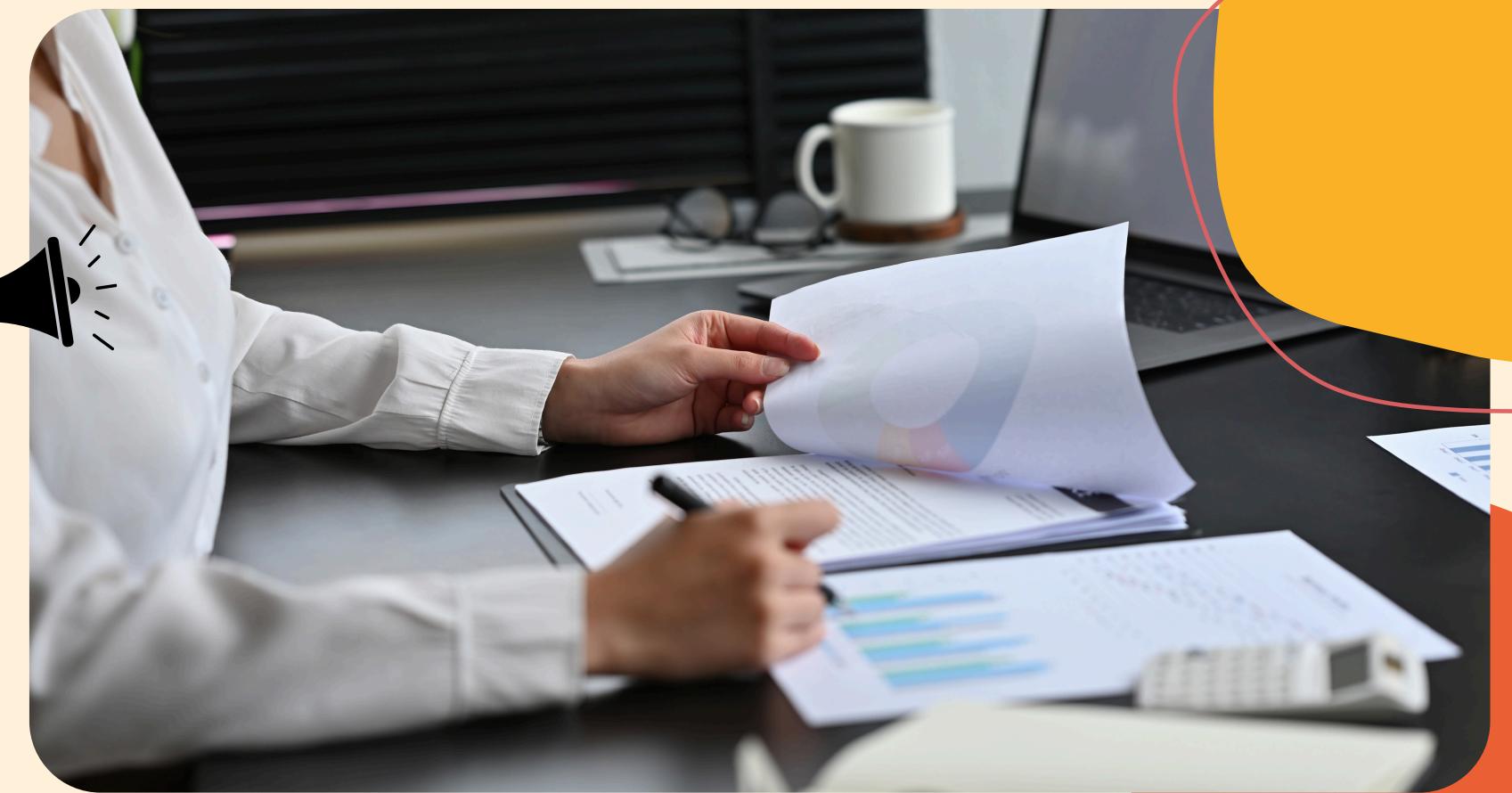


E-Commerce Sales & Customer Analytics Using SQL

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Introduction



What this project is about:

This SQL project analyzes a complete e-commerce ecosystem including users, orders, order items, products, and reviews.



