



Wide World Importers Analysis & Insights – End-to-End Project

Presented by: Data Piracy Team

Presented to: Eng. Mohamed Adham

Amr Hamdy

Douaa

Mohamed Osama

Tasneem Mohamed

Mahmoud Elsayed

Maha Mosbeh

16/8/2025

Business Question & Practical Value

Question	Practical Value in Logistics & Supply Chain
Total sales per customer	Identifies the most valuable customers in terms of purchase value, allowing the company to prioritize shipping, offer special deals, and maintain loyalty.
Top 10 customers by quantity	Personalize offers: We can focus on them with special offers or discounts to maintain their loyalty.
Sales by city	Highlights geographic areas with the highest demand, enabling the company to position inventory or distribution centers nearby to cut costs and speed up deliveries.
How much quantity is ordered from each supplier	Improve Negotiations You have greater negotiating power with the supplier you order from (discounts, payment facilities).
Total sales per Sales Person	Links sales team performance to supply chain capacity, showing if there is balance between sales efforts and fulfillment capabilities.
Annual sales performance	Tracks sales trends over the years to forecast demand, plan for peak seasons, and adjust inventory strategies accordingly.
What are the products with negative profit contribution	Stopping Loss You can identify the products that you're not making a profit from or that you're losing money on, and then stop selling them or reduce their sales.
Top 10 Products by Profit Margin	Increase profitability: Knowing which products generate the highest profit margins helps you focus on marketing them more effectively. Pricing planning: You can use this data to adjust the prices of other products to achieve profitability levels.

Analysis Overview

Customers

403

shows Active customers. Helps assess market size and retention strategies.

Total Profit

85.73M

Shows overall profitability. Useful for financial tracking, cost management, and evaluating business success.

Orders

231K

Represents total executed orders. Reflects operational workload and supply chain performance.

Total Quantity

1241304

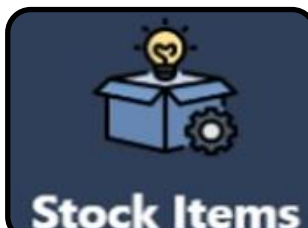
Total units sold. Helps in monitoring sales volume, demand forecasting, and inventory management.



Main dashboard
User entry point to summarize overall performance.



Customer Management
Track customer interactions, analyze behavior, and improve retention.



Inventory Management
Ensure products are in stock and reduce excess costs.

