Sales Data Analysis

Step 1: Build the Data Model

A relational data model will be created, consisting of the following key tables:

1. Sales Transactions – Captures individual sales records, including product details, sales reps,

and revenue.

2. Products – Stores product information such as name, category, and price.

3. Customers – Contains customer details, order history, and total spending.

4. Sales Representatives – Holds sales rep performance metrics, targets, and assigned regions.

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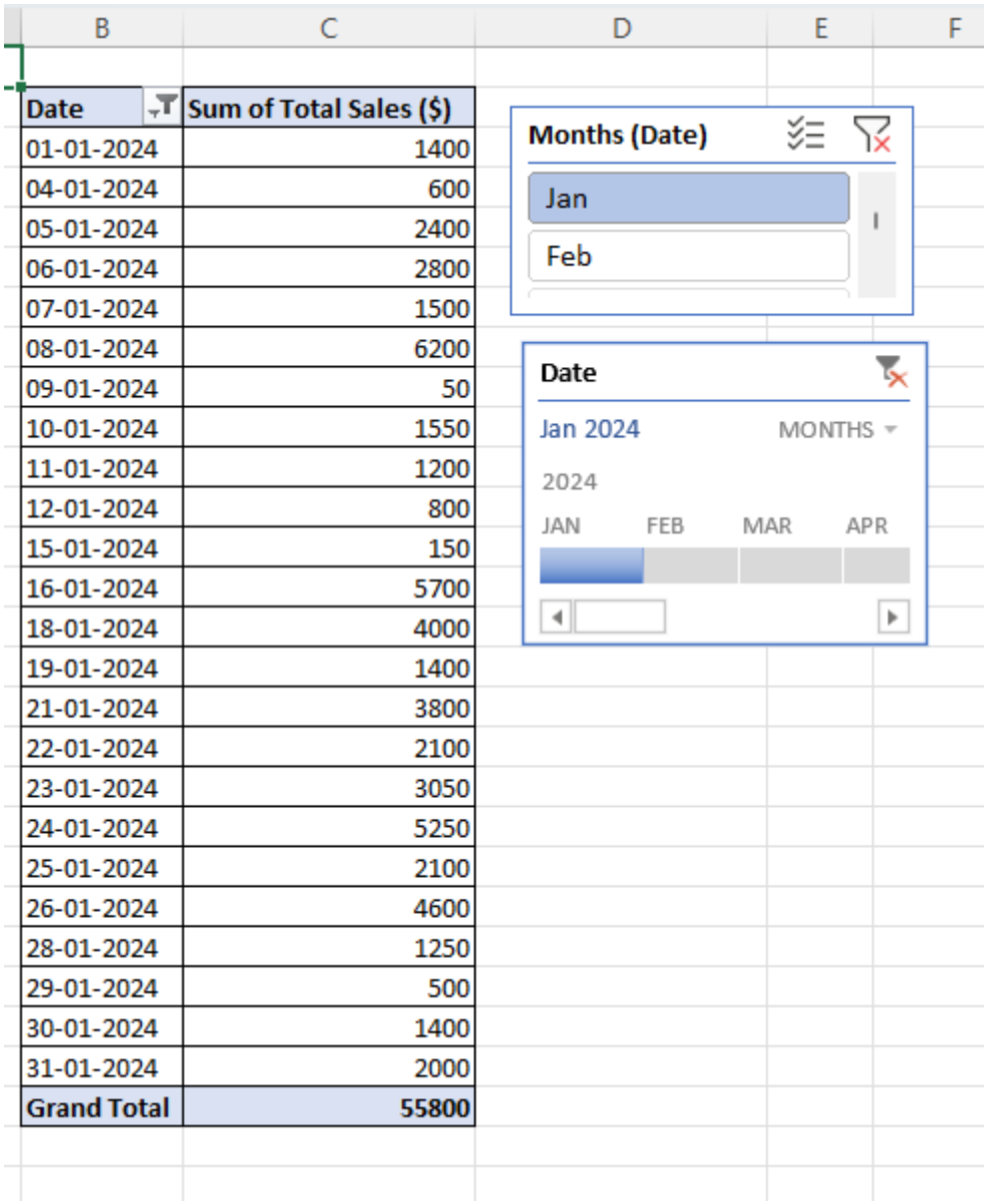
Step 2: Data Analysis Based on Key Questions

Once the data model is established, analysis will be performed to answer critical business questions, including:

• Sales Performance Analysis:

o What is the total revenue generated within a given period?