What is the Aim:

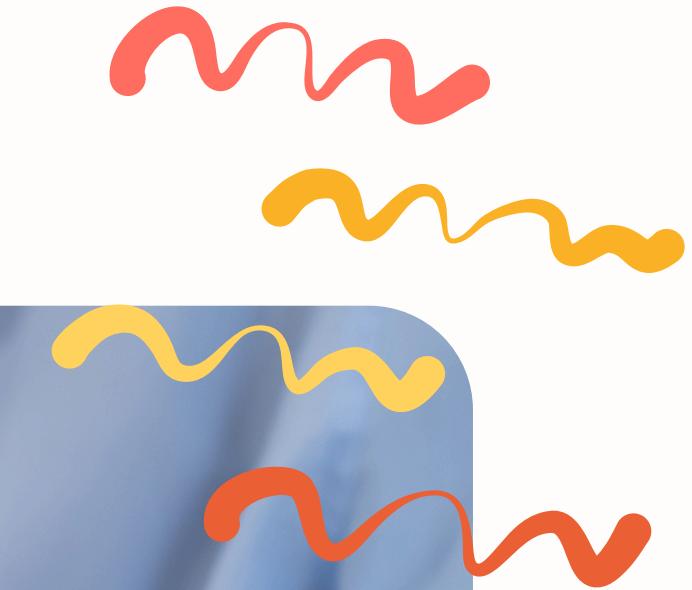
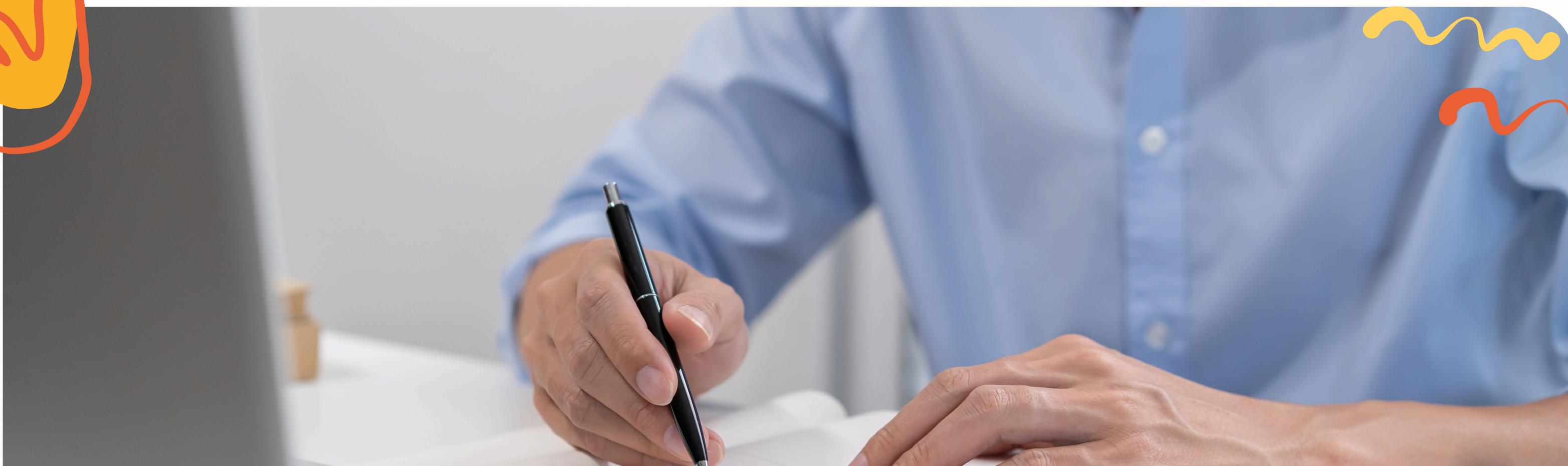
To extract meaningful business insights through SQL queries



Dataset Used:

A relational e-commerce dataset consisting of 5 tables:

- users
- orders
- order_items
- products
- reviews



DATA DESCRIPTION

users

Stores customer information such as name, gender, location, age, and loyalty tier.

order_items

Stores line-item level purchase details: product quantity, unit price, item total.

reviews

User reviews with rating, review text, and review date.

orders

Contains details of each order including datetime, total amount, payment method, and shipping location.

