How Staples perform customer segmentation analysis to improve customer churn and retention

Find out how STAPLES, a prominent office supply retail company makes use of Customer Segmentation Analysis, to make sense of their data. Read further, to understand the specially curated

Project Insights !

Overview

Staples Inc., founded on May 1, 1986, by Thomas G. Stemberg, Leo Kahn, and Myra Hart, is a prominent American office supply retail company headquartered in Framingham, Massachusetts. The company's inception stemmed from Stemberg's frustration of not being able to find a printer ribbon during a holiday, leading to the vision of an office supply superstore. Since opening its first store in Brighton, Massachusetts, Staples has expanded significantly, now operating approximately 994 stores and 40 fulfillment centers across the United States as of 2024. Serving both U.S. and Canadian markets, Staples employs around 34,000 people and reported revenues of $8 billion for FY 2023. After being acquired by Sycamore Partners in 2017, the company was restructured into three independently managed entities, focusing on U.S. retail, Canadian retail, and B2B services. Staples is dedicated to corporate social responsibility, emphasizing inclusion and diversity, community engagement, and sustainability. The company offers over 20,000 eco-friendly products and has committed to a five-year plan to reduce its operational carbon emissions by 35%. Additionally, Staples supports its employees with substantial aid and ensures high service standards with live customer service chats typically answered within 30 seconds.

Now, let's dive into some insights (just for learning purposes!) on how Staples might analyze their data to better understand their customer segments.

About Dataset

Let's Inspect our Superstore dataset. This dataset got all the deeds on sales – order IDs, order and shipping dates, shipping mode, customer names and where they're at, plus product info like category and name. And of course, we've got the numbers – sales amount, quantity, discounts, and profit.

This data enables analysis of sales performance, profitability, and customer behavior to improve supply chain management decisions. Here are some sample Rows & Columns of the Superstore Dataset

Order Details

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country/Region	City	State/Province
1	US-2019-103800	1/3/2019	1/7/2019	Standard Class	DP-13000	Darren Powers	Consumer	United States	Houston	Texas
2	US-2019-112326	1/4/2019	1/8/2019	Standard Class	PO-19195	Phillina Ober	Home Office	United States	Naperville	Illinois
3	US-2019-112326	1/4/2019	1/8/2019	Standard Class	PO-19195	Phillina Ober	Home Office	United States	Naperville	Illinois
4	US-2019-112326	1/4/2019	1/8/2019	Standard Class	PO-19195	Phillina Ober	Home Office	United States	Naperville	Illinois
5	US-2019-141817	1/5/2019	1/12/2019	Standard Class	MB-18085	Mick Brown	Consumer	United States	Philadelphia	Pennsylvania

Product Details

Postal Code	Region	Product ID	Category	Sub-Category	Product Name
77095	Central	OFF-PA-10000174	Office Supplies	Paper	Message Book, Wirebound, Four 5 1/2" X 4" Forms/Pg., 200 Dupl. Sets/Book
60540	Central	OFF-BI-10004094	Office Supplies	Binders	GBC Standard Plastic Binding Systems Combs
60540	Central	OFF-LA-10003223	Office Supplies	Labels	Avery 508
60540	Central	OFF-ST-10002743	Office Supplies	Storage	SAFCO Boltless Steel Shelving
19143	East	OFF-AR-10000348	Office Supplies	Art	Avery Hi-Liter EverBold Pen Style Fluorescent Highlighters, 4/Pack

Sales Data

Customer ID	Customer Name	Product ID	Product Name	Sales	Quantity	Discount	Profit
DP-13000	Darren Powers	OFF-PA-10000174	Message Book, Wirebound, Four 5 1/2" X 4" Forms/Pg., 200 Dupl. Sets/Book	16.448	2	0.2	5.5512
PO-19195	Phillina Ober	OFF-BI-10004094	GBC Standard Plastic Binding Systems Combs	3.54	2	0.8	-5.487
PO-19195	Phillina Ober	OFF-LA-10003223	Avery 508	11.784	3	0.2	4.2717
PO-19195	Phillina Ober	OFF-ST-10002743	SAFCO Boltless Steel Shelving	272.736	3	0.2	-64.7748
MB-18085	Mick Brown	OFF-AR-10003478	Avery Hi-Liter EverBold Pen Style Fluorescent Highlighters, 4/Pack	19.536	3	0.2	4.884

Each row in the dataset corresponds to an order made by a customer. We have the following features:

Order Shipment

Field	Type	Description
Order ID	String	Unique identifier for each order.
Order Date	Date	Date when the order was placed.
Ship Date	Date	Date when the order was shipped.
Ship Mode	String	Mode of shipment chosen for the order.
Segment	String	Market segment the customer belongs to.
Region	String	Region where the order was placed.
City	String	City where the order was placed.
State/Province	String	State or province where the order was placed.
Postal Code	Integer	Postal code of the location where the order was placed.

