E-Commerce Business Performance & Revenue Overview

Project Objective

The objective of this project is to understand the given dataset and evaluate the **overall performance of the business**. The analysis focuses on comparing business performance **year over year** to identify growth patterns and changes over time.

- Products that sell the most and products that remain unsold or slow-moving
- Customer behaviour and purchasing patterns
- Sales performance across **quarterly, monthly, and yearly** periods
- Gender-wise customer distribution to understand whether male or female customers contribute more

Dataset Description

The Given Dataset is about **E-commerce Store** which it comes as xls format workbook in that workbook it contains multiple worksheets (Customer, Product, Sales, Store).

Customer

Contains customer-related information used to understand customer demographics and loyalty behaviour.

Product

Includes details about products such as category and pricing, supporting product-level analysis.

Sales

Records transactional data including sales date, quantity, discounts, payment type, and total amount, forming the core of revenue analysis.

Store

Holds store and region information, enabling location-based performance analysis.

Column Description

Customer Table

Customer_ID	Unique identifier assigned to each customer, used to link customer information with sales transactions.
Name	Name of the customer, mainly used for identification and not for analytical calculations.
Age	Age of the customer, used to analyze purchasing behavior across different age groups.
Gender	Gender of the customer, used to compare sales and customer distribution between male and female customers.
City	City where the customer resides, used for location-based customer analysis.
State	State of the customer, used to evaluate regional customer distribution.
Country	Country of residence of the customer, used for country-level segmentation if applicable.
Loyalty_Level	Loyalty tier assigned to the customer (e.g., Bronze, Silver, Gold, Platinum), used to analyze customer retention and loyalty-driven revenue.

Store Table

Store_ID	Unique identifier for each store, used to link store information with sales transactions.
Store_Name	Name of the store or outlet, used for store-level identification and reporting.
Region	Geographic region where the store operates (e.g., East, West, North, South), used for regional performance analysis.
City	City in which the store is located, used for city-level sales and performance analysis.
Store_Type	Type of store such as Online, Flagship, or Outlet, used to compare revenue performance across different sales channels.

Product Table

Product_ID	Unique identifier for each product, used to connect product details with sales transactions.
Product_Name	Name of the product, used for product-level identification and reporting.
Category	High-level product classification (e.g., Beauty, Electronics, Clothing),` used to analyze sales performance across major product groups.
Sub_Category	Detailed product classification within a category, used to identify performance at a more granular level.
Brand	Brand associated with the product, used for brand-level sales and performance analysis.
Cost	Cost price of the product, used to evaluate to get insights
Stock	Available inventory quantity, used to identify stock availability and potential overstock or stock-out situations.

Sales Table

Sales_ID	Unique identifier for each sales transaction, used to track individual orders.
Order_Date	Date on which the transaction occurred, used for time-based analysis such as monthly, quarterly, and yearly trends.
Customer_ID	Unique identifier for customers, used to link sales data with customer details.
Product_ID	Unique identifier for products, used to analyze product-level performance.
Store_ID	Identifier for the store or region where the sale occurred, used for regional analysis

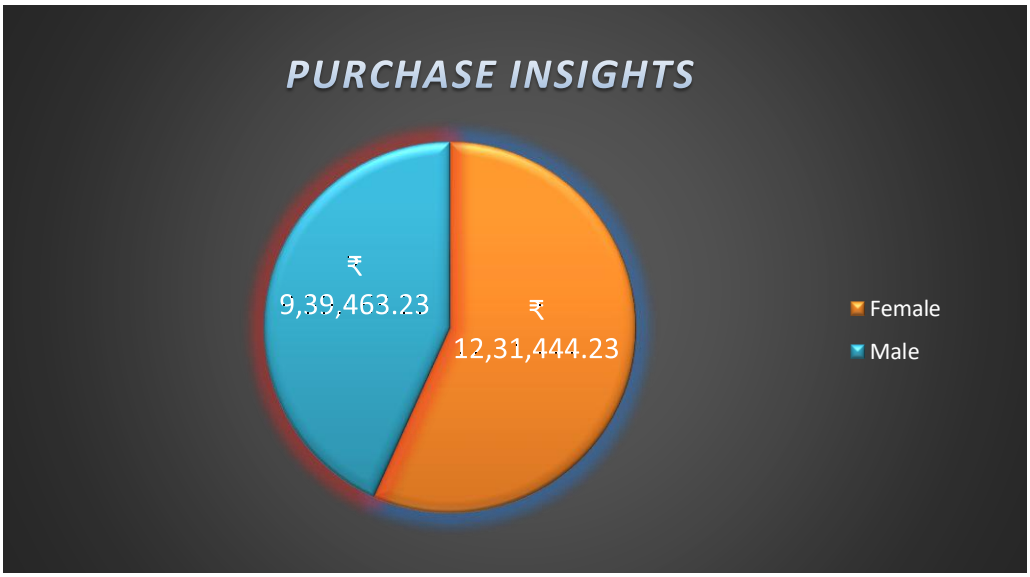
Quantity	Number of units sold per transaction, used to measure sales volume.
Unit_Price	Price of a single product unit before discount, used for revenue calculations.
Discount	Discount percentage applied to the transaction, for the products
Payment_Type	Mode of payment used by the customer, helpful for payment preference analysis.
Total_Amount	Final amount paid after discount, used to evaluate revenue performance.