Sales Data Analysis

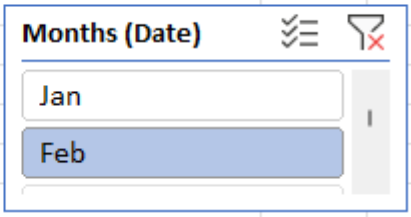


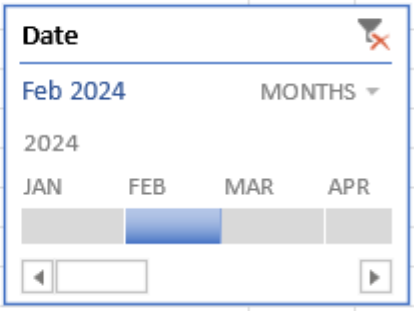
Date	Sum of Total Sales ($)
01-01-2024	1400
04-01-2024	600
05-01-2024	2400
06-01-2024	2800
07-01-2024	1500
08-01-2024	6200
09-01-2024	50
10-01-2024	1550
11-01-2024	1200
12-01-2024	800
15-01-2024	150
16-01-2024	5700
18-01-2024	4000
19-01-2024	1400
21-01-2024	3800
22-01-2024	2100
23-01-2024	3050
24-01-2024	5250
25-01-2024	2100
26-01-2024	4600
28-01-2024	1250
29-01-2024	500
30-01-2024	1400
31-01-2024	2000
Grand Total	55800

From the above data we can see that, revenue generated in **Jan** is **5580**.

Sales Data Analysis

Date	Sum of Total Sales ($)
01-02-2024	4900
02-02-2024	2200
03-02-2024	1000
04-02-2024	600
05-02-2024	50
Grand Total	**8750**





From the above data we can see that, revenue generated in **Feb** is **8750**.

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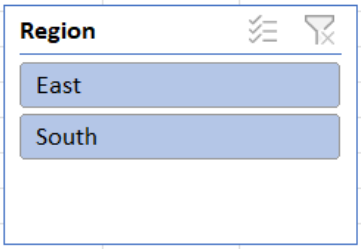
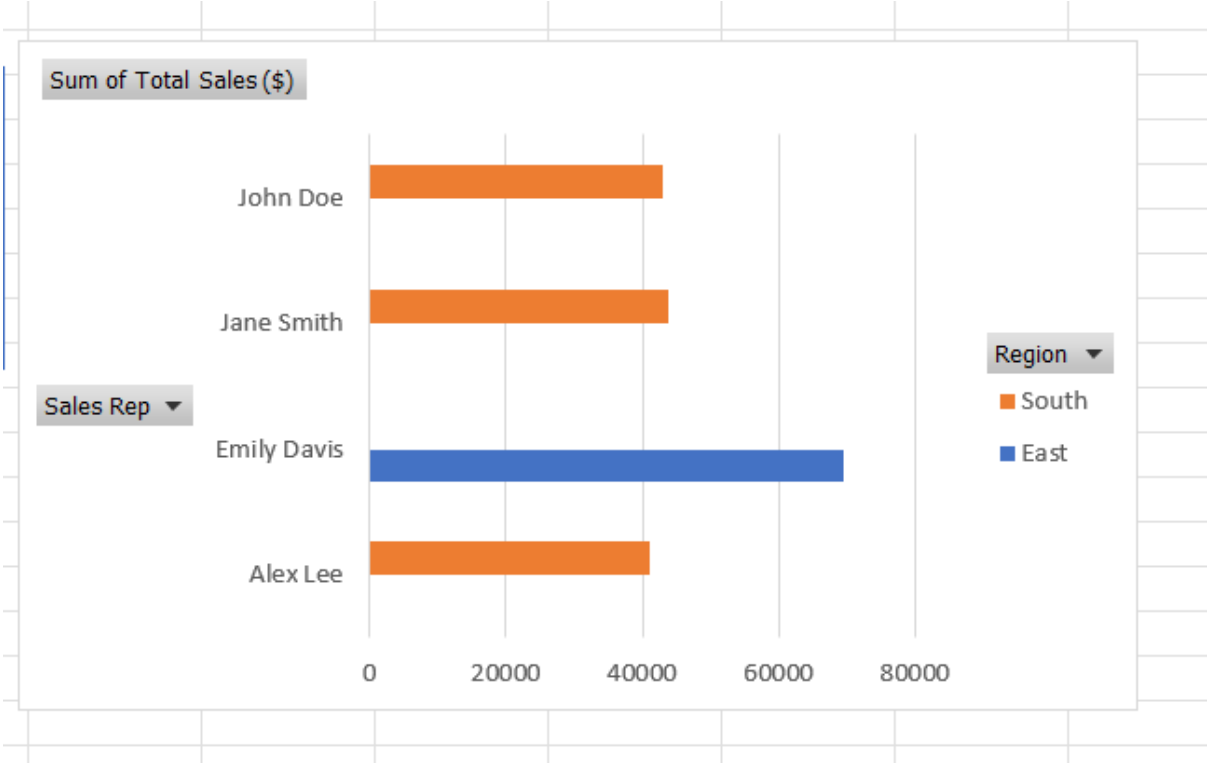
o Which regions and sales reps contribute the most to total sales?

