meet the business goals.

To better understand the questions, one should ask questions regarding the problem and the company itself. Such questions include;

- Who are the customers?
- Before this problem, who were the companies' top buyers?
- How responsive are customers to campaigns?
- What steps has the company taken to meet its customers' needs?
- The customers' marital status, yearly income, and education?
- Is the company incurring too much with little profit?

Design

The dataset was cleaned for errors such as; blank rows, blank columns, and improperly formatted data before further analysis. The errors were rectified on Google Sheet by removing duplicates and empty cells. Rows containing unrecognized marital status were removed and saved in a separate file to be rectified. Also, customers with an unrealistic date of birth were removed and kept in a separate file for further investigation.

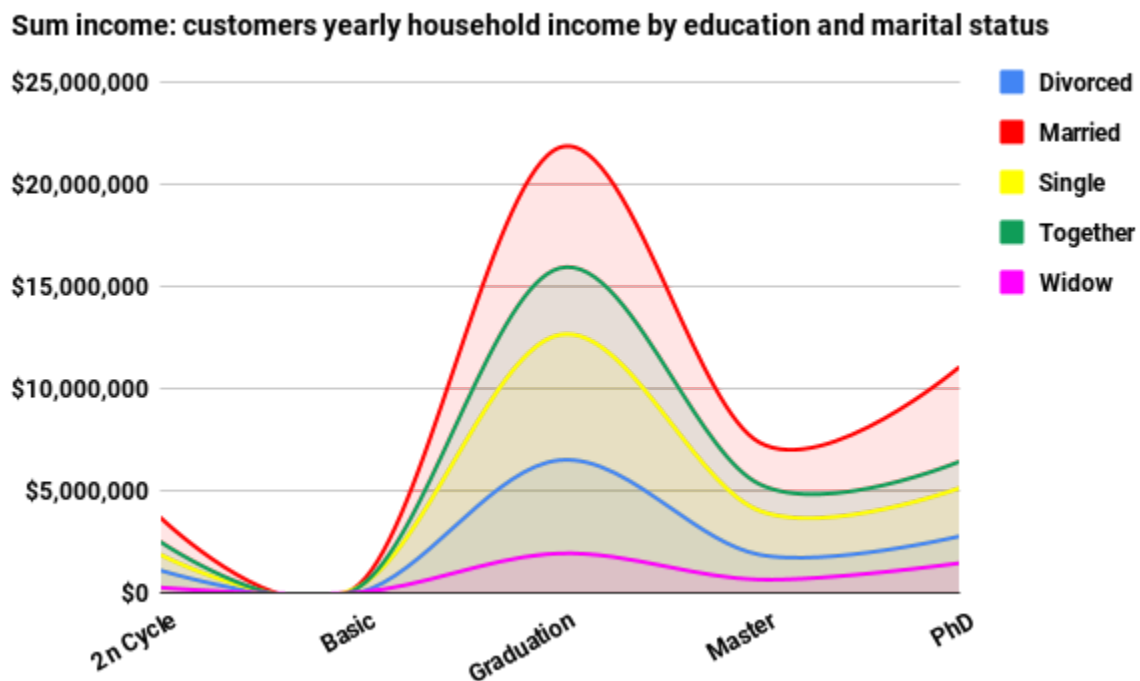
Data Mining and Visualization were accomplished using Tableau and Pivot Table in Excel. The resulting usable data extracts and visuals make it easier to identify, comprehend and share trends, anomalies, and insights about the information represented in the data. The two visualization tools are the best for the timeframe.

