Superstore Sales Analytics Report

(SQL Phase)

Tools Used

SQL Server Management Studio

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Date: 10/19/2025

Project Overview

Objective:

Perform data-driven analysis on Superstore Sales dataset to understand performance across regions, categories, and customer segments, and to identify opportunities for improving profitability.

Data Source:

Sample Superstore dataset from Kaggle (9,994 records, 21 fields)

Tools:

SQL Server (for data cleaning, analysis)
Power BI (for visualization)

Key Business Questions

ID	BUSINESS QUESTION	PURPOSE
Q1	What is the overall sales and profit performance?	Measure total business health
Q2	Which categories and sub-categories drive most profit?	Identify high-margin products
Q3	Which customer segments are most profitable?	Guide marketing focus
Q4	Which regions or states underperform?	Geographic optimization
Q5	How do discounts affect profit margins?	Pricing strategy optimization
Q6	What are the monthly or yearly sales trends?	Identify seasonal patterns
Q7	What are the top and bottom performing products?	Inventory & promotion strategy

SQL Queries & Analysis

Now for the core of report each section will have:

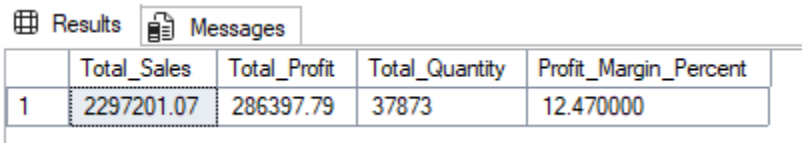
- Query
- Result (table or screenshot)
- Interpretation (analytical insight)

Q1: Overall Performance Metrics

Query:

```sql
SELECT
    SUM(Sales) AS Total_Sales,
    SUM(Profit) AS Total_Profit,
    SUM(Quantity) AS Total_Quantity,
    ROUND(SUM(Profit) / SUM(Sales) * 100, 2) AS Profit_Margin_Percent
FROM SuperstoreSales;
```

Result Example:



	Total_Sales	Total_Profit	Total_Quantity	Profit_Margin_Percent
1	2297201.07	286397.79	37873	12.470000

Interpretation:

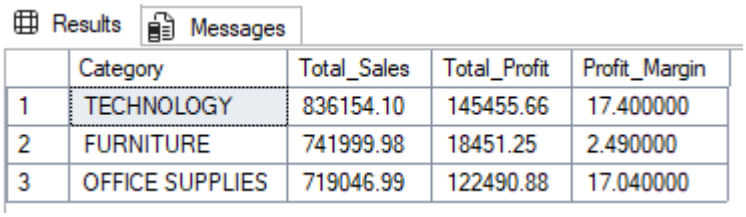
The Superstore achieved $2.29M in sales with an overall 12.47% profit margin.
This indicates healthy profitability, though further breakdown will show which product lines are driving or reducing profit.

Q2: Category-Level Performance

Query:

```sql
SELECT
    Category,
    SUM(Sales) AS Total_Sales,
    SUM(Profit) AS Total_Profit,
    ROUND(SUM(Profit) / SUM(Sales) * 100, 2) AS Profit_Margin
FROM SuperstoreSales
GROUP BY Category
ORDER BY Total_Sales DESC;
```

Result Example:



	Category	Total_Sales	Total_Profit	Profit_Margin
1	TECHNOLOGY	836154.10	145455.66	17.400000
2	FURNITURE	741999.98	18451.25	2.490000
3	OFFICE SUPPLIES	719046.99	122490.88	17.040000

Interpretation:

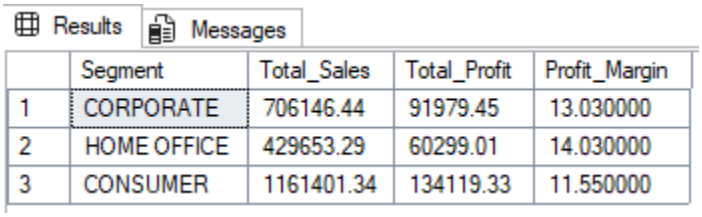
Technology is the largest revenue generator and delivers the highest margins. Furniture has the weakest profit margin (~2.5%), indicating potential over-discounting or high shipping costs.

