Market Analysis: Unveiling Consumer Preferences and Targeted Recommendations for Cars and Computer Brands

Summary and Recommendations

Dear Sales Team

We are very delighted to reveal the results of our research on automobile brand preferences by region and computer brand preferences by region. This research seeks to give you, our outstanding sales staff, important insights into client preferences in various places.

We found the most popular automobile manufacturers and computer brands in each region by examining demographic data such as age, income, education level, and geographic location. This information allows you to successfully target certain consumer categories by tailoring your sales approach and marketing activities.

In a competitive industry, understanding client demographics and geographical preferences is crucial. With this information, you will be able to successfully traverse the market, improve your

sales plan, and capitalize on prospects for success.

We are excited to share the comprehensive findings of this study with you and work with you to design efficient sales methods. You may make more informed decisions, engage consumers on a more personal level, and optimize sales chances by harnessing this information.

We hope that our research will give you practical knowledge that will enable you to capitalize on new possibilities and achieve long-term success in the industry.

We recommend the sales team use these profiles;

Customer demographic of which Car to buy

Honda

- Income Group: **$40k-60k**
- Age Group: **51-60**
- Education Level: **Some College**
- Zone: **Pacific**

Dodge

- Income Group: **$20k-40k**
- Age Group: **61-70**
- Education Level: **Less than High School Degree**
- Zone: **East South Central**

Ford

- Income Group: **$20k-40k**
- Age Group: **31-40**
- Education Level: **High School Degree**
- Zone: **Mid-Atlantic**

BMW

- Income Group: **$40k-60k**
- Age Group: **20-30**
- Education Level: **Some College**
- Zone: **West North Central**

Toyota

- Income Group: **$60k-80k**
- Age Group: **61-70**
- Education Level: **Master's, Doctoral, or Professional Degree**
- Zone: **Mountain**

Benz

- Income Group: **$100k-150k**
- Age Group: **61-70**
- Education Level: **Master's, Doctoral, or Professional Degree**
- Zone: **South Atlantic**

These profiles represent the likely demographic characteristics of customers who are more inclined to use or buy each respective car.

Customer demographic of which Car to buy

Sony:

- Age Group: Sony is popular across all age groups, with the highest popularity among respondents aged 20-30.
- Income Group: Sony is popular among respondents with varying income levels, with the highest popularity among the $100k-150k income group.
- Education Level: Sony is popular among respondents with different education levels, with the highest popularity among those with less than a high school degree.
- Zone: Sony is popular across all zones, with the highest popularity in the Pacific zone.

Acer:

- Age Group: Acer is popular across all age groups, with the highest popularity among respondents aged 20-30.
- Income Group: Acer is popular among respondents with varying income levels, with the highest popularity among the $40k-60k income group.
- Education Level: Acer is popular among respondents with different education levels, with no significant variations observed.
- Zone: Acer is popular across all zones, with no significant variations observed.

The customer profiles for each brand are based on the observed popularity and frequency of each brand among different demographic segments (age group, income group, education level, and zone) in the survey data. These profiles provide insights into the demographic characteristics of customers who are more likely to prefer each brand.

Introduction

We are excited to present a study project geared to aid you in finding possible target markets for the cars and computer brands in your dealership. As Polarity Ventures partners, we understand the value of using customer demographics and regional preferences to improve your sales strategy and create success in a competitive market.

The goal of this study is to give significant insights into customer purchasing behavior based on demographics and geographical affiliations. Polarity Ventures' analysis of survey data aims to find patterns and trends that influence your sales efforts.

Our study is divided into two parts: consumer demographics and geographical preferences. We gathered information on the automobiles and computer brands favored by respondents across a range of demographics, including age groups, income levels, education levels, and geographic locations. We can discover possible target markets for vehicle manufacturers and computer companies by investigating the link between these parameters and brand preferences.
We want to accomplish the following goals with this research:

- Determine Popular Brands: We will determine the most popular automobile and computer brands among various demographic groupings. This information will allow you to target certain consumer segments with your sales approach and marketing activities.
- Investigate Regional Preferences: We will establish whether brands have a stronger demand in various geographic locations by evaluating regional preferences. This knowledge will help you to properly deploy your resources and target your sales efforts in areas where you have a better chance of success.
- Identify prospects: Our study will identify possible market gaps or underserved client categories that offer growth prospects. Understanding these categories' tastes and habits allows you to create tailored marketing strategies to attract and engage these clients.
- Inform Decision-Making: The findings of the study will be a great resource for data-driven decision-making. These insights may help you match your merchandise, promotional

methods, and sales approaches to the tastes of your target audiences

We want to achieve these goals by providing you with actionable information that will enable you to make educated decisions and optimize your sales potential. Understanding customer demographics and regional preferences, we feel, is critical to unlocking new opportunities and attaining long-term success.

