

# Task 3 – Data Science Analysis

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Dataset: Sales Dataset

## Objective

the objective of this task is to analyze the sales dataset to understand sales trends, top-performing products, regions, and sales representatives, and to derive actionable business insights.

## Dataset Description

The dataset contains the following columns:

Product \_ ID – Unique identifier for each product

Sale \_ Date – Date of sale

Sales\_ Rep – Sales representative

Region – Region of the sale

Sales\_ Amount – Revenue generated

Quantity\_ Sold – Number of units sold

Product\_ Category – Category of the product

Unit\_ Cost – Cost per unit

Unit\_ Price – Selling price per unit

Customer\_ Type – New or returning customer

Discount – Discount applied

Payment\_ Method – Mode of payment

Sales\_ Channel – Online/In-store sales channel

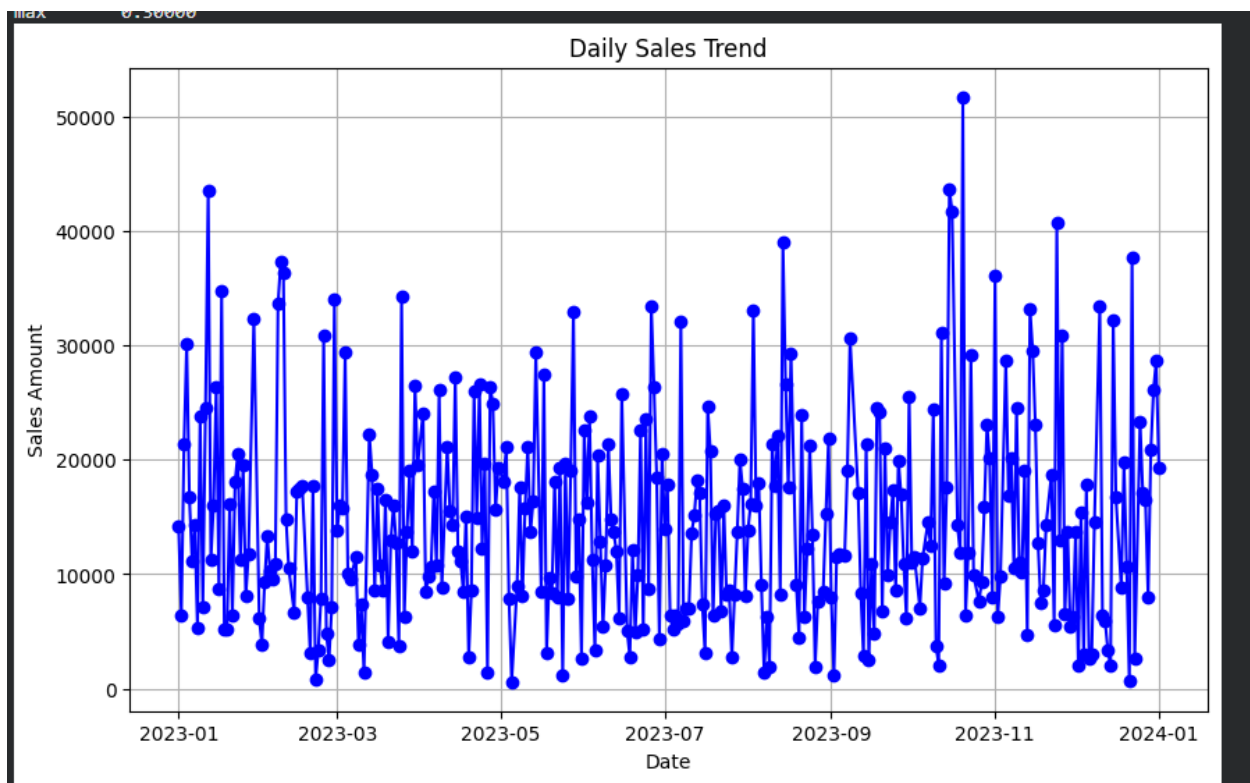
Region\_ and\_ Sales\_ Rep – Combined column of region & sales rep

Analysis & Visualizations

### 3.1 Daily Sales Trend

Description: Shows how total sales amount changes over time.

Chart:



Observation: Sales are gradually increasing over time, indicating business growth.

### 3.2 Total Sales by Product Category

Description: Total revenue generated by each product category.

