Sales Analysis Project

Abhishek Kumar

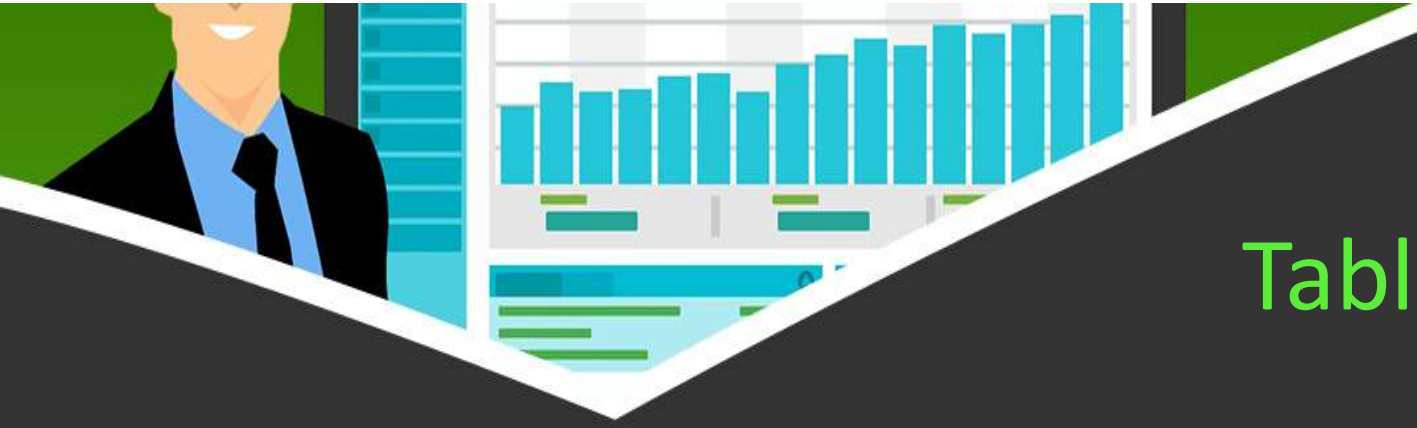
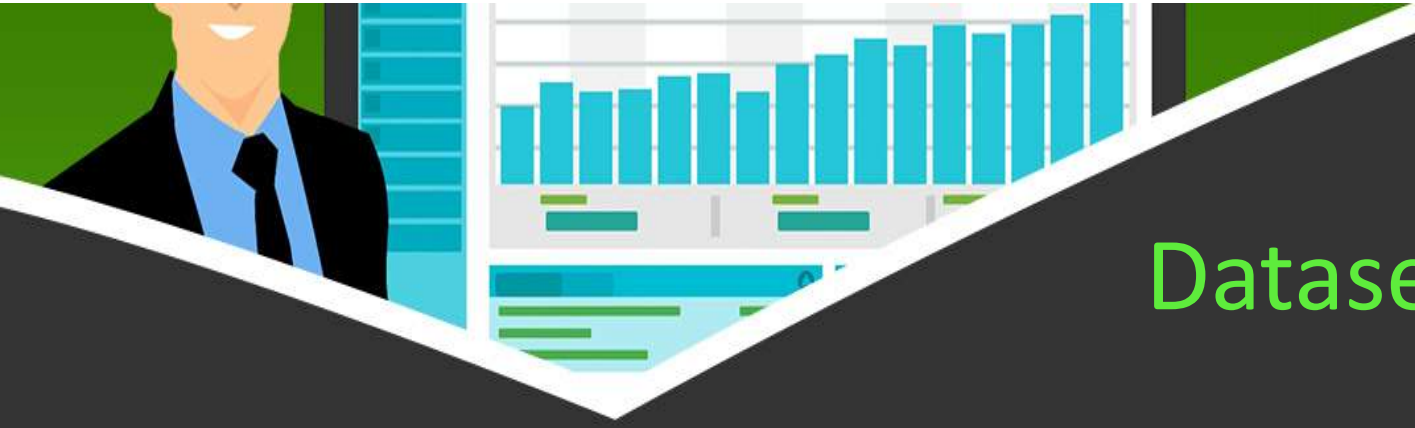


Table of Contents

Project Proposal: Sales Data Analysis for Enhanced Business Decisions

Project Overview

Our project aims to analyze historical sales data to uncover patterns and insights that can drive strategic business decisions. By examining sales trends, geographical performance, and customer behavior, we aim to provide actionable recommendations for optimizing sales strategies and marketing efforts.