Product

Field	Type	Description
Product ID	String	Unique identifier for each product.
Category	String	Category of the product.
Sub-Category	String	Subcategory of the product.
Product Name	String	Name of the product.
Sales	Integer	Total sales amount for the order.
Quantity	Integer	Quantity of the product ordered.
Discount	Integer	Discount applied to the order.
Profit	Integer	Profit generated from the order.

Other Feature

Field	Type	Description
Row ID	String	Identifier for each row in the dataset.
Customer ID	String	Unique identifier for each customer.
Customer Name	String	Name of the customer placing the order.

The SuperStore Dataset contains over 10194 orders and 13 of our Columns have String Data type, 4 of our Columns have Integers Data Type and 2 of the columns have Date Data Type.

How does Staples perform customer segmentation analysis to improve their customer churn and retention?

To begin with customer segmentation analysis, it is essential to follow these five key steps in data analysis:

Identify the users or stakeholders for the dashboard.

1. Design an Empathy Map to define users' goals and challenges or pain points.

2. Identify the most important metrics or KPIs.

3. Understand the objectives and goals.

4. Ask pertinent business questions.

In this article, we'll lay the foundation for a top-notch Customer segmentation analysis.

Step 1: Identify the users or stakeholders for the analysis

Define the User or stakeholder who will use the customer segmentation analysis data story. In our case, We'll use a Business Analyst. Recognizing their diverse needs, challenges, and priorities becomes the cornerstone for tailoring an effective data story.

User Persona: Business Analyst

1. **Responsibilities**:

- Dive deep into company data to uncover insights driving strategic decisions.

- Collaborate with teams to understand needs and objectives.

- Use advanced analytical tools to extract valuable information.

- Translate data into actionable recommendations.

- Stay ahead in the competitive landscape by identifying trends and patterns.

2. **Needs**:

- Access to comprehensive and accurate business data from various sources.

- Proficiency in analytical software for effective data manipulation.

- Strong communication skills for collaboration across departments.

- Ability to explain complex findings in understandable terms.

- Resources and tools to visualize data effectively.

3. **Challenges**:

- Ensuring data quality and consistency across multiple sources.

- Handling sensitive information while adhering to data privacy regulations.

- Managing multiple projects with tight deadlines.

- Balancing competing demands and priorities.

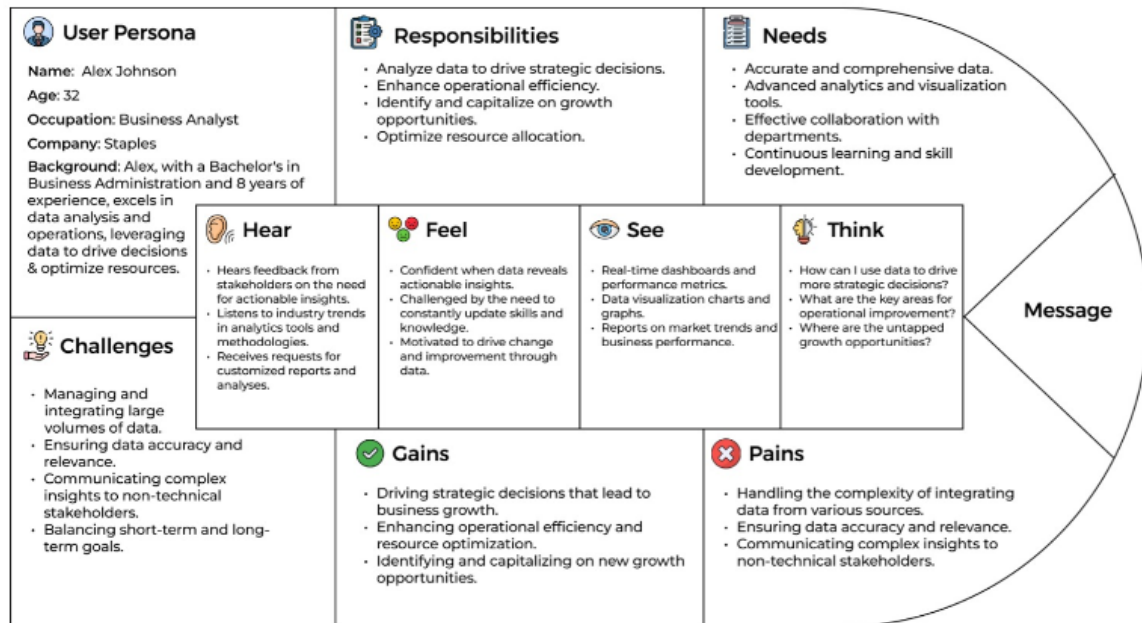- Delivering results quickly while maintaining accuracy.

