

# Sales Data Analysis Report of Dream Big Company

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# About the dataset

This report looks at a [dataset of 9,994](#) sales orders from the United States. Here's what it shows in simple terms:

**Sales:** On average, each order brings in about \$229.86, but the amounts vary a lot.

**Quantity:** Customers typically order around 3.79 items per purchase.

**Discount:** The average discount given is about 16% (or 0.16).

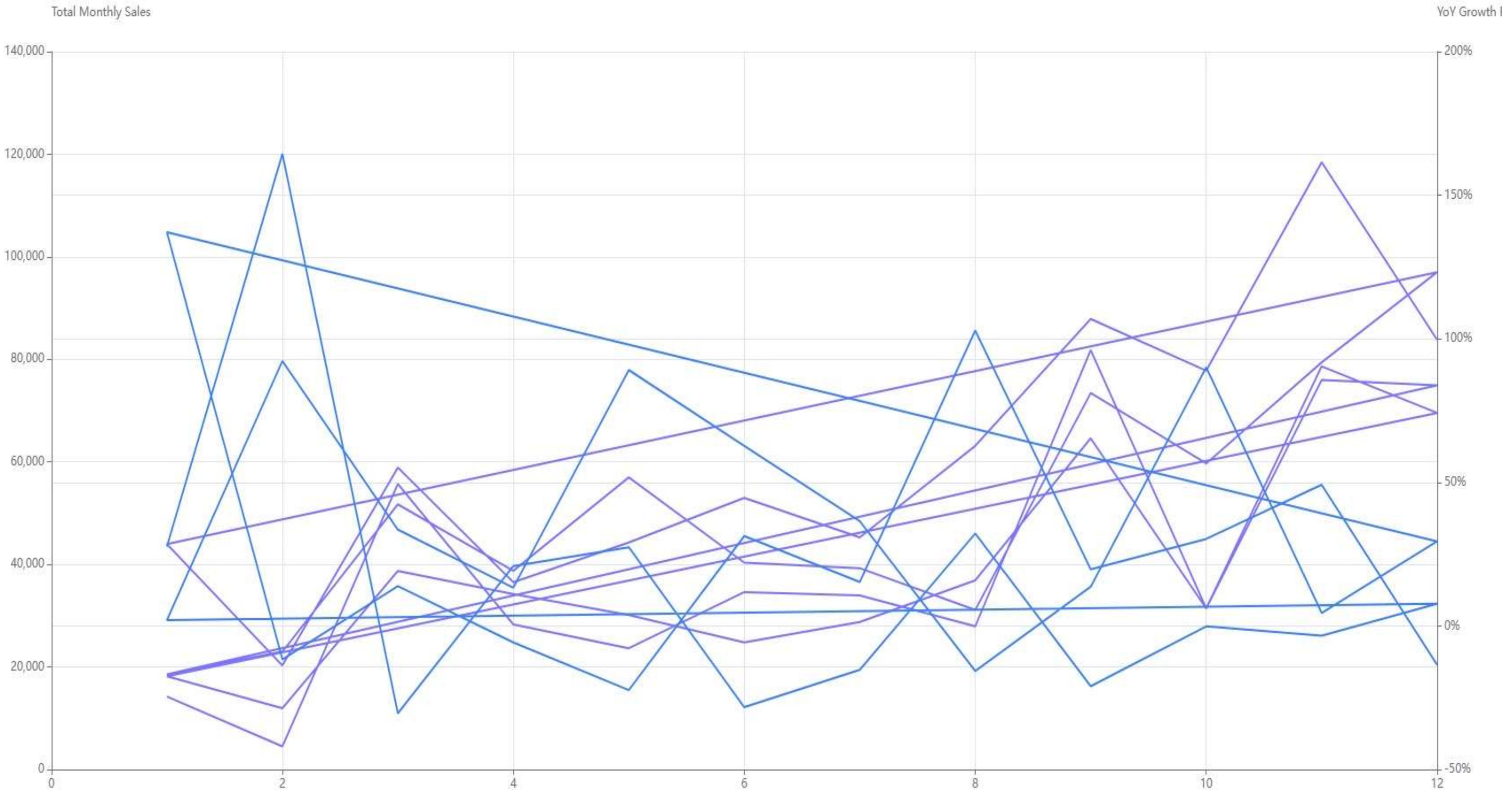
**Profit:** Profits per order range from a [loss of \\$6,599.98](#) to a [gain of \\$8,399.98](#).