Findings

Finding 1

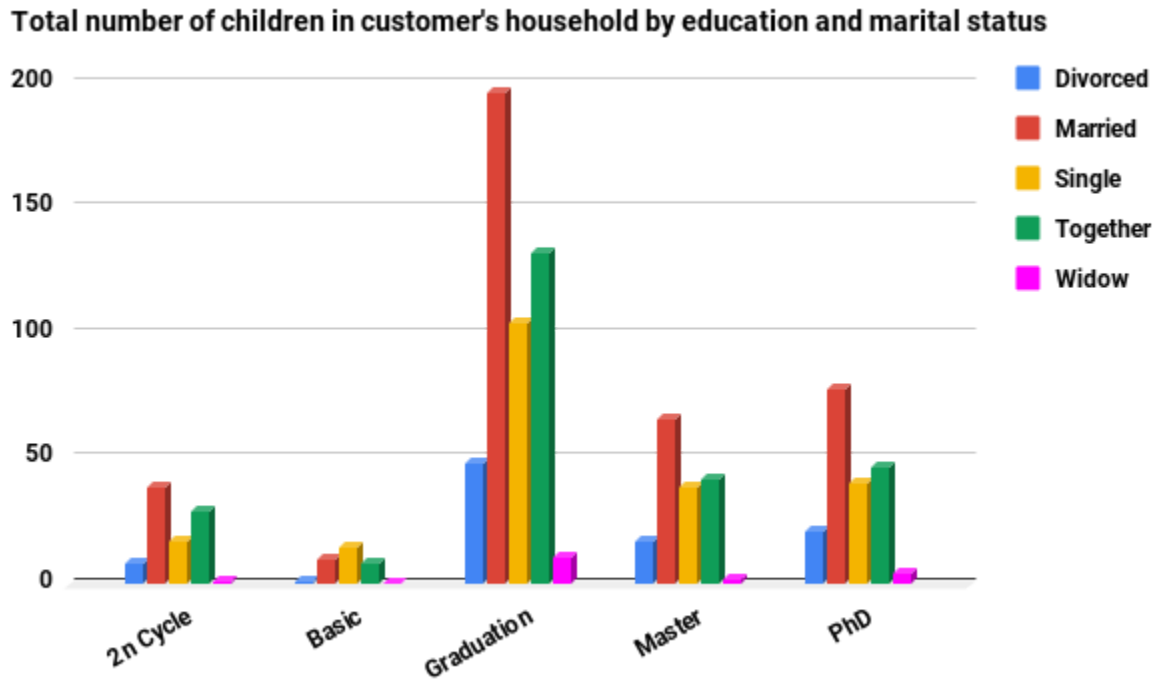
The top earners, including their segments, are known from the top 20 income earners derived by employing the VLOOKUP function. Graduation, one of the six figures salary earners on the top 20 list, has the highest cumulative household yearly income with a 45% income rate. It also has the highest amount incurred on meat products and gold with early recency of 5, 13, 23, etc. While Ph.D., Masters, and 2n Cycle have 35%, 15%, and 5% income rates.

Figure 6:



Graduation level reached a peaked sum above \$20,000,000 for married customers. This is the highest cumulative income generated by graduation-level customers. Immediately after the peak, there was a big plunge by master's holders, which went below \$10,000,000. Married Ph.D. holders rise a bit above \$10,000,000. This shows that married customers incur the most amount at all levels and have a high chance of purchasing the business products. It should be noted that Basic Education income earners are not on the top 20 list. The chart above also shows that Basic education yearly household income is low for all marital statuses.

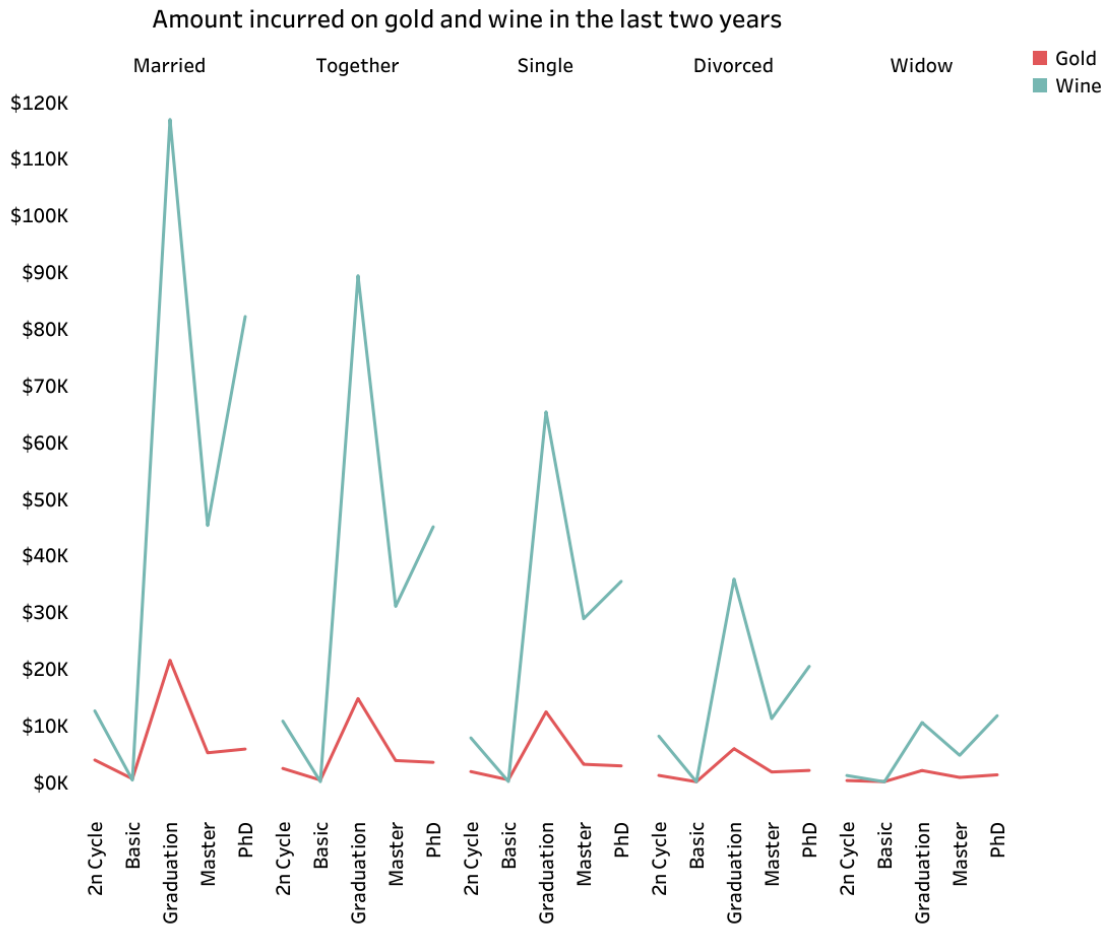
Figure 7:



