

BLINKIT DATA ANALYSIS USING SQL

1. Project Scope:

Objective:

The objective of this project is to perform an in-depth analysis of Blinkit's operational and customer data using MySQL. By leveraging Data Query Language (DQL) queries, Aggregate functions, MySQL functions, Joins, Subqueries and Views, this project aims to extract meaningful insights related to customer behavior, sales performance, order trends, product efficiency, and delivery effectiveness.

2. Purpose of the Project:

The primary purpose of this project is to analyze Blinkit's dataset to uncover key business insights that can drive better decision-making. The project focuses on:

1. Data Retrieval and Exploration

- Using **DQL queries and basic SQL operations** to extract meaningful information from the Blinkit database.
- Implementing **MySQL Views** to simplify complex queries and improve efficiency.

2. Customer Analysis

- Identifying key customer demographics, purchase frequency, and retention trends.
- Understanding customer engagement and preferences based on order history.

3. Sales and Revenue Analysis

- Evaluating total revenue, Average Order Value(AOV), and revenue trends over time.
- Identifying high-performing and low-performing sales periods.

4. Order Analysis

- Analyzing order frequency, volume, and cancellation rates.
- Understanding order trends based on time, location, and customer behavior.

5. Product Performance Analysis

- Determining top-selling and least-performing products.
- Evaluating category-wise product demand and revenue contribution.

6. Delivery Performance Analysis

- Assessing delivery speed, efficiency, and delays.
- Identifying locations with delivery inefficiencies and potential areas for improvement.

7. Customer Behavior & Engagement Analysis

- Tracking customer engagement based on order patterns and purchase habits.
- Identifying loyal customers and trends in repeat purchases.

By conducting this analysis, the project aims to provide actionable insights that can enhance Blinkit's business strategy, optimize operations, and improve customer satisfaction.

Blinkit Dataset Overview

Table Name	Purpose	Fields	Use Case
Customers	Stores customer-related details for tracking user information and location.	CustomerID	Uniquely identifies each customer.
		Name	Stores the name of the customer.
		Phone	Contact details for communication (e.g., order updates).
		Address	Delivery location of the Customers.
		City	Helps analyze customer distribution across cities.
Orders	Contains order-related details, linking customers and deliveries.	OrderID	Unique identifier for each order.
		CustomerID	Links orders to customers.

		OrderDateTime	Timestamp when the order was placed.
		DeliveryDateTime	Timestamp when the order was delivered.
		TotalAmount	Total cost of the order.
Order_Details	Stores product-level details of each order to the track items purchased.	DeliveryStatus	Tracks order completion (e.g., Delivered, Cancelled).
		OrderDetailsID	Unique identifier for each order detail record.
		OrderID	Links order details to the Orders table.
		ProductName	Name of the product purchased.
		Quantity	Number of units of the product ordered.
		PricePerUnit	Cost per unit of the product.

This table format provides a clear structure for understanding the dataset, its purpose, and how each field is used in analysis .

SQL QUERIES

1. Basic Queries

1. To View the first few records of each table
2. To Count total records in each table
3. To Check for NULL values in critical columns

2. Customer Analysis

(Customer behavior, order frequency, spending patterns)

4. List of cities with the highest number of customers
5. Customers who placed maximum orders
6. Customers who spent the most money
7. Customers with the largest orders by total amount

3. Sales and Revenue Analysis

(Revenue generation, sales trends, top-performing products)

8. Calculate total revenue generated
9. Find the average order value (AOV)
10. Identify the top 10 most ordered products
11. Find products that generated the highest revenue (Top 10 by revenue)
12. Monthly revenue trend
13. Daily revenue trend
14. Find total revenue by city

4. Order Analysis

(Order patterns, volume, peak times, and fulfillment insights)

- 15. Count of orders per delivery status
- 16. Time difference between orders and deliveries
- 17. Identify the average delivery time
- 18. Find the total number of orders in a day
- 19. Find orders with the most products purchased (highest total quantity)
- 20. Identify peak order times (hourly)
- 21. Find the total number of orders placed in each city
- 22. Orders that contain a specific product

5. Product Performance Analysis

(Product demand, pricing, and city-wise performance)

- 23. Find the products that were ordered the least
- 24. Top products sold by quantity and revenue together
- 25. Identify products with the highest average price per unit
- 26. Calculate the total quantity of products sold by city
- 27. Find customers with orders containing more than 20 items (quantity)

6. Delivery Performance Analysis

(Delivery speed, efficiency, and location-based performance)

- 28. Identify orders with the shortest delivery time
- 29. Delivery performance by city

7. Customer Behavior & Engagement Analysis

(Customer purchase habits and engagement trends)

- 30. Find customers who placed multiple orders in a single day
- 31. Find the number of unique customers who placed orders each month
- 32. List customers who spent more than \$20,000 in total

8. MYSQL Views

(For Efficient Querying & Data Retrieval)

- 33. Create view for filtered customer records.

This sequence ensures a structured flow from **customer insights** → **revenue trends** → **order patterns** → **product performance** → **delivery efficiency** → **engagement metrics** and finally, optimized querying through **views**.