**Locations and Products:** Orders come from different states and include items like furniture and office supplies.

# Analyze Monthly Sales YoY Growth

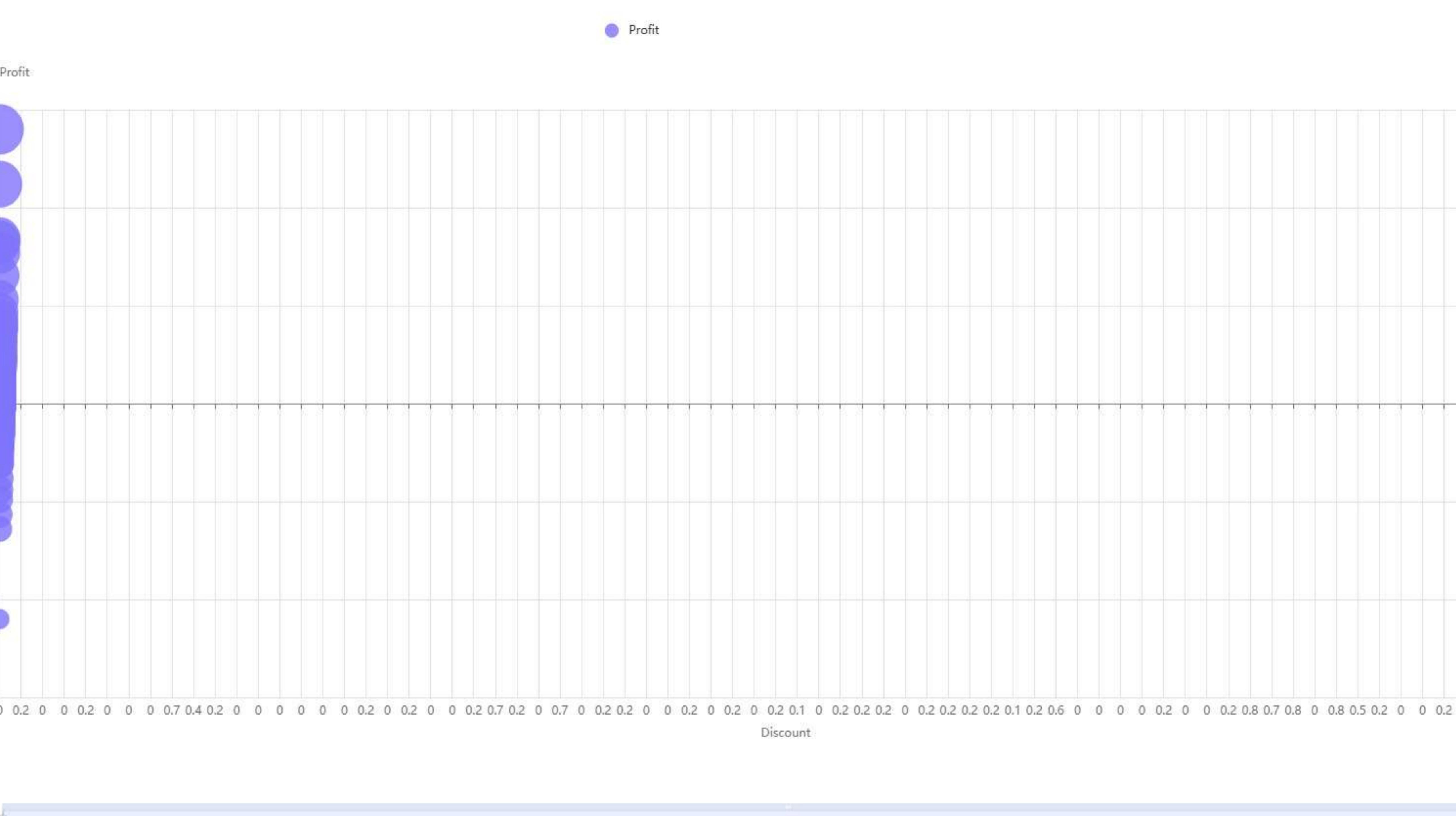
- **Overall Growth:** Sales have been steadily increasing each month from [2014](#) to [2017](#), reaching a high of [\\$118,447.82](#) in [November 2017](#).
- **Seasonal Trends:** Sales are [highest](#) in [November](#), [December](#), [March](#), and [September](#), but [drop](#) in [January](#), [February](#), [June](#), and [July](#).
- **Up-and-Down Growth:** On [average](#), sales grow by [27.21%](#) each year, but the growth varies a lot, so businesses should plan carefully to manage these fluctuations.

Total Monthly Sales    YoY Growth Rate



# Discount-Profit Correlation Significance

- **Discount-Profit Connection:** A slight trend shows that bigger discounts lead to smaller profits (correlation of -0.219).
- **Statistical Proof:** The trend is reliable, confirmed by a very low p-value (2.702e-109).
- **Business Advice:** Large discounts can hurt profits, so businesses should avoid aggressive discounting to maintain better profit margins.



# Identify Outliers in Sales Values

- **Unusual Orders:** 127 orders stood out because their sales were much higher than usual, ranging from **\$2,104.55** to **\$22,638.48**, with an average of **\$4,060.10**.
- **Profit Ups and Downs:** Profits varied widely, from a loss of **\$6,599.98** to a gain of **\$8,399.98**, with an average profit of **\$747.74**. This shows that big sales don't always mean big profits.
- **Visual Summary:** A boxplot (a type of chart) highlights these unusual orders and shows that the sales data is uneven, with a few very high sales stretching out the pattern.