We are happy to share the findings of this research with you and work with you to develop efficient sales tactics. We can use this data to target the correct people, give them the products they like, and secure your success in a crowded industry.

DATA DESCRIPTION

Polarity Ventures' survey data gives important insights into customer preferences and demographics. The dataset is made up of survey responses that include information such as income, age, education level, automobile make preferences, zip code (which correlates to a specific location), available credit, and computer brand preferences. A survey was carried out on 9898 from 6 zones. These are the column attributes;

- Salary: This variable reflects the annual pay of the respondents, excluding bonuses. It is a numerical figure that represents their degree of income.
- Age: Respondents submit their age as a quantitative figure, which aids in assessing the survey participants' age distribution.
- ELevel: less than a high school diploma, a high school diploma, some college, a four-year college diploma, or a master's, doctoral, or professional degree. This variable offers information about the individual's educational attainment.
- Car: From a list of 20 possibilities, respondents select their primary automobile make. This variable allows us to examine respondents' automobile brand preferences.
- Zip Code: Respondents submit their zip code, which is then classified into one of the nine regions of the United States. This data assists in determining regional preferences and targeting specific geographic locations.
- Credit: This variable indicates the amount of credit accessible to respondents. It gives information about their financial status and purchasing power.
- Brand(Computer): Respondents choose their favorite computer brand from two options: Acer or Sony. This variable aids in analyzing brand preferences in the computer industry.

The data-gathering procedure entailed polling and recording replies from a wide range of respondents. However, possible limitations or biases in the data must be considered. The survey, for example, may not have reached a representative sample of the total population, resulting in potential sampling bias. Furthermore, self-reported statistics may be influenced by response

bias or mistakes. Understanding these constraints allows for a more nuanced assessment of the data.

The basis for studying the link between consumer demographics, geographical preferences, and brand preferences is understanding the factors and the data-gathering procedure. It enables us to gain useful data that can assist shape focused marketing strategies and discover possible target audiences for automobile and computer manufacturers.

DATA PREPARATION

A detailed assessment was performed throughout the data preparation and cleaning phase to examine the quality and completeness of the survey data. Fortunately, the data was discovered to be in good condition, with no serious concerns such as missing numbers, outliers, or discrepancies.

Tableau was used to conduct transformations on the data to improve comprehension and easier analysis. The information in four columns, specifically "Education Level," "Zip Code," "Car," and "Brand," was transformed from numeric to string values.

The following transformations were used:

- **Education Level:** To provide a better understanding of the respondents' educational backgrounds, numerical values reflecting different education levels were transformed into descriptive labels. The new designations include "Less than a High School Degree," "High School Degree," "Some College," "4-Year College Degree," and "Master's, Doctoral, or Professional Degrees."
- **Zip Code:** To allow for a more comprehensible study of geographic regions, numeric numbers representing zip codes were substituted with their respective region names. The area titles have been revised to include "New England," "Mid-Atlantic," "East North Central," "West North Central," "South Atlantic," "East South Central," "West South Central," "Mountain," and "Pacific."
- **Car**: To provide a better understanding of respondents' automobile preferences, numerical codes indicating car manufacturers were converted into actual car brand names. "BMW," "Cadillac," "Chevrolet," "Chrysler," "Dodge," "Ford," "Hyundai," "Jeep," "Kia," "Lincoln," "Mazda," "Mercedes Benz," "Mitsubishi," "Nissan," "Ram," "Subaru," "Toyota," and "None of the above" are among the revised brand names.
- **Brand:** Numeric data describing computer brand preferences were translated into brand names. Among the new brand names are "Acer" and "Sony."

The data became more user-friendly and easily interpretable for further analysis when the numeric values were converted to descriptive strings. These modifications provide a more complete picture of respondents' educational levels, geographic areas, automobile preferences, and computer brand preferences.

Overall, the data preparation and cleaning procedure guaranteed that the dataset was clean and understandable, and ready for further analysis with Tableau.