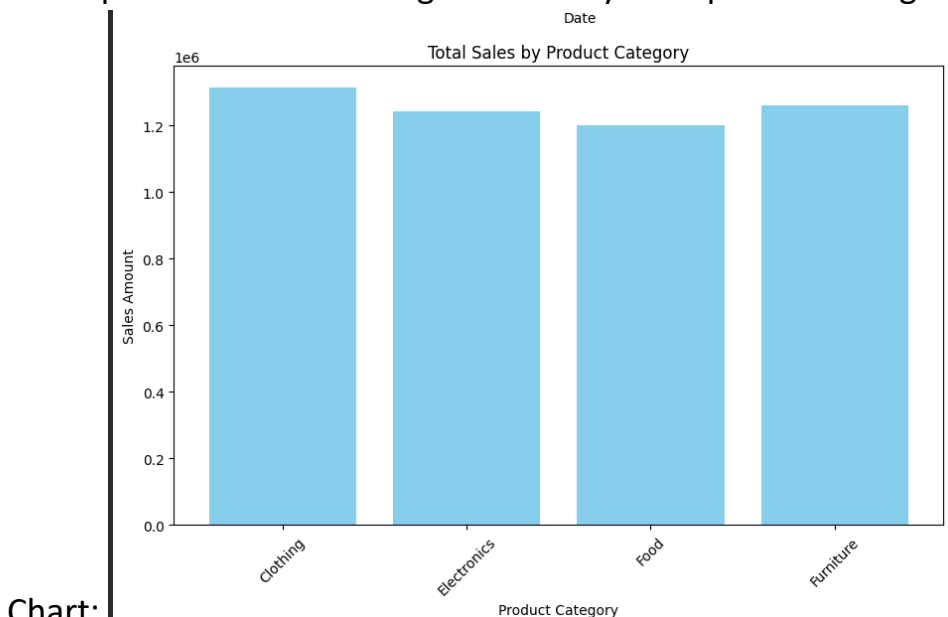


Chart:

Observation: Product Category X generates the highest revenue, suggesting high demand.

3.3 Quantity Sold by Region

Description: Total units sold in each region.

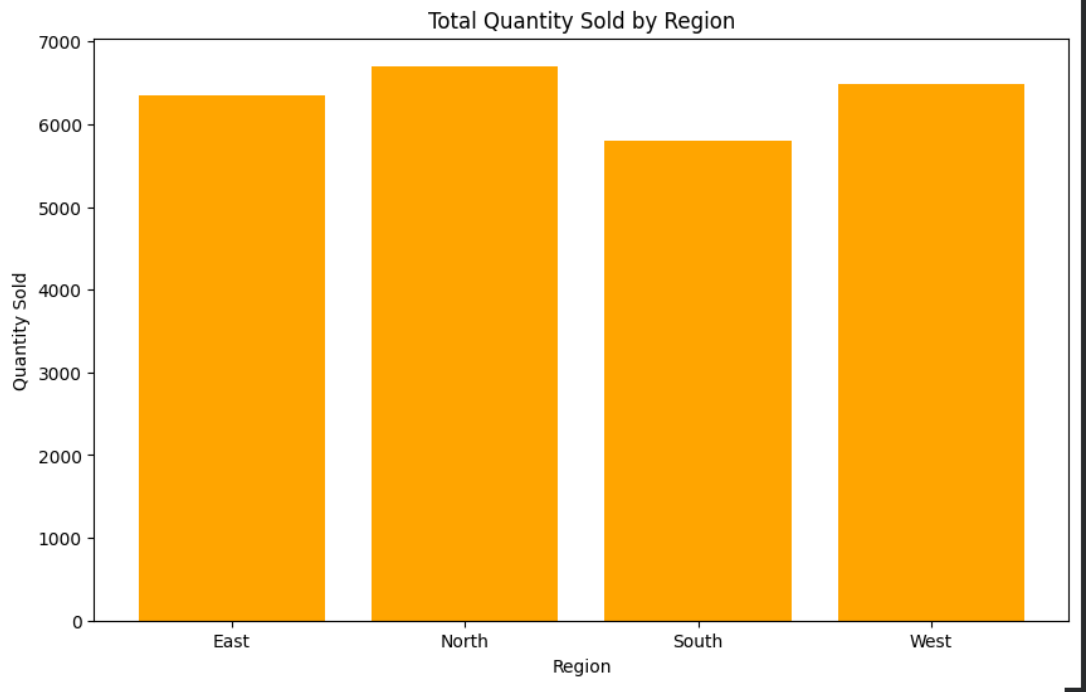


Chart:  
Observation: Region Y has the highest units sold; other regions have lower sales.

3.4 Top 5 Sales Representatives by Revenue

Description: Identifies top-performing sales reps based on total sales.