Sum of Total Sale	Region		
Sales Represen	East	South	Grand Total
Alex Lee		41031	41031
Emily Davis	69484		69484
Jane Smith		43801	43801
John Doe		42875	42875
Grand Total	**69484**	**127707**	**197191**



Sales Data Analysis



From the above data we can see that, sales reps **Emily Davis** from **East** region contribute the most to total sales.

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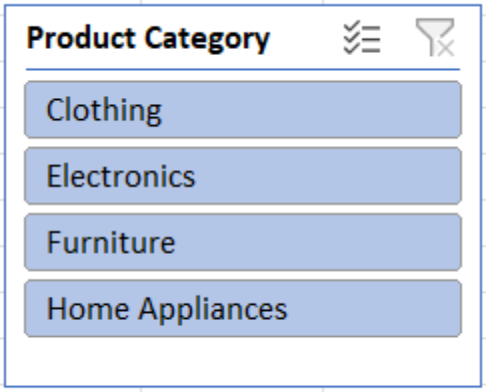
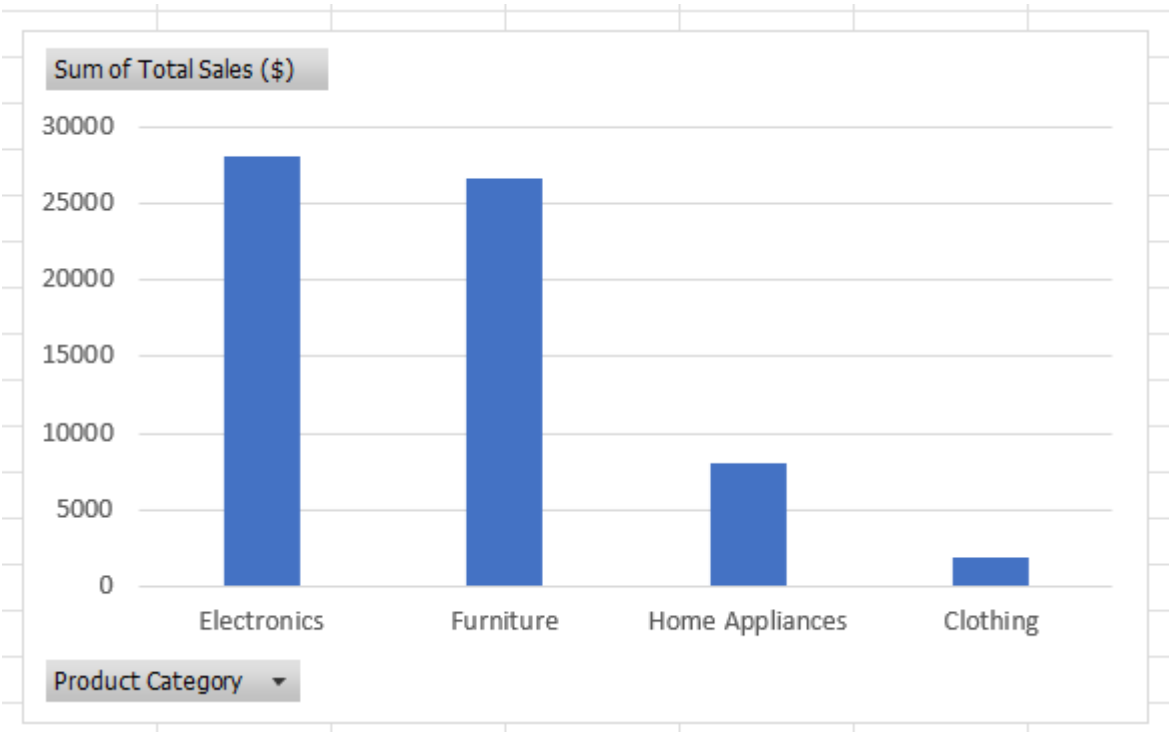
o What are the best-selling and worst-selling products?

