## **Excited to Share My Latest Data Analysis Project!**

I'm thrilled to present my recent project where I analyzed **Sales Data** to uncover actionable insights and drive business growth. Using SQL and data visualization tools, I transformed raw data into a comprehensive dashboard that highlights key performance metrics and trends.

## **Key Insights:**

- Identified top-performing regions and sales representatives.
- Analyzed product category profitability and customer behavior.
- Discovered seasonal trends and optimized discount strategies.

### **Business problem**

- **Underperforming Regions:** Identify regions with low sales and investigate potential causes (e.g., lack of marketing, poor sales rep performance).
- **Low-Profit Products:** Identify products with low profit margins and consider discontinuing them or increasing prices.
- **Inefficient Sales Reps:** Identify sales representatives with low sales per day and provide additional training or support.
- **Seasonal Trends:** Analyze monthly sales trends to identify seasonal patterns and plan inventory and marketing accordingly.
- **Customer Retention:** Identify customer types with low repeat purchases and implement loyalty programs to improve retention.
- **Discount Strategy:** Analyze the impact of discounts on sales volume and profitability. Adjust discount strategies to maximize revenue.
- **Payment Method Optimization:** Identify the most popular payment methods and consider promoting less popular methods if they offer lower transaction fees.
- **Sales Channel Effectiveness:** Determine which sales channels are most effective and allocate resources accordingly.
- **Product Category Performance:** Identify underperforming product categories and investigate potential causes (e.g., lack of demand, poor quality).
- **Regional Product Performance:** Identify products that perform well in specific regions and adjust inventory and marketing strategies accordingly.

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select region,round(sum(sales\_amount),0) as region\_wise\_sales
from sales\_data group by region;

region	egion region_wise_sales			
North 1369613				
West	1235609			
South	1154251			
East	1259793			

# -- 2. Total Quantity Sold by Product Category

select product\_category,sum(quantity\_sold) as total\_quantity\_sold from sales\_data group by product\_category;

product_category	total_quantity_sold
Furniture	6729
Food	5608
Clothing	6922
Electronics	6096

## -- 3. Average Discount by Customer Type

select customer\_type,avg(discount)\*100 as avg\_discount from sales\_data

group by customer\_type;

	customer_type	avg_discount	
•	Returning	15.306451612903238	
	New	15.17261904761905	
Н	New	15.17261904761905	

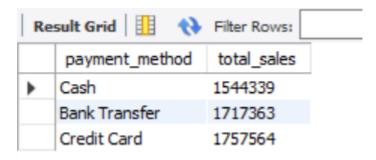
## -- 4. Sales Performance by Sales Representative

select sales\_rep,round(sum(sales\_amount),0) as total\_sales,round(avg(sales\_amount),0) avg\_sales from sales\_data group by sales\_rep;

		sales_rep	total_sales	avg_sales
	•	Bob	1080991	5197
		David	1141737	5143
		Charlie	860811	5094
		Eve	970184	4642
•		Alice	965542	5029
		-		

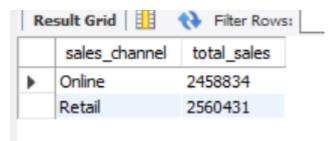
## -- 5. Sales Amount by Payment Method

select payment\_method,round(sum(sales\_amount),0) as total\_sales from sales\_data group by payment\_method;



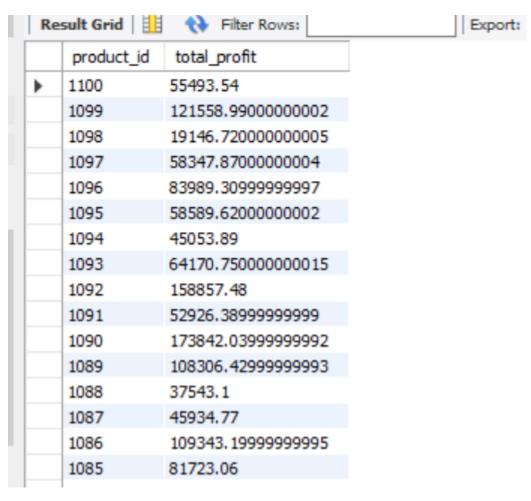
#### -- 6. Sales Channel Performance

select sales\_channel,round(sum(sales\_amount),0) as total\_sales from sales\_data group by sales\_channel;



## -- 7. Profit Analysis by Product

select product\_id,sum((unit\_price-unit\_cost)\*quantity\_sold) as total\_profit from sales\_data group by product\_id order by product\_id desc;



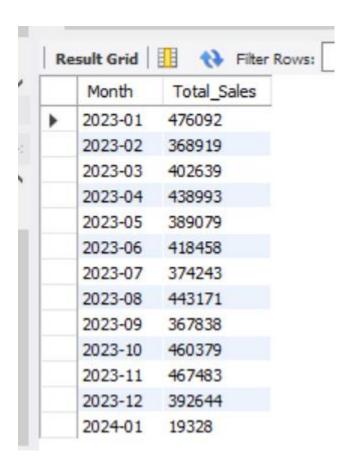
## -- 8. Monthly Sales Trend

SELECT DATE\_FORMAT(Sale\_Date, '%Y-%m') AS Month, round(SUM(Sales\_Amount),0) AS Total\_Sales

