

# RETAIL SALES ANALYSIS & STORE ANNUAL DASHBOARD (2025)

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An end-to-end data analysis project to evaluate sales trends, customer behavior, and operational efficiency.

Tools: PostgreSQL | Microsoft Excel

# PROJECT OVERVIEW

## OBJECTIVE:

The goal of this project is to analyze retail transactional data to understand customer behavior, sales performance, and order fulfillment efficiency.

## Business Value:

- Identify high-performing months, states, and channels
- Understand customer demographics and buying patterns
- Support data-driven decisions for revenue growth and marketing optimization

# DATASET SUMMARY

## Property | Description

Total Rows | 31,048

Columns | 19

Data Type | Transactional retail sales data

Database Used | MySQL

## Key Attributes:

Order\_ID, Customer\_ID, Gender, Age, Age\_Group, Month, Order\_Date, Order\_Status, Sales\_Channel, SKU, Product\_Category, Size, Quantity, Order\_Amount, Ship\_City, Ship\_State, Ship\_Postal, Ship\_Country,

B2B\_Flag

## FEATURES HIGHLIGHTS

- Demographics: Age, age group, gender, and geographic location
- Behavioral Patterns: Order frequency, quantity purchased, and channel usage
- Transaction Details: Order amount, product category, size, and order status
- Fulfillment Insight: Delivered vs cancelled/returned orders across sales channels

# DATA CLEANING & PREPARATION

## OBJECTIVE:

Prepare raw transactional data for accurate analysis and dashboard creation.

## Steps Performed (Excel):

- Removed unnecessary and duplicate columns
- Handled blank and inconsistent values
- Standardized column names and formats
- Corrected data types (dates, numbers, categories)
- Created structured table for pivot analysis

## Outcome:

Clean, consistent, and analysis-ready dataset

## FEATURE ENGINEERING

### New Fields Created:

- Age Group: Teenager, Adult, Senior
- Month: Extracted from order date
- Order Status Categories: Delivered vs Non-Delivered

### Purpose:

To enable customer segmentation and time-based analysis.

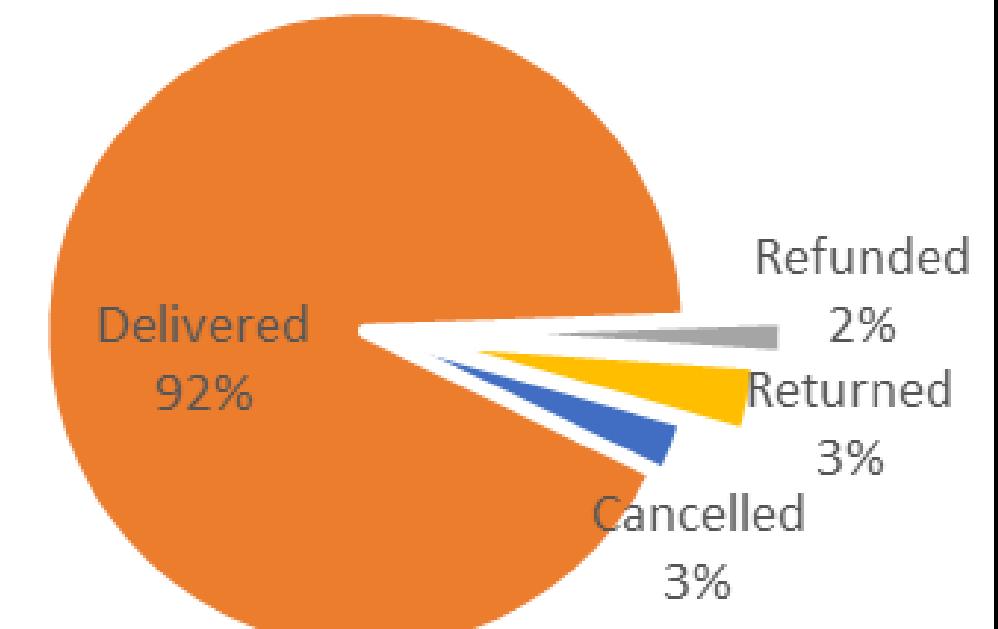
# INSIGHTS

1. How do monthly sales revenue and order volume move together throughout the year?
2. Which month shows the strongest overall performance based on both sales and number of orders?
3. What is the sales contribution split between male and female customers?
4. How efficient is order fulfillment, based on the percentage of delivered vs non-delivered orders?
5. Which order statuses contribute most to successful revenue completion?
6. Which five states generate the highest sales value for the store?
7. How does customer age group influence ordering behavior across genders?
8. Which sales channel drives the highest share of total orders?
9. How does sales performance change when filters like month, category, or channel are applied?
10. Which customer segments and regions together contribute most to overall business performance?

# EXECUTIVE SUMMARY (QUESTION 1, 2 & 4)

- **Headline:** Strong Annual Growth with 92% Fulfillment Efficiency.
- **Key Metrics:**
  1. Sales Trend: Monthly sales and order volume show a positive correlation, peaking in March and July (Ref: Orders vs Sales Chart).
  2. Operational Health: Achieved a 92% Delivery Success Rate. Only 2% of revenue is lost to refunds (Ref: Order Status Chart).
- **Insight:** The business is stable, but a 3% cancellation rate suggests a need to investigate checkout friction or payment failures.

