

Customer Sales Analysis Report

1. Executive Summary

This project analyzes customer sales and churn data using advanced Pandas techniques. The objective is to identify revenue patterns, customer behavior, and churn distribution to support data-driven business decisions.

2. Data Sources

- `sales_data.csv` – contains transactional sales data
- `customer_churn.csv` – contains customer churn information

These datasets were officially provided for the Week 5 project.

3. Key Analysis Performed

- Total revenue and average order value calculation
 - Monthly and regional sales aggregation
 - Identification of top customers based on total sales
 - Customer churn distribution analysis
 - Pivot table summarization for advanced insights
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4. Key Findings

- Sales vary significantly across regions
 - Monthly sales show identifiable trends
 - A small group of customers contributes disproportionately to revenue
 - Churned customers represent a measurable portion of the customer base
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5. Business Insights & Recommendations

- Focus retention strategies on high-value customers
 - Improve engagement for churn-risk customers
 - Optimize inventory based on monthly demand trends
 - Strengthen marketing efforts in high-performing regions
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6. Conclusion

This analysis demonstrates how advanced Pandas operations can be used to extract meaningful insights from real business datasets and support strategic decision-making.