 Sales Distribution

value

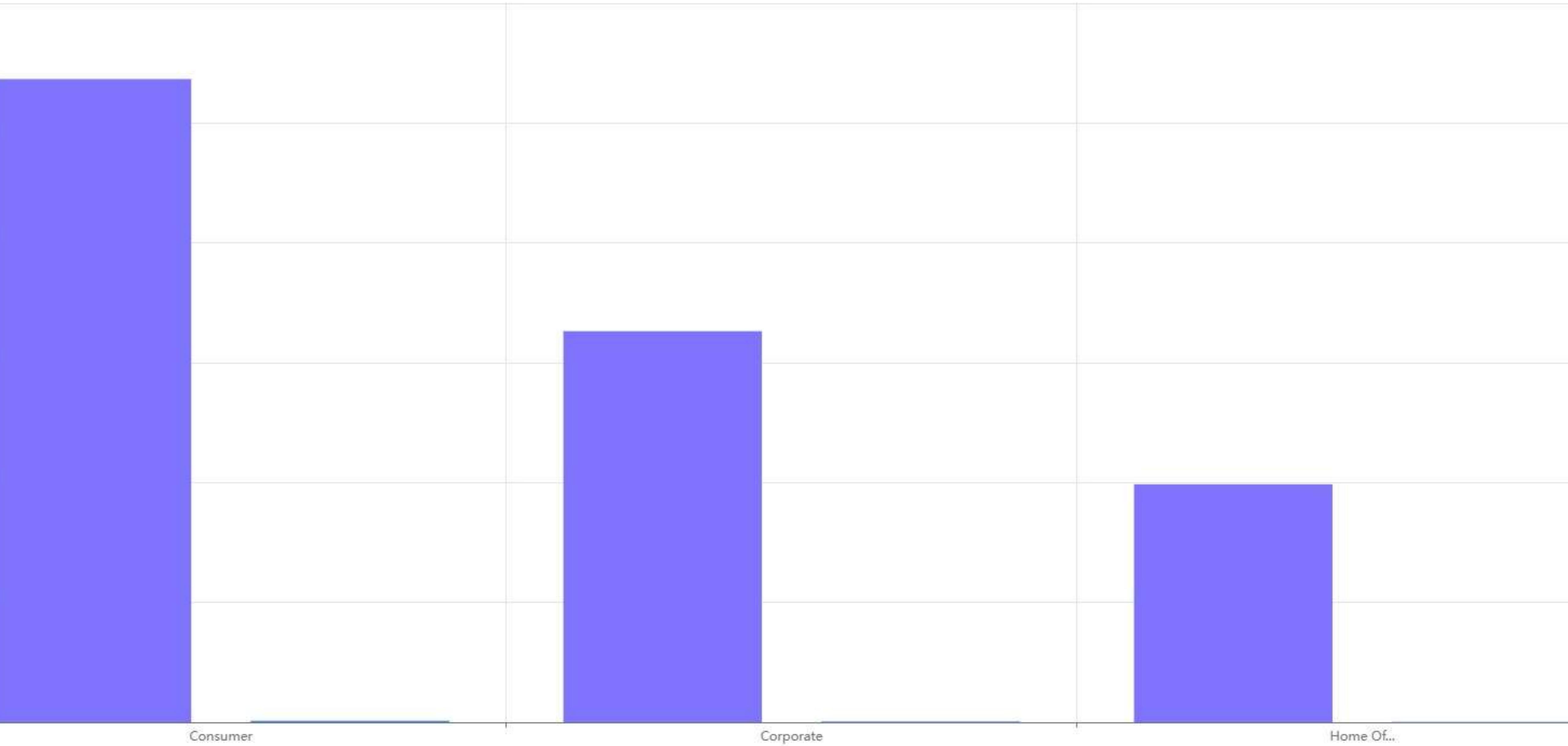


Sales

# Sales by Customer Segment Analysis

- **Main Customers:** The **Consumer** group buys the most, bringing in **\$1,161,401.34** from **2,586** orders, making them the biggest source of revenue.
- **Corporate Buyers:** The **Corporate** group comes in second, with **\$706,146.37** in sales from **1,514** orders.
- **Home Office:** The **Home Office** group buys the least, with **\$429,653.15** in sales from **909** orders.