Married customers have the highest number of children with above 150 in total. The total yearly household income compensated for this high value. Also, this explains why graduation customers have a high purchasing rate, including sweets.

Finding 2

Figure 8:



Gold, one of the earth's precious metals, has a high economic value. Just like Gold, Wine also has a high economic value, and the majority consumes it. But unlike Gold, it is more pocket-friendly. It is an alcoholic drink made from grapes. Although Gold is of high importance it is not a product purchased by most customers at all times. Hence, the low income on all segments.

In the last two years, married couples with graduation education level have the highest amount, above \$100,000, incurred in purchasing this wine. Ph.D. holders also hold a high level with above \$80,000 incurred on wine in the last two years. Across all education levels, Graduation holders spent the most on all products.

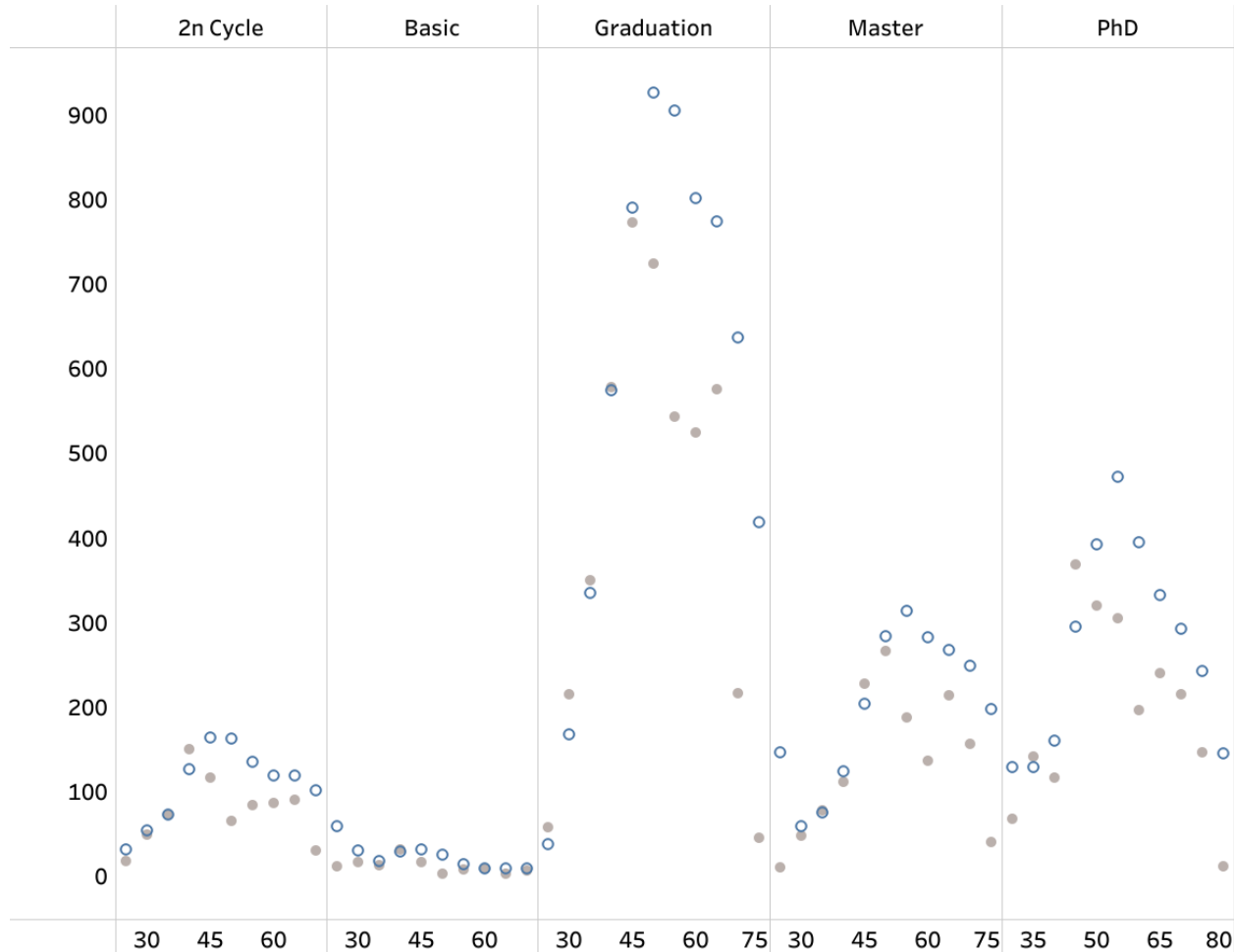
Masters and Ph.D. holders have a close amount spent for all education levels. Married, together, and single customers are the three with high generated income for graduation, masters, and Ph.D. holders. This implies that modifying any other customer segment aside from the ones listed above would be a loss.

Figure 9:

Purchase for store and web products

The blue moving average age have a high store purchase rate compared to the gray (web purchase)

Graduation has the highest purchase for the two purchase type



Visually, Graduation customers with ages 40 - 60 have a higher store purchase. This implies that these customers prefer in-store purchases to web purchases. For all education levels, customers with ages 40 - 60 have a higher store purchase. Ph.D. customers have a store purchasing rate of above 100, and Basic holders have less than 20 purchases for both purchasing types. Therefore, selling more online products to Graduate customers is recommended.

Analysis

WHYS

- Why do we want to campaign? **To know the customer segments to modify**
- Why do we need to know the customer segments to change? **To produce products according to their specific needs**
- Why do we have to make products according to these segments' particular needs? **Because we are confident, these customer segments will purchase the products**
- Why are we sure that these customers will buy the products? **Because of their records**

From the Root Cause Analysis, it was discovered that the company needs to market its product. To do this, they need to know which customer segment to focus on to modify the products to their specific needs. To have a successful market campaign, the questions to be answered would be; who are we campaigning for, the customers with the highest yearly household income, their segments based on education and marital status, the response rate to campaigns, and recency in purchasing products.

Conclusion

Knowing when, how, and which customer segments to modify products to is key to every business. The two segments, for education, with a high probability of purchasing the modified products, are customers with Graduation and Ph.D. These segments have a high yearly income of \$58,722,517 and \$22,789,640, respectively. And an average of \$52,713 for graduation and \$56,163 for Ph.D. Masters have an average of \$52,860. On the other hand, 2n Cycle and Basic segments are below \$50,000. Therefore, an average individual in Graduation, Masters, and Ph.D. makes nothing less than \$50,000 yearly.

The high total yearly income of Graduation customers is due to the high number of individuals in this segment (1,114 individuals). An individual across all education level have average recency of at least 48, which for individuals that are married have no negative impact on product purchase.

Comparing visually, we can say that Graduation and Ph.D. education level customers generate the most income for the company, and their response rate to campaigns is fairly high. Although there is a high rate of products purchased by customers, there is a low campaign response rate on all educational levels and marital statuses, with the highest responsive rate of 21% for Ph.D. level customers. I would recommend that the company improve its campaigning strategy to improve customers' response further.

The low yearly household income of Basic education level customers reflects why they are not on the top 20 list and why their purchasing rate is very low. Hence, spending or modifying products for this customer segment will be a loss and waste of resources for the company.

Instead, it would be logical and profitable for the company to make new products according to customers' specific needs in the Graduation and Ph.D. segment for education. And also for Married, Together, and Single segments for marital status. Then market them only on these particular segments as they are most likely to purchase the products.

Appendix

Google Sheets Data Set for Customer Personality Analysis Project

https://docs.google.com/spreadsheets/d/1zhPql1RGE7Pg_vRncORQjXBGEN46NvV5IKePpGlGUSg/edit?usp=sharing

Tableau Data Visualization for Customer Personality Analysis Project

https://public.tableau.com/app/profile/habibat.jimoh/viz/MarketingCampaign_16347566313570/CustomerPersonalitySummaryDashboard?publish=yes