Since, we have defined the User Persona & have mapped the needs, challenges and responsibilities. Our Next step will be to design an Empathy Map which will map the pain points of the user.

Step 2: Design Empathy Map

To truly connect with the experiences and expectations of a Business analyst, the creation of an empathy map is invaluable. This visual tool allows for a deeper understanding of the emotions, aspirations, and pain points of users.

By empathizing with their perspectives, we can design a data story that not only meets functional requirements but also resonates with the human elements of their roles.

Business Analyst Empathy Map

User Persona

Name: Alex Johnson

Age: 32

Occupation: Business Analyst

Company: Staples

Background: Alex, with a Bachelor's in Business Administration and 8 years of experience, excels in data analysis and operations, leveraging data to drive decisions & optimize resources.

Responsibilities

- Analyze data to drive strategic decisions.
- Enhance operational efficiency.
- Identify and capitalize on growth opportunities.
- Optimize resource allocation.

Needs

- Accurate and comprehensive data.
- Advanced analytics and visualization tools.
- Effective collaboration with departments.
- Continuous learning and skill development.

Hear

- Hears feedback from stakeholders on the need for actionable insights.
- Listens to industry trends in analytics tools and methodologies.
- Receives requests for customized reports and analyses.

Feel

- Confident when data reveals actionable insights.
- Challenged by the need to constantly update skills and knowledge.
- Motivated to drive change and improvement through data.

See

- Real-time dashboards and performance metrics.
- Data visualization charts and graphs.
- Reports on market trends and business performance.

Think

- How can I use data to drive more strategic decisions?
- What are the key areas for operational improvement?
- Where are the untapped growth opportunities?

Message

Challenges

- Managing and integrating large volumes of data.
- Ensuring data accuracy and relevance.
- Communicating complex insights to non-technical stakeholders.
- Balancing short-term and long-term goals.

Gains

- Driving strategic decisions that lead to business growth.
- Enhancing operational efficiency and resource optimization.
- Identifying and capitalizing on new growth opportunities.

Pains

- Handling the complexity of integrating data from various sources.
- Ensuring data accuracy and relevance.
- Communicating complex insights to non-technical stakeholders.

Step 3: Identify the Key Performance Indicators (KPI's)

The heartbeat of any analysis lies in KPI's and their Metrics. It's crucial to identify the KPIs that matter most to achieving the defined objectives and by focusing on the most relevant metrics, organizations can gain actionable insights into their customer segmentation analysis.

KPI Name	Formula	Description
Total Sales	Sum of all Sales	Measures the overall revenue generated from all sales. This KPI is essential for evaluating the financial health and growth trajectory of the business across all regions and categories.
Sales by Region	Sum of Sales per Region	Analyzes sales distribution across different geographical regions, helping identify which regions contribute most to revenue and where to focus growth strategies.
Top Performing States and Cities	Max(Sales) grouped by State and City	Identifies states and cities with the highest sales, indicating areas of strong market presence and potential regions for targeted marketing or expansion.
Top Performing Categories by Region	Max(Sales) grouped by Category and Region	Reveals the product categories with the highest sales in each region, offering insights into regional consumer preferences and market demand.
Top Product by Sales and Profit	Max(Sales) and Max(Profit) per Product	Determines the products with the highest sales and profit, highlighting successful items that significantly contribute to the company's financial performance.

Step 4: Understand the Goals & Objectives of User

Now, based on the insights gathered from the empathy map and key performance indicators (KPIs), it's crucial to define the goals and objectives of the business analyst. This alignment ensures that the analytical efforts contribute effectively to decision-making processes. Here are the key objectives and goals:

Objective

The objective of the business analyst within a superstore context is to utilize data analysis techniques to drive strategic decision-making and enhance operational efficiency. By interpreting business data, the analyst aims to identify opportunities for growth, improve processes, and optimize resource

allocation.