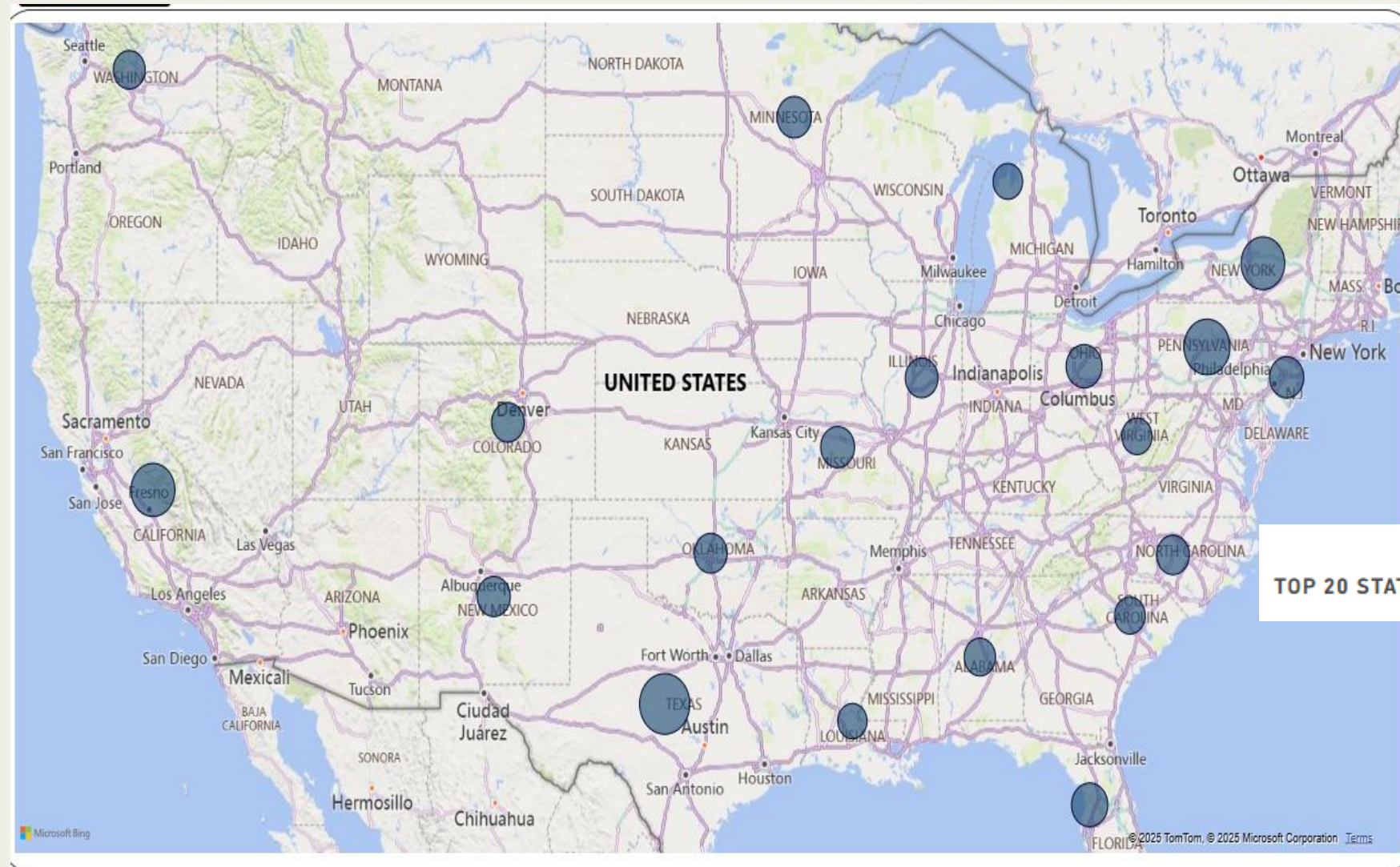


Sales Performance Evaluation
Motivate sales representatives and assign tasks fairly.