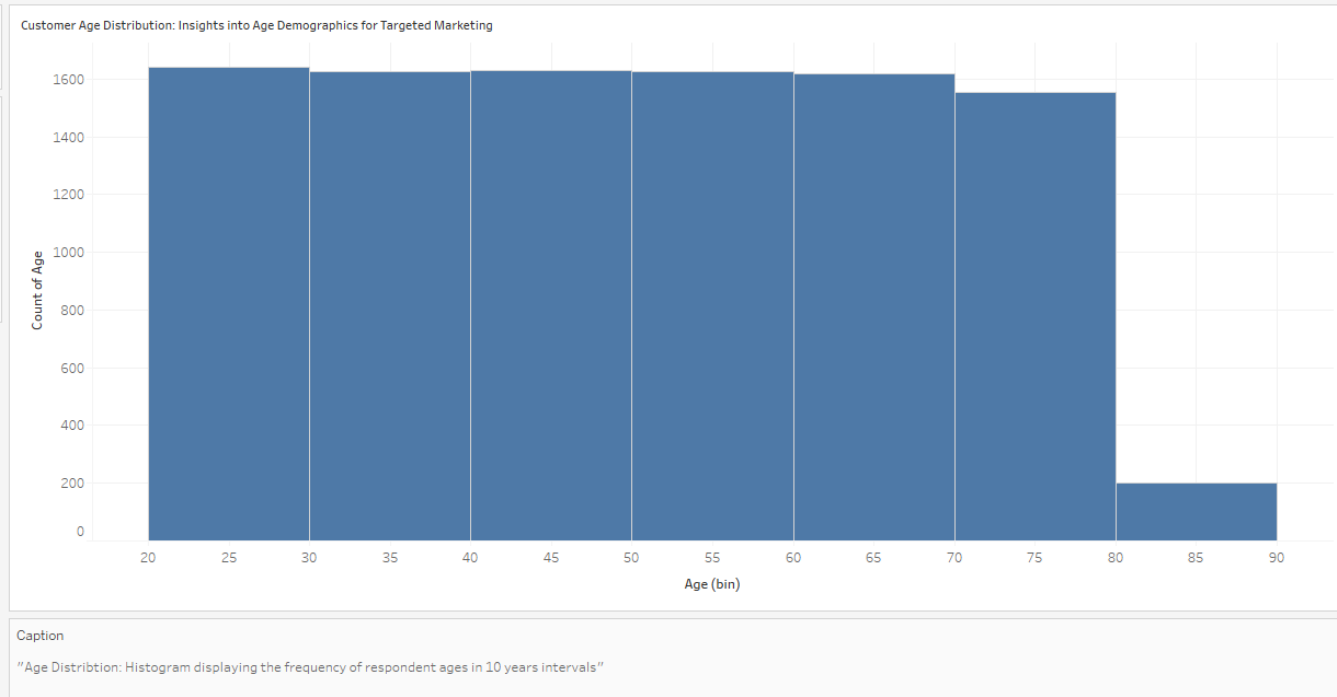## Exploratory Data Analysis

Descriptive Statistics:

Key factors such as age, income, and education level were examined in the exploratory data analysis to provide insight into the data's distribution and variability. The respondents' average age was 50 years, showing a very balanced age distribution. The average income was determined to be $84,871, giving a sense of the respondents' income level. "Less Than High School Degree" was the most prevalent education level, with 2,052 responses, indicating a wide educational background. Furthermore, the average credit accessible to respondents was assessed to be $249,176, offering insight into their financial capabilities. These descriptive statistics offer insight into the dataset's properties and serve as a basis for future investigation.

The summary statistic of age group,

Age Group Statistics

Age (bin)	Avg. Age	Median Age	Std. dev. of Age	Total No
20	24	25	3	1,642
30	34	34	3	1,626
40	44	44	3	1,629
50	54	54	3	1,626
60	65	64	3	1,620
70	74	74	3	1,554
80	80	80	0	201

Rank of STDEVP(Age)
1 — 7

CNT(Age)
201
500
1,000
1,642

Caption

Summary Statistics of Age Groups: This table visual presents average ages, median ages, standard deviation of ages, and total numbers in each group. The color represents the rank of population standard deviation of age, while the size indicates the total number. The marks are labeled with average age, median age, standard deviation of age, and total number.

