

CUSTOMER SALES ANALYSIS REPORT

1. Project Overview

This project analyzes sales and customer datasets to understand sales performance, customer distribution, and sales trends over time. The goal is to generate actionable business insights using Python and pandas.

2. Datasets Used

- `sales_data.csv`: Contains transactional sales records including product, date, and total sales.
 - `customer_data.csv`: Contains customer-level information such as customer ID and region.
-

3. Data Preparation

- Verified datasets for missing values and duplicates.
 - Converted date column to datetime format.
 - Extracted year and month for time-based analysis.
 - Ensured customer identifiers were standardized before merging.
-

4. Sales Pattern Analysis

- Monthly sales trends were analyzed to identify seasonal patterns.
 - Product-wise sales analysis was performed to identify top-performing products.
 - Pivot tables were created for clean summarization of sales data.
-

5. Visualization & Insights

- **Line Chart** was used to visualize monthly sales trends.
- **Bar Chart** compared total sales across products.
- **Pie Chart** showed contribution of top products to overall sales.

Key Insights:

- Sales show noticeable variation across months, indicating seasonality.
 - Certain products consistently generate higher revenue.
 - Business can focus promotions on high-performing months and products.
-

6. Customer Analysis

- Customer and sales datasets were merged using customer identifiers.
 - Region-wise sales contribution was analyzed.
 - Top customers were identified based on total revenue contribution.
-

7. Conclusion

This analysis provides a clear understanding of sales behavior and product performance. The insights can help businesses improve marketing strategies, inventory planning, and revenue growth.