Order Status



# CUSTOMER SEGMENTATION (QUESTION 3 & 7)

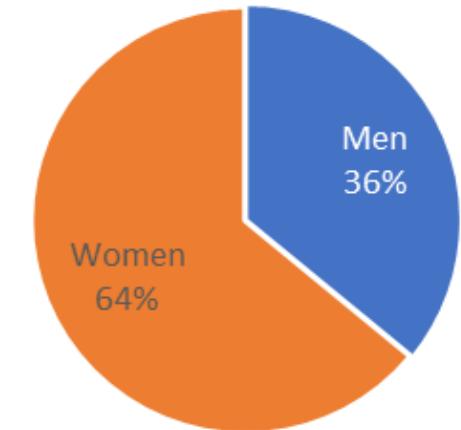
**Headline:** Women and "Adult" Age Groups Drive 60%+ of Revenue.

**Data Points:**

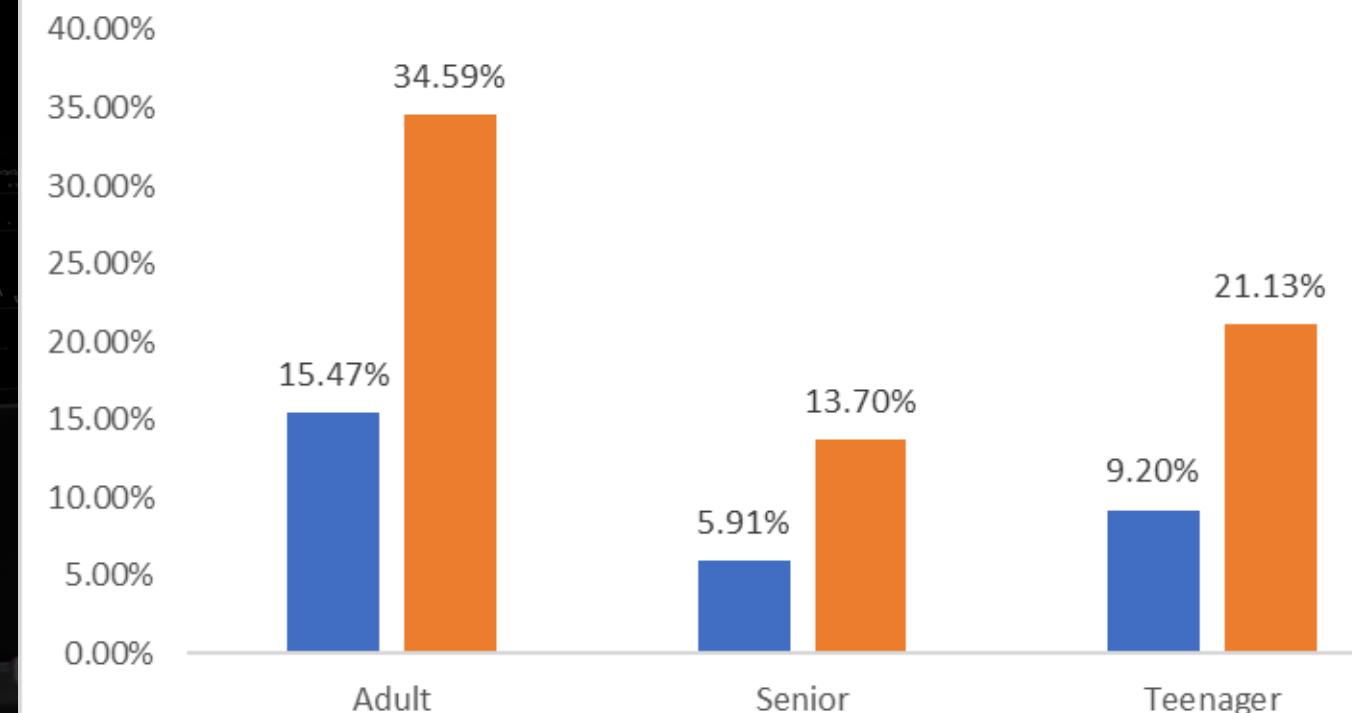
1. Gender Split: Female customers contribute 64% of total sales (Ref: Men vs Women Pie Chart).
2. Age Behavior: The Adult segment (both Male & Female) is the most active. However, Teenagers show a high ordering trend compared to Seniors (Ref: Age vs Gender Chart).

**Business Recommendation:** Launch "Adult-Women" centric marketing campaigns on Instagram/Myntra to double down on the highest-converting segment.