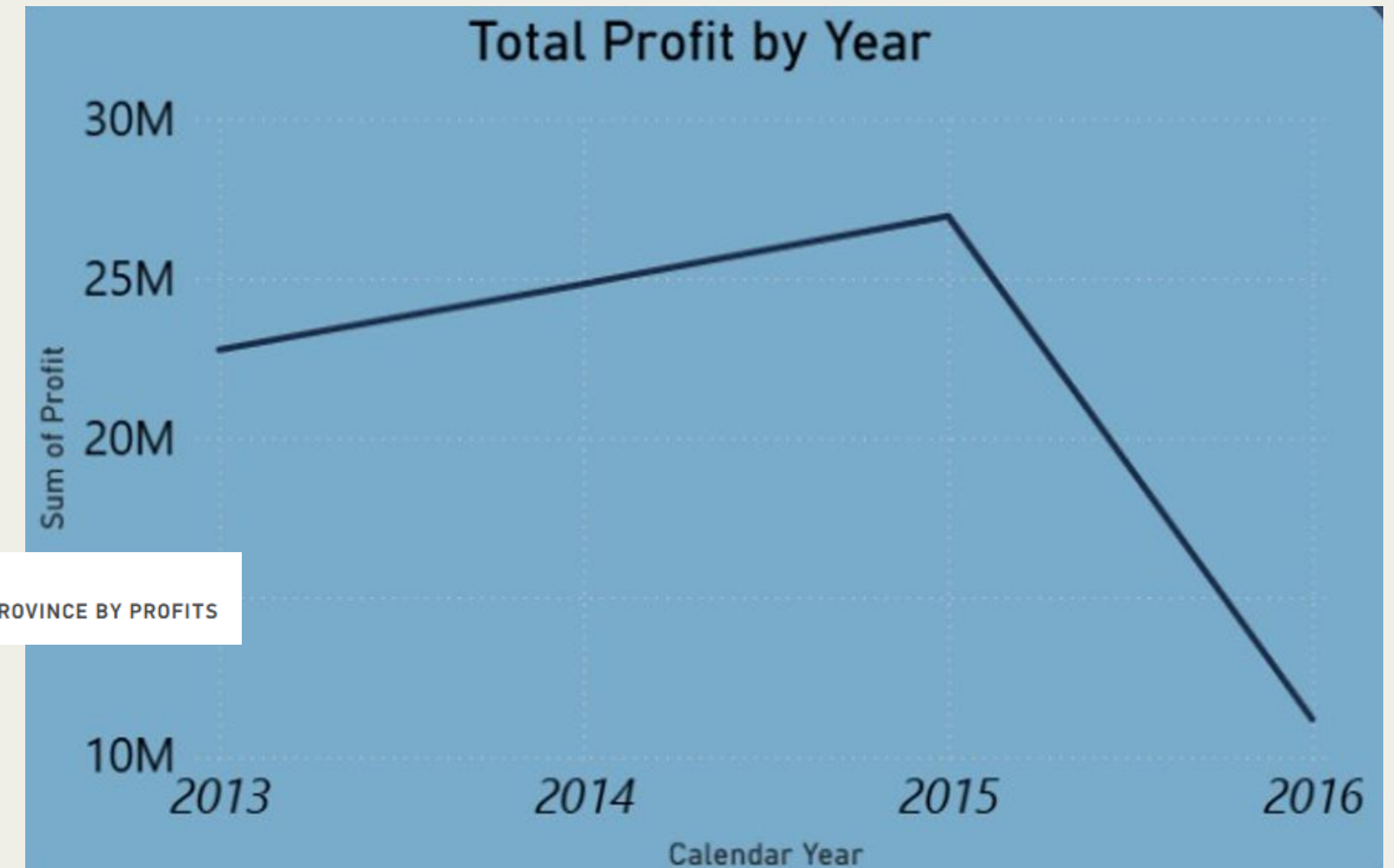


Trend Analysis
Forecast demand and make long-term strategic decisions.

Analysis Overview Cont.



"The map highlights top U.S. states by profit, with Texas (\$5.96M) and Pennsylvania (\$4.91M) leading. Profits are concentrated in the eastern and central regions, especially the Northeast and South, while Canada and Mexico show limited market presence."



2013 to 2015: Profit showed a steady upward trend, increasing from around \$23M in 2013 to its peak of \$27M in 2015. 2016: There was a significant drop in profit, falling sharply to about \$11M. This trend suggests strong growth in the first three years, followed by a major decline in the last year, which could indicate market challenges, operational issues.

Overview Recommendations

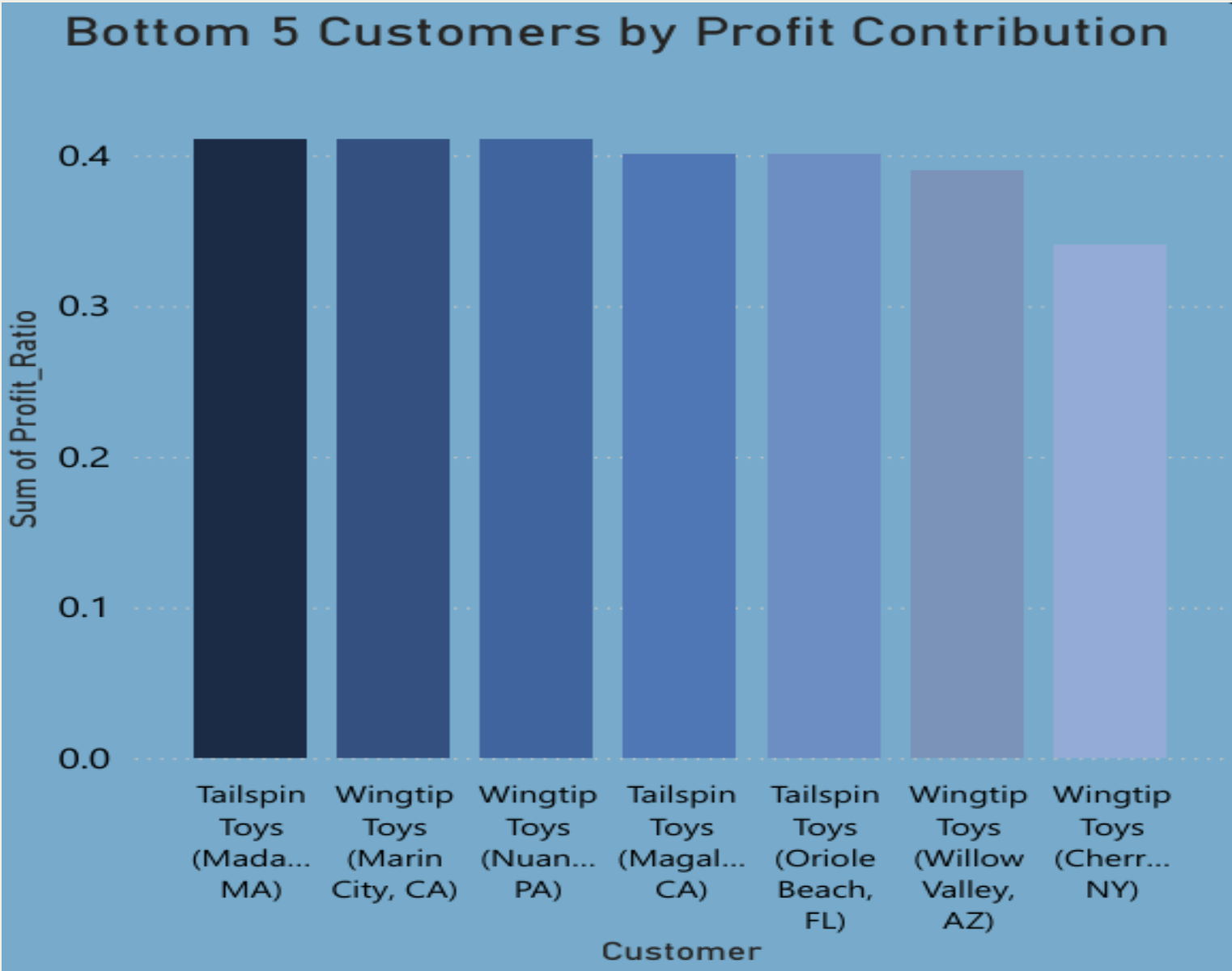
Investigate the 2016 data for completeness — the sharp drop may be due to incomplete recording or a real business downturn.