Dataset Description

- The dataset contains month-wise sales data from various stores, combined into a single file for analysis.

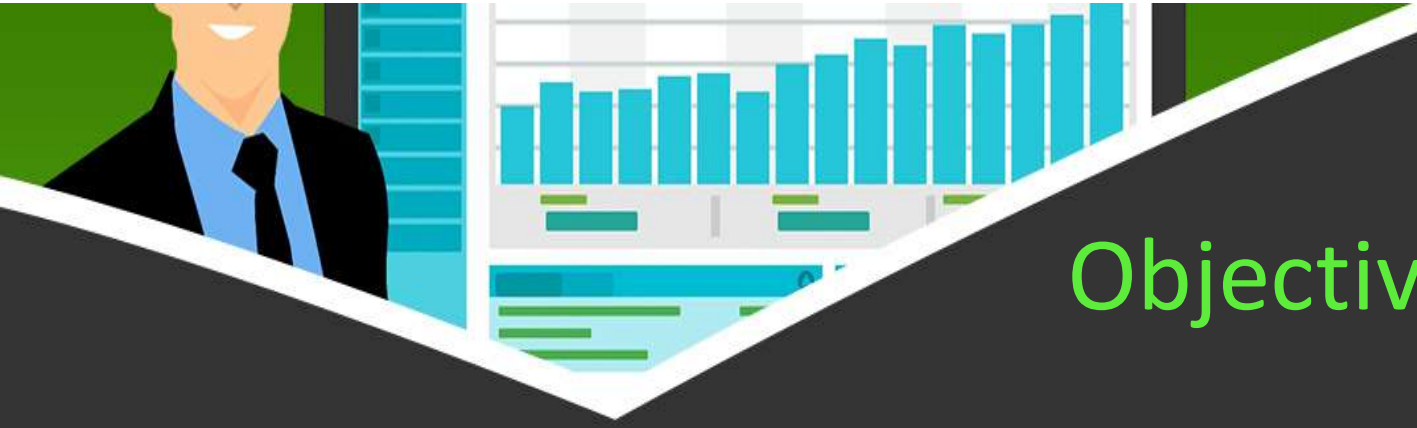
- The dataset contains sales data with 186,849 entries and 6 columns. Here's a summary of the data:

- **Columns:**

1. **Order ID**: Unique identifier for each order. There are 186,305 non-null entries.
2. **Product**: Name of the product ordered. There are 186,305 non-null entries.
3. **Quantity Ordered**: Number of units ordered for each product. There are 186,305 non-null entries.
4. **Price Each**: Price per unit of the product. There are 186,305 non-null entries.
5. **Order Date**: Date and time when the order was placed. There are 186,305 non-null entries.
6. **Purchase Address**: Address where the product was delivered. There are 186,305 non-null entries.