Total Sales by Segment Total Purchase Frequency by Segment



# Sales and profit by category

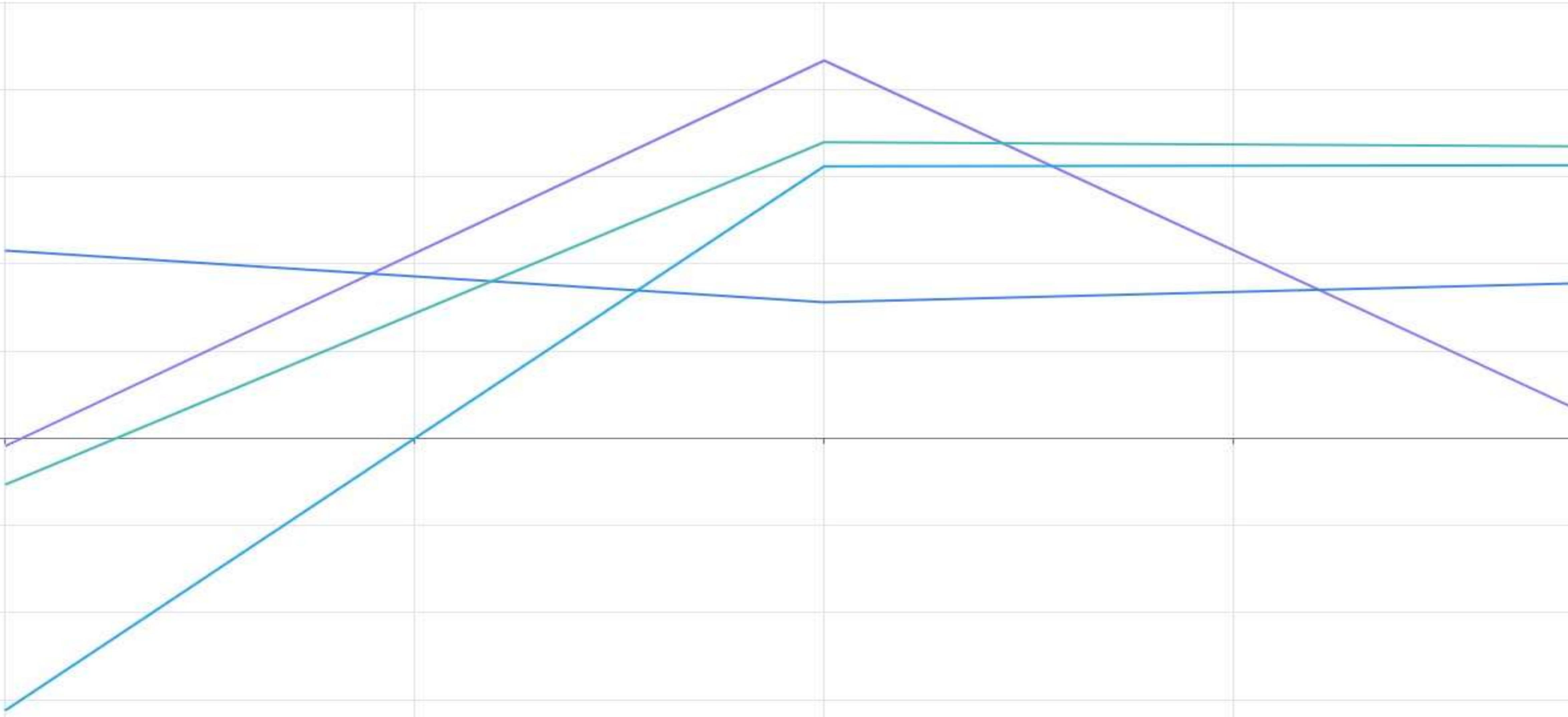
- **Technology:** This category makes the most money, with **\$836,154.03** in sales and a high profit margin of **17.40%**, meaning it's the most profitable.
- **Furniture:** Sells a lot, bringing in **\$741,999.80**, but has a low profit margin of **2.49%**, so it's not as profitable.
- **Office Supplies:** Brings in **\$719,047.03** in sales and has a strong profit margin of **17.04%**, making it quite profitable too.



