

DIWALI SALES ANALYSIS USING PYTHON

– FINDINGS & LEARNINGS

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Introduction:

The purpose of this analysis was to study consumer purchasing behaviour during the Diwali festival using historical sales data. Various demographic factors were explored to gain actionable insight

Findings

1. Gender-Based Insights

- Males spent significantly more compared to females.
- Males placed more orders overall.

2. Age Group Analysis

- The 26–35 age group contributed the highest sales.
- Young adults are a major target audience during Diwali.

3. State-Wise Performance

- Uttar Pradesh, Maharashtra, and Karnataka topped in total sales.
- States with larger populations generated more revenue.

4. Marital Status

- Married customers contributed more to overall sales.
- Targeted campaigns towards married individuals could boost future Diwali sales.

5. Occupation Trends

- Working professionals and IT sector employees were the biggest spenders.
- Students contributed the least to sales volume.

6. Product Category

- Food, Clothing, and Electronics were the most sold categories.
- Food products had the highest number of orders, while Electronics had higher average transaction amounts.

Learnings

- **Data Cleaning:** Dropping irrelevant columns and handling missing values ensures accurate analysis.
- **Data Transformation:** Type conversion (like converting 'Amount' to integer) is essential for proper calculations.
- **EDA Techniques:** Using bar charts, groupby operations, and visualizations helps reveal important patterns.
- **Target Audience Identification:** Analysis of demographics helps in building better marketing strategies.
- **Regional Targeting:** Focus marketing efforts on top-performing states to maximize sales.

Conclusion

The Diwali sales data revealed that targeting young, married, working professionals, especially in states like Uttar Pradesh, Maharashtra, and Karnataka, with promotions on Food, Clothing, and Electronics can maximize future sales. Effective data cleaning and visualization are crucial steps in any sales analysis project.