

Executive Summary: Diwali Sales Exploratory Data Analysis

The Diwali Sales dataset was analyzed to gain insights into customer behavior, product preferences, and sales trends. The analysis provides valuable information for strategic decision-making and targeted marketing efforts.

Key Findings

Demographic Analysis

- **Gender:** Female customers (70%) dominate the customer base, with higher purchasing power compared to male customers.
- **Age Group:** The 26-35 age group (40.4%) constitutes the largest segment of buyers, predominantly females.

Regional Analysis

- **Top States:** Uttar Pradesh (17.3%), Maharashtra (13.6%), and Karnataka (11.6%) collectively contribute 42.5% to total sales.

Marital Status Analysis

- 58% of buyers are non-married, and among them, women contribute 2.38 times more than men.

Occupation Analysis

- Customers from IT (14.1%), Healthcare (12.5%), Aviation (11.7%), and Banking (10.1%) sectors account for 48.4% of total sales.

Product Category Analysis

- Clothing & Apparel, Food, and Electronics & Gadgets contribute to 64.3% of total sales.
- Most orders are placed in the "Clothing & Apparel" category, while the "Food" category leads in sales.

Product ID Analysis

- Product "P00265242" is the most sold, with all top 10 selling products belonging to the "Food" category.

Customer Analysis

- Top customers include 'Vishakha,' 'Sudevi,' and 'Vasudev,' with women dominating the top customer list.

Sales Distribution

- 23.9% of users spent around Rs. 8000-9000 during the Diwali Sale.
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Recommendations

Targeted Marketing

- Focus marketing efforts on non-married women aged 26-35 from Uttar Pradesh, Maharashtra, and Karnataka.
- Tailor promotions for customers in IT, Healthcare, Aviation, and Banking sectors.
- Implement loyalty programs to retain top customers and encourage repeat business.
- Leverage social media channels to reach and engage with the target demographic.

Product Assortment

- Emphasize products in the Food, Clothing & Apparel, and Electronics & Gadgets categories.
 - Explore opportunities to diversify the product range within popular categories.
 - Consider price segmentation strategies, focusing on the Rs. 8000-9000 spending range.
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Conclusion

Non-married women aged 26-35 from Uttar Pradesh, Maharashtra, and Karnataka working in IT, Healthcare, and Aviation are the major customers. They are more likely to buy products from the Food, Clothing, and Electronics categories. By implementing the recommendations, the business can optimize marketing strategies, enhance customer engagement, and drive increased sales during future events or promotions.