

Customer Insights Dashboard: From Raw Data to Smart Decisions

Unlocking trends, value, and strategy through data storytelling. (For full summary, scroll to the end of the page).

1: Changes in Total Revenue by Previous Year

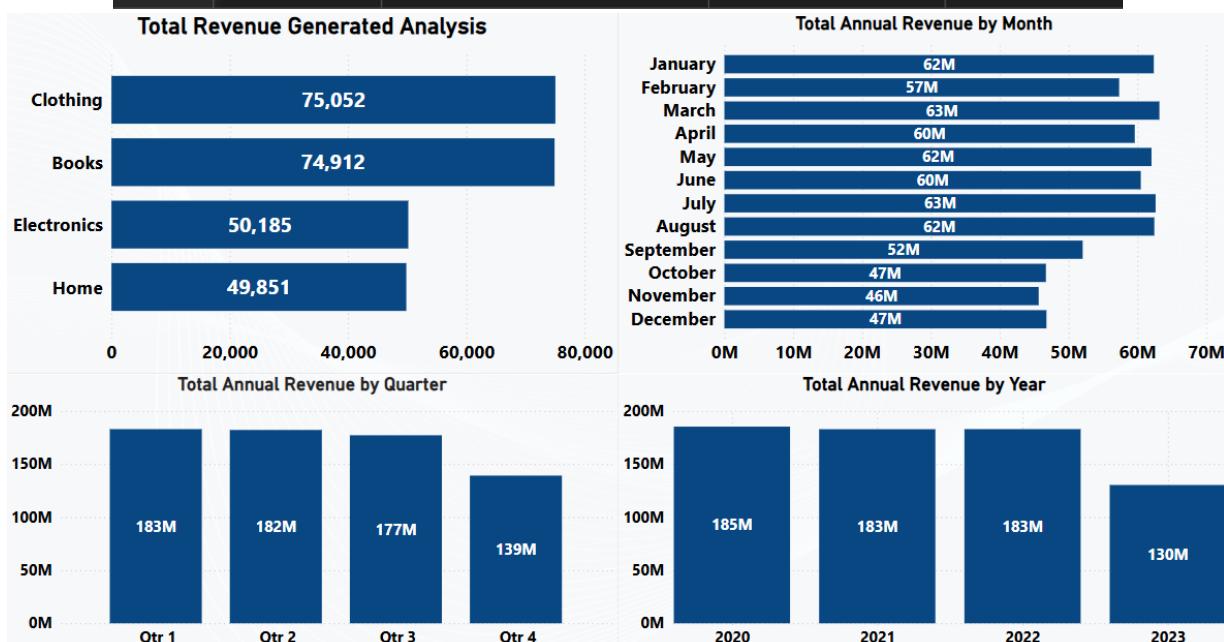
Code example:

```
SUM(total_purchase_amount) AS yearly_sales,  
LAG(SUM(total_purchase_amount), 1) OVER(ORDER BY EXTRACT(YEAR FROM purchase_date)) AS  
Prev_Year_Sales,  
(SUM(total_purchase_amount) - LAG(SUM(total_purchase_amount), 1) OVER(ORDER BY  
EXTRACT(YEAR FROM purchase_date))) AS Revenue_Change  
FROM f1
```

Description:

- Sales peaked at 185M in early years (2020-2022). A steady decline begins at 2022.
- => **Action:** Focus marketing efforts in 2022 to boost yearly sales.

	extract numeric 	total_annual_revenue text 	previous_year text 	to_char text 
1	2020	185,276,174	[null]	[null]
2	2021	182,843,403	185,276,174	-02,432,771
3	2022	182,925,502	182,843,403	00,082,099
4	2023	130,297,604	182,925,502	-52,627,898