Products	Sum of Total Sales ($)
Electronics	28000
Furniture	26600
Home Appliances	8100
Clothing	1850
Grand Total	**64550**



Sales Data Analysis



From the above data we can see that**,** the best-selling products are **Electronics** and worst-selling products are **Clothing**.

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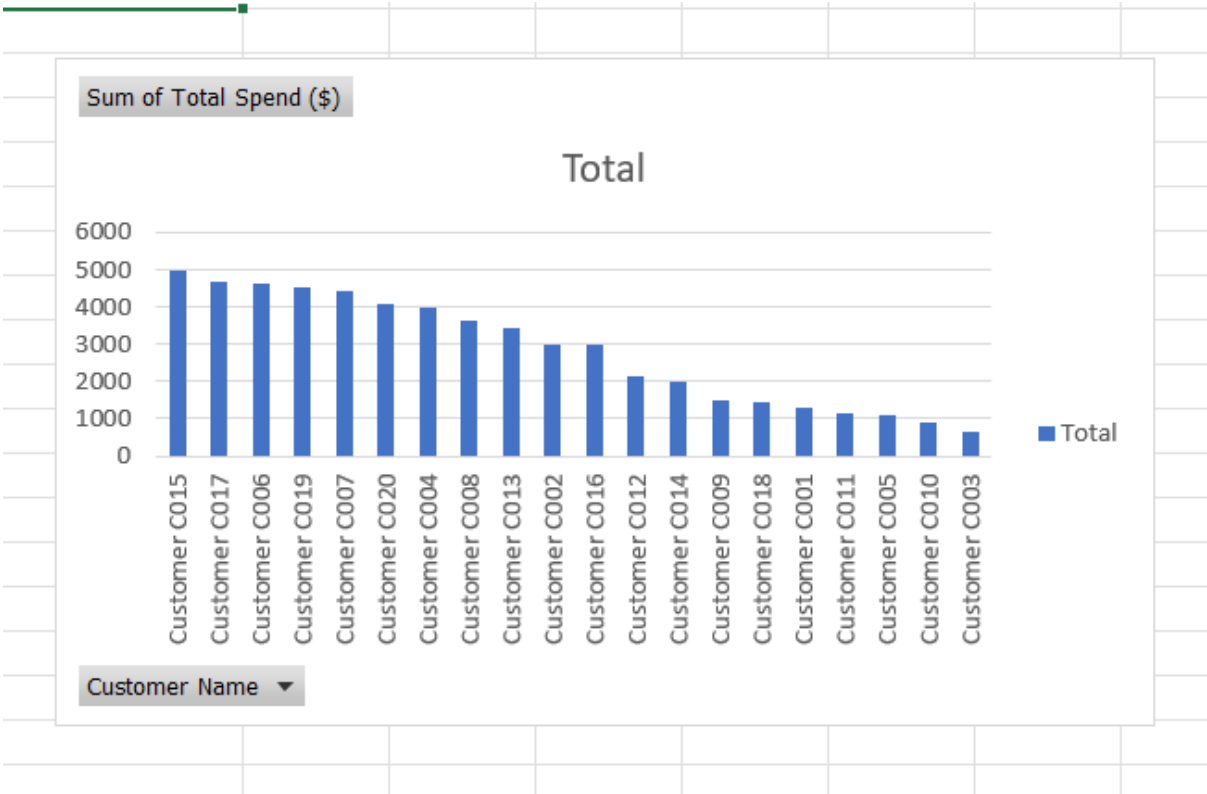
- **Customer Insights:**