Avoid over-reliance on a few top performers — build a more balanced sales team to reduce risk.

Use this dashboard as a monthly performance tracker to monitor trends and act early on declines.

Set up automated alerts in Power BI for significant drops in profit or volume.

Customer Analysis



Several customers, including Tailspin Toys (Magalia, CA) and Wingtip Toys (Marin City, CA), contribute near-zero or negative profit margins. This means the cost of serving them (shipping, handling, discounts) exceeds the revenue they generate. These accounts are effectively losing money for the company. A review of pricing, delivery terms, or service models for these customers is essential to either improve their profitability or consider discontinuing the relationship.



The five customers with the lowest purchase quantities include Tailspin Toys (Magalia, CA) and Wingtip Toys branches in Munich, Morton, and Cherryvale. These accounts purchase minimal volumes, suggesting they are either new, inactive, or small-scale buyers. While maintaining a broad customer base has value, these low-volume accounts may not justify the administrative or logistical costs associated with serving them, especially if their profitability is also low.

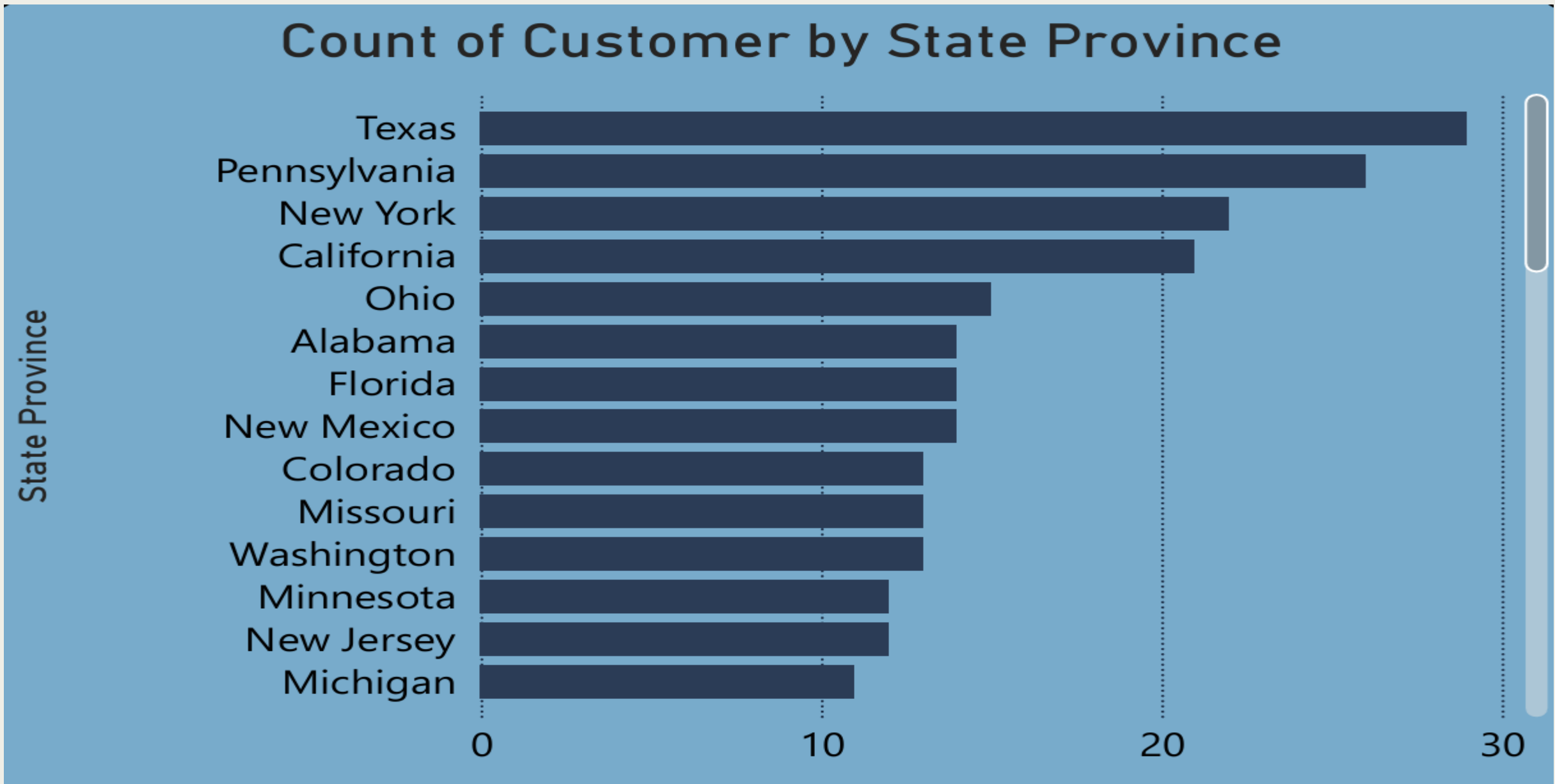
Top Customer by Profit

Wingtip & Tailspin Toys

Customer Data Adjustment:

During data cleaning, some transactions were recorded under "Unknown Customer." Given the high sales volume and patterns observed, these were reassigned to *Wingtip Toys* and *Tailspin Toys*, as they represent the dominant customers in the dataset. This adjustment ensures more accurate profit contribution analysis and prevents misleading results caused by data entry errors.

Customer Analysis cont.



Texas, Pennsylvania, and New York have the highest number of customers, indicating strong market presence in these regions. However, customer count does not necessarily reflect profitability, as some high-density areas may consist of low-margin accounts. This geographic concentration suggests that sales and marketing efforts are focused in these states, but further analysis is needed to determine if these regions are also the most profitable or if resources could be better allocated elsewhere.

Customer Recommendations

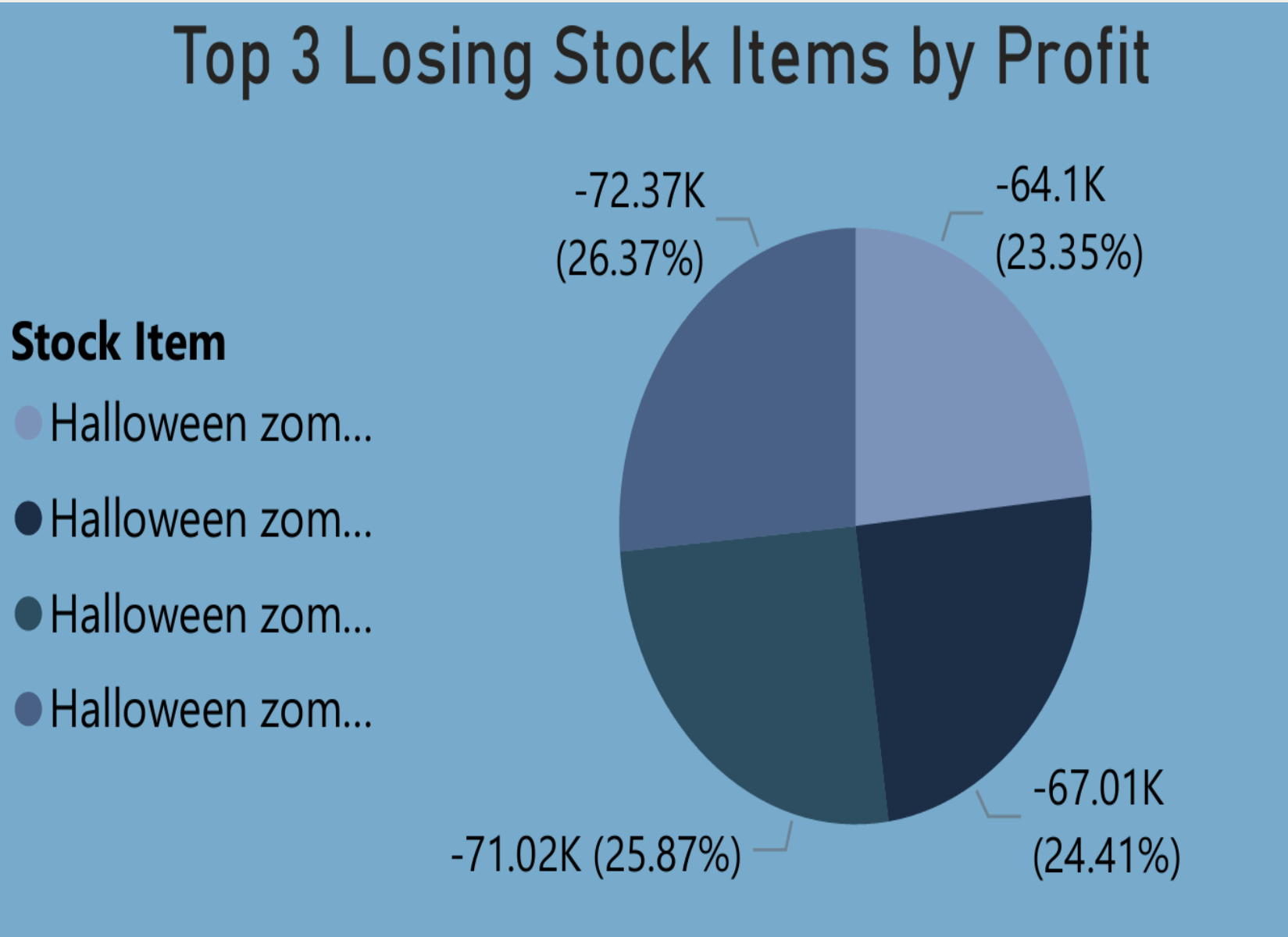
Reward and strengthen relationships with high-value customers like Wingtip & Tailspin Toys through loyalty programs or dedicated support.