Goals

- **Strategic Decision-Making**: The primary goal is to provide actionable insights to support strategic decision-making processes. This includes analyzing market trends, customer behavior, and competitive intelligence to identify growth opportunities and mitigate risks.

- **Operational Efficiency**: Another goal is to improve operational efficiency by identifying bottlenecks, streamlining processes, and optimizing resource allocation. This involves analyzing workflows, identifying areas for improvement, and implementing solutions to enhance productivity.

- **Customer Satisfaction**: The analyst aims to enhance customer satisfaction by understanding customer needs and preferences through data analysis. This includes segmenting customers based on demographics, purchase history, and feedback to tailor marketing strategies and improve the overall customer experience.

By aligning with these objectives and goals, the business analyst ensures that their analytical efforts contribute to the overall success and growth of the superstore.

Step 5 : Ask Business Questions

Beyond KPI's, organizations must engage in business-driven inquiry. This involves asking strategic questions that directly align with overarching business objectives.

1. **What are the average sales per customer and average profit per customer?**

- Metric: sales per customer, profit per customer

- Question: some text

    o Show me average sales per customer, average profit per customer

- Observations: Sales per customer is 1.9k and profit per customer is 361.2.
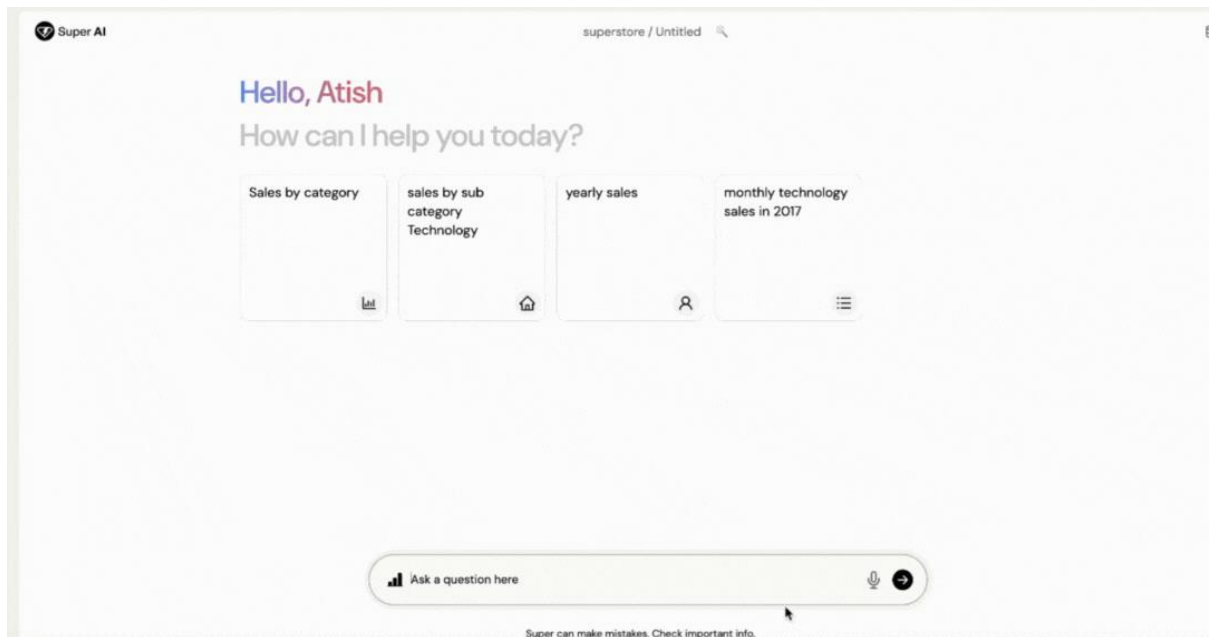
2. **How do sales and profit per customer vary across different regions and categories?**

- Metric: Sales per customer, profit per customer

- Question: some text

  o Sales per customer and profit per customer by region?

  o Sales per customer and profit per customer by category?

