Online Merchant Performance & Sales Analysis Report

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🔎 Project Overview

This project analyzes **online shopping behavior and sales performance** using Excel-based data analysis techniques.
The goal was to transform raw customer transaction data into a **single-page, interactive dashboard** that provides a complete view of:

- Customer demographics
- Purchase behavior
- Platform usage trends
- Order fulfilment performance
- Sales distribution

Using Excel pivot tables, charts, slicers, and formatting, this report demonstrates the application of **business analytics**, **data storytelling**, and **dashboard design** for practical decision-making.

🎯 Business Problem & Objectives

The e-commerce dataset captures customer purchases across multiple platforms and demographic groups.
The business goal of this analysis was to answer:

Key Business Questions

- Who are the **most profitable customer segments** (Gender × Age Groups)?
- How do customers prefer to **place online orders** (platform preference)?
- Which age groups and regions generate the **highest sales**?
- What is the **relationship between total orders and total sales**?
- What is the **overall sales contribution** across demographics and channels?
- What proportion of orders are **delivered vs. pending**?

Primary Objectives

- Build a **visually rich Excel dashboard** summarizing sales KPIs.
- Provide actionable insights to improve:
    - Marketing strategy
    - Customer targeting
    - Platform optimization
    - Sales forecasting

- Enable leadership to take data-driven decisions.

🗂 Dataset

Files:

- **Online Shopping Raw Data.xlsx** – uncleaned transactional data
- **Online Shopping Data Analysis.xlsx** – cleaned and dashboard-ready data

Key Columns Used:

- Customer ID
- Gender
- Age
- Age Group
- Region
- Order Status
- Platform Used
- Total Orders
- Total Sales

⚒ Tools & Techniques

- **Microsoft Excel**
- Pivot Tables
- Pivot Charts
- Slicers
- Conditional Formatting
- Data Cleaning & Transformation
- Dashboard Layout Design

- Aggregations (SUM, COUNT, AVERAGE)
- Demographic segmentation
- Visual trend analysis
- KPI card creation
- Category distribution analysis
- Chart-based storytelling

Data Cleaning & Preparation

Performed in Excel before dashboard creation:

1. **Removed duplicate customer entries**
2. **Fixed inconsistent age groups**
3. Standardized platform names (Amazon / Flipkart / Myntra / Meesho / Ajio)
4. Cleaned missing values in sales fields
5. Created new derived fields:
   - *Age Group* (0–30, 30–60, 60+)
6. Converted incorrect data types (text to numeric)
7. Built structured tables for pivot analysis
8. Linked all pivot charts to **global slicers** for interactivity

Analysis Performed

Total Sales & Revenue Drivers

- Total Sales: **₹129,957+**
- Highest sales generated by customers aged **26–35**, followed by **18–25**.

Gender-wise Sales Analysis

- **Women contributed more sales** than men, indicating higher online shopping frequency.
- Men showed higher average order value in selected age brackets.

Sales vs Order Relationship

- A clear **upward linear relationship** shows:
  More Orders → Higher Sales

Platform Usage Analysis

Platforms used by customers:

- **Amazon – 33%**
- **Flipkart – 22%**
- **Myntra – 19%**
- **Meesho – 17%**
- **Ajio – 8%**

Amazon leads significantly due to brand trust & product variety.

Order Status Breakdown

- Delivered orders form the majority, indicating good operational efficiency.
- Pending/Returned orders represent a **small percentage** and must be monitored for customer satisfaction.

Customer Age Group Insights

Top contributing groups:

1. **26–35 (Peak shoppers)**
2. **18–25 (Young high-frequency shoppers)**
3. **36–45 (Stable income group)**

Senior citizens have the lowest online shopping activity.

Regional & Customer Density Analysis

- Using map visualization, customer density varies across regions.
- High concentration observed in **metros & Tier-1 cities**.

📌 Key Insights

Customer Behavior

- Ages **26–35** dominate overall sales and engagement.
- Women shop more frequently, but men show strong purchase tendencies in select categories.

App/Platform Performance

- **Amazon outperforms all platforms**, accounting for the largest share of online orders.
- Meesho's usage among younger shoppers is rapidly increasing.

Order Fulfilment

- Delivered orders form the majority, proving good logistics performance.

Sales Patterns

- Strong positive correlation observed between **Total Orders** and **Total Sales**.
- Most high-value customers place **multiple repeat orders**.

