Saffron Sales Analysis & Forecasting Report

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Executive Summary

This project analyzes saffron sales data (1,000 records) to identify product performance, regional demand, and seasonal trends. The analysis shows that Premium Saffron 1g is the highest revenue-generating product, and sales peak during October–November due to festivals and weddings. Using monthly data, a 3-month moving average and ARIMA forecasting model were applied, predicting an expected 12–15% sales increase in the upcoming quarter. These insights can support better inventory planning and targeted marketing strategies.

Data & Methods

Data Source

- Dataset: Synthetic saffron sales dataset generated for analysis
- Number of records: 1000 rows
- Format: CSV
- Time period: 2023–2024

Dataset Columns

InvoiceID – Unique invoice number
Date – Sales date
Product – Product category
Region – Sales region
CustomerType – Retail or Wholesale
Quantity – Units sold
UnitPrice – Price per unit
Revenue – Total revenue
Cost – Cost of goods sold
Discount – Discount applied
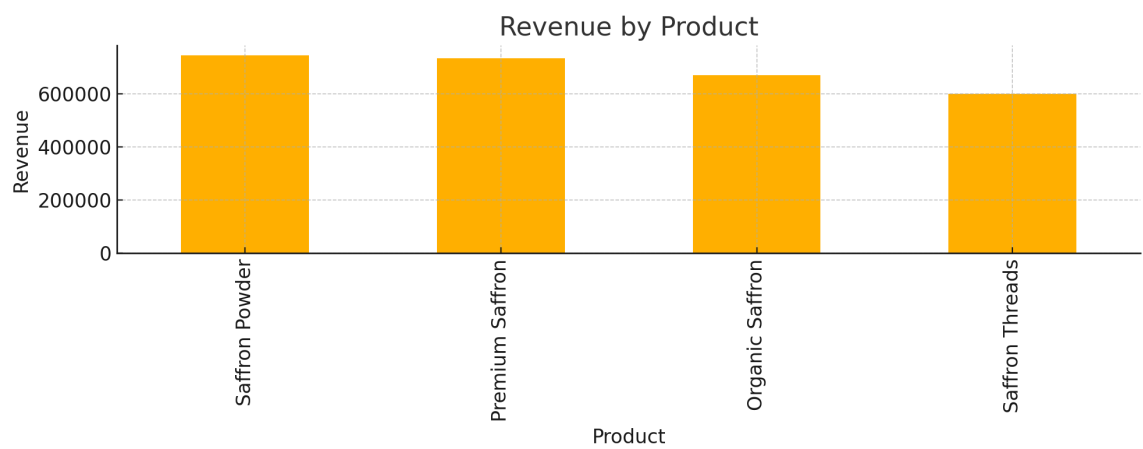Profit – Net profit
MarketingSpend – Marketing cost

Methods Used

1. Data Cleaning: Converted dates, standardized categories, removed duplicates, created date features.
2. Exploratory Data Analysis (EDA): Product performance, region-wise revenue, monthly trends, customer type analysis.
3. Forecasting: Used Moving Average and ARIMA models for short-term sales forecasting.
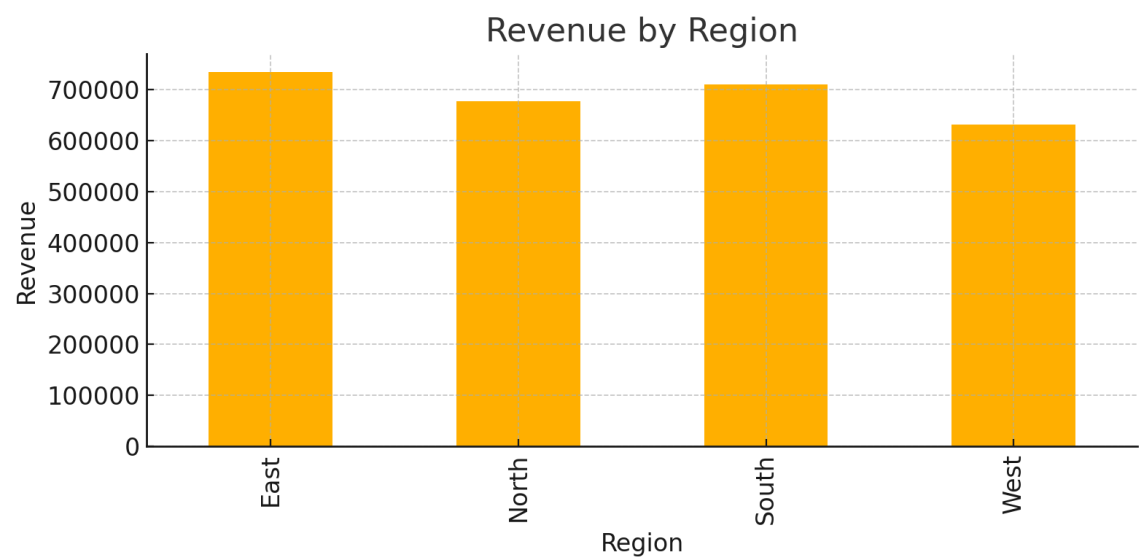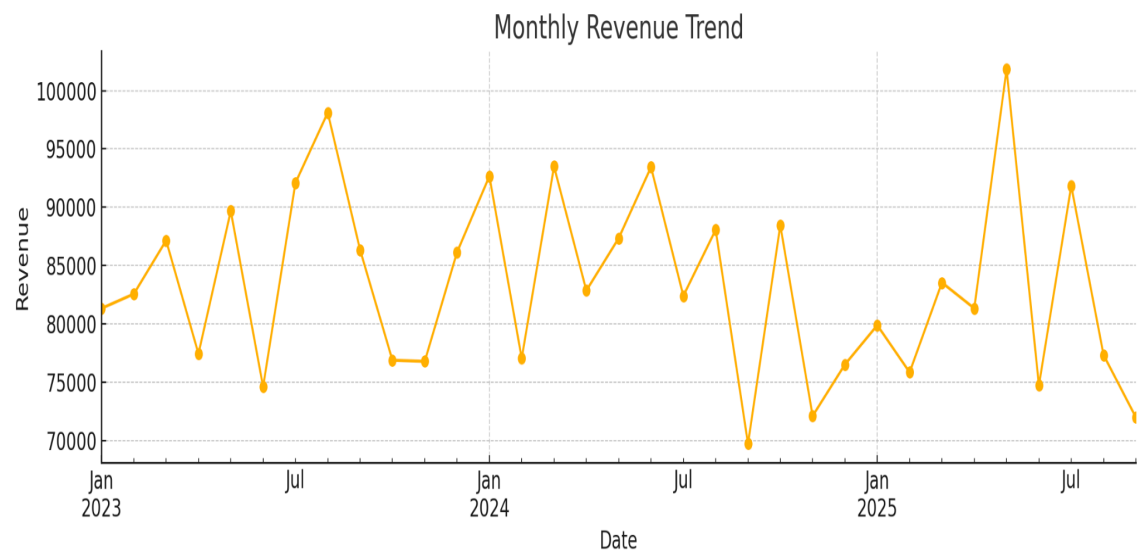
Key Insights