Targeted “win-back” offers for the Lowest-5-by-Quantity branches
Action: Limited-time bundle or tiered discount (e.g., free shipping or 2–3% off with a minimum order), plus cross-sell of 2 fast-movers per branch based on their historic basket.

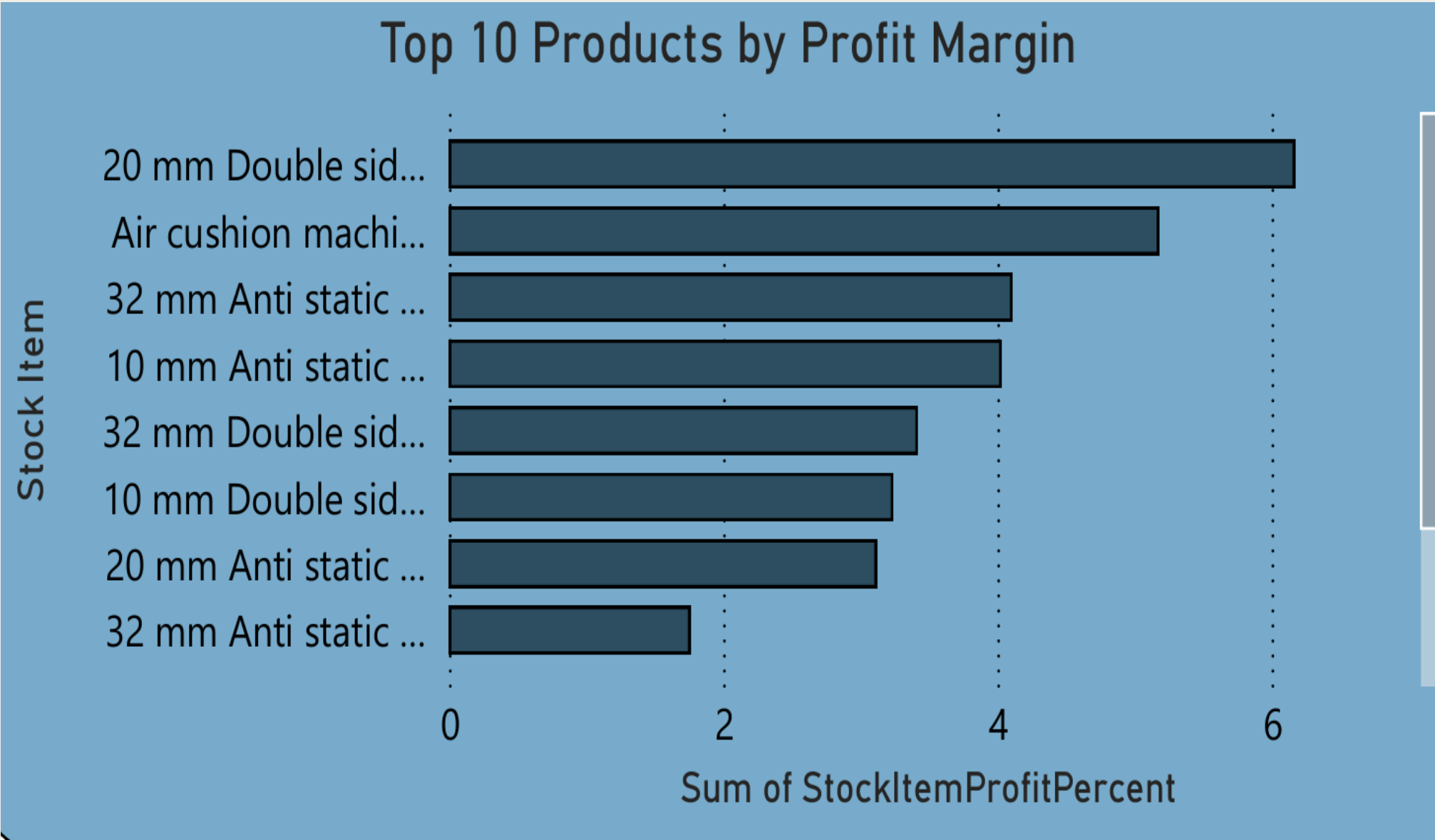
Analyze profitability by region — focus sales and marketing efforts on high-profit states, not just high customer density.

