**Bike Sales Dashboard Report**

1. **Problem Statement**

The Management wants to understand sales performance, customer behavior, and overall business performance.

1. **Goal**

To develop a dashboard that can present insights into Bike Sales.

1. **Data Gathering**

I started gathering a dataset related to bike sales from [GitHub](https://github.com/AlexTheAnalyst/Excel-Tutorial/blob/main/Excel%20Project%20Dataset.xlsx). I downloaded the dataset in its raw format. The dataset has 13 fields and 1026 records.

1. **Questions** 
   1. What is the total number of bike sales recorded in the dataset?
   2. What is the distribution of bike sales by region?
   3. What is the average income by bike purchase?
   4. Which region had the highest number of bike sales?
   5. How does the bike sales vary across different regions?
   6. How does the bike purchase vary across different age groups?
   7. What is the average age of customers who purchased bikes?
   8. How does the bike sales vary by commute distance?
   9. How does the bike purchase vary by education level??
   10. How does the bike sales vary by occupation?
   11. Are there any correlations between customer demographics (such as age, marital status, or gender)?
2. **Data Cleaning**

To begin the data cleaning process, I created a working sheet to work with a copy of the raw data. Then, I looked over the data to understand and see any duplicates, null values, spelling errors, and inconsistent data values.

* 1. I found duplicate entries and removed them to ensure that each bike sales record is unique and accurate.[Data -> Remove Duplicates]
  2. I noticed that the marital status and gender columns have abbreviations for variables. To make the data more understandable and consistent, I replaced these abbreviations with their corresponding full forms. [Home -> Find & Replace]
  3. I changed the data type of the income column to make it easier to understand. [Home -> Numbers]
  4. I created a new column named Age limit to categorize individuals into age groups such as "Adolescent", "Middle Age", and "Old" based on their age values. [ Home -> insert -> Columns and Used IF & nested IF function to create data ranges]

The main aim of the data cleaning process is to ensure data accuracy, consistency, and usability for further analysis and visualization tasks.

1. **Data analysis**

I created a separate worksheet dedicated to the analysis and visualization of the bike sales data that served as the foundation for data processing tasks.

For easier analysis and visualization of the data, I utilized pivot table to summarize and aggregate the bike sales data based on different variables such as sales data, customer demographics, and product details.

1. **Data Visualization**

After the data preparation, I created visual representations by selecting appropriate chart type to present insights and trends in a visually appealing manner based on the above questions. Then, an interactive dashboard was created to aid quick analysis and identify important patterns.

***Key Insights:***

* The males are more likely to purchase bikes than females base on average income.
* Singles are the best bike users compared to married ones.
* The purchase of bikes by the middle-aged group is higher than the others.
* North America is the region with the highest percentage of bike sales
* Customers with bachelor’s degree are most likely to purchase a bike.
* Professionals are the ones worth considering for bike sales.
* Customers who commute the shortest distance (0-1miles) tend to be the highest bike users.

These insights will provide valuable information for decision-making and can guide business strategies and marketing campaigns.

***\*N.B:*** The excel project focused on analysing bike sales data to provide insights using functions, formulas, slicers, charts, and pivot tables. Itwas a guided project, and it enhanced my understanding of spreadsheet functionalities, data cleaning techniques, and data visualization capabilities to drive effective business decisions.