Regional Insights

- Highest customer density in urban regions drives overall business.

▥ Recommendations

1. Target 18–35 Age Group More Aggressively

- Offer discounts, targeted ads, and loyalty programs.

2. Strengthen Presence on Flipkart & Myntra

- Large customer base indicates opportunity for collaboration & exclusive launches.

3. Improve Order Fulfilment Where Pending Orders Appear

- Reduce delays
- Improve customer communication

4. Personalized Marketing for Women

- Women drive higher total purchases → key segment

5. Utilize High-Density Regions for Promotions

- Run campaigns in top cities to maximize ROI

6. Introduce Cart Reminders for Less Active Age Groups

- Helps improve conversion among 46+ age segments

🎯 Executive Summary
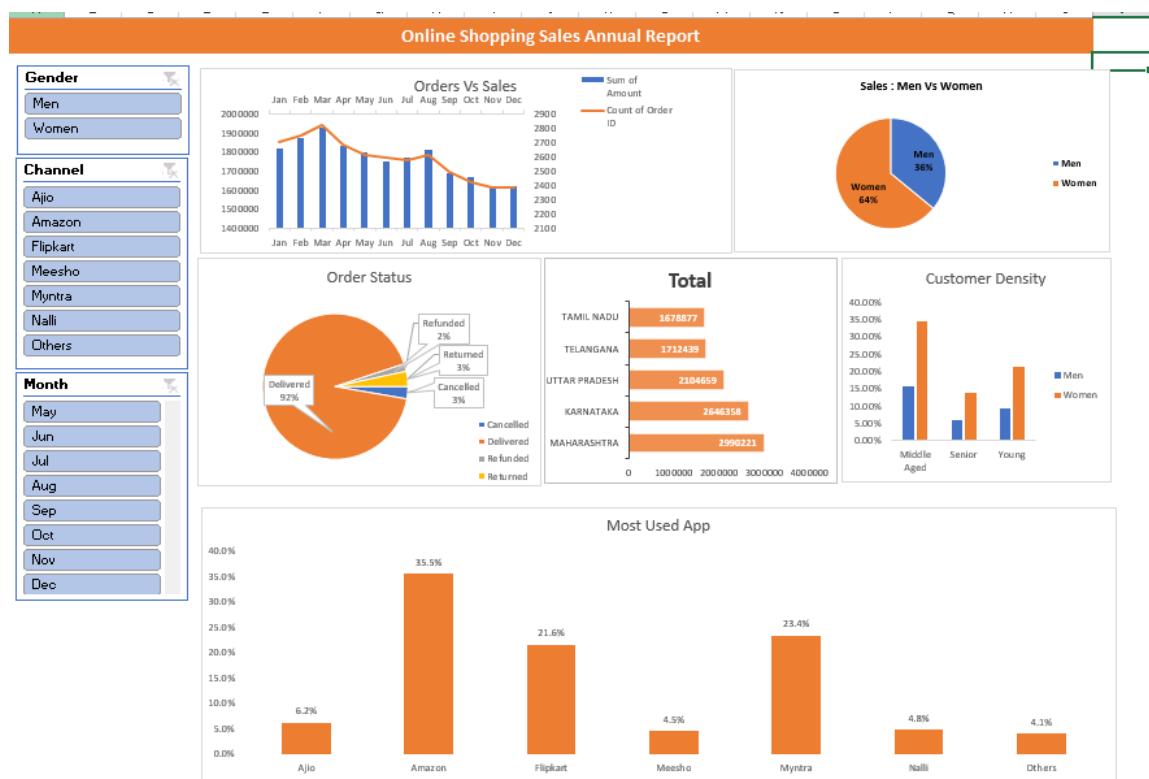
This Excel-based **Online Shopping Sales Dashboard** provides a complete view of customer purchasing behavior, platform performance, and sales trends. The analysis reveals that **ages 26–35 are the highest contributors**, Amazon leads as the most preferred shopping platform, and women make up the dominant shopper base. Deliveries remain strong with minimal delays. Overall, the dashboard equips stakeholders with actionable insights for improving marketing campaigns, boosting conversion in weak demographics, and strengthening platform partnerships. The structured KPIs, pivot charts, and interactive slicers make this a powerful, business-ready analysis tool.
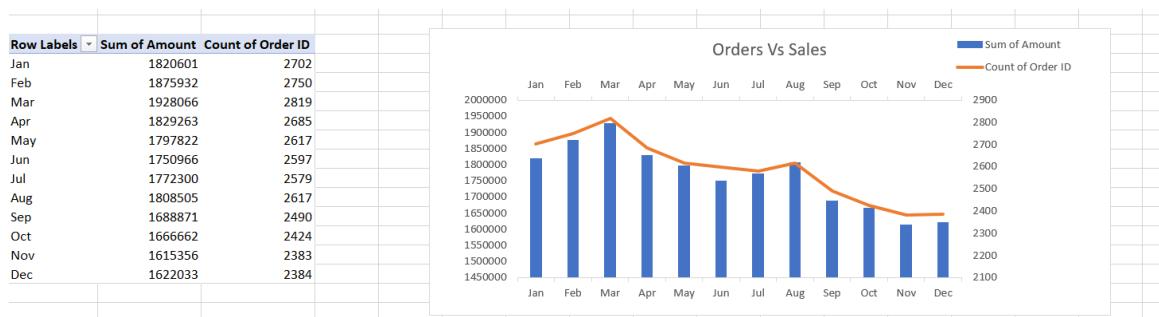
📸 Dashboard & Visuals