2: Yearly Sales Trend Analysis

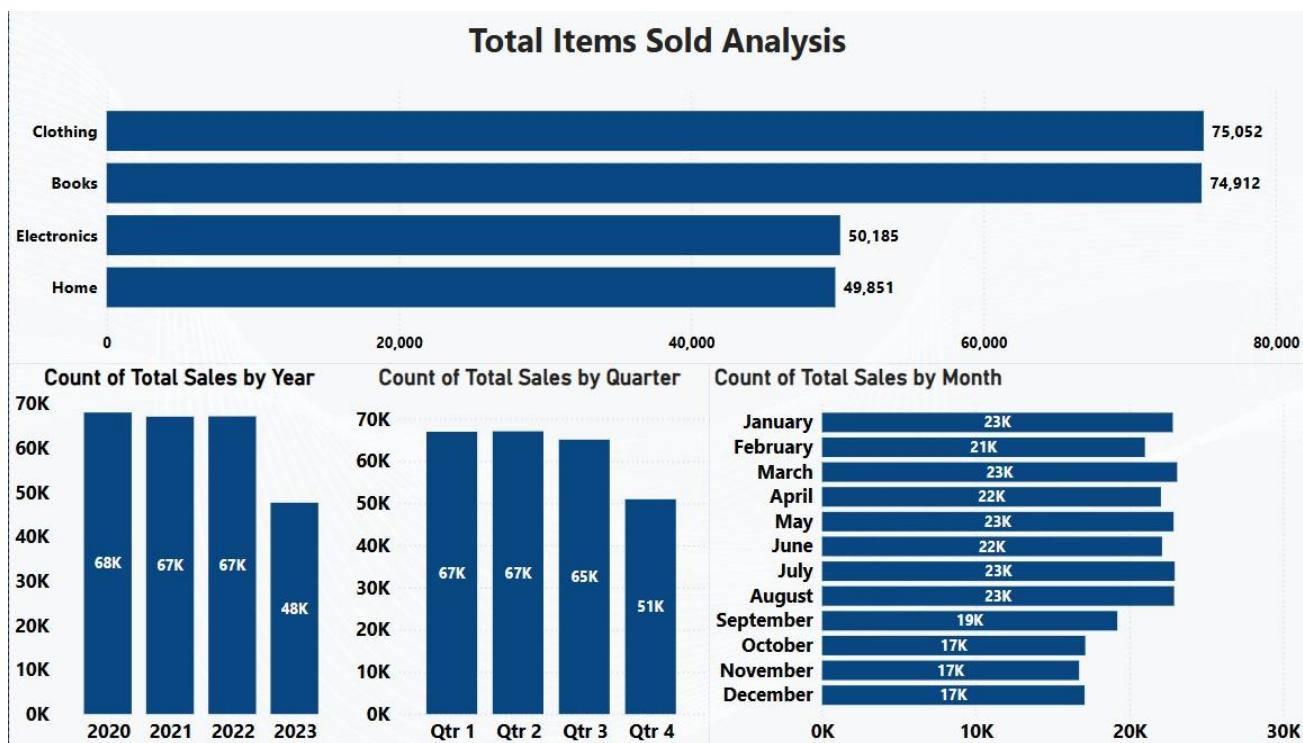
Code example:

```
EXTRACT(YEAR FROM purchase_date), COUNT(*) as Sales_Count FROM f1  
GROUP BY EXTRACT(YEAR FROM purchase_date)  
ORDER BY EXTRACT(YEAR FROM purchase_date)
```

Description:

- High sales volume from 2020 to 2022, dropping below 60K in subsequent years.
- => **Action:** Investigate yearly trends and introduce limited-time offers in 2023.

	extract numeric	total_annual_sales text
1	2020	68,045
2	2021	67,099
3	2022	67,169
4	2023	47,687



Scroll down for the next analysis and dashboard.

3: Most Popular Products (Top-Selling Items)

Code example:

```
COUNT(*) AS total_count FROM f1
```

```
GROUP BY product_category
```

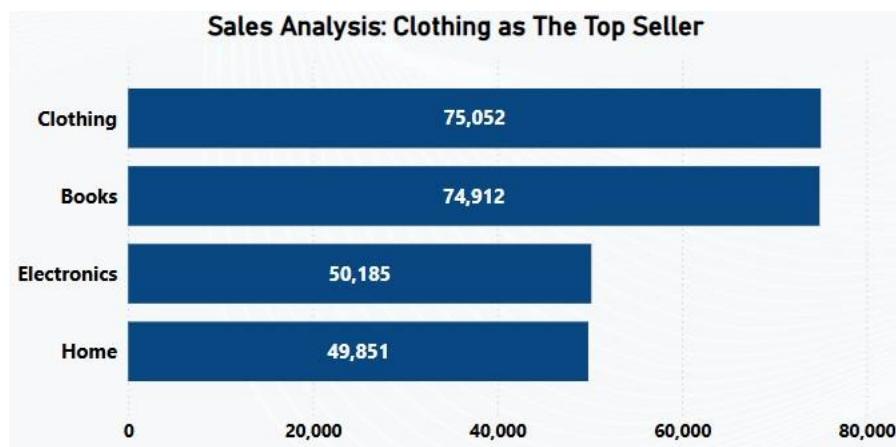
```
ORDER BY total_count DESC
```

Description:

- Clothing and Books dominate sales; Electronics and Home trail behind.
 - Clothing sales peaked in 2020 with 20,205 units sold.
 - Book sales peaked in 2020 with 20,416 units sold.

=> **Action:** Increase ads for high performers and run promos to uplift Electronics & Home.

	product_category character varying (100) 	total_revenue_generated text 
1	Clothing	75,052
2	Books	74,912
3	Electronics	50,185
4	Home	49,851



Scroll down for the next analysis and dashboard.