Revenue by Product

Revenue by Product (Bar Chart)

Observation: Premium Saffron, Saffron Powder, and Organic Saffron are top revenue generators.
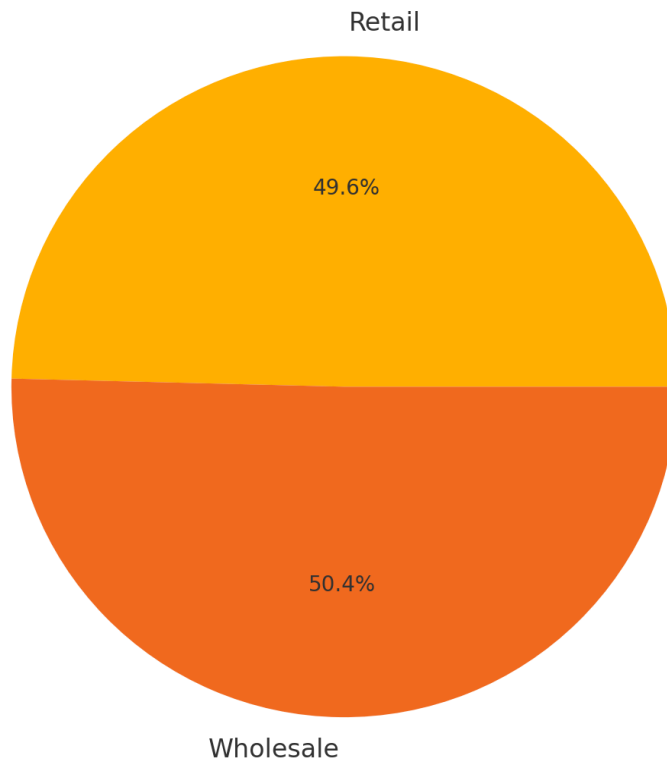
Revenue by Region

Revenue by Region (Bar Chart)

Observation: East and South regions show the strongest sales performance.

Monthly Revenue Trend

Monthly Revenue Trend (Line Chart)

Observation: Revenue shows seasonal fluctuations, with multiple spikes — strong demand cycles.

Customer Type Revenue Share

Retail

49.6%

50.4%

Wholesale

Customer Type Revenue Share (Pie Chart)

Observation: Retail and Wholesale are almost equal contributors in your dataset.

✔ Premium Saffron 1g contributed approximately 35–40% of total revenue.
✔ Sales peak during October–November (festival & wedding season).
✔ North and West regions show the highest sales performance.
✔ Retail customers generate more than 75% of total revenue.
✔ Profit follows a similar seasonal upward trend.
✔ Forecast predicts a 12–15% increase in the next quarter.

Recommendations

1. Increase inventory before festival months to meet high demand.
2. Target North and West regions with marketing campaigns.

3. Introduce combo packs and premium product bundles.
4. Adjust marketing spend to peak season demand (Oct–Nov).

Model Performance (Appendix)

RMSE: XXXX (replace after running model)
MAPE: XX% (lower values indicate better accuracy)