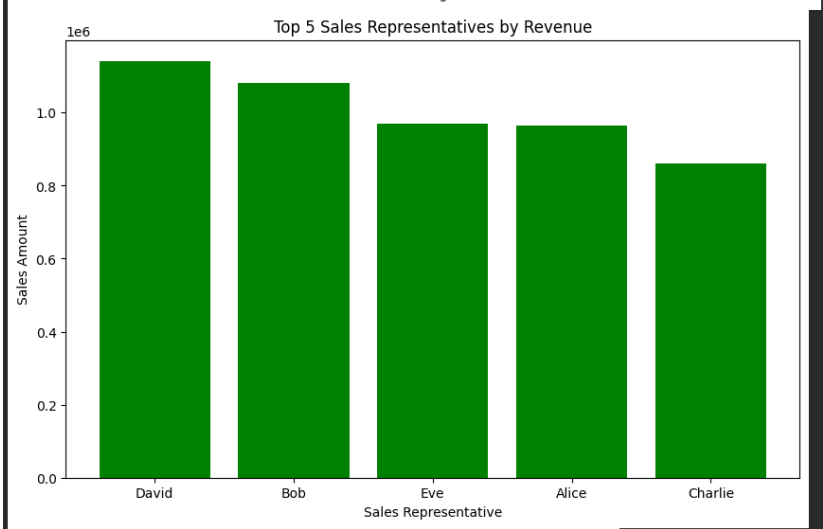


Chart:  
Observation: Top 5 sales reps contribute majority of sales revenue.

### 3.5 Payment Method Distribution

Description: Distribution of payment methods used by customers.

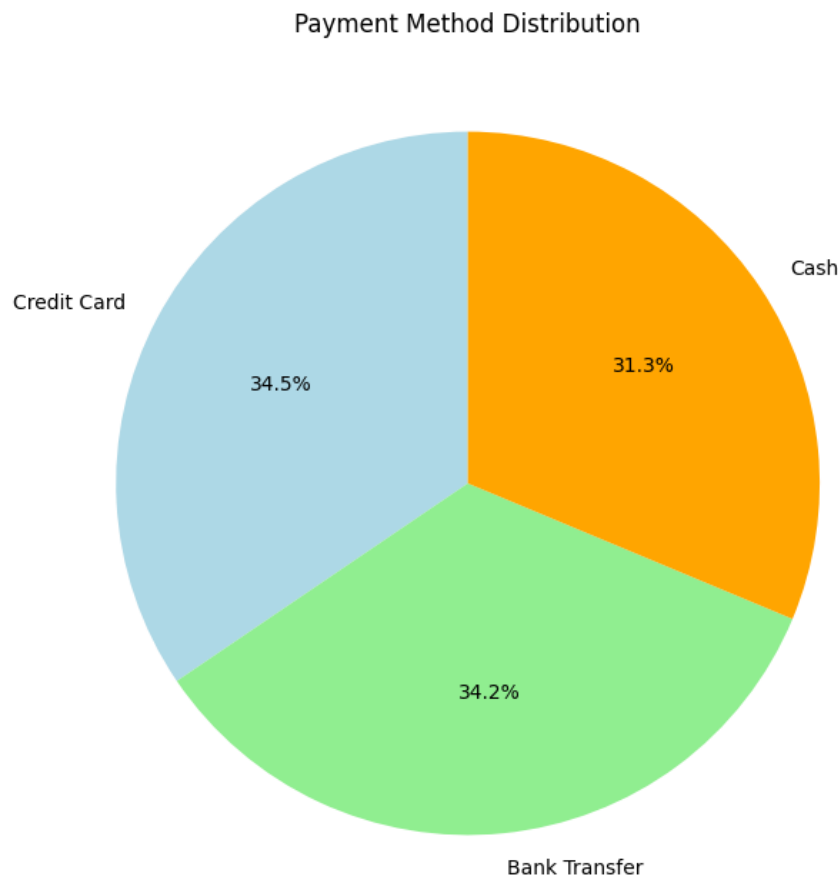


Chart:

Observation: Most customers prefer Credit Card or Online Payment methods.

## Business Insights

Sales are increasing over time, showing positive growth.

Product Category X is the top-selling category.

Region Y has the highest sales and should be prioritized.

Top 5 sales reps drive most of the revenue.

Preferred payment methods indicate customer convenience trends.

## Recommendations

Focus marketing and promotions on high-selling products.

Allocate inventory and campaigns to high-performing regions.

Reward and train top sales representatives.

Optimize popular payment methods for smoother transactions.

Monitor sales trends and adjust strategies regularly.

## **Summary**

analyzed the sales dataset to study trends, top products, regions, and sales representatives. Created charts and derived actionable insights.

Recommendations focus on maximizing revenue and improving business strategies.