# Regional Sales and Growth Rate

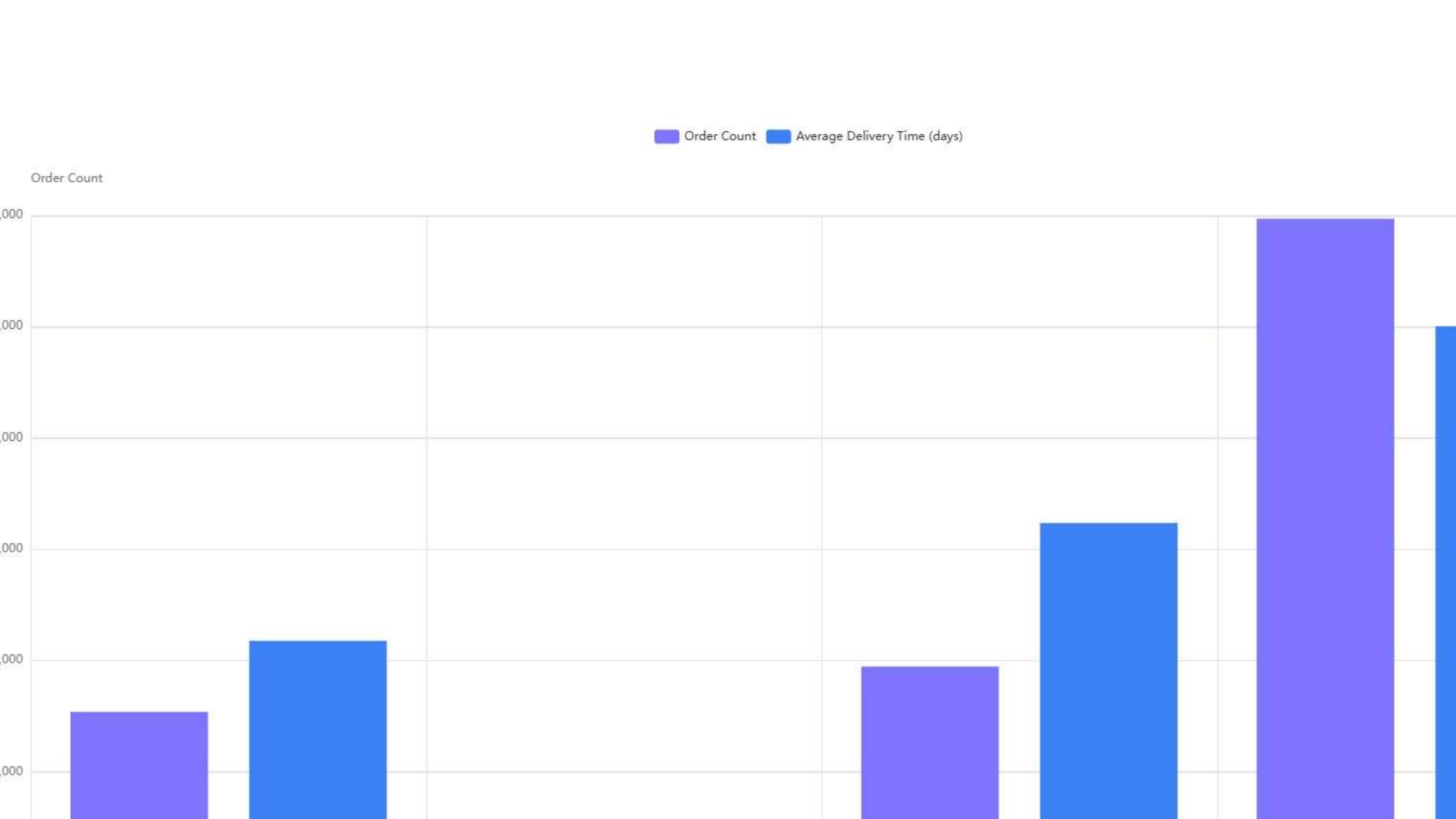
- **Sales by Region (2014–2017):** The West region had the highest sales at **\$725,457.82**, with the East region close behind at **\$678,781.24**.
- **Fastest Growth:** The Central region grew the most in 2016, with sales jumping by **43.31%**.
- **Key Takeaways:** The West region was the top seller overall. The Central region had up-and-down growth. The East region grew steadily. The South region bounced back strongly after a weaker 2015.