Q3: Segment Analysis

Query:

```sql
SELECT
    Segment,
    SUM(Sales) AS Total_Sales,
    SUM(Profit) AS Total_Profit,
    ROUND(SUM(Profit) / SUM(Sales) * 100, 2) AS Profit_Margin
FROM SuperstoreSales
GROUP BY Segment;
```

Result Example:



	Segment	Total_Sales	Total_Profit	Profit_Margin
1	CORPORATE	706146.44	91979.45	13.030000
2	HOME OFFICE	429653.29	60299.01	14.030000
3	CONSUMER	1161401.34	134119.33	11.550000

Interpretation:

Although the Consumer segment generates the most sales, Home Office and Corporate segments are more profitable per dollar sold.
This suggests potential in targeting small business customers with premium offerings.

Q4: Regional Analysis

Query:

```sql
SELECT
    Region,
    SUM(Sales) AS Total_Sales,
    SUM(Profit) AS Total_Profit,
    ROUND(SUM(Profit) / SUM(Sales) * 100, 2) AS Profit_Margin
FROM SuperstoreSales
GROUP BY Region
ORDER BY Total_Sales DESC;
```

Result Example:

Results | Messages

	Region	Total_Sales	Total_Profit	Profit_Margin
1	WEST	725457.93	108418.79	14.940000
2	EAST	678781.36	91522.84	13.480000
3	CENTRAL	501239.88	39706.45	7.920000
4	SOUTH	391721.90	46749.71	11.930000

Interpretation:

The West region dominates both sales and profit.
The Central region shows weak profitability possibly due to high logistics or discount expenses.

Q5: Discount Impact on Profit

Query:

```sql
SELECT
    ROUND(Discount, 2) AS Discount_Level,
    SUM(Sales) AS Total_Sales,
    SUM(Profit) AS Total_Profit,
    ROUND(SUM(Profit) / NULLIF(SUM(Sales), 0) * 100, 2) AS Profit_Margin
FROM SuperstoreSales
GROUP BY ROUND(Discount, 2)
ORDER BY Discount_Level;
```

Result Example:

Results | Messages

	Discount_Level	Total_Sales	Total_Profit	Profit_Margin
1	0.0000	1087908.47	320987.88	29.510000
2	0.1000	54369.30	9029.21	16.610000
3	0.1500	27558.59	1418.98	5.150000
4	0.2000	764594.28	90338.16	11.820000
5	0.3000	103226.76	-10369.34	-10.050000
6	0.3200	14493.45	-2391.16	-16.500000
7	0.4000	116417.83	-23057.08	-19.810000
8	0.4500	5484.98	-2493.12	-45.450000
9	0.5000	58918.65	-20506.51	-34.800000
10	0.6000	6644.68	-5944.64	-89.460000
11	0.7000	40620.40	-40075.46	-98.660000
12	0.8000	16963.68	-30539.13	-180.030000

Interpretation:

Higher discounts beyond 20% consistently result in negative profit margins.
This suggests the company should cap discounts at 20% to protect profitability.

Q6: Monthly Sales Trend

Query:

```
SELECT
    YEAR(Order_Date) AS Year,
    MONTH(Order_Date) AS Month,
    SUM(Sales) AS Monthly_Sales,
    SUM(Profit) AS Monthly_Profit
FROM SuperstoreSales
GROUP BY YEAR(Order_Date), MONTH(Order_Date)
ORDER BY Year, Month;
```

Result Example:

Results Messages

	Year	Month	Monthly_Sales	Monthly_Profit
34	2016	10	59687.80	16243.22
35	2016	11	79412.03	4011.45
36	2016	12	96999.07	17885.28
37	2017	1	43971.37	7140.45
38	2017	2	20301.12	1613.89
39	2017	3	58872.35	14751.87
40	2017	4	36521.52	933.30
41	2017	5	44261.08	6342.70
42	2017	6	52981.73	8223.42
43	2017	7	45264.43	6952.60
44	2017	8	63120.85	9041.09
45	2017	9	87866.66	10991.57
46	2017	10	77776.96	9275.38
47	2017	11	118447.81	9690.10
48	2017	12	83829.31	8483.40

Interpretation:

There are clear sales spikes in November and December, aligning with seasonal holiday shopping. Inventory and staffing should be optimized for Q4.