Sales: Men vs Women



Orders: Age vs Gender



# REGIONAL & CHANNEL POWERHOUSES (QUESTION 6, 8 & 10)

## Headline:

Maharashtra & Karnataka Are the Top Revenue Hubs

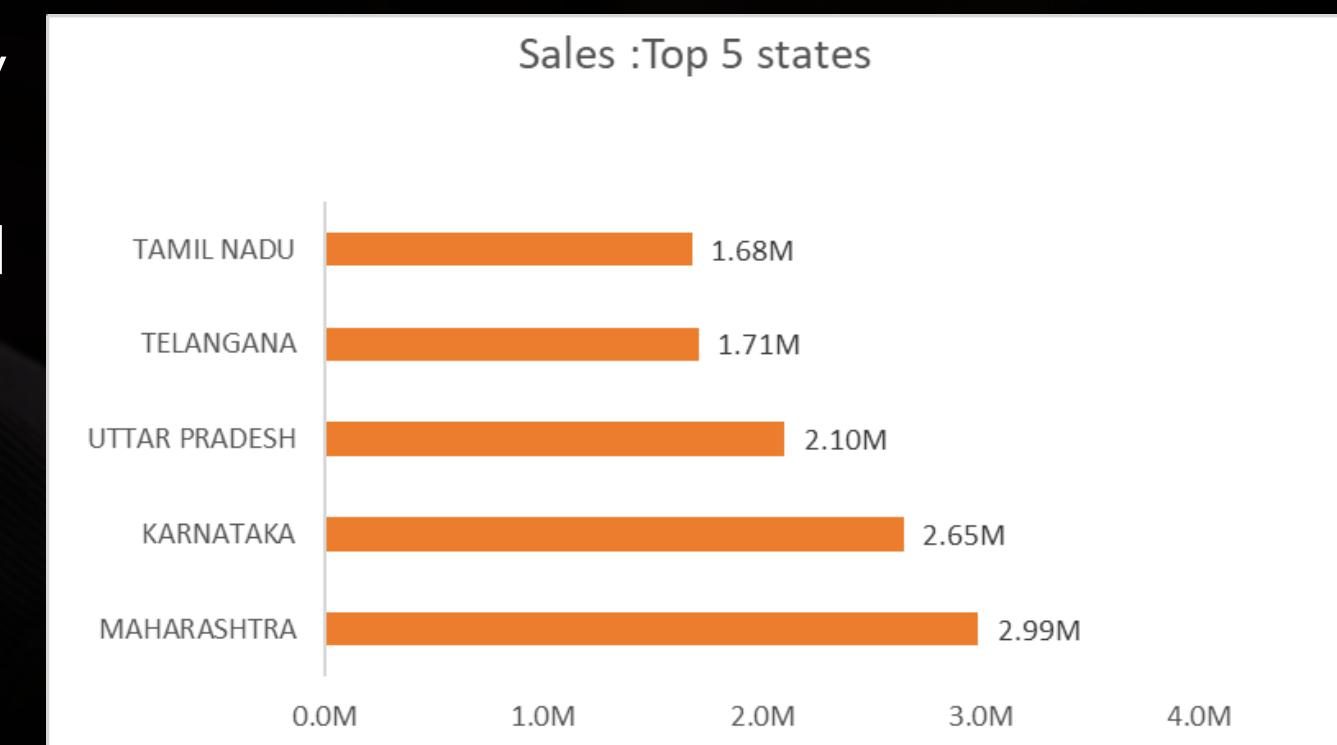
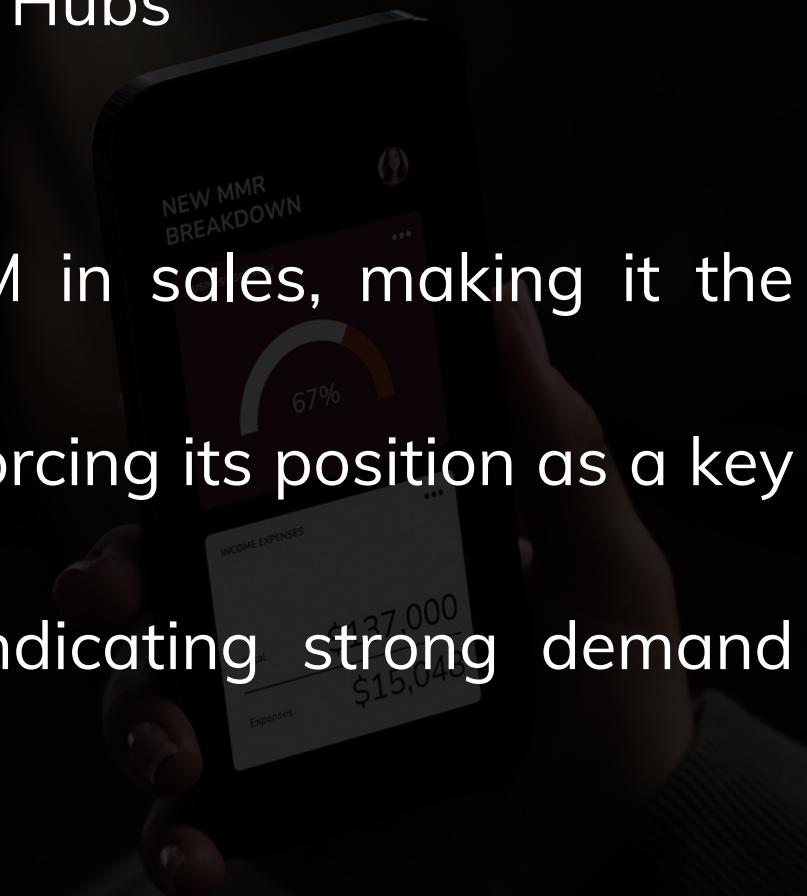
## Insights:

### Top State Performance:

- Maharashtra leads the market with 2.99M in sales, making it the strongest revenue contributor.
- Karnataka follows closely with 2.65M, reinforcing its position as a key southern hub.
- Uttar Pradesh ranks third with 2.10M, indicating strong demand potential in North India.
- (Ref: Top 5 States Sales Chart)

### Other Key States:

- Telangana contributes 1.71M, showing stable mid-tier performance.
- Tamil Nadu records 1.68M, completing the top five states by sales.

