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

Business Requirements

- To improve sales and move from static to visual by creating a report that sales managers could use
- To find out what products the client has sold, to which clients, and begin to track this over time
- To filter sales based on the different customers the sales team are likely to encounter
- To compare the clienteles' budgets against purchase decisions

Business Demand Overview and User Stories

	As a (role)	**I want** (Request/Demand)	**So that I** (User Value)	**Acceptance Criteria**
1.	Sales Manager	To get a dashboard overview of purchase decisions	Can better assess which customers are our target market	A sales decisions dashboard which updates once a month
2.	Sales representative	A detailed overview of who my best customers are	Can follow up on customers that buy the most and decide who we can sell more to	A dashboard which allows me to filter data for customers
3.	Purchasing Manager	A detailed overview of which bicycles are most likely to sell	Can source the best bicycles for the target market	A dashboard which allows me to filter for customer decisions
4.	Business Owner	An overall view of how different regions are performing	Can adjust marketing efforts to better appeal to the appropriate demographic	A dashboard which allows me to filter for regions

Statistical tools employed:

1: 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

2: Excel → Pivot Tables developed

3: Excel → A dashboard including "slicers" was produced as a result

Conclusions reached:

Conclusion 1: 0 to 1 miles and 2 to 5 miles are 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.

Conclusion 2: People with lower incomes are far more likely to buy a bike, especially if they are male and don't own a car.

Conclusion 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.

Conclusion 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% but 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. Further data is needed. See recommendation number 4.
- 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: More data than has currently been collected by the company is needed. Collect a more detailed questionnaire for the target groups recommended so as to gain further insights. For example, what style of bike

would commuters prefer to use?

Qualitative and quantitative data on regional public transport infrastructure as well as socioeconomic demographics would also be useful to collect, as this might better explain the difference between regions in purchasing decisions. A more fine-tuned dashboard could then be built and more detailed recommendations made in order to best satisfy the initial business requirements.

For more information contact: Jonathan Gray → jonathandatabayo@gmail.com