- Observations: some text

  o West and East lead the chart for both sales and profit per customer while South and Central lags really behind.

  o Customers are spending high for Technology and Office Supplies but furniture products are performing very poorly.
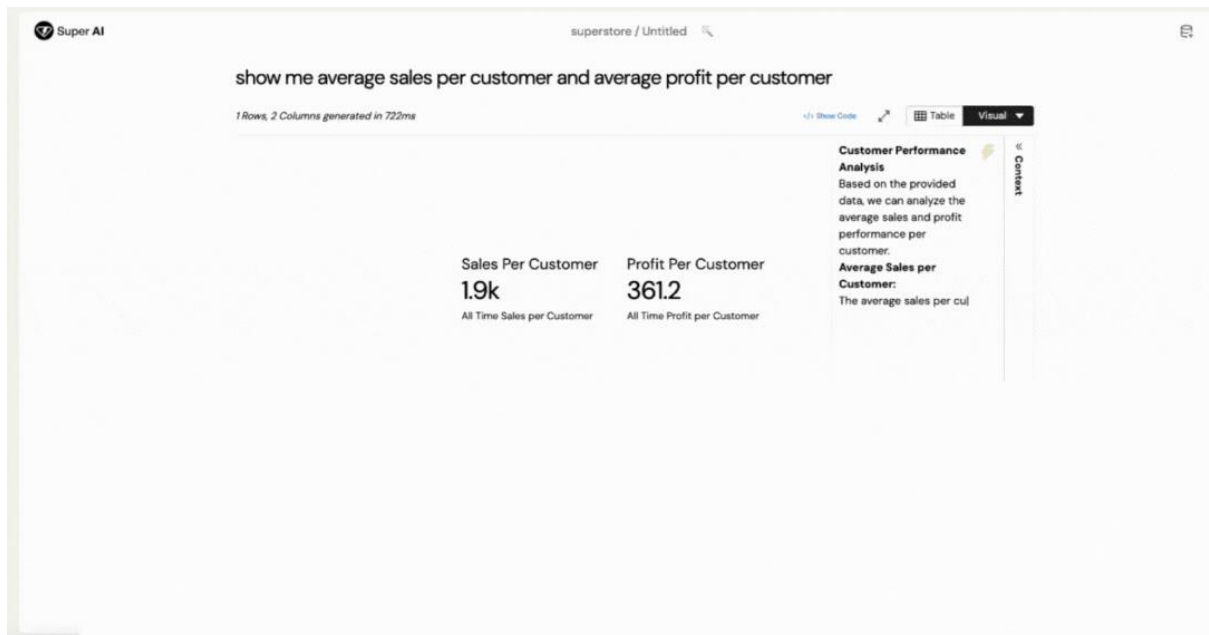
3. **Who are our top customers in terms of total sales and profit?**

- Metric: total sales, total profit

- Question: some text

    o Show me the customer id with total sales and profit.

    o Show me the top 100 customer id by total sales and total profit by region.

- Observation: South and Central regions seem to have customers in the lower quadrant while comparing sales vs profit.

Super can make mistakes. Check important info.
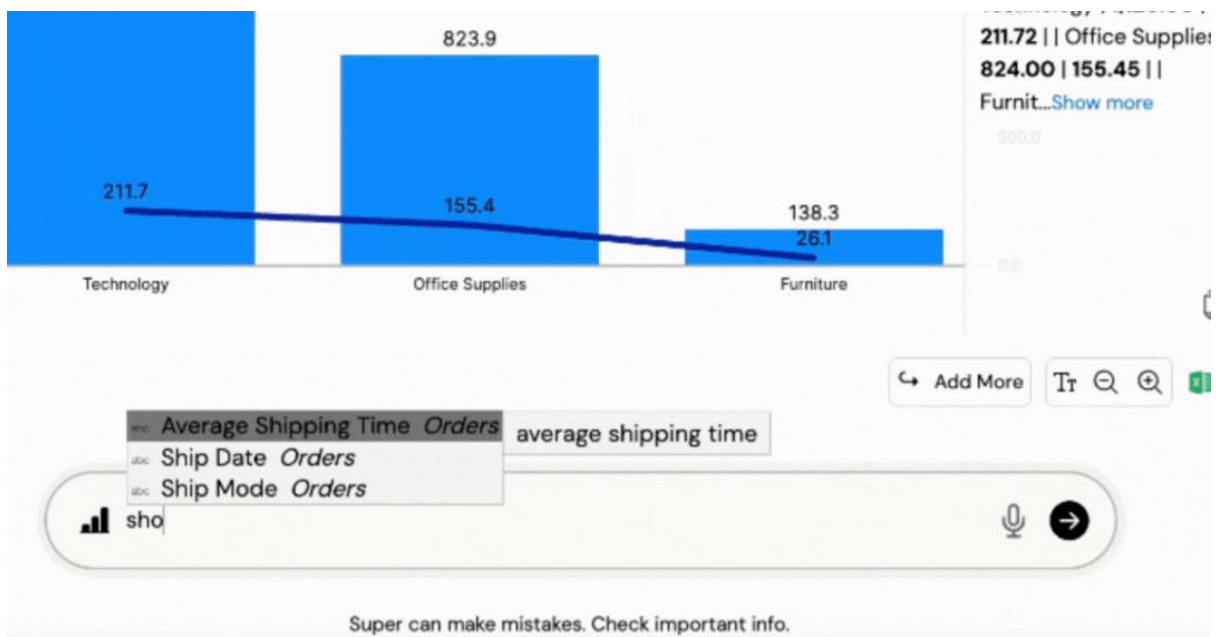
4. **Who are the customers generating negative profits?**