Visualization and Insights

CUSTOMER LOYALTY PERFORMANCE

This analysis takes place to understand how customers are distributed across different loyalty tiers such as Bronze, Silver, Gold, Platinum, and No Tier. It also compares participation between male and female customers.
It helps identify which loyalty tier has the strongest customer base and where engagement is weak, enabling better targeting of rewards and retention strategies.

Gender-Based Purchase Contribution



This analysis takes place to evaluate how purchase value is split between male and female customers. It highlights which gender contributes more to overall revenue and supports decisions related to personalized marketing, product positioning, and campaign focus.

- Female customers contribute a higher share of total revenue
- Indicates stronger purchasing behaviour or higher average order value
- Supports gender-focused marketing and product positioning strategies

Product Sales Ranking

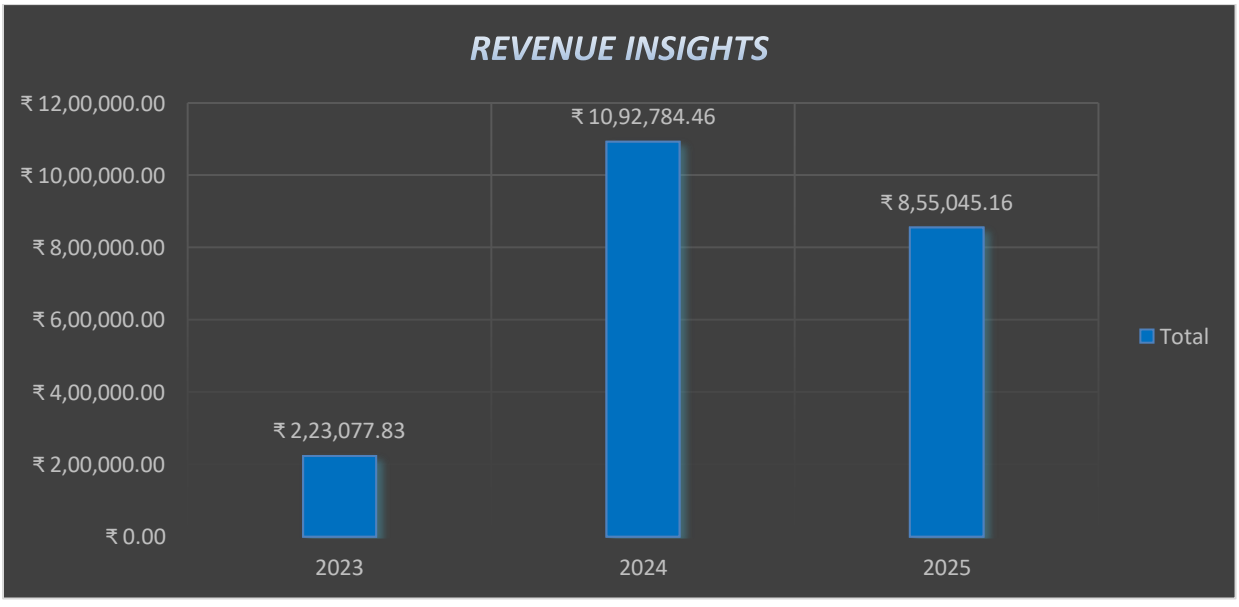
This analysis takes place to identify the highest-performing products based on total sales value. It allows the business to recognize top-selling items, optimize inventory planning, and prioritize promotional efforts for products driving the most revenue.