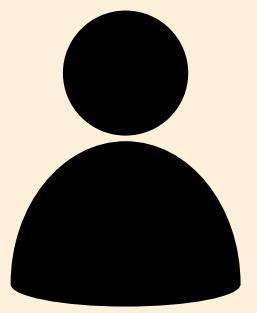
products

List of products with category, brand, price, inventory, rating_avg, num_ratings.



PROJECT OBJECTIVES





1. User & Customer Analytics

1. Calculate the total number of users.
2. Identify the number of active users (users who placed at least one order).
3. Analyze new users per month to understand signup trends.
4. Analyze users by country and calculate percentage distribution.
5. Analyze users by gender and compute gender distribution.
6. Identify highest revenue age groups based on sales contribution.
7. Identify the top 10 high-value customers, including revenue, orders, and behavior.
8. Detect high-rated but low-sale products to find hidden opportunities.



2. Sales & Revenue Insights

1. Calculate total revenue earned from actual item totals.
2. Compute the total number of orders.
3. Calculate the total products sold (sum of quantity).
4. Determine revenue by gender to understand spending behavior.
5. Analyze revenue by product category.
6. Find top 10 products by revenue.
7. Calculate Average Order Value (AOV) per year and per month.
8. Analyze orders per month and per year to understand sales trends.
9. Identify top discounted products based on discount %.



3. Product Performance Analysis

1. Find products with no sales using LEFT JOIN logic.
2. Determine bottom 10 products by quantity sold.
3. Provide an inventory overview (remaining stock vs sold stock).
4. Identify best-rated products in each category using reviews.
5. Identify overall top-rated products based on rating & count.



4. Order & Transaction Insights

1. Break down order statuses (delivered, shipped, pending, returned, cancelled) with percentages.
2. Identify the top returned products and calculate return rates.
3. Find the most used payment methods and calculate their usage percentage.
4. Identify cities and countries with the most deliveries.

FINAL OBJECTIVE SUMMARY

- Analyze users, sales, products, and order behaviors
- Identify top-performing and underperforming products
- Understand customer demographics and purchase patterns
- Evaluate revenue drivers and discount strategies
- Measure delivery performance, payment preferences, and return risks

FINAL INSIGHTS



1. User Engagement is Excellent

98% of users have placed at least one order.



2. Strong Revenue Performance

Generated ₹88.7 million in total revenue.



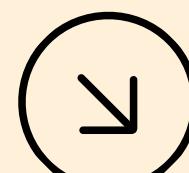
3. Massive Year-over-Year Growth

Orders increased from 127 → 1029 in just 4 years (8x growth).

Your ecommerce platform is scaling extremely well.

- Invest more in marketing for 2025

- Focus more on high-revenue categories like Smartwatches & Speakers



4. Balanced Gender Purchasing Behavior

Revenue is almost equally split across

- Create marketing campaigns targeted to each gender

FINAL INSIGHTS



6. Inventory Imbalance Detected (Both Overstock & Understock)

Many products still have 400–480 units left despite low sales.

Several fast-moving products have very low inventory left.

- Reduce stock of slow-moving products
- Increase stock of high-selling SKUs
- Use data-driven demand planning



7. AOV (Average Order Value) is Very High

AOV stays consistently around ₹43K–₹46K every year.

Customers are buying premium electronic products.

- Upsell accessories during checkout
- Introduce premium bundles (Smartwatch + Earbuds)

FINAL INSIGHTS

8. Good Delivery Success with Moderate Returns

Return rate = 5.1% (better than industry average)

- Investigate top returned products (20–30% return rate)
- Improve packaging or modify product descriptions

10. High-Rated but Low-Sale Products Exist

Great products are not getting enough visibility.

- Feature them in homepage banners
- Run targeted promotions

9. Best Performing Categories

Top revenue generators:

- Smartwatches
- Bluetooth Speakers
- Gaming Consoles

These categories are your profit drivers.

- Expand the number of SKUs in these categories

11. UPI Dominates as Payment Method

UPI accounts for 40% of all orders. Customers prefer fast, mobile-first payments.

- Add UPI-based cashback offers



Thank You Very Much

Hope you found the insights valuable.
Feel free to ask anything or share suggestions.