FROM sales\_data

**GROUP BY Month** 

ORDER BY Month;



## -- 9. Customer Type Analysis

SELECT Customer\_Type,

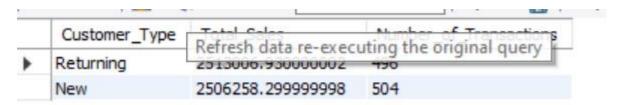
SUM(Sales\_Amount) AS Total\_Sales,

COUNT(\*) AS Number\_of\_Transactions

FROM sales\_data

GROUP BY Customer\_Type

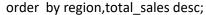
ORDER BY Total\_Sales DESC;

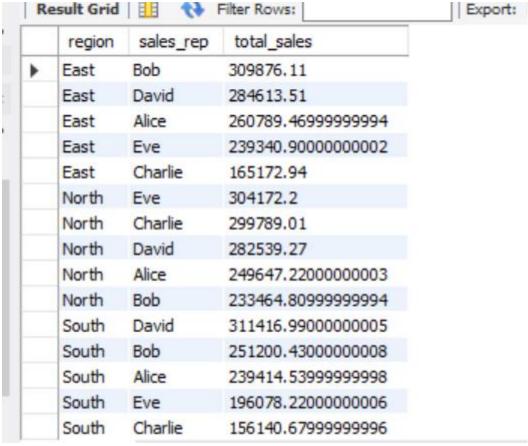


#### -- 10. Region and Sales Rep Performance

select region, sales\_rep, sum(sales\_amount) as total\_sales

from sales\_data group by region,sales\_rep



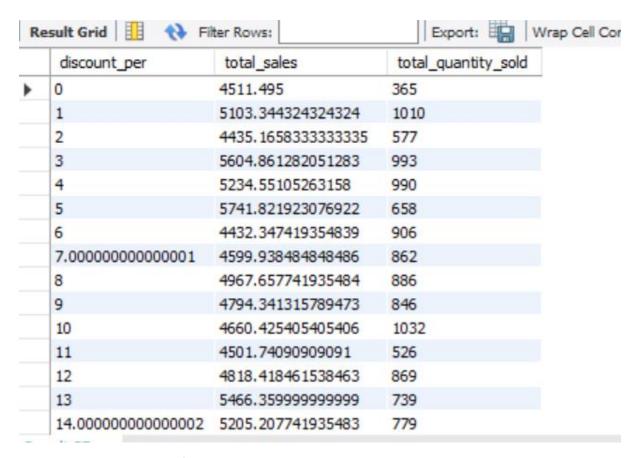


#### -- 11. Discount Impact on Sales

select discount\* 100 as discount\_per,avg(sales\_amount)

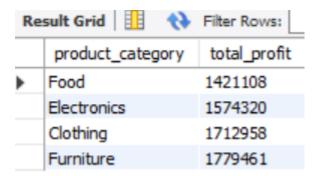
as total\_sales ,sum(quantity\_sold) as

total\_quantity\_sold from sales\_data group by discount order by discount;



#### -- 12. Product Category Profitability

select product\_category,round(sum((unit\_price-unit\_cost)\* quantity\_sold),0)
as total\_profit from sales\_data group by
product\_category order by total\_profit;



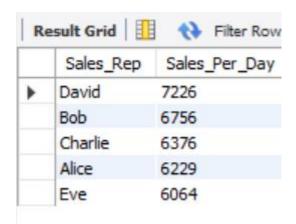
#### -- 13. Customer Retention Analysis

SELECT Customer\_Type,

COUNT(DISTINCT Sale\_Date) AS Number\_of\_Visits, round(SUM(Sales\_Amount),0) AS Total\_Sales

FROM sales\_data

**GROUP BY Customer Type** 



## -- 14. Sales Rep Efficiency

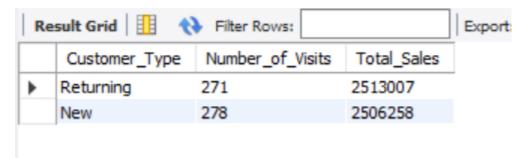
SELECT Sales\_Rep,

round(SUM(Sales\_Amount) / COUNT(DISTINCT Sale\_Date),0) AS Sales\_Per\_Day

FROM sales\_data

GROUP BY Sales\_Rep

ORDER BY Sales\_Per\_Day DESC;