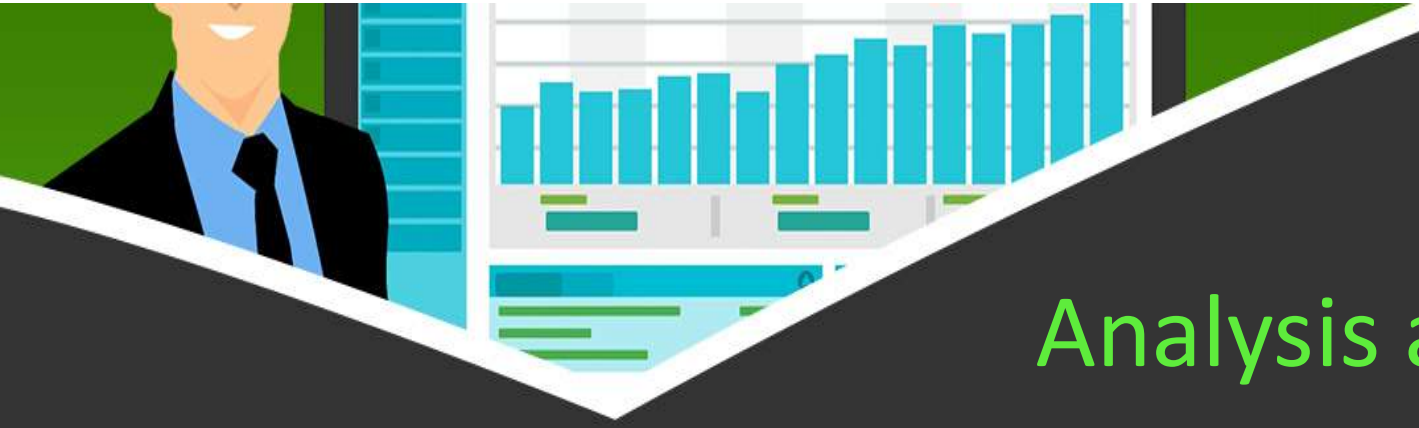
Data Preparation and Cleaning

- Data loading using pandas
- Extracting month from date
- Handling missing values
- Data type conversions
- Added Sales column



Objectives/Questions

- 1.What was the best month for sales? How much was earned that month?
- 2. What city had the highest number of sales?
- 3. What time should we display advertising to maximize likelihood of customers buying product?
- 4. What products are most often sold together?
- 5. What product sold the most? why do you think it sold the most?

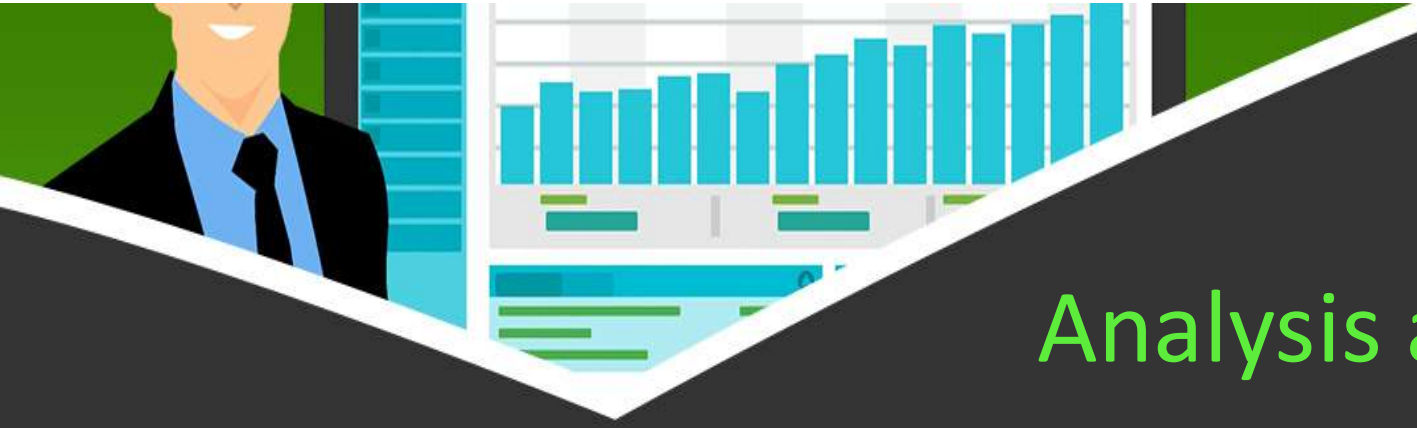


Analysis and Hypothesis

- **December is the month with the highest sales of $4613443.34**
  - **Hypothesis**: The spike in sales could be attributed to the number of festivals and holidays during this month, leading to increased consumer spending on gifts and personal purchases.

- **San Francisco is the city with the highest sales**
  - **Hypothesis**: Being a tech hub, San Francisco likely has a higher demand for mobile phones and accessories. The tech-savvy population and higher disposable income may contribute to the elevated sales figures.

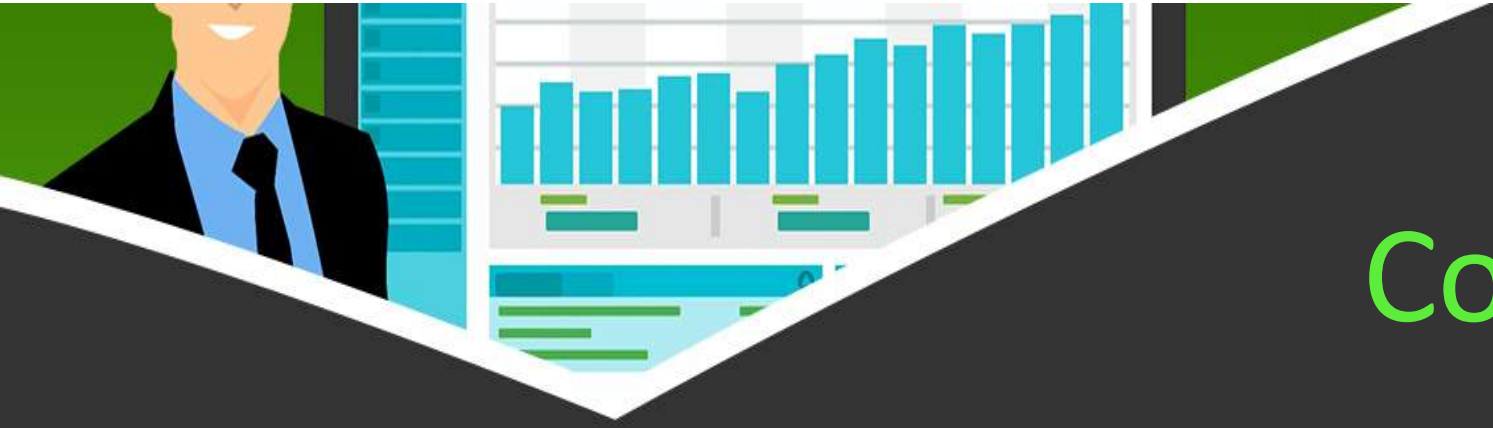
- **Highest sales are in 10-11 AM and 6-8 PM**
  - **Hypothesis**: These time slots may coincide with breaks during work hours and after-work leisure time when consumers are more likely to browse and make purchases online. These periods are ideal for targeted advertising.



Analysis and Hypothesis

- **Products most often sold together**
  - **Phone and Charging Cable**
  - **Hypothesis**: Bundling these complementary products together can enhance customer convenience and increase sales. Offering discounts or deals on these bundles can be an effective promotional strategy.

- **Most sold products are AAA Batteries (4-pack), AA Batteries (4-pack), USB-C Charging Cable, etc.**
  - **Hypothesis**: These products are likely top sellers due to their necessity and frequent need for replacement. They are essential accessories for a wide range of electronic devices, making them high-demand items.



Conclusion

- This analysis will be invaluable for various stakeholders:

- **Sales Teams:** Equip sales teams with data-driven insights to improve sales strategies and focus efforts on high-performing regions and products.

- **Marketing Teams:** Provide guidance on the best times and places to target advertising, increasing the effectiveness of marketing campaigns.

- **Product Management:** Inform decisions on product bundling, inventory management, and promotional strategies based on sales patterns and customer preferences.