Central East South West



# Order distribution and delivery time

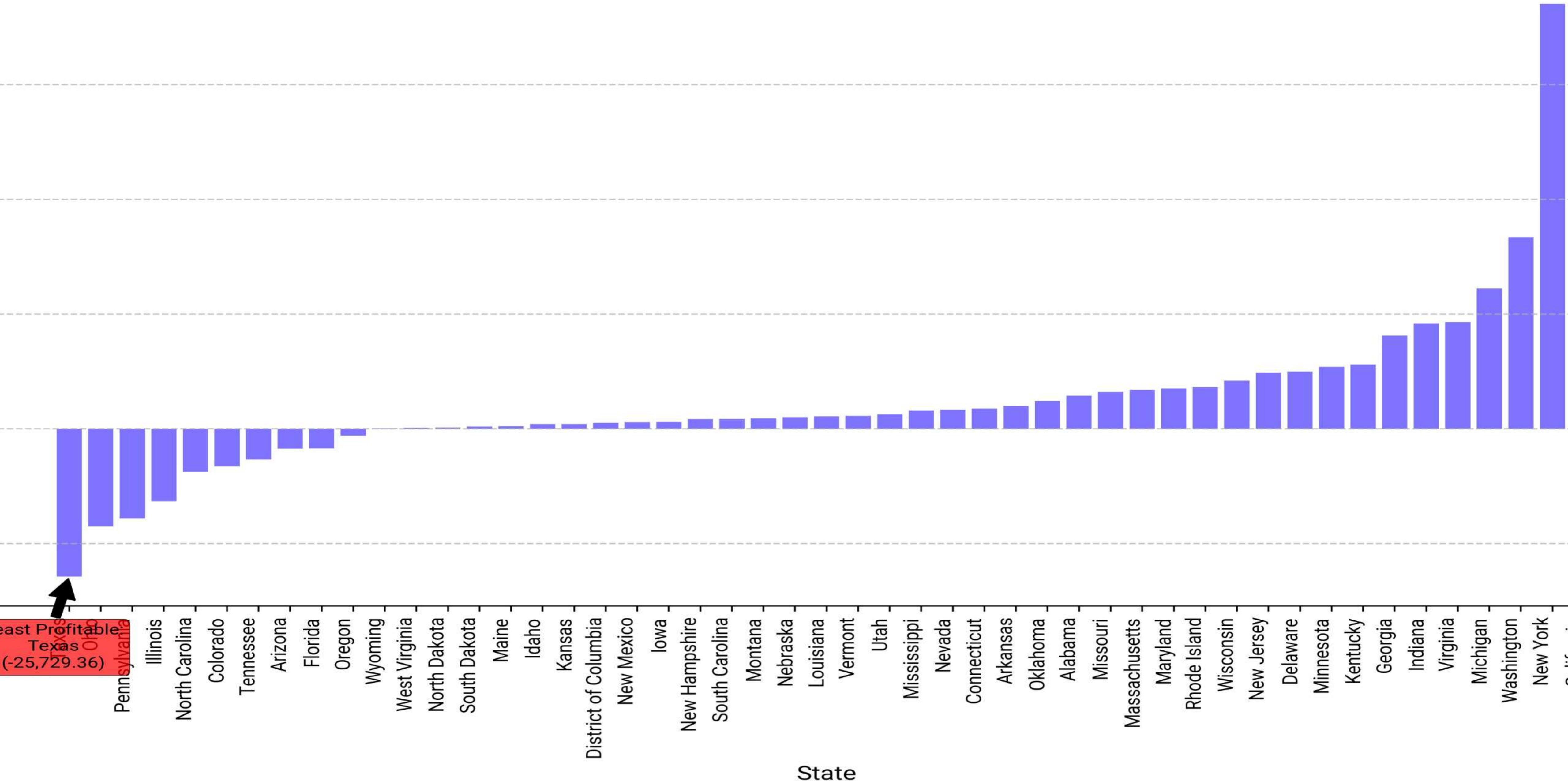
- **Order Numbers and Delivery Time:** Standard Class is the most popular shipping option with 5,968 orders, but it takes the longest to deliver at about 5 days. Same Day shipping is the fastest at 0.04 days (almost instant), but it has the fewest orders at 543.
- **What Customers Want:** Customers prefer Standard Class, likely because it's cheaper, even though it's slower.
- **Business Tip:** Companies should improve their shipping processes to handle high order volumes while offering faster delivery options to meet different customer needs.



# State Profit Analysis

- **Profit Differences:** Profits vary a lot by state. California makes the most profit at \$76,381.39, while Texas loses money, with a loss of \$25,729.36.
- **Top and Bottom States:** California and New York bring in the most profits, but Texas, Pennsylvania, and Ohio are struggling and need improvement.
- **Regional Patterns:** States on the West Coast and in the Northeast are doing well with profits, while some Southern and Midwest states are not performing as strongly.