Loyalty Tier Revenue Contribution

This analysis takes place to assess how much revenue each loyalty tier generates.
It reveals which customer segment is most valuable financially and whether higher-tier customers are actually delivering higher returns compared to lower-tier or un-tiered customers

- Higher loyalty tiers generate a larger share of revenue
- Platinum customers deliver the highest revenue contribution
- Confirms that loyalty programs are effectively driving business value

Overall Revenue Performance



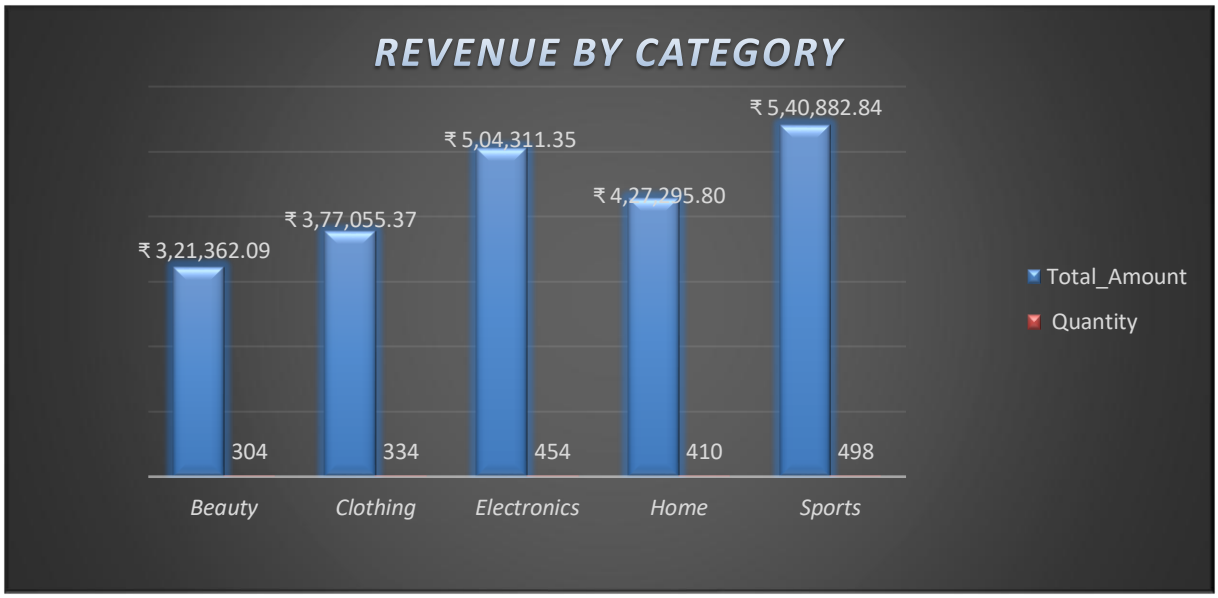
This analysis takes place to present total revenue generated within the selected time period.
It provides a high-level financial snapshot for quick decision-making and performance tracking.
Revenue Insights 2024 Generates more Revenue while comparing with 2023 & 2025.

- Indicates peak business performance during 2024
- Useful for tracking growth trends and strategic planning

Quarterly Sales Pattern

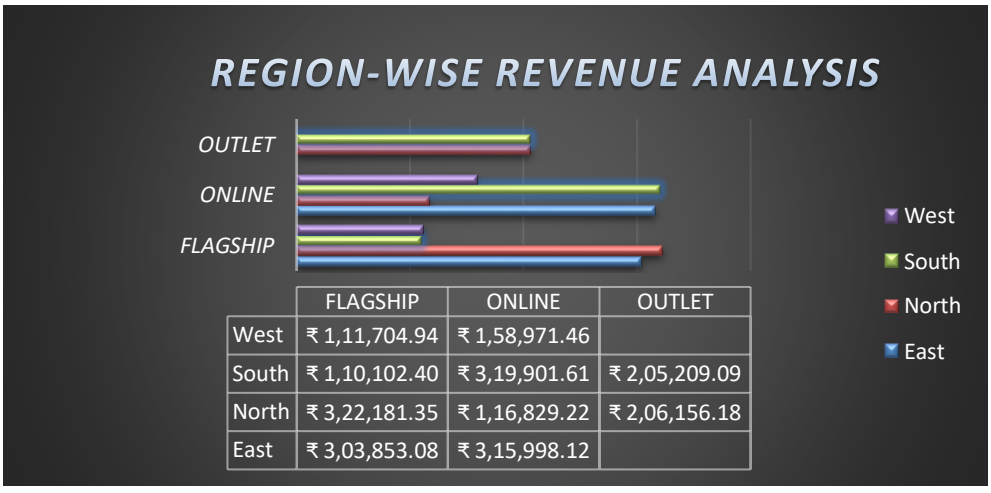
This analysis takes place to observe how sales volume and revenue change across different quarters of the year.
It helps identify seasonal trends, peak periods, and slower phases, supporting better forecasting and planning. While comparing 2025 Q1 to Q4 in Q4 sales has been dropped