- Metric: total profit

- Question: some text

  o Show me the customer id with total profit having total profit less than 0.

- Observation: Central regions had the most number of customers generating negative profits which needs to be investigated further.
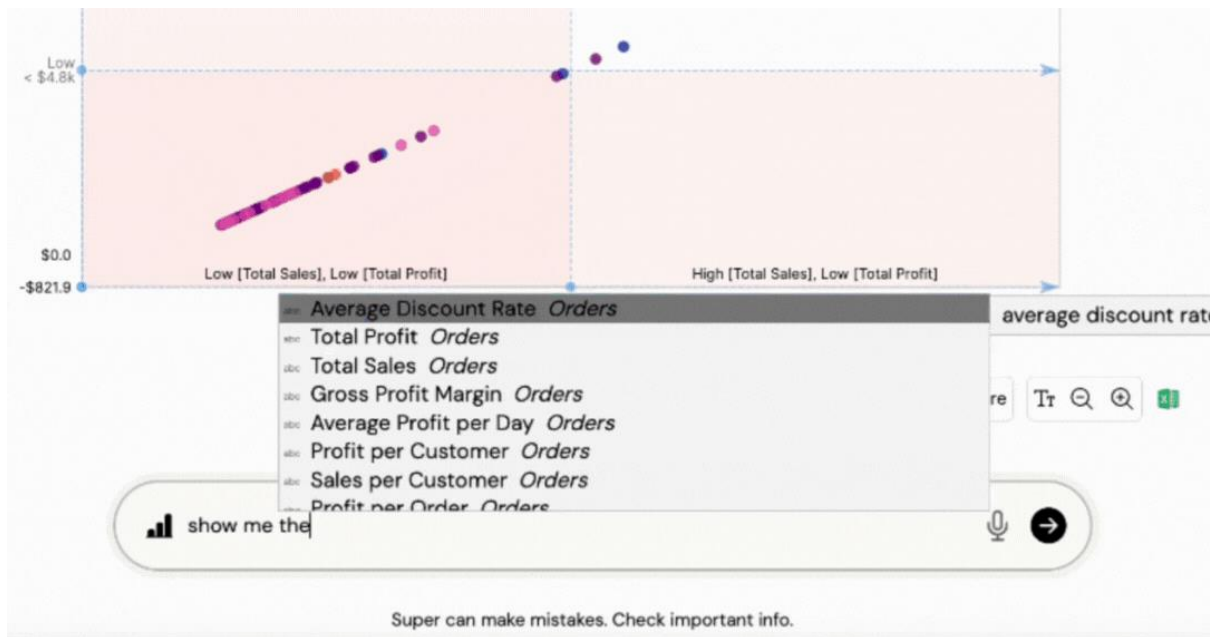
Outcomes

The analysis shows that the average sales per customer are $1,900, while the average profit per customer is $361.2. There are significant variations across regions, with the West and East leading in both sales and profit per customer, whereas the South and Central regions are lagging. In terms of product categories, Technology and Office Supplies are performing well, whereas Furniture is underperforming. Furthermore, the top customers in terms of total sales and profit are primarily from the West and East regions, while the South and Central regions have more customers with lower sales and profit. Additionally, the Central region has the highest number of customers generating negative profits, indicating a need for further investigation.

Conclusion

The disparities in sales and profit performance across regions and product categories highlight areas for potential improvement. The strong performance in the West and East regions suggests successful sales strategies that could be replicated in the South and Central regions. The high spending on Technology and Office Supplies suggests these categories are key revenue drivers, whereas the poor performance in Furniture needs attention. The issue of negative profits, particularly in the Central region, indicates underlying problems that must be addressed to enhance profitability. Strategic focus on these insights can help in improving overall business outcomes.