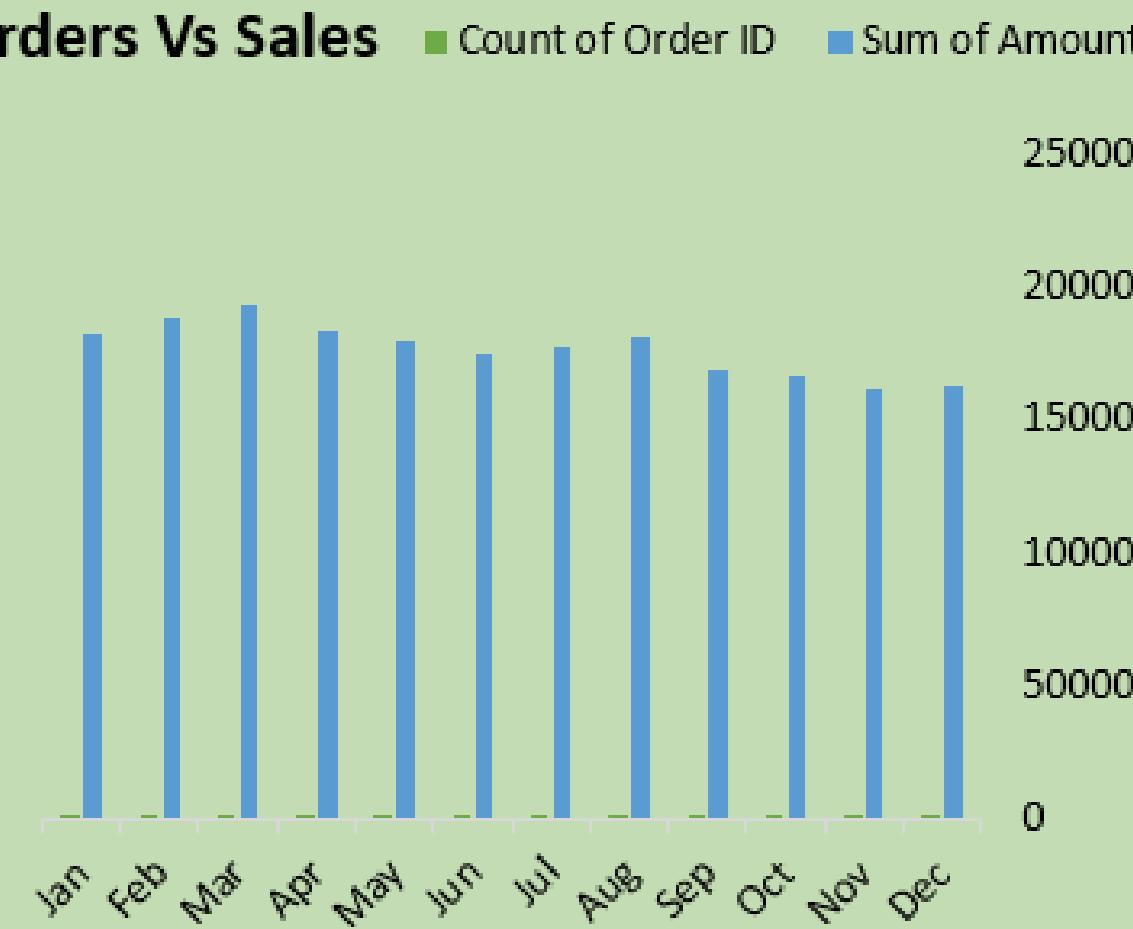


## Strategic Growth Opportunity:

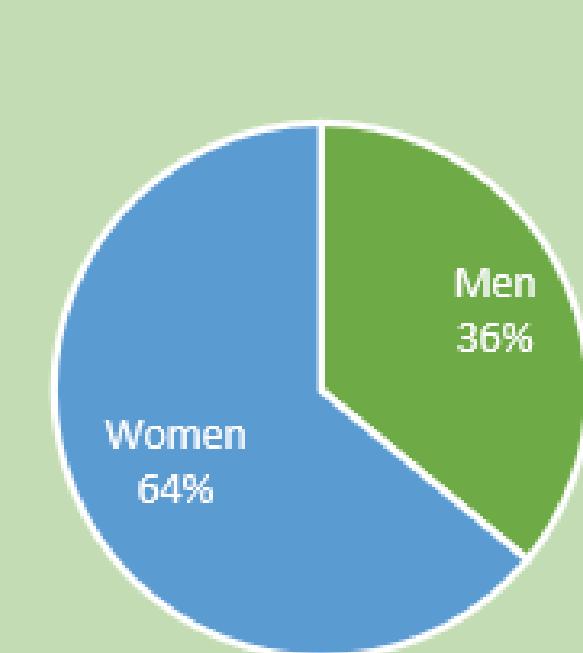
- While Uttar Pradesh already shows high sales volume, further logistics and distribution optimization in North India could unlock additional growth and improve delivery efficiency