Implement a customer profitability scorecard to guide account management decisions.

Stock Items Analysis

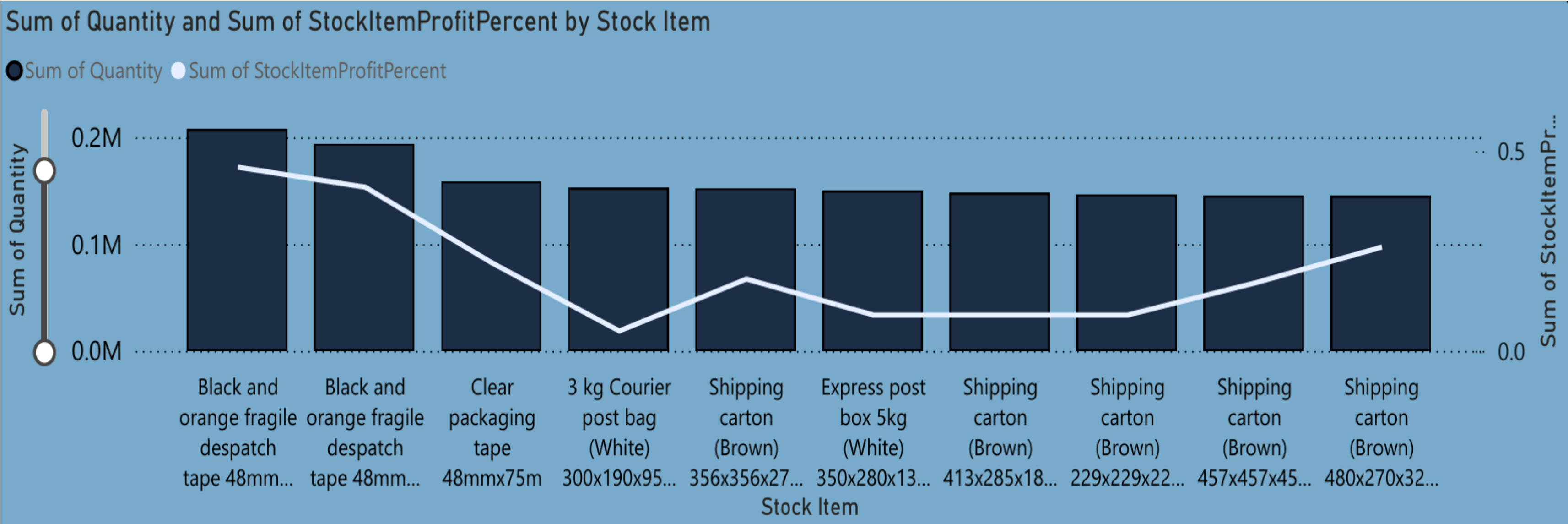


The Halloween zombie-themed products were the biggest financial losses, each incurring losses between \$64,000 and \$72,000. These seasonal items likely suffered from overstocking, poor demand forecasting, or post-season clearance at steep discounts. Carrying such inventory ties up capital and warehouse space for products that ultimately reduce profitability. These items should be discontinued or ordered in much smaller, demand-based quantities in the future.



The top 10 most profitable products by margin are primarily packaging and protective materials, such as double-sided bubble wrap, air cushion machines, and anti-static tapes. These items have profit margins exceeding 40%, making them highly efficient revenue generators. The company should leverage this strength by bundling these items with bulk orders or creating premium packaging packages to further boost margins across customer segments.

