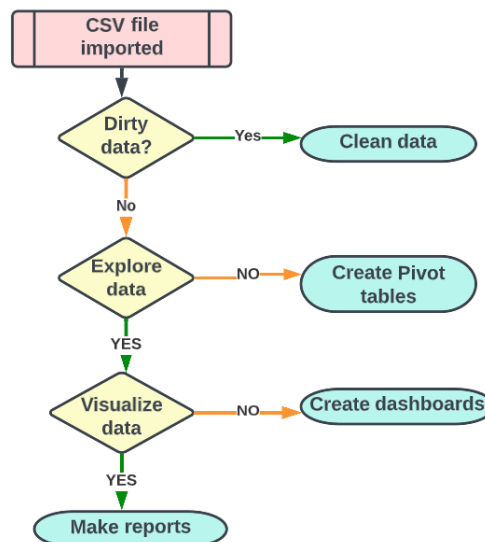


## Introduction

Welcome data explorers! If your idea of an adventure is staring at rows and columns for hours on end, then you are at the right place because today's agenda is all about unleashing our inner spreadsheet warrior and crunching those numbers as we explore our dataset to understand the meaning behind the numbers.

In this project we analyze data from Madjison Motors, a bike retail service. We seek to understand the relationship between sales and the travel distance of customers, the average income of customers and the sales distribution of the various age bracket.

A flowchart showing the different steps of action in the project



Designed with Lucidchart

## Cleaning the dataset

After successfully importing the CSV file using text to columns, I proceeded to thoroughly examine the dataset. The next steps involved resizing columns using Autofit, removing duplicates, replacing values using Find and Replace and categorizing the values of the Age field, grouping them into “*Adolescent*”, “*Middle Age*” and “*Old*”.

For a comprehensive guide on data cleaning, kindly refer to my previous article highlighting common data cleaning practices, as well as their impact on business output.

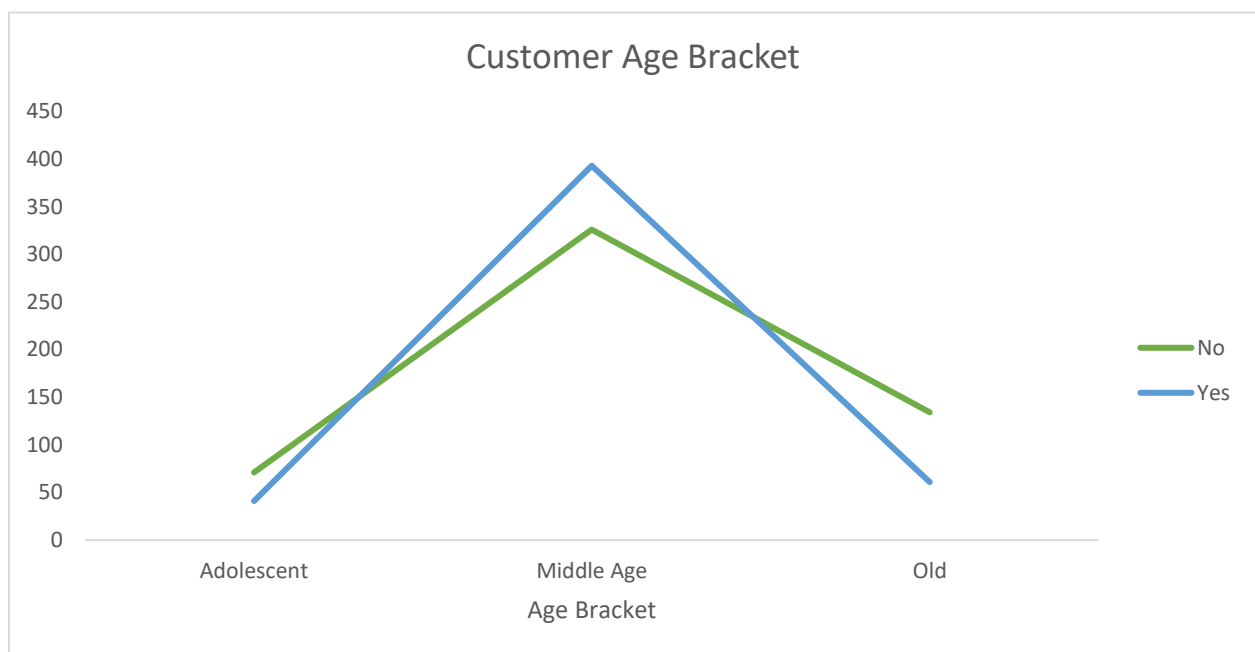
<https://medium.com/@thetechwriter/from-chaos-to-clarity-the-importance-of-data-cleaning-31ec5bdf3aca>

## Pivot Tables

Pivot tables are used to quickly summarize datasets to determine trends, patterns and relationships. I grouped and aggregated data based on the age bracket, income and the travel distance of customers to determine trends and patterns in purchases.

## Dashboards and Reports

Dashboards and reports can be used to communicate insights to your audience. They may include stakeholders, managers and colleagues. This step involved designing charts and creating slicers to filter out data. Below is a dashboard displaying trends and patterns in the dataset.



Bike sales dashboard by K.B-Asante

Based on the analysis, it appears middle-aged customers purchased more bikes. This finding suggests that the marketing strategy of targeting middle-aged individuals may be particularly effective.

One possible explanation for this trend could be that middle-aged people are more likely to have disposable income and may be looking for ways to maintain their health and fitness. Biking is a great low-impact exercise that can provide a cardiovascular workout while also being easier on the joints than other high-impact activities.



Bike sales dashboard by K.B-Asante

Based on the analysis, it appears males have a higher average income than females. The finding suggests there may be gender-based differences in factors that influence purchasing decisions.

One possible explanation for this trend could be that men had more disposable income than women on an average, which could make them more likely to invest in recreational activities like biking.

Understanding the gender-based differences and bridging the gap between them can maximize sales and profits while also promoting greater diversity and inclusivity in the biking community.



Bike sales dashboard by K.B-Asante

Based on the analysis, customers who lived closer to the store purchased more bikes while customers who lived farther purchased less. The data suggests that the distance customers travel may have a significant impact on their purchasing behavior. Effectively responding to this trend may put retail in a better position to succeed in the market.

Overall, the data suggests that developing effective marketing and sales strategies like targeted campaigns which tailor promotions to different customer segments, optimizing store locations and offering online and delivery options could boost sales and profits.