# Store Annual Report 2025

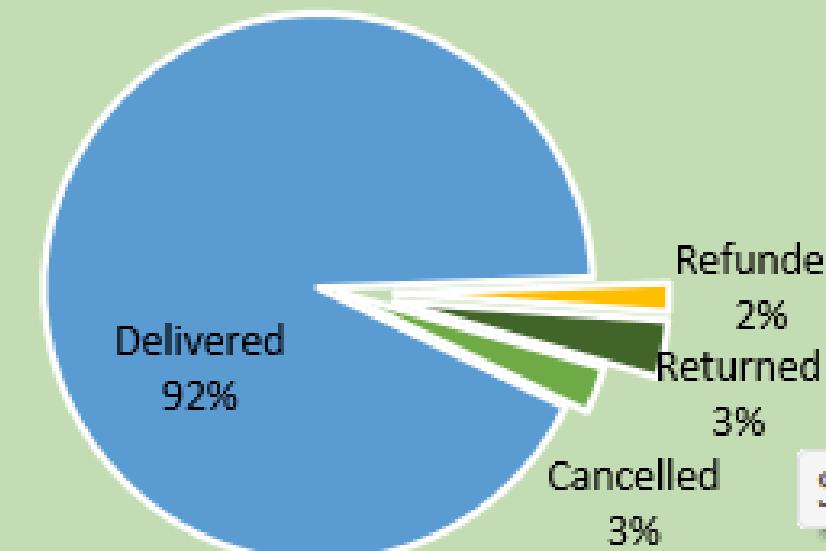
## Orders Vs Sales



## Sales: Men vs Women



## Order Status



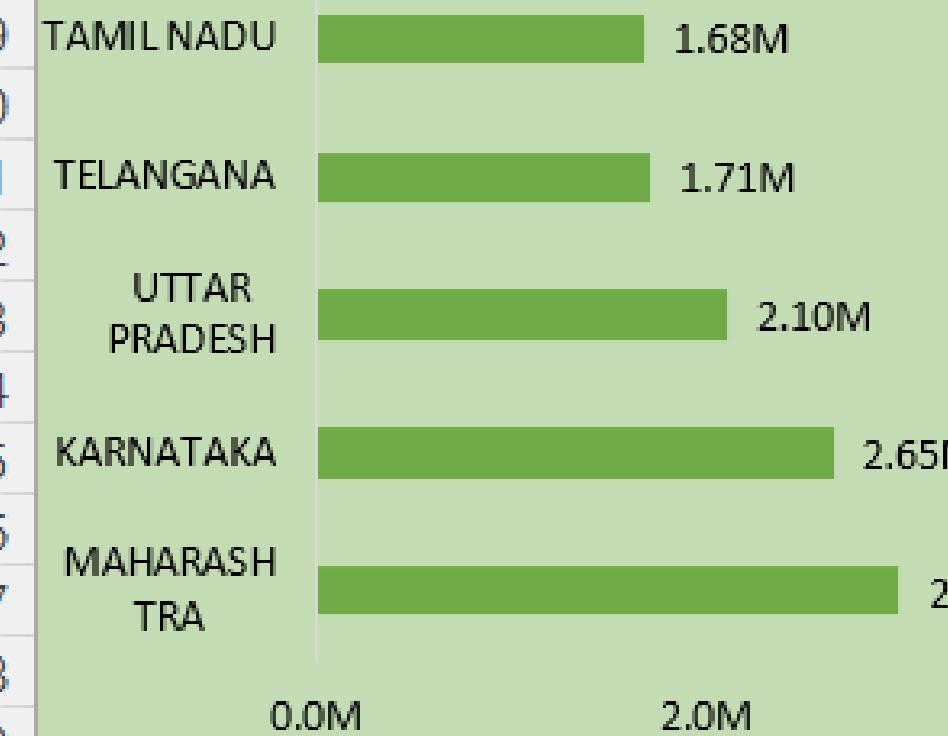
## Sales\_C...