4: Average Purchase Amount Per Customer

Code example:

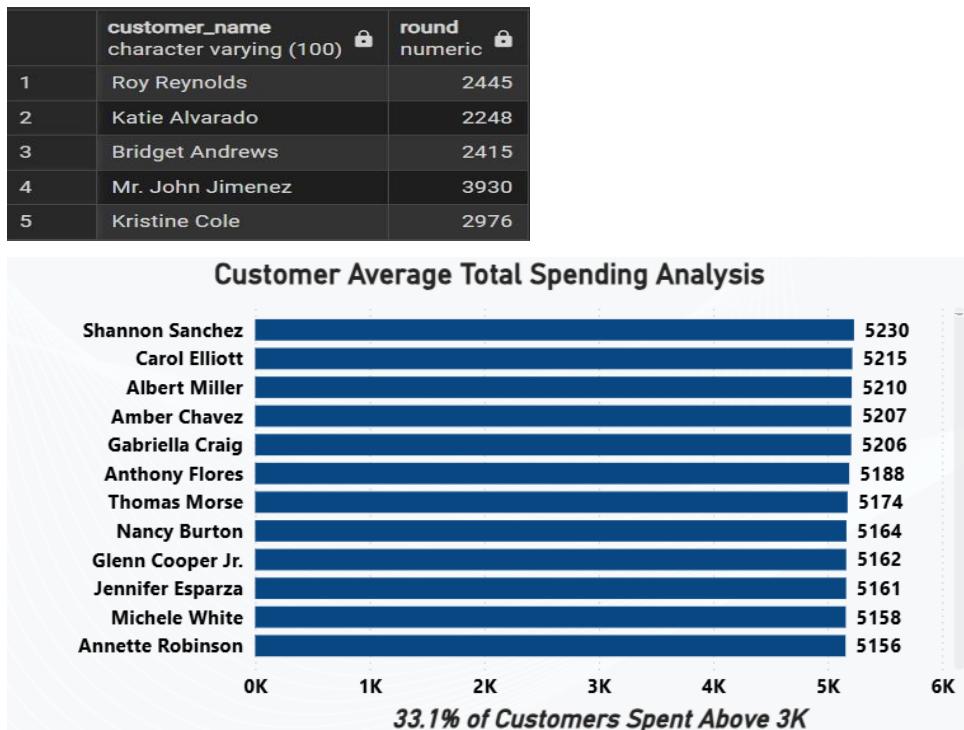
```
ROUND(AVG(total_purchase_amount), 0) FROM f1
```

```
GROUP BY customer_name exceed
```

Description:

- 33.1% of customers have spent over \$3000.

=> **Action:** Target top 33.1% spenders with VIP deals and upsell opportunities.



5: RFM (Recency, Frequency, Monetary) Analysis

Code example:

```
CURRENT_DATE - MAX(purchase_date) AS Recency,  
COUNT(*) AS Frequency,  
SUM(total_purchase_amount) AS Monetary,  
CASE  
WHEN CURRENT_DATE - MAX(purchase_date) <=30 THEN 5  
WHEN CURRENT_DATE - MAX(purchase_date) <=90 THEN 4  
ELSE 3  
END AS R.
```

Scroll down for dashboard and description.

Description:

- Recency, Those who visited our shop in the last **30 days** get **5**, those who visited in the last **90 days** get **4**, the rest get **3**.
- Frequency, Those who visited our shop more than **50 times** get **5**, those who visited more than **30 times** get **4**, the rest get **3**.
- Monetary, Those who spent more than **100,000** get **5**, those who spent more than **50,000** get **4**, the rest get **3**.

=> This helped us:

- Reward high spenders with loyalty offers
- Target low scorers with reactivation campaigns

	customer_name character varying (100) 	recency integer 	frequency bigint 	monetary bigint 	r integer 	f integer 	m integer 
1	Roy Reynolds	776	5	12224	3	5	5
2	Katie Alvarado	637	2	4495	3	5	5
3	Bridget Andrews	791	6	14487	3	5	5
4	Mr. John Jimenez	890	5	19652	3	5	5
5	Kristine Cole	776	6	17853	3	5	5



6: Total Revenue Generated From Sales

Code example:

```
SELECT SUM(total_purchase_amount) AS total_revenue FROM f1
```

	total_revenue_generated text 
1	681,342,683

7: Total Customers and Total Purchases

Code example:

```
SELECT COUNT(DISTINCT(customer_id)) AS Total_Customers,  
COUNT(customer_id) AS Total_Purchases from f1
```

Description:

- We have a total of 49,673 customers and total sales of 250,000.

	to_char text	total_customers_and_total_purchases text
1	49,673	250,000

Project Summary:

In this project, I analyzed the “Ecommerce Customer Data Custom” dataset using Excel, SQL, and Power BI. After cleaning and pre-processing the data in Excel and Power Query, I used SQL to uncover key trends in sales performance, revenue changes, and customer behavior. I performed RFM analysis to segment customers by recency, frequency, and monetary value, revealing high-value segments. Power BI dashboards were created to visualize these insights, enabling targeted marketing and promotional strategies.