

## Geospatial Analysis of Online Shopping Trends

Analysis performed on the Amazon sales dataset, here is a summary of the key findings and insights:

1. **Data Cleaning:** The initial steps of the analysis involved data cleaning, where unnecessary columns were dropped, and null values and duplicates were removed from the dataset.
2. **Data Overview:** The dataset contains information about Amazon sales, including columns like 'Date,' 'Qty' (quantity), 'Amount' (price), 'Category,' 'ASIN,' 'Status,' 'ship-state,' and more.
3. **Sales Summary Statistics:** Descriptive statistics were calculated for sales, quantity, and amount to understand the central tendency and distribution of the data.
4. **Category Analysis:** The analysis identified the product categories with the highest sales revenue. It was found that the "Whole set of clothing" category had the highest revenue, followed by "Tops" and "Western Dress."
5. **Sales Trends:** Time series analysis and visualization were performed to track sales trends over time. Insights from the time series analysis can help identify seasonality and trends in sales data.
6. **Shipping Status Analysis:** A count plot was used to visualize the shipping status of products categorized by state. This analysis helps track the fulfilment and delivery of orders.
7. **Product Lifecycle:** The first and last purchase dates for each product (ASIN) were analyzed to understand when products were introduced and phased out.
8. **Date-of-Month Analysis:** An analysis of sales by the day of the month revealed that early days (2nd-7th) and late days (22nd-26th) of the month had higher sales. This information can be used for planning marketing strategies.
9. **Top Daily Sales:** The top days with the highest daily sales were identified. This information can be used to target specific days for promotions or sales events.
10. **State-wise Sales Analysis:** The analysis revealed that Maharashtra had the highest quantity of orders, while Uttar Pradesh spent more money on products, despite a lower quantity of orders.

11. Product and Size Analysis: The analysis included bar charts to visualize product and size orders, helping identify popular products and sizes.
12. Shipping Service Analysis: A count plot showed the distribution of shipping service levels by state, helping understand the shipping preferences of customers.

Overall, the analysis provided valuable insights into the Amazon sales dataset, including product category performance, sales trends, customer behaviour, and shipping patterns. These insights can be used to make informed business decisions, optimize marketing strategies, and improve customer satisfaction.