- Flipkart
- Meesho
- Myntra
- Nalli
- Others

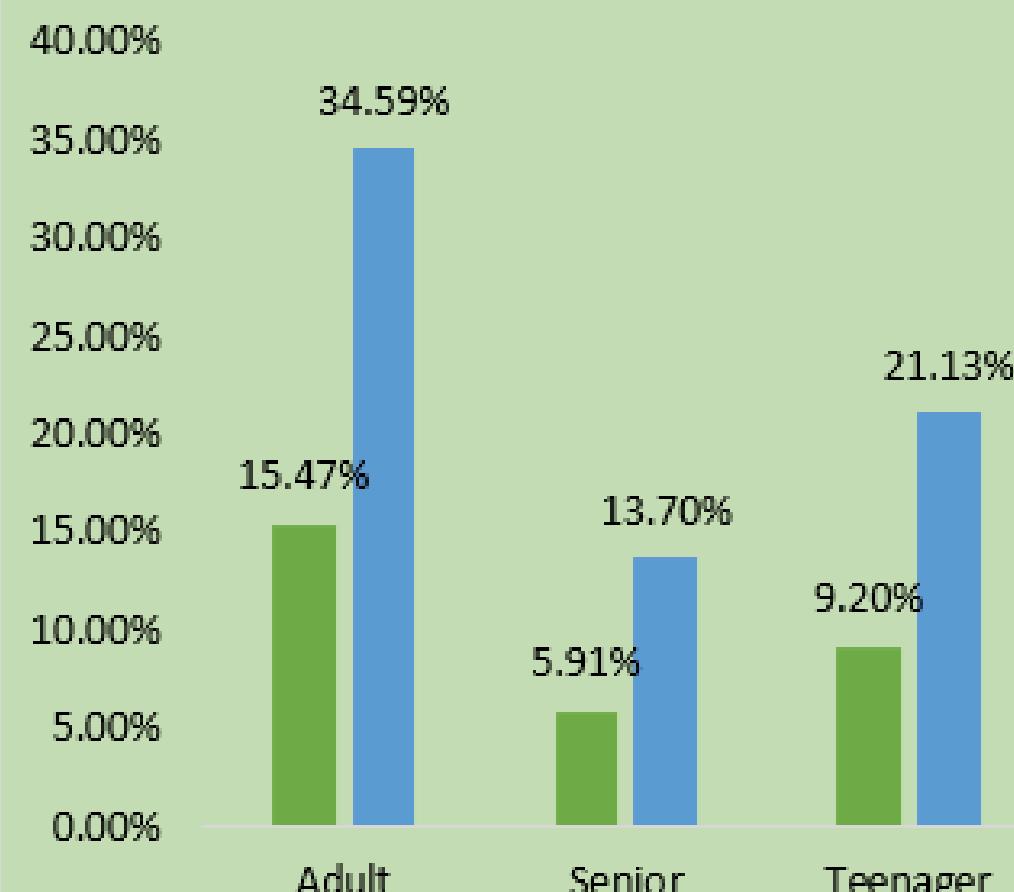
Series "Total" Point "Returned"

- Jan
- Feb
- Mar
- Apr
- May

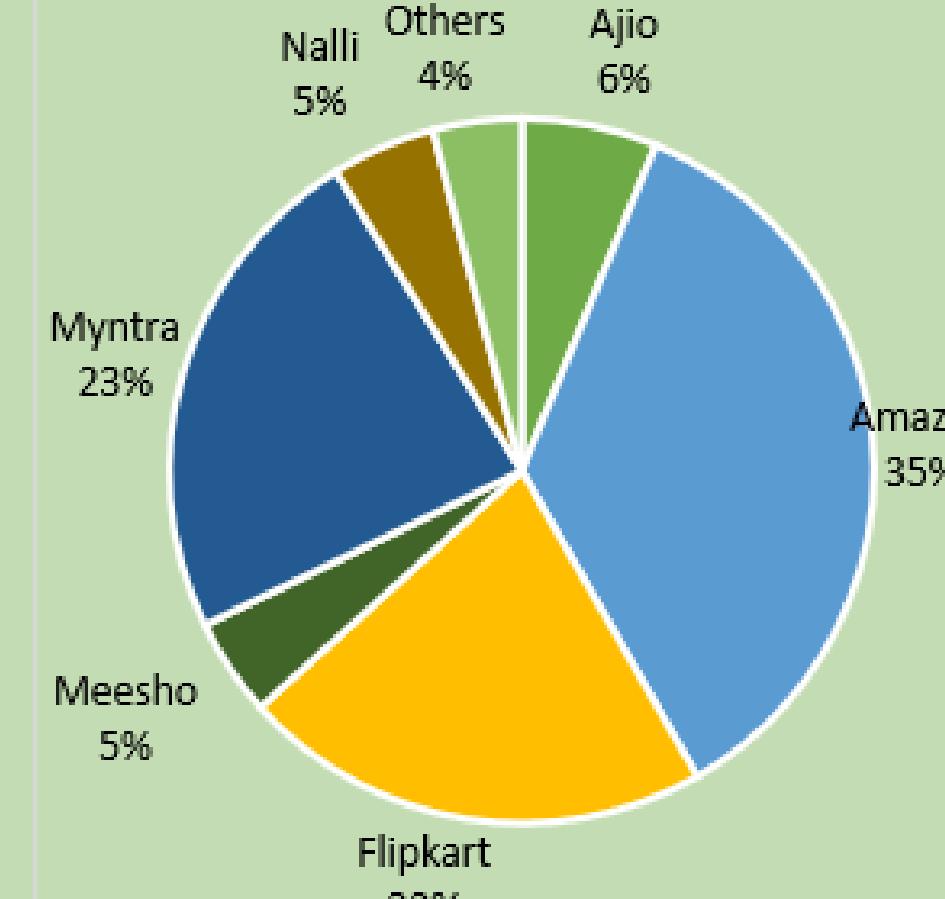
## Sales :Top 5 states



## Orders: Age vs Gender



## Orders: Channel



## Category

- Blouse
- Bottom
- Ethnic Dress
- kurta
- Saree
- Set

# DATA ANALYSIS USING SQL

We performed structured analysis in PostgreSQL to answer key business questions:

## 1. Total Orders & Sales

	total_orders bigint	total_sales numeric	avg_order_value numeric
1	28471	21176377.00	682.07

## 2. Sales by Gender

	gender text	total_orders bigint	total_sales numeric	sales_percentage numeric
1	Men	9166	7613604.00	35.95
2	Women	19980	13562773.00	64.05

## 3. Monthly Sales Trend (Jan-May)

	month character varying	total_orders bigint	total_sales numeric	monthly_percentage numeric
1	Jan	2461	1820601.00	19.0
2	Feb	2503	1875932.00	20.2
3	Mar	2599	1928066.00	20.8
4	Apr	2480	1829263.00	19.1
5	May	2401	1797822.00	19.4

## 4. Order Status Summary

	order_status character varying	total_orders bigint	total_amount numeric	order_percentage numeric
1	Delivered	26356	19710544.00	92.57
2	Returned	1001	719147.00	3.52
3	Cancelled	831	481844.00	2.92
4	Refunded	501	264842.00	1.76

## 5. Top 5 States by Sales

	ship_state character varying	total_orders bigint	total_sales numeric	sales_percentage numeric
1	MAHARASHTRA	4442	2990221.00	14.12
2	KARNATAKA	3946	2646358.00	12.50
3	UTTAR PRADESH	2854	2104659.00	9.94
4	TELANGANA	2503	1712439.00	8.09
5	TAMIL NADU	2651	1678877.00	7.93

## 6. Channel-wise Performance

	sales_channel character varying	total_orders bigint	total_sales numeric	avg_order_value numeric	channel_percentage numeric
1	Mynta	7079	4941540.00	681.22	40.09
2	Flipkart	6554	4573301.00	682.28	37.11
3	Nalli	1477	1015329.00	684.18	8.24
4	Meesho	1389	927606.00	663.52	7.53
5	Others	1259	867241.00	687.74	7.04

## 7. Product Category Performance

	product_category character varying	total_orders bigint	total_sales numeric	total_units_sold bigint	avg_order_value numeric
1	Set	11811	10507546.00	12446	848.00
2	Saree	1321	1010471.00	1389	732.23
3	Ethnic Dress	263	195256.00	264	739.61
4	Blouse	222	140888.00	234	615.23
5	Bottom	75	27804.00	78	356.46

## 8. Orders by Age Group

	age_group character varying	total_orders bigint	total_sales numeric	unique_customers bigint
1	Adult	14831	10608757.00	14823
2	Teenager	9128	6412858.00	9123
3	Senior	5976	4154762.00	5974

## 9. What do Men vs Women buy? (Business Insight)

	gender text	product_category character varying	total_orders bigint	total_sales numeric
1	Men	Set	5008	4333954.00
2	Men	Saree	274	217293.00
3	Men	Ethnic Dress	175	132073.00
4	Men	Bottom	44	16312.00
5	Men	Blouse	7	5331.00
6	Women	Set	7045	6173592.00
7	Women	Saree	1049	793178.00
8	Women	Blouse	215	135557.00
9	Women	Ethnic Dress	88	63183.00
10	Women	Bottom	32	11492.00

## 10. Which channel delivers best?

	sales_channel character varying	total_orders bigint	delivered_orders bigint	delivery_rate numeric
1	Mynta	7079	6713	94.83
2	Flipkart	6554	6173	94.19
3	Others	1259	1175	93.33
4	Nalli	1477	1375	93.09
5	Meesho	1389	1288	92.73