o Who are the top customers based on spending?

Sales Data Analysis

Customer ID	Sum of Total Spend ($)
Customer C015	4983
Customer C017	4657
Customer C006	4604
Customer C019	4512
Customer C007	4409
Customer C020	4064
Customer C004	3954
Customer C008	3619
Customer C013	3431
Customer C002	3001
Customer C016	2991
Customer C012	2125
Customer C014	1990
Customer C009	1469
Customer C018	1435
Customer C001	1275
Customer C011	1132
Customer C005	1075
Customer C010	898
Customer C003	628
Grand Total	**56252**

Sales Data Analysis



From the above data we can see that, the top customer based on spending are customer with customer id **C015, C017, C006, C019, C007, C020.**

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o What is the average order value and frequency of purchases?

Sales Data Analysis

Customer ID	Count of Total Orders	Average of Total Orders
C001	1	2
C002	1	9
C003	1	2
C004	1	10
C005	1	7
C006	1	4
C007	1	10
C008	1	1
C009	1	5
C010	1	3
C011	1	9
C012	1	8
C013	1	6
C014	1	2
C015	1	5
C016	1	10
C017	1	3
C018	1	8
C019	1	7
C020	1	1
Grand Total	**20**	**5.6**

From the above data we can see that, the average order value is **5.6** and frequency of purchases are **20**.

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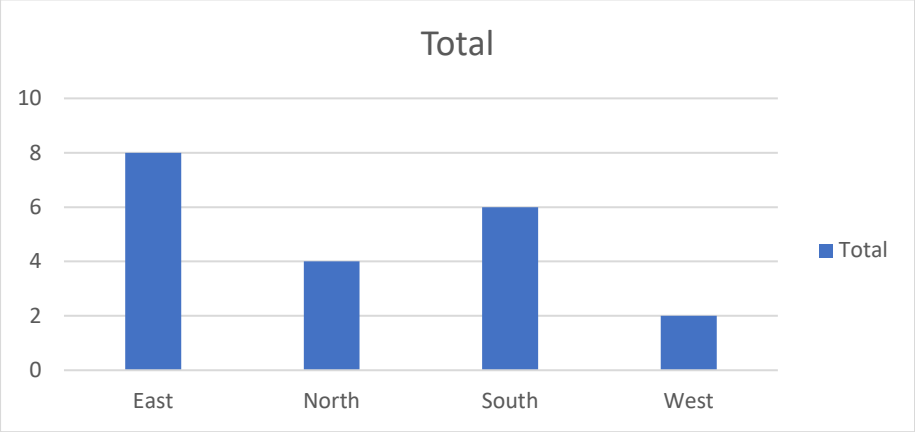
o Which region has the most repeat customers?

Region	Count of Customer ID
East	8
North	4
South	6
West	2
Grand Total	**20**

Sales Data Analysis



From the above data we can see that, **East** region has the most repeat customers.