Category-Level Revenue and Quantity



This analysis takes place to compare revenue earned and quantity sold across different product categories such as Beauty, Clothing, Electronics, Home, and Sports. It highlights categories that sell in high volume versus those that generate high revenue, helping refine pricing and assortment strategies. Sports category generates the overall highest revenue

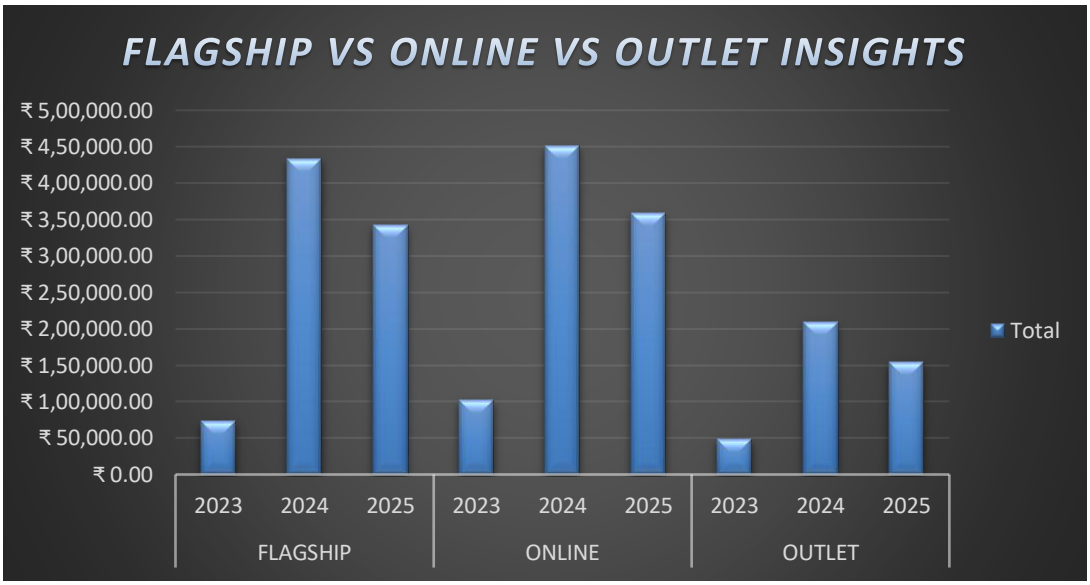
Regional Revenue Distribution



	FLAGSHIP	ONLINE	OUTLET
West	₹ 1,11,704.94	₹ 1,58,971.46	
South	₹ 1,10,102.40	₹ 3,19,901.61	₹ 2,05,209.09
North	₹ 3,22,181.35	₹ 1,16,829.22	₹ 2,06,156.18
East	₹ 3,03,853.08	₹ 3,15,998.12	

This analysis takes place to evaluate how revenue is generated across different regions. It helps identify high-performing regions and regions that may require stronger marketing efforts or operational improvements.

Store Type Revenue Comparison



This analysis takes place to compare revenue generated from different sales channels such as Online and Flagship/Outlet stores. It supports decisions around store investments, digital growth strategies, and physical store optimization. Online and Flagship sales generate more revenue while comparing outlet.

- Online channel shows strong and consistent performance
- Insights support continued investment in digital and flagship channels

Conclusion

This project which I analysed an e-commerce dataset to evaluate overall business performance by integrating customer, product, sales, and store information. By examining revenue trends across time, customer loyalty levels, product categories, regions, and sales channels, the analysis provided a comprehensive understanding of how the business is performing. The insights highlight key revenue-driving products and categories, patterns including gender and loyalty engagement, and show how different regions and store types contribute to overall sales. Time-based analysis further helped identify seasonal and quarterly performance variations, supporting better forecasting and planning.

Overall, this analysis enables data-driven decision-making by identifying strengths, uncovering improvement areas, and providing actionable insights to optimize sales strategy, inventory management, and customer retention.