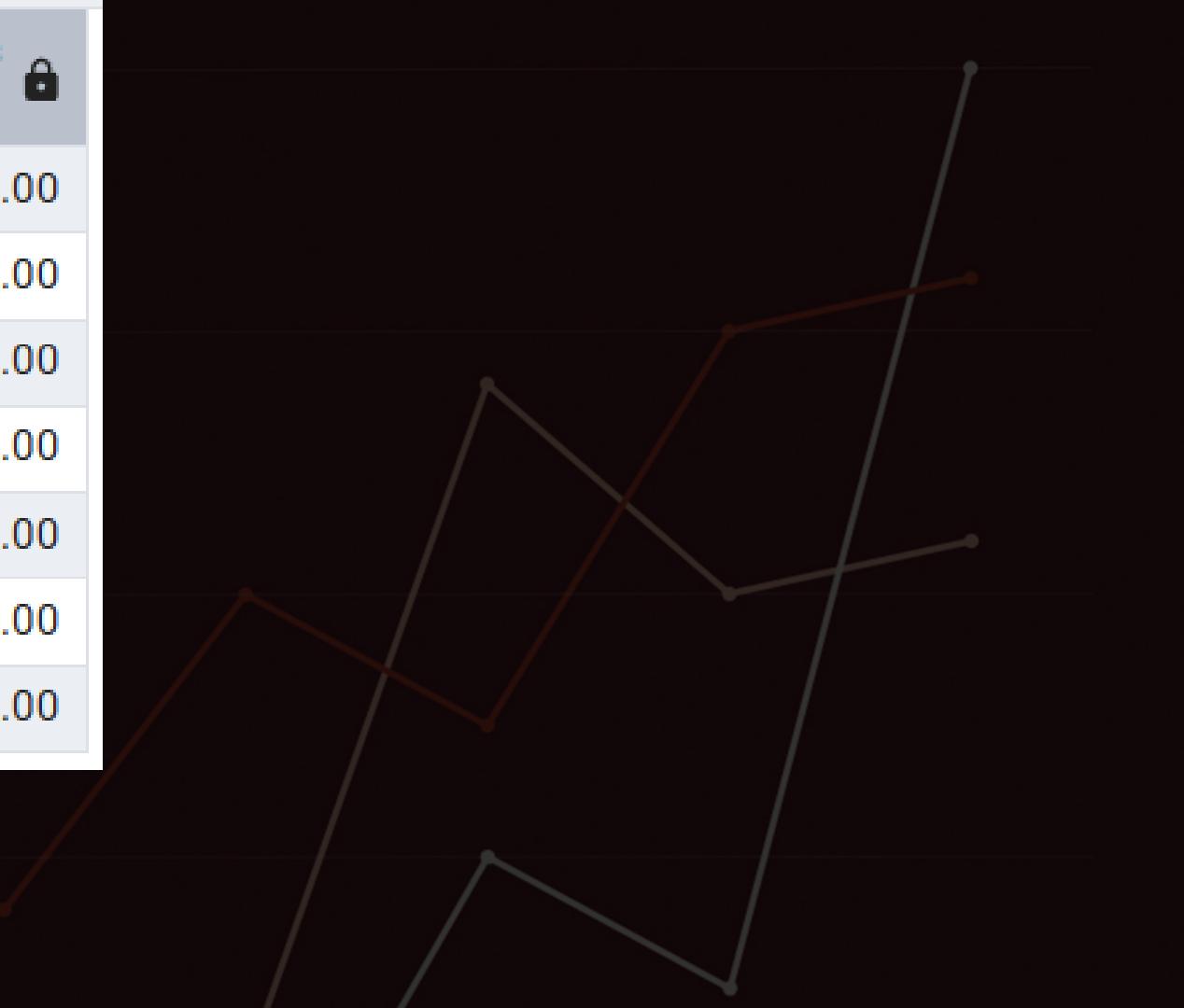
## 11. Using CTE to calculate Month-over-Month (MoM) Growth

	month character varying	monthly_sales numeric	previous_month_sales numeric	growth_pct numeric
1	Mar	1928066.00	1875932.00	2.78
2	Feb	1875932.00	1820601.00	3.04
3	Apr	1829263.00	1928066.00	-5.12
4	Jan	1820601.00	0	[null]
5	May	1797822.00	1829263.00	-1.72

## 12. Ranking Product Categories per Sales Channel using Window Functions

	sales_channel character varying	product_category character varying	total_sales numeric
1	Ajio	Set	680195.00
2	Amazon	Set	3752298.00
3	Flipkart	Set	2286157.00
4	Meesho	Set	455135.00
5	Myntra	Set	2398712.00
6	Nalli	Set	496425.00
7	Others	Set	438624.00

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## Key Business Insights from SQL Analysis:

- Strong overall performance: Healthy total sales with a stable average order value, indicating consistent customer spending.
- Women drive revenue: Female customers contribute the majority of orders and sales compared to other segments.
- Seasonal trend observed: Sales peak in specific months, highlighting clear seasonality in customer demand.
- Top product categories dominate revenue: Sarees, Kurtas, and Ethnic Sets generate the highest sales value.
- Channel performance varies: Flipkart and Myntra outperform other channels in both revenue and delivery success rate.
- Regional concentration of value: A few states contribute a significant share of sales, with some regions showing high average order value despite lower order volume.
- Customer age impact: Mid-age customer groups place the highest number of orders and drive most revenue.
- Delivery efficiency differs by channel: Certain platforms show higher delivery rates, while others experience more cancellations and returns.

# Project Outcomes

1. Conducted exploratory analysis using Excel dashboards to identify key sales trends and customer behavior patterns.
2. Used SQL to validate dashboard findings and perform deeper analysis, generating 10+ actionable business insights.
3. Evaluated sales performance across time, customer demographics, product categories, regions, and sales channels.
4. Identified high-value customer segments, top-performing products and channels, and regional revenue concentration.
5. Highlighted operational insights related to order fulfillment efficiency and delivery performance to support business improvements.

## Conclusion

1. This project demonstrates a practical, end-to-end analytics approach by combining Excel for exploration and visualization with SQL for accurate analysis and validation. The integrated use of both tools enabled a clear understanding of sales trends, customer purchasing behavior, product demand, and channel effectiveness.
2. The insights generated from this analysis can support data-driven decision-making in areas such as marketing optimization, inventory planning, channel strategy, and operational efficiency, making the project highly relevant for real-world business scenarios.