

Bike Sales Data Analysis Report

Data analysis conducted by: Jonathan Gray

Data analysis report submitted on: 7/11/2022

Purpose of the data analysis: to evaluate past performance and give recommendations for further steps and business decisions

Statistical tools employed:

- Excel → Data Cleaning & Transformation → duplicates were removed, spelling errors corrected, several values changed (e.g. marital status and gender values changed from “M” to “Married” and “Male”), income data type changed from number to currency (specifically £), age brackets created using a **nested IF** statement
- Excel → Pivot Tables developed
- Excel → A dashboard including “slicers” was produced as a result

Business Requirements

- To improve sales and move from static to visual by creating a report that managers can use
- To find out what the most likely audience is for the company's products
- To better tailor stock to the target audience
- To allocate advertising budgets where they will have the most impact

Business User Stories

| <u>As a</u> <u>(Role)</u> | <u>I want</u> <u>(Request)</u> | <u>So that I</u> <u>(User Value)</u> | <u>Acceptance Criteria</u> |
|--|--|--|---|
| Business Owner | An overview of purchase decisions as affected by commute distance | Can better assess which style of bicycle customers are likely to buy | <ul style="list-style-type: none">• A dashboard which shows the effect of commute distances on purchase decisions• Filters to include: children, marital status, gender, car possession, region |
| | A detailed overview of what my customers can afford | Can source the most appropriate bicycles for the target market | <ul style="list-style-type: none">• A dashboard which shows the effect of income and education on purchase decisions• Filters to include: children, marital status, gender, car possession, region |
| | A detailed overview of which demographic is most likely to buy a bicycle | Can make better use of my advertising budget | <ul style="list-style-type: none">• A dashboard which shows the effect of age on purchase decisions• Filters to include: children, marital status, gender, car possession, region |

Conclusions reached:

- 1) 0 to 5 miles is the commute distances most likely to see people purchasing a bicycle. Interestingly, this is truer for people with 1 or 2 children than it is for those with none. The likelihood of purchasing a bicycle drops significantly if commutes are above 5 miles.
- 2) People with lower incomes are far more likely to buy a bike, especially if they are male and don't own a car.
- 3) The age group most likely to be interested in purchasing a bicycle is between 26 and 57 years old, with 58 to 67 year old's also somewhat likely.
- 4) Millennials (between 26 and 41) in the Pacific regions are the most likely to purchase a bicycle with 64% making a positive purchase decision. The least likely to buy are European Gen X(42 to 57) at 44%. However, the same can't be said for their younger countrymen who at 57% yes, are more likely to purchase than their North American counterparts.

Recommendations of the data analysis:

- Recommendation 1: Target advertising at parents with a commute no longer than 5 miles.
- Recommendation 2: A high turnover could be achieved by marketing to the less wealthy segment of the population. Specifically, the less educated in the Pacific region. To this end, more affordable bicycles should be stocked.
- Recommendation 3: The use of traditional advertising is less appropriate given that the age groups buying the most, are more likely to be social media savvy. With that in mind, advertising on social media platforms would be a better allocation of funds
- Recommendation 4: Start collecting data on bicycle styles preferred, so as to better meet the needs of the target audience. For example, what style of bike would commuters prefer to use?

For more information contact:

Jonathan Gray

jonathandatabayo@gmail.com