

Customer Sales Analysis Report

1. Executive Summary

This report presents an analysis of customer purchasing patterns, sales performance across products, regions, and months, and identifies key factors influencing customer retention. The insights aim to guide strategic decisions to improve revenue, reduce churn, and optimize marketing efforts.

Key Highlights:

- **Total Revenue:** 1,23,65,048
 - **Total Customers:** 100
 - **Top Product:** Laptop – 38,89,210
 - **Top Region:** South
 - **Month with Highest Sales:** March – 44,85,006
 - **Churn Insights:** Customers on month-to-month contracts and short tenures have higher churn rates
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2. Project Objective

The objective of this analysis is to:

1. Understand customer purchasing behavior and identify the most valuable customers.
 2. Determine best-selling products, regional sales distribution, and seasonal trends.
 3. Identify patterns in customer churn to recommend retention strategies.
 4. Provide actionable business recommendations to maximize revenue and customer loyalty.
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3. Data Description

Dataset	Description	Key Columns
sales_data.csv	Contains transactional data of customer purchases	Product, Quantity, Total_Sales, Month, Region
customer_data.csv	Contains customer information	Customer_Key, Contract, Tenure, Churn

Exploratory Data Analysis:

- No missing values were found in key columns.
- Each customer purchased only one product (no product bundling observed).
- Sales distributed unevenly across regions and products.

4. Methodology & Analysis Steps

Step 1: Data Cleaning & Preparation

- Handled missing values and ensured correct data types.

Step 2: Customer Analysis

- **Top Customers:** Identified by total spending.
- **Top Month:** Calculated the month with the highest sales.
- **Regional Distribution:** Analyzed total sales per region.

Example Table – Top Customers:

Customer_Key	Total_Sales	Region
16	3,73,932	South
7	3,63,870	North
83	3,50,888	East

Step 3: Sales Pattern Analysis

- **Product Sales:**

Product	Quantity Sold	Total_Sales
Laptop	136	38,89,210
Tablet	127	28,84,340
Phone	101	28,59,394
Headphones	48	13,84,033
Monitor	66	13,48,071

- **Regional Sales (Pivot Table Example):**

Region	Headphones	Laptop	Monitor	Phone	Tablet
East	2,88,361	2,21,946	6,42,870	5,06,828	8,59,634
North	1,07,091	17,98,206	3,97,100	489,284	1,191,954
South	5,12,168	13,73,120	39,924	14,71,428	3,41,212
West	4,76,413	4,95,938	2,68,177	3,91,854	4,91,540

- **Monthly Sales Trends:**

Month	Total_Sales
March	44,85,006
January	41,20,524
February	26,56,050
April	11,03,468

Step 4: Churn & Retention Analysis

- **Churn by Contract Type:**

Contract	Churn Rate
Month-to-month	17.14%
Two year	10.34%
One year	2.78%

- **Churn by Tenure:**

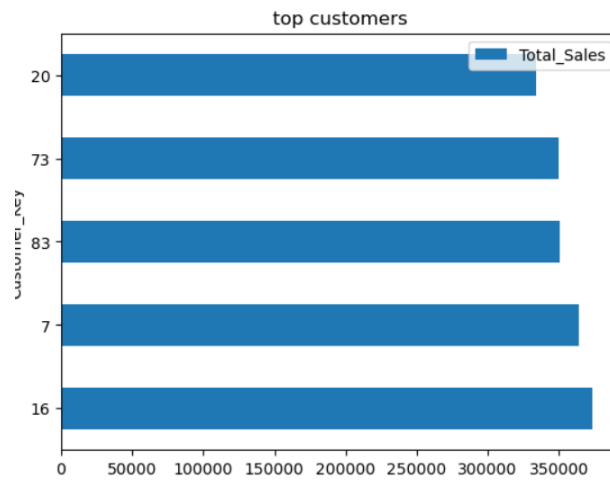
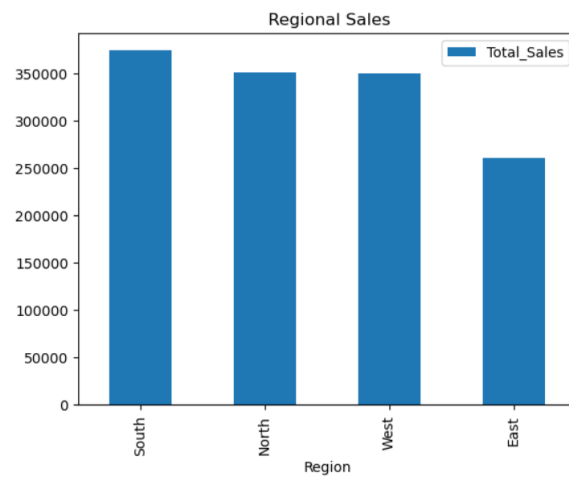
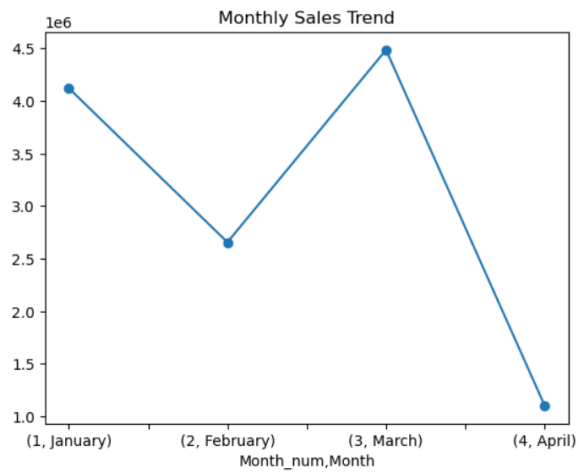
- Customers with short tenure (≤ 10 months) have higher churn rates.
- Longer tenure correlates with lower churn.

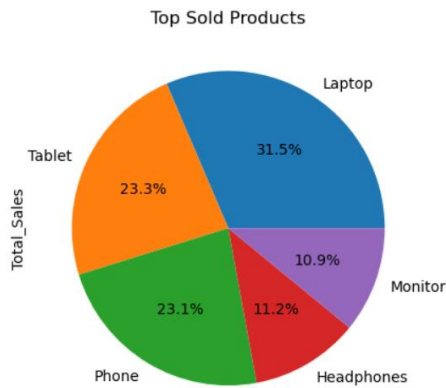
Insights:

- Focus on converting month-to-month customers to longer contracts.
- Offer promotions or incentives to retain short-tenure customers.

5. Key Visualizations

1. **Top Products by Sales**
2. **Regional Sales Distribution**
3. **Monthly Sales Trend**
4. **Customer Lifetime Value**





6. Recommendations

1. Improve Customer Retention:

- Promote longer-term contracts with discounts or loyalty programs.
- Offer retention campaigns for customers with <10 months tenure.

2. Boost Product Sales:

- Bundle low-selling products with high-demand items.
- Focus marketing campaigns on top-performing regions.

3. Optimize Seasonal Strategy:

- Stock up on high-demand products for March and January (peak months).
- Use monthly trend insights for targeted promotions.

7. Conclusion

This analysis provides a comprehensive view of customer purchasing behavior and sales performance. By focusing on retention, regional strategies, and product optimization, the company can increase revenue, reduce churn, and enhance customer satisfaction.