E-COMMERCE SALES REPORT

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PROJECT OVERVIEW

This Power BI project analyzes E-Commerce sales performance to provide insights into customer behavior, regional trends, category performance, and payment preferences.

The interactive dashboard consolidates KPIs and visual trends that enable management to make data-driven decisions on marketing, inventory, and profitability.

OBJECTIVES

- Track **total sales amount, profit, quantity sold, and average order value (AOV).**
- Identify **top-performing states, customers, and product categories.**
- Evaluate **monthly profit trends** across quarters.
- Understand **payment mode distribution** and **customer purchasing patterns.**
- Support business strategy through **visual analytics and dynamic filters.**

DATA MODEL OVERVIEW

The project uses two primary tables: **Orders and Order Details**, connected by the Order ID column.

1. **Orders Table:** *Serves as the master table providing customer and geographic dimensions.*

Column	Description
Order ID	Unique identifier for each customer order
Order Date	Date when the order was placed
Customer Name	Name of the customer
State	State of the customer/delivery
City	City of the customer/delivery

2. Order Details Table: *Contains transactional details used for numerical analysis of revenue, profit, and sales trends.*

Column	Description
Order ID	Foreign key linking to Orders table
Amount	Total value of the order
Profit	Profit or loss from the order
Quantity	Number of items purchased
Category	Main product category (e.g., Electronics, Clothes, etc)
Sub-Category	Specific product type (e.g., Phones, Chairs, etc)
Payment Mode	Mode of payment (Credit Card, COD, EMI, UPI)

NOTE: Relationship Between Tables
A one-to-many relationship exists:

Orders[Order ID] → OrderDetails[Order ID]

This model enables Power BI to aggregate metrics like profit by state, sales by category, and customer contribution dynamically.

DATA PREPARATION

Data cleaning and transformation were carried out in Power Query Editor:

- Removed duplicates and handled missing values.
- Formatted columns (date, currency, category).
- Created DAX measures:
  - Total Sales = SUM(OrderDetails[Amount])
  - Total Profit = SUM(OrderDetails[Profit])
  - Total Quantity = SUM(OrderDetails[Quantity])
  - Average Order Value (AOV) = DIVIDE([Total Sales], [Total Quantity])

DASHBOARD COMPONENTS

Key Performance Indicators

Metric	Value	Description
Total Amount	438K	Total Revenue Generated
Total Quantity	5615	Items Sold
Total Profit	37K	Net Profit
Average Order Value (AOV)	121K	Average Order Value per transaction

VISUAL ANALYSIS AND INSIGHTS

Top Performing States

Quarter	Top State
Q1	Maharashtra
Q2	Maharashtra
Q3	Madhya Pradesh
Q4	Maharashtra

🔹 Insight: Maharashtra dominates in three out of four quarters, indicating consistent sales strength.
Madhya Pradesh shows strong seasonal performance during Q3.

Category by Quantity

Category	Share
Clothing	63%
Electronics	21%
Furniture	16%

🔹 Insight: Clothing drives the majority of sales, making it the core revenue generator.
Electronics maintains a solid secondary contribution, while Furniture remains niche.

Payment Mode by Quantity

Payment Mode	Share
COD	46%
UPI	22%
Debit Card	13%
Credit Card	11%

🔹 Insight: Cash on Delivery (COD) remains the most popular payment mode, representing nearly half of all orders.
However, digital payments like UPI are growing steadily.

Profit by Sub-Category

Sub-Category	Performance
Printers	Highest profit generator
Bookcases	Strong contribution to profit
Saree	Moderate performance
Accessories	Lower profit margin
Tables	Lowest profitability

🔹 Insight: Printers and Bookcases lead profitability, while Tables have the lowest margins, suggesting the need for pricing or inventory review.

KEY INSIGHTS SUMMARY

- Maharashtra dominates overall performance; Madhya Pradesh leads briefly in Q3.
- Clothing (63%) is the best-selling category.
- COD (46%) is the most preferred payment method.
- Printers and Bookcases yield the highest profits.
- The profit peak in November suggests seasonal trends.

BUSINESS RECOMMENDATIONS

- Strengthen inventory and promotions in **Maharashtra**.
- Expand **Clothing** product range and marketing.
- Encourage digital payments through **UPI** and **Credit Card** discounts.
- Reassess low-margin items like **Accessories and Tables**.
- Plan marketing pushes around **November** for maximum ROI.

CONCLUSION

This Power BI E-Commerce Dashboard transforms raw transactional data into clear business insights.
It highlights sales trends, profit distribution, and customer behavior patterns — helping management take evidence-based decisions to boost sales efficiency and profitability.
From a business standpoint, the insights generated by this dashboard support strategic planning, pricing optimization, and marketing alignment.
Decision-makers can use these insights to enhance product availability in high-demand areas, streamline inventory management, and promote digital payment channels.
Furthermore, the quarterly view provides valuable input for seasonal demand forecasting, helping businesses prepare marketing campaigns around profit peaks like November.

In conclusion, this Power BI dashboard exemplifies how data visualization and analytics can transform operational data into meaningful insights, measurable outcomes, and competitive advantage for e-commerce businesses.

APPENDIX

Dashboard Snapshot

Sample Tables

Orders Table (Master Table)

Column Name	Description	Example
Order ID	Unique order identifier	ODR_101
Order Date	Date when the order was placed	2/15/2024
Customer Name	Customer who placed the order	Krutika
State	State of delivery	Maharashtra
City	City of delivery	Mumbai

Order Details Table (Transaction Table)

Column Name	Description	Example
Order ID	Linked to Orders table	ODR_101
Amount	Total sales amount (₹)	1,800
Profit	Profit or loss (₹)	250
Quantity	Number of items	3
Category	Product category	Clothing
Sub-Category	Specific product type	Saree
Payment Mode	Payment method	COD