# Total Profit by State



# Analyze declining sales factors

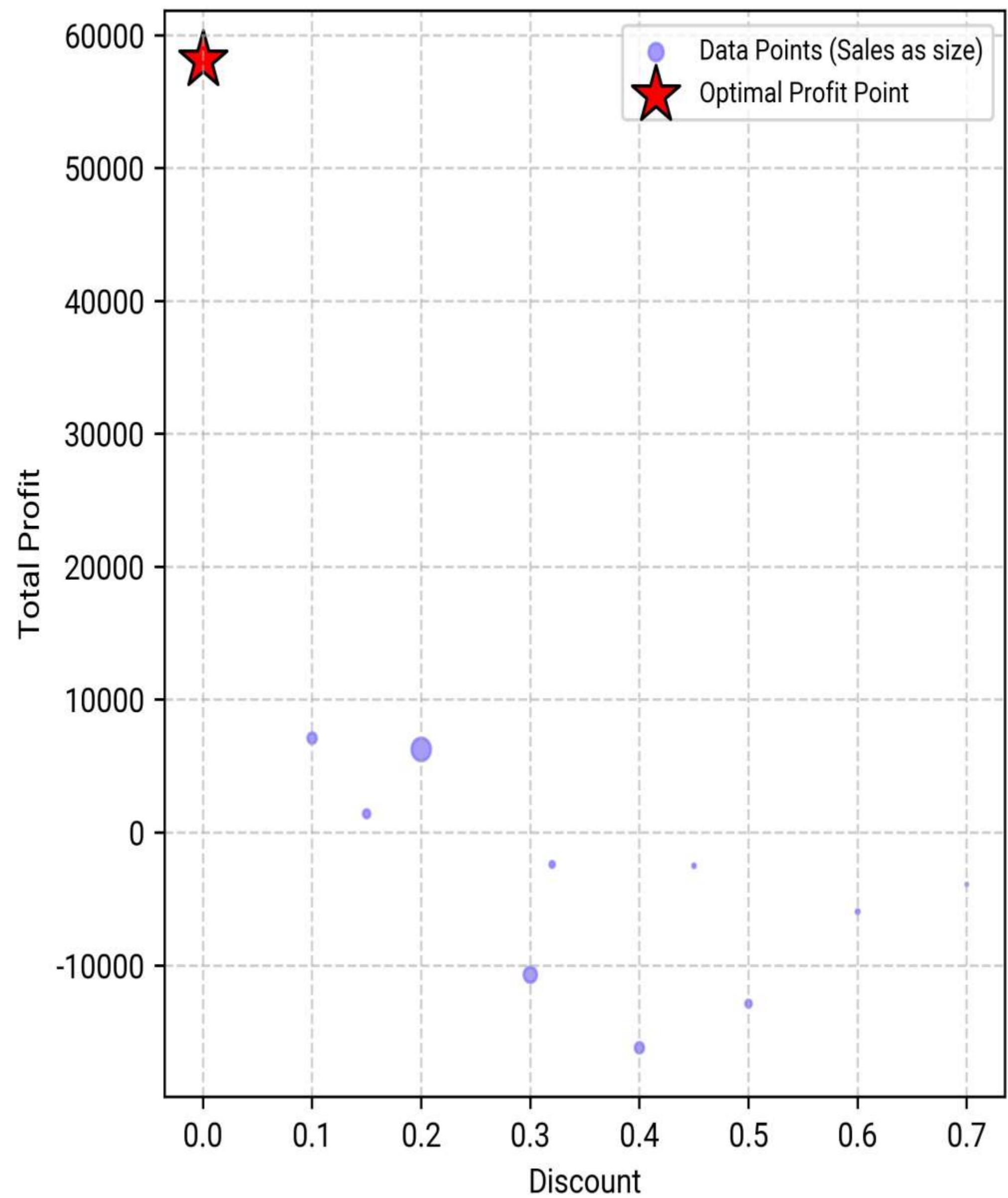
- **Falling Sales in Machines:** The "Machines" category is seeing a drop in sales and has a very low profit margin of only 1.79%.
- **Big Discounts Hurt Profits:** Offering an average discount of **30.61%** means prices are being cut a lot, which is reducing profits and sales.
- **What to Do:** The business needs to rethink its pricing, improve the value of the machines, and check if there's enough demand to boost sales.