Stock Items Analysis



While some products like shipping cartons and courier bags are sold in high volumes, their profit margins are relatively low. In contrast, items like anti-static tapes and bubble wrap have lower sales volumes but significantly higher profit percentages. This disconnect between volume and profitability shows that focusing solely on sales quantity can be misleading. The company should prioritize selling high-margin items, even if they move slower, to improve overall financial performance.

Stock Items Recommendations

Promote high-margin packaging products through bundling, cross-selling, or premium packages.

Discontinue or strictly limit orders for seasonal items like Halloween products — improve demand forecasting.

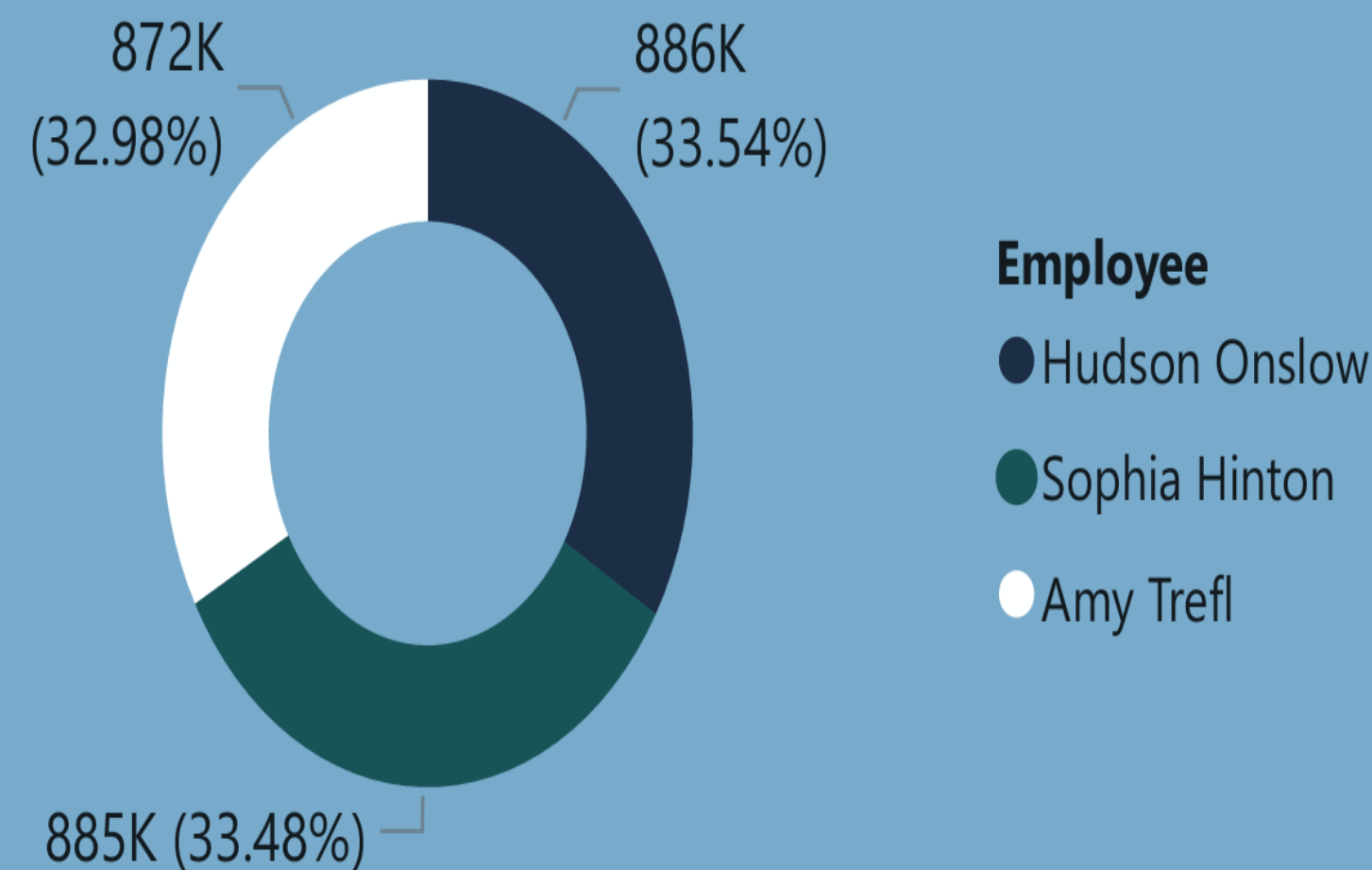
Focus inventory and sales efforts on high-profit, low-volume items rather than just high-sellers.

Create a product profitability dashboard to track margin trends and phase out underperformers.

Consider private-label or exclusive packaging lines to increase margins further.