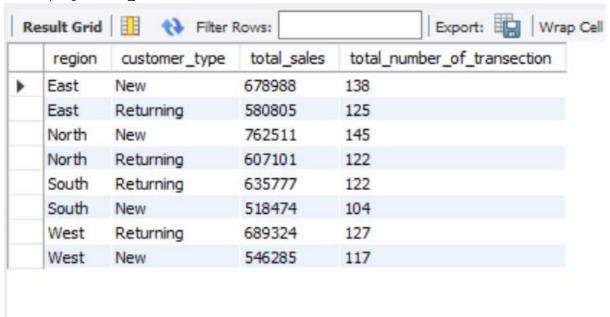
## -- 15. Region-wise Customer Type Analysis

select region,customer\_type,round(sum(sales\_amount),0) as total\_sales,count(\*) as total\_number\_of\_transection

from sales\_data

group by region, customer\_type

## order by region,total\_sales desc;



#### -- 16. Product Performance by Region

select region,product\_id,round(sum(sales\_amount),0) as total\_sales

,sum(quantity\_sold) as total\_quantity\_sold

from sales\_data

group by region,product\_id;

	region	product_id	total_sales	total_quantity_sold
٠	North	1052	23171	80
	West	1093	19058	85
	South	1015	21245	82
	South	1072	4659	51
	East	1061	21256	151
	West	1021	22823	99
	West	1083	7301	91
	South	1087	7699	46
	South	1075	5681	67
	West	1075	15499	130
	North	1088	15625	25
	West	1100	11496	111
	West	1024	16142	65
	South	1003	10767	57
	- 41			

#### -- 17. Sales Rep and Product Category Performance

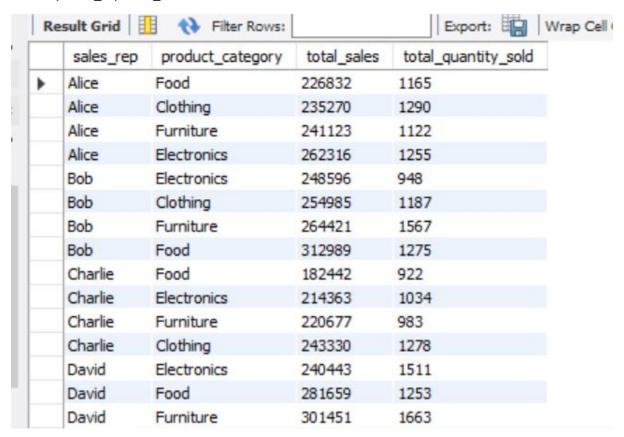
select sales\_rep,product\_category,round(sum(sales\_amount),0)

as total\_sales,sum(quantity\_sold) as total\_quantity\_sold

from sales\_data

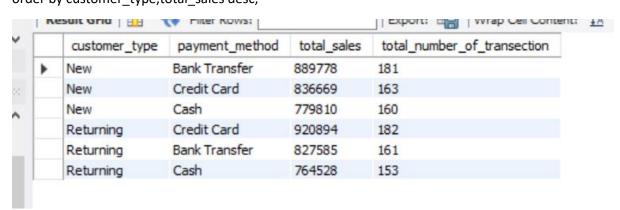
group by sales\_rep,product\_category

order by sales\_rep,total\_sales;



#### -- 18. Customer Type and Payment Method Analysis

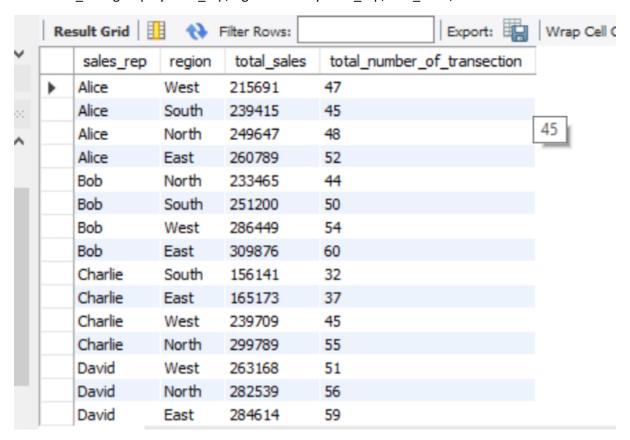
select customer\_type,payment\_method,round(sum(sales\_amount),0) as total\_sales
,count(\*) total\_number\_of\_transection from sales\_data group by customer\_type,payment\_method
order by customer\_type,total\_sales desc;



#### -- 19. Sales Rep and Region Performance

select sales\_rep,region,round(sum(sales\_amount),0) as total\_sales ,count(\*) as total\_number\_of\_transection

from sales\_data group by sales\_rep,region order by sales\_rep,total\_sales;



#### -- 20. Product Category and Sales Channel Analysis

select product\_category,sales\_channel,round(sum(sales\_amount),0) as total\_sales, sum(quantity\_sold) as total\_quantity\_sold from sales\_data group by product\_category,sales\_channel order by product\_category ,total\_sales desc;

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	product_category	sales_channel	total_sales	total_quantity_sold
•	Clothing	Retail	706333	3825
	Clothing	Online	607141	3097
	Electronics	Online	664730	3359
	Electronics	Retail	578770	2737
	Food	Retail	662726	2919
	Food	Online	539048	2689
	Furniture	Online	647915	3457
	Furniture	Retail	612602	3272