Diwali Sales Analysis Project Report

Introduction

Diwali is one of the biggest shopping seasons in India, with a significant increase in consumer spending. This report analyzes Diwali sales data to understand customer demographics, purchasing patterns, and revenue generation.

Objective

The main objective of this project is to analyze sales data to derive insights into consumer behavior based on gender, age, occupation, state, and product categories. The goal is to identify trends that can help businesses make data-driven decisions.

Dataset Overview

The dataset consists of 11,251 records with 15 attributes, including:

- User Information: User ID, Name, Gender, Age Group, Marital Status, State, and Zone.

- Transaction Details: Product ID, Product Category, Number of Orders, and Amount spent.

- Irrelevant Columns: `Status` and `unnamed1` contain only null values and are excluded from the analysis.

Exploratory Data Analysis (EDA)

Gender-Based Analysis

- Most buyers are females, and their purchasing power is higher than males.

- Female customers contribute more to the overall sales revenue.

Age Group Analysis

- The 26-35 age group has the highest number of buyers and the highest total sales.

- Young customers (18-25) also contribute significantly to sales, while the 0-17 and 50+ age groups have lower spending.

State-Wise and Zone-Wise Sales

- Top revenue-generating states: Maharashtra, Uttar Pradesh, and Karnataka.

- Western and Southern zones have the highest sales figures.

Occupation-Based Sales

- Working professionals (Healthcare, IT, Government employees) contribute the most to sales.

- Students and homemakers have lower purchasing power.

Product Category Analysis

- The highest-selling categories include Electronics, Clothing, and Food.

- Auto accessories and household items also perform well during the festive season.

Key Insights & Business Recommendations

- Target Female Consumers: Since female customers spend more, businesses should focus on personalized marketing campaigns for them.

- Focus on Young Professionals: The 26-35 age group is the largest consumer base; targeted discounts and offers can increase sales.

- State-Specific Strategies: Higher revenue states like Maharashtra and Uttar Pradesh should have localized promotions.

- Expand Popular Product Categories: Stocking up on trending categories like Electronics and Clothing can maximize revenue.

Conclusion

Diwali sales analysis provides valuable insights into consumer purchasing behavior. By leveraging data-driven strategies, businesses can optimize marketing efforts and maximize revenue during festive seasons.