Screenshot of the Dashboard:
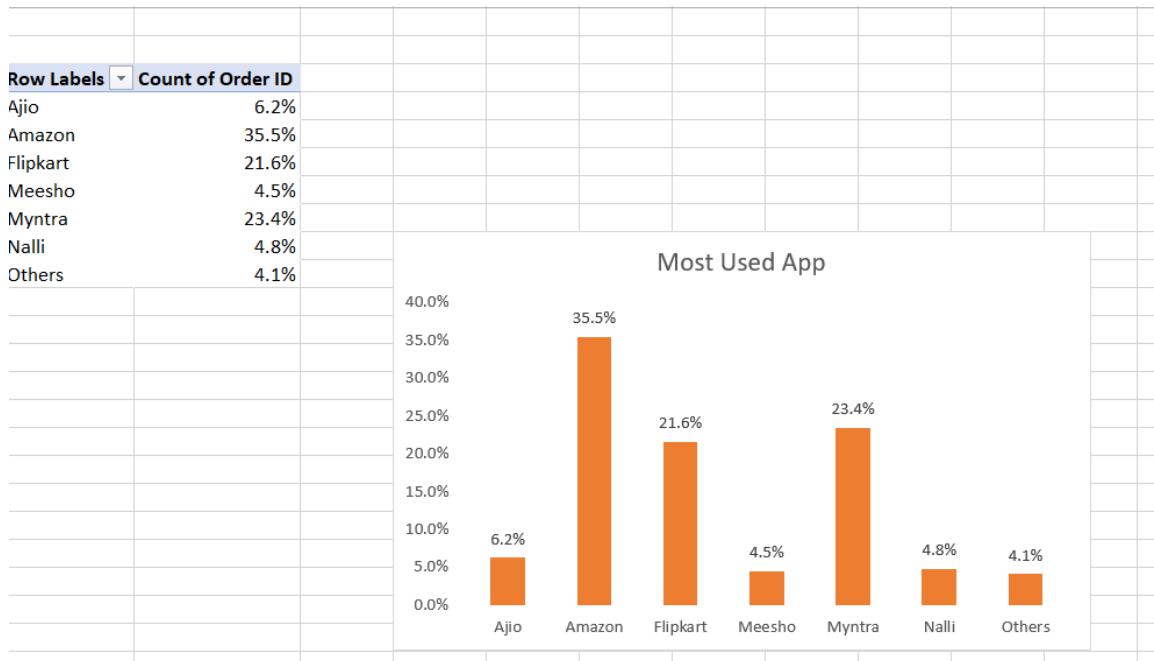
• Dashboard Overview:

• Sales vs Orders Chart:

Row Labels	Sum of Amount	Count of Order ID
Jan	1820601	2702
Feb	1875932	2750
Mar	1928066	2819
Apr	1829263	2685
May	1797822	2617
Jun	1750966	2597
Jul	1772300	2579
Aug	1808505	2617
Sep	1688871	2490
Oct	1666662	2424
Nov	1615356	2383
Dec	1622033	2384
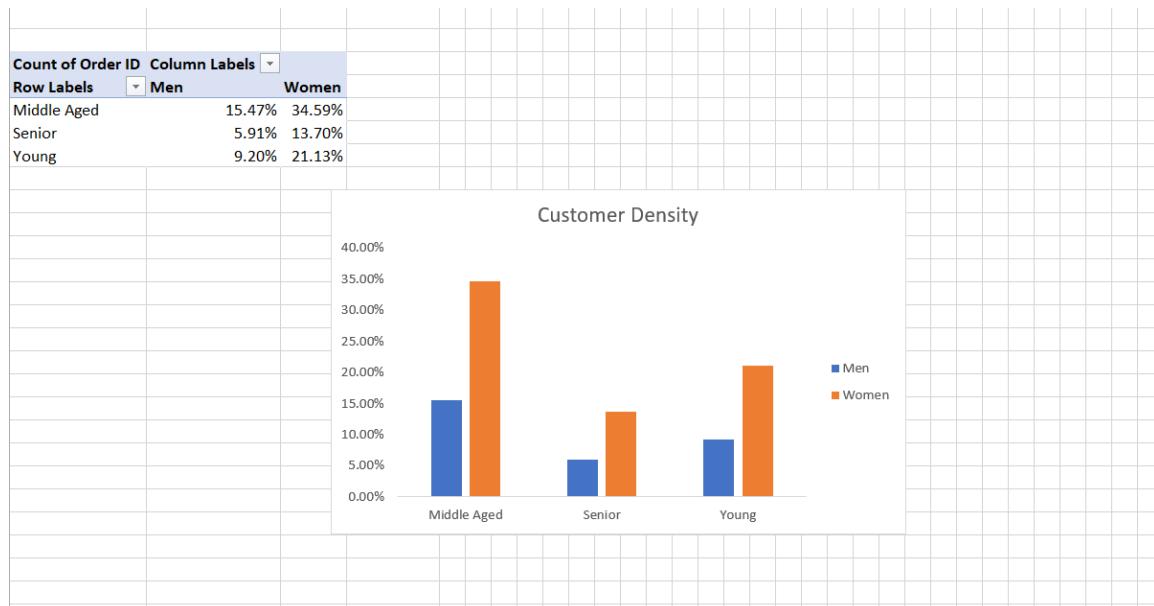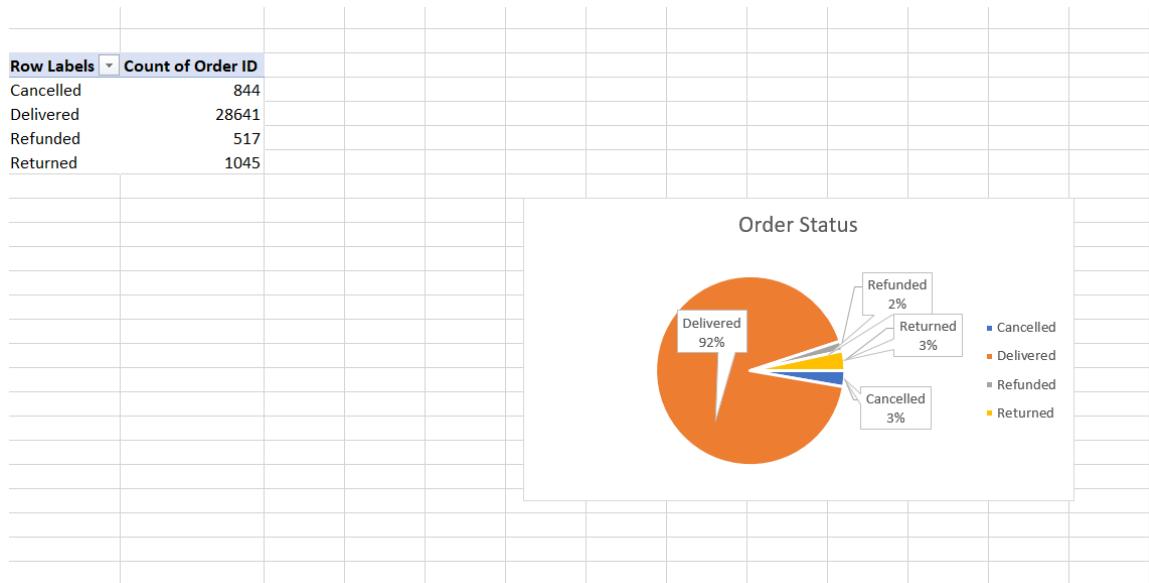
● Platform Usage Pie Chart:

Row Labels	Count of Order ID
Ajio	6.2%
Amazon	35.5%
Flipkart	21.6%
Meesho	4.5%
Myntra	23.4%
Nalli	4.8%
Others	4.1%

Most Used App

App	Value
Ajio	6.2%
Amazon	35.5%
Flipkart	21.6%
Meesho	4.5%
Myntra	23.4%
Nalli	4.8%
Others	4.1%
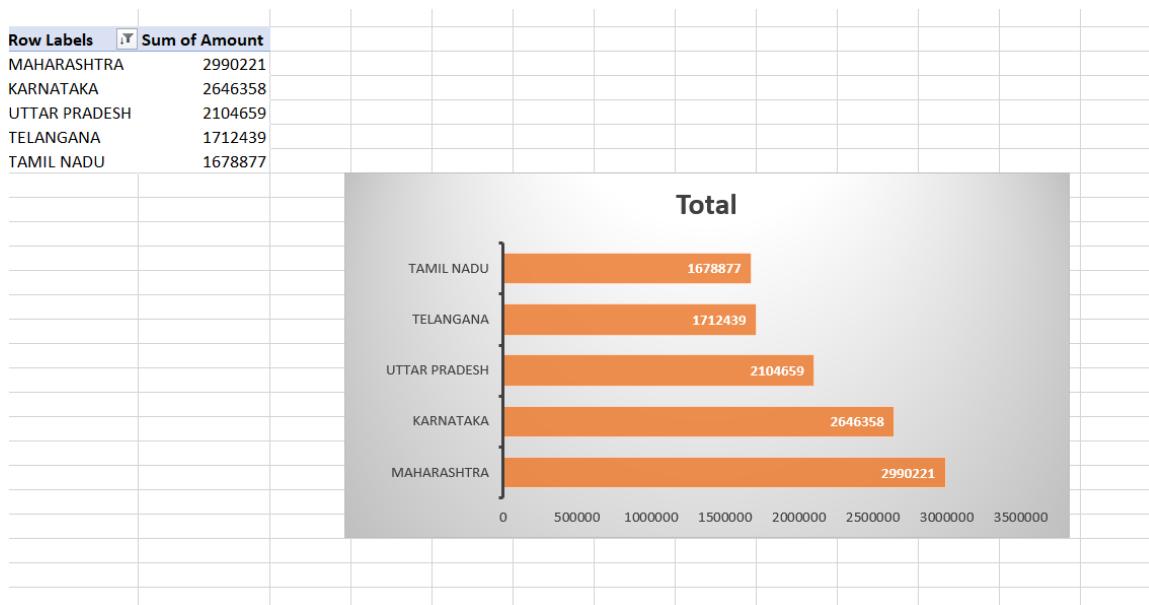
● Age Group Sales Bar Chart:

Count of Order ID	Column Labels	
Row Labels	Men	Women
Middle Aged	15.47%	34.59%
Senior	5.91%	13.70%
Young	9.20%	21.13%

Customer Density

Age Group	Men	Women
Middle Aged	15.47%	34.59%
Senior	5.91%	13.70%
Young	9.20%	21.13%

● Order Status Chart:

Row Labels	Count of Order ID
Cancelled	844
Delivered	28641
Refunded	517
Returned	1045

Order Status

Delivered 92%
Refunded 2%
Returned 3%
Cancelled 3%

- Cancelled
- Delivered
- Refunded
- Returned

● Customer Density Map:

Row Labels	Sum of Amount
MAHARASHTRA	2990221
KARNATAKA	2646358
UTTAR PRADESH	2104659
TELANGANA	1712439
TAMIL NADU	1678877

Total

State	Amount
TAMIL NADU	1678877
TELANGANA	1712439
UTTAR PRADESH	2104659
KARNATAKA	2646358
MAHARASHTRA	2990221

● Gender Sales Comparison:

Row Labels	Sum of Amount
Men	7613604
Women	13562773
Grand Total	**21176377**

Sales : Men Vs Women

Men 36%

Women 64%

■ Men
■ Women