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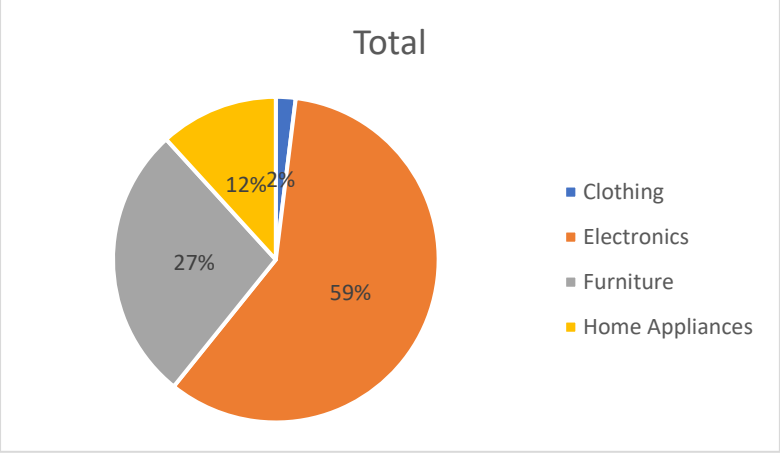
- **Product Performance:**

o Which product category generates the highest revenue?

Product	Sum of Price ($)
Clothing	50
Electronics	1500
Furniture	700
Home Appliances	300
Grand Total	**2550**



From the above data we can see that, **Electronics** product category generates the highest revenue.

Sales Data Analysis

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o Are there any underperforming products that need promotional strategies?

Category	Sum of Price ($)
Clothing	50
Electronics	1500
Furniture	700
Home Appliances	300
Grand Total	**2550**

From the above data we can see that, **Clothing** is underperforming product that need promotional strategies.

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• Sales Rep Evaluation:

o Which sales representatives have met or exceeded their targets?

Sales Rep	Sum of Target ($)	Sum of Total Sales ($)
Alex Lee	56494	41031
Emily Davis	69899	69484
Jane Smith	57047	43801
John Doe	75005	42875
Grand Total	**258445**	**197191**

From the above data we can see that, **Emily Davis** is the only sales representative that have met or exceeded their targets.

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o Is there a relationship between the number of transactions and total sales per rep?

Sales Data Analysis

Sales Rep	Sum of Total Sales ($)	Count of Transaction ID
Alex Lee	41031	12
Emily Davis	69484	8
Jane Smith	43801	20
John Doe	42875	10
Grand Total	**197191**	**50**

From the above data we can see that, there is a general relationship between the number of transactions and total sales per sales rep

- Emily Davis has the highest total sales ($69,484) but only 8 transactions. This suggests that her individual transactions have higher values.
- Jane Smith has 20 transactions, the highest count, but her total sales ($43,801) are lower than Emily Davis. This suggests she deals with lower-value transactions.
- Alex Lee and John Doe have similar total sales but different transaction counts ie 12,10 respectively, indicating a slight difference in transaction values.

  While more transactions generally contribute to higher total sales, the average transaction value also plays a significant role. Some reps may focus on high-value deals with fewer transactions, while others may handle a larger volume of lower-value sales.

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• Trend and Forecasting Analysis:

o What are the monthly or seasonal sales trends?

Sales Data Analysis

Month	Count of Total Sales ($)
Jan	
Clothing	11
Electronics	13
Furniture	12
Home Appliances	6
Feb	
Clothing	1
Electronics	2
Furniture	1
Home Appliances	4
Grand Total	**50**

From the above data we can see that, **Electronics** are the monthly or seasonal sales trends.

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o Can past sales data help predict future revenue?

Analyzing past sales data helps forecast future revenue by identifying trends, understanding customer behavior, setting benchmarks, improving strategies, and managing risks. It's also essential to consider market conditions, economic changes, and competitor actions for a comprehensive forecast.

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Step 3: Visualization & Dashboard Development

Using the structured data model, an Excel dashboard will be built to display:

- **KPI summary (Total Sales, Orders, Best Sales Rep)**
- **Sales trends over time (Line Chart)**
- **Sales by region and product category (Bar & Pie Charts)**
- **Customer and Sales Rep leaderboards (Tables)**

Sales Data Analysis