

Project Title:

Diwali Sales Data Analysis using python

Objective:

The objective of this project is to analyze Diwali sales data to identify patterns and insights that can help improve customer experience and increase sales

Problem Statement:

In Diwali Season many companies struggle to maximize their sales potential due to limited understanding of customer behavior and market trends. The lack of actionable insights from past sales data often leads to missed opportunities, such as ineffective promotions, poor inventory management, and suboptimal customer engagement.

Methodology:

- **Import Necessary Libraries:** Import Python libraries such as Pandas, NumPy, Matplotlib and Seaborn for data manipulation, analysis, and visualization.
- **Data Collection:** Obtain the dataset containing User Name, User ID, Product ID, Product Category, Gender, Age, Zone and State.
- **Data Cleaning:** Handle missing or duplicate values using Python libraries such as **Pandas**.
- **Data Transformation:** Convert data into suitable formats for analysis.
- **Data Visualization:** Use **Matplotlib** and **Seaborn** to visualize data such as Sales trends over time, Contribution of different product categories to overall sales, Regional distribution of sales and Analyze customer behavior based on frequency of purchases and spending patterns.

Conclusion:

This project aims to analyzing Diwali sales data, this project provides valuable insights into customer behavior and sales performance. These findings can help the company by Tailor their marketing strategies to target high-value customers effectively, Stock popular products adequately to meet customer demand and enhance the overall shopping experience for customers during the festive season.

Through this project, I gain hands-on experience with Python libraries like Pandas, Matplotlib, and Seaborn, as well as an understanding of how data analytics can drive business decisions.