**Diwali Sales Analysis Documentation**

**1. Introduction**

The Diwali festival season presents a valuable opportunity for businesses to boost their sales through festive discounts and targeted marketing. This project performs Exploratory Data Analysis (EDA) on a Diwali sales dataset to uncover customer behavior, purchasing patterns, and factors driving sales. The goal is to derive meaningful insights that can inform business strategies and improve profitability during the festive season.

**2. Key Insights**

2.1 Gender-Based Spending

* Female customers contributed significantly to overall sales.
* They placed more orders and had a higher average transaction value.

2.2 Age Group TrendsS

* The age group 26–35 years was the most active, contributing the highest number of purchases and revenue.
* Young adults are the key consumer base during Diwali.

2.3 Marital Status

* Married customers were observed to shop more actively, possibly due to family needs and festive gifting.

2.4 Occupation Influence

* Customers working in IT, Healthcare, and Self-employed sectors showed higher spending patterns.
* These groups likely have stable income and purchasing power.

2.5 Product Category Preferences

* Top-selling categories were Food, Clothing, and Electronics.
* These are common purchases for festive preparation and gifting.

2.6 Regional Demand

* States such as Maharashtra, Karnataka, and Uttar Pradesh showed the highest sales volumes.
* Southern and Western zones recorded more activity compared to other regions.

**3. Conclusion**

The EDA reveals that consumer behavior during Diwali is influenced by factors such as age, gender, marital status, occupation, and region. A significant proportion of the revenue is driven by young, married women from metro regions with professional backgrounds. Understanding these trends allows businesses to strategically position their marketing and product offerings.

**4. Recommendations**

4.1 Targeted Marketing

* Focus campaigns on the 26–35 age group, particularly married women in professional occupations.
* Use email and social media to reach high-value customers with exclusive offers.

4.2 Regional Focus

* Allocate more marketing budget to Southern and Western regions.
* Tailor offers to top-performing states for maximum impact.

4.3 Product Bundling

* Bundle high-demand items like clothing and electronics with smaller festive items to increase average cart size.

4.4 Loyalty Programs

* Introduce Diwali loyalty points or reward systems to retain repeat customers.

4.5 Optimize Online Experience

* Since most high-value customers are professionals, ensure a smooth mobile shopping experience with personalized recommendations and fast checkout.