# Optimal Discount Rate for Profit

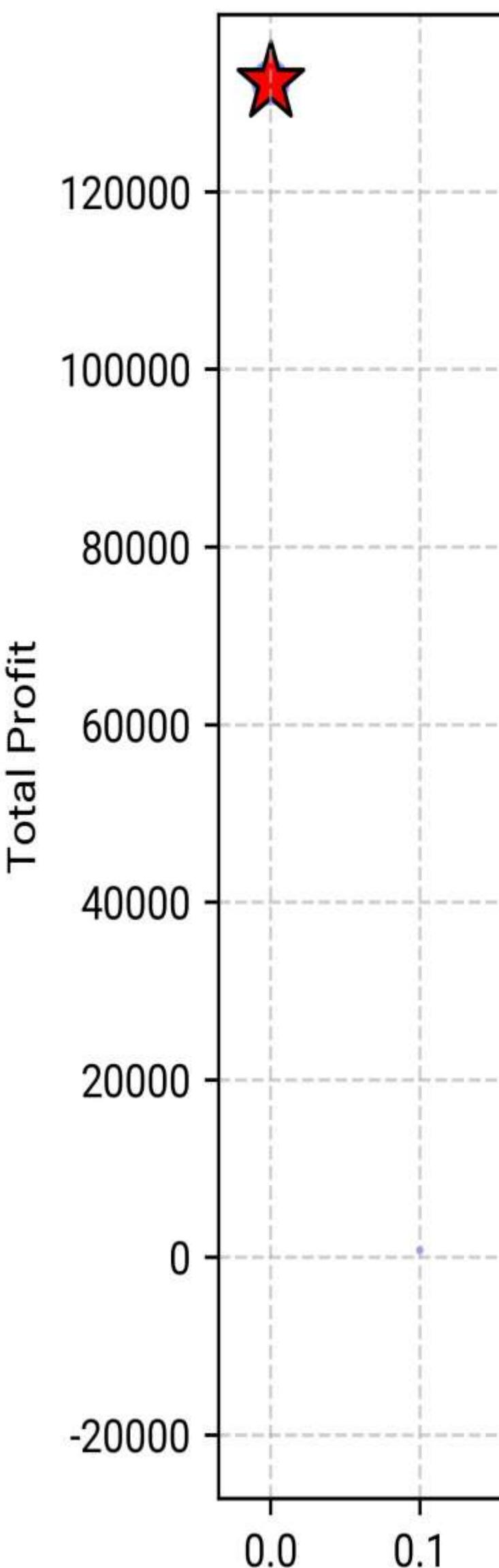
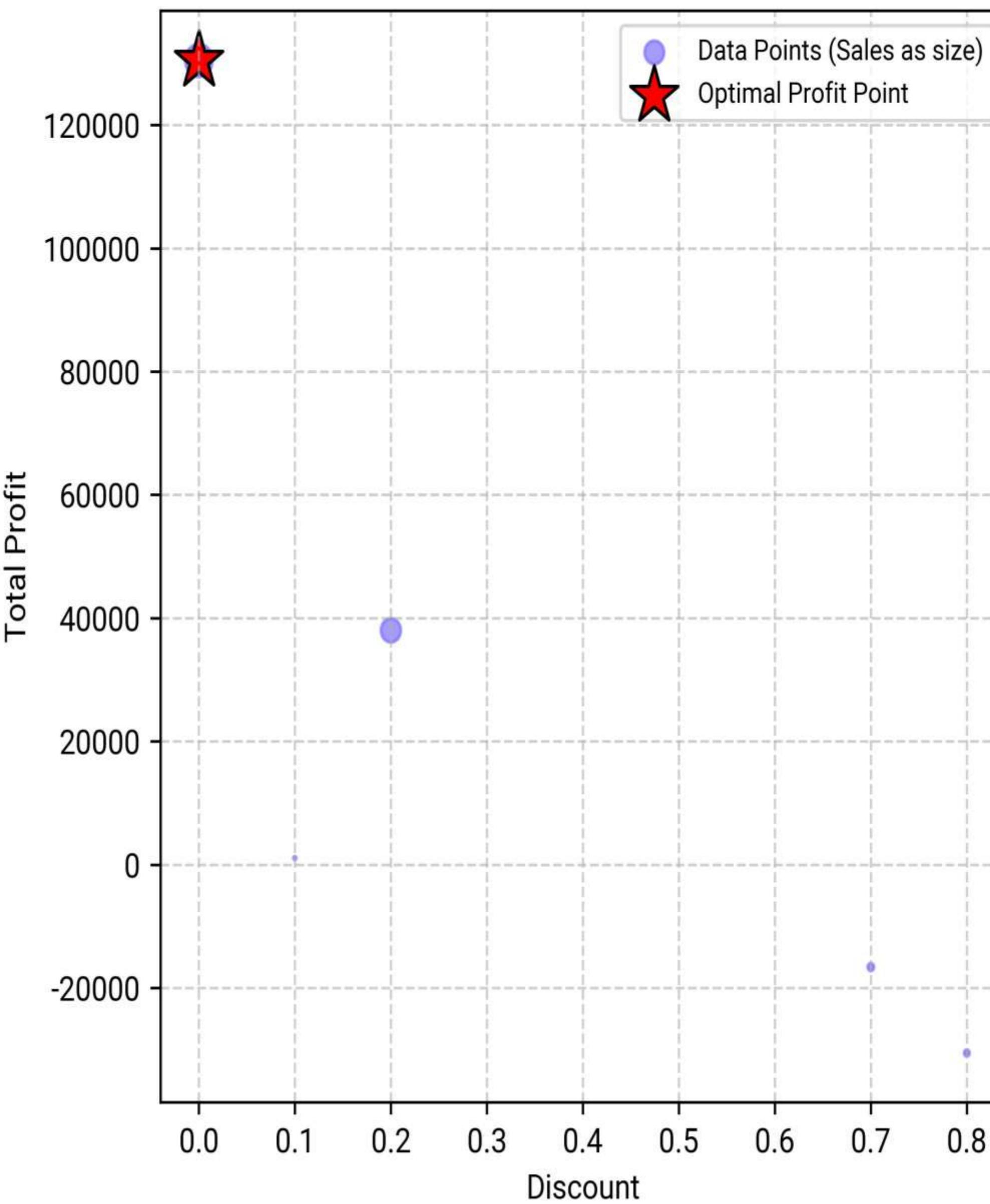
- **Best Discount Rate:** For Furniture, Office Supplies, and Technology, offering no discount (0%) leads to the [highest profits](#).
- **Discounts Hurt Profits:** The more you increase discounts, the lower your profits get, and high discounts can even lead to losses.
- **Sales vs. Profits:** Discounts might increase sales, but they often reduce profits, showing you have to choose between selling more or earning more per sale.

# Discount, Sales, and Profit Relationship by Category

## Furniture



## Office Supplies



# Thanks for watching!

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