Consumer Demographics

Age Distribution: The histogram illustrates the frequency of respondent ages in 20-year increments. The following age groups are classified: 20-40 years, 40-60 years, and 60-80 years. The goal of age distribution analysis is to find noteworthy patterns or variances in the data. We may examine the histogram to see how respondents are distributed across different age groups and discover any potential patterns or concentrations of respondents within certain age ranges. This data will be useful in better understanding the target audience and adjusting marketing campaigns accordingly.
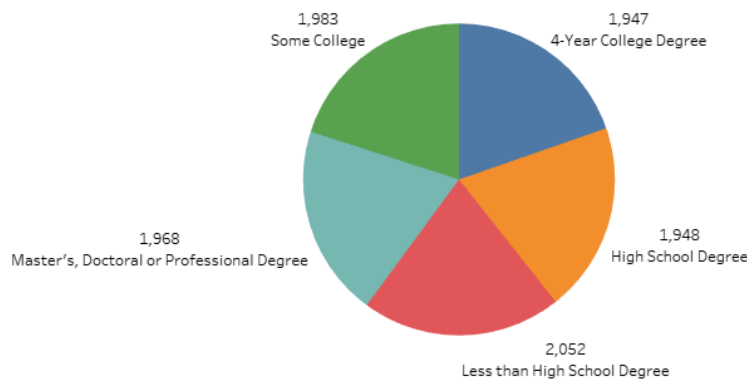

Customer Age Distribution: Insights into Age Demographics for Targeted Marketing

Caption

"Age Distribtion: Histogram displaying the frequency of respondent ages in 10 years intervals"

Income Analysis: To comprehend income discrepancies among various demographic groupings. The following pay groups have the most respondents: 20k–40k (1549), 40k–60k (1491), 60k–80k (1516), 80k–100k (1553), and 100k–150k (3789). This study allows us to detect the income distribution of respondents and assess any discrepancies or differences between demographic groupings. Understanding income differences is critical for targeting specific client segments and designing marketing tactics to reach and engage different income groups successfully.

Breakdown of Education Levels: A pie chart is used to depict the distribution of education levels among respondents. Less than a high school diploma, a high school diploma, some college, a four-year college diploma, and a master's, doctoral, or professional degree are the education levels. The graphic illustrates the predominance of each education level and aids in the identification of any notable patterns. This research gives insights into the respondents' educational backgrounds and helps us to discover

the prevalent education levels in our target market. This data helps adapt marketing messages and tactics to effectively resonate with various educational groupings.

Distribution of Education Levels

- 1,983 Some College
- 1,947 4-Year College Degree
- 1,948 High School Degree
- 2,052 Less than High School Degree
- 1,968 Master's, Doctoral or Professional Degree

Caption

Visualizing the education levels of respondents to understand the distribution and target market customer preferences
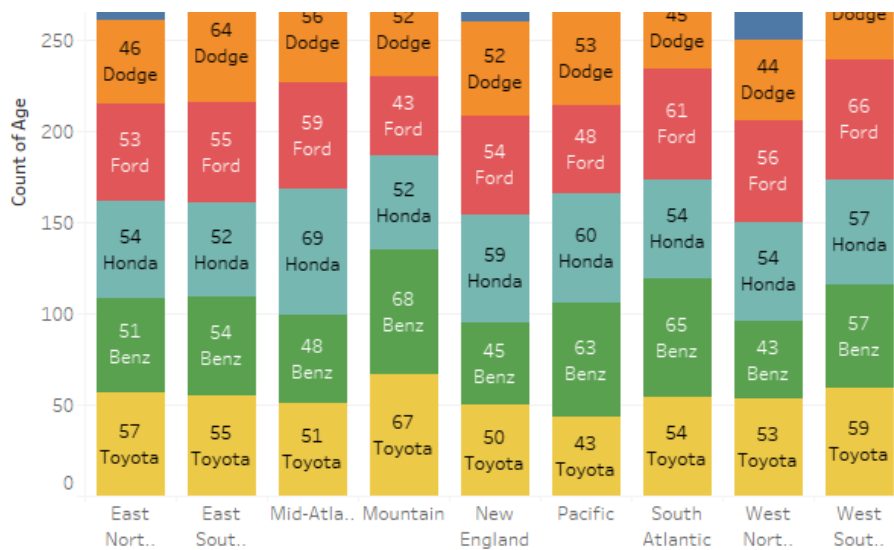
Regional Preference

Car Preferences by Region

Preferences for Car Manufacturers by Region designed exclusively for our specialized sales force, visualizes the distribution of automotive preferences throughout each location. This informative study is intended to provide you with useful information on the distinct automobile brand preferences seen in various areas. You may acquire a better grasp of which automobile manufacturers are most popular in each location by analyzing the stacked bar charts. This customized study enables you to interact with clients on a more personal level, matching your sales techniques with the individual automotive brands that resonate with each location. It can help you find possible target markets and optimize your strategy to satisfy client requests. You can easily navigate the market and grasp chances with this knowledge at your fingertips.

Car Preferences by Region: Unveiling Regional Automotive Choices
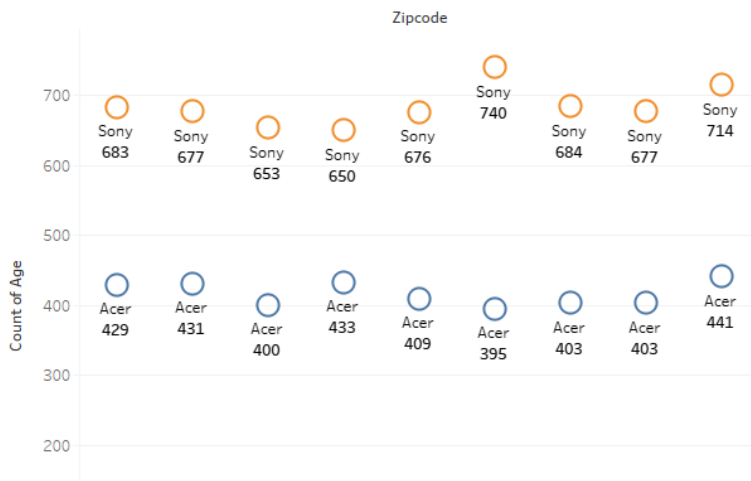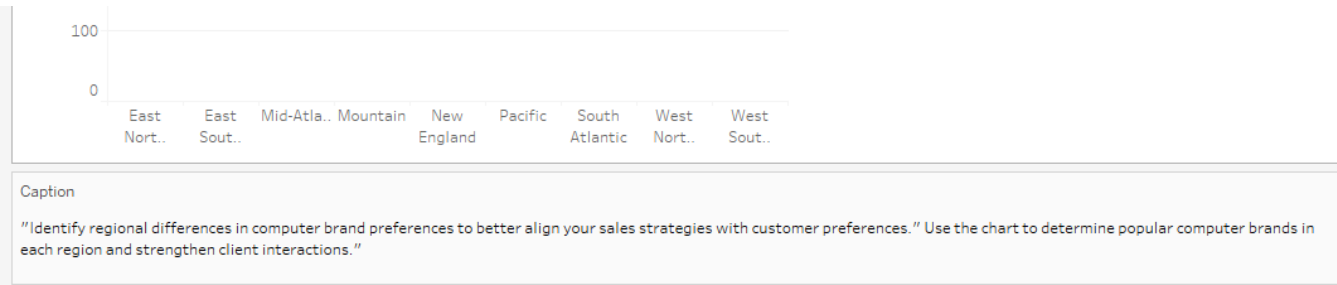
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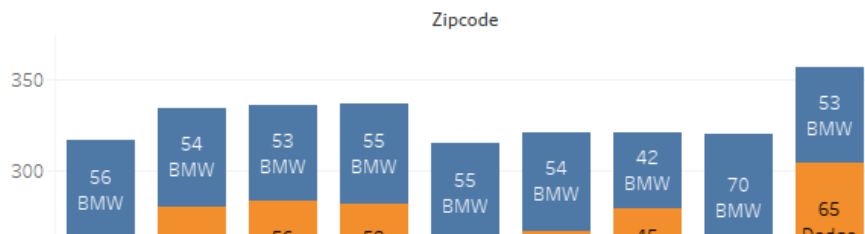
Caption

"Unveiling regional car preferences: Investigate car distribution by region to identify market opportunities and effectively tailor your sales approach."

Computer Brand Preferences by Region

Computer Brand Preferences by Area is an in-depth research of the distribution of computer brand preferences throughout each area, specifically created for our amazing sales staff. This useful data enables you to dive into the distinct tastes of clients in various countries, allowing you to connect your sales techniques with their individual computer brand preferences. The stacked bar charts provide a clear depiction of geographical variances, allowing you to determine which computer manufacturers have the most popular in each location. This individualized analysis provides you with the insights you need to engage consumers successfully, propose the best computer brands, and optimize sales prospects. With this knowledge, you can confidently cater to the varying demands of clients from many locations, establishing better relationships.

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East Nort.. | East Sout.. | Mid-Atla.. | Mountain | New England | Pacific | South Atlantic | West Nort.. | West Sout..

Caption

"Identify regional differences in computer brand preferences to better align your sales strategies with customer preferences." Use the chart to determine popular computer brands in each region and strengthen client interactions."

References

AI MAVERICK (2022). **Car Make Preferences by Region and Computer Brand Preferences by Region Study. Polarity Ventures Research Report. Retrieved from** https://www.kaggle.com/datasets/samanemami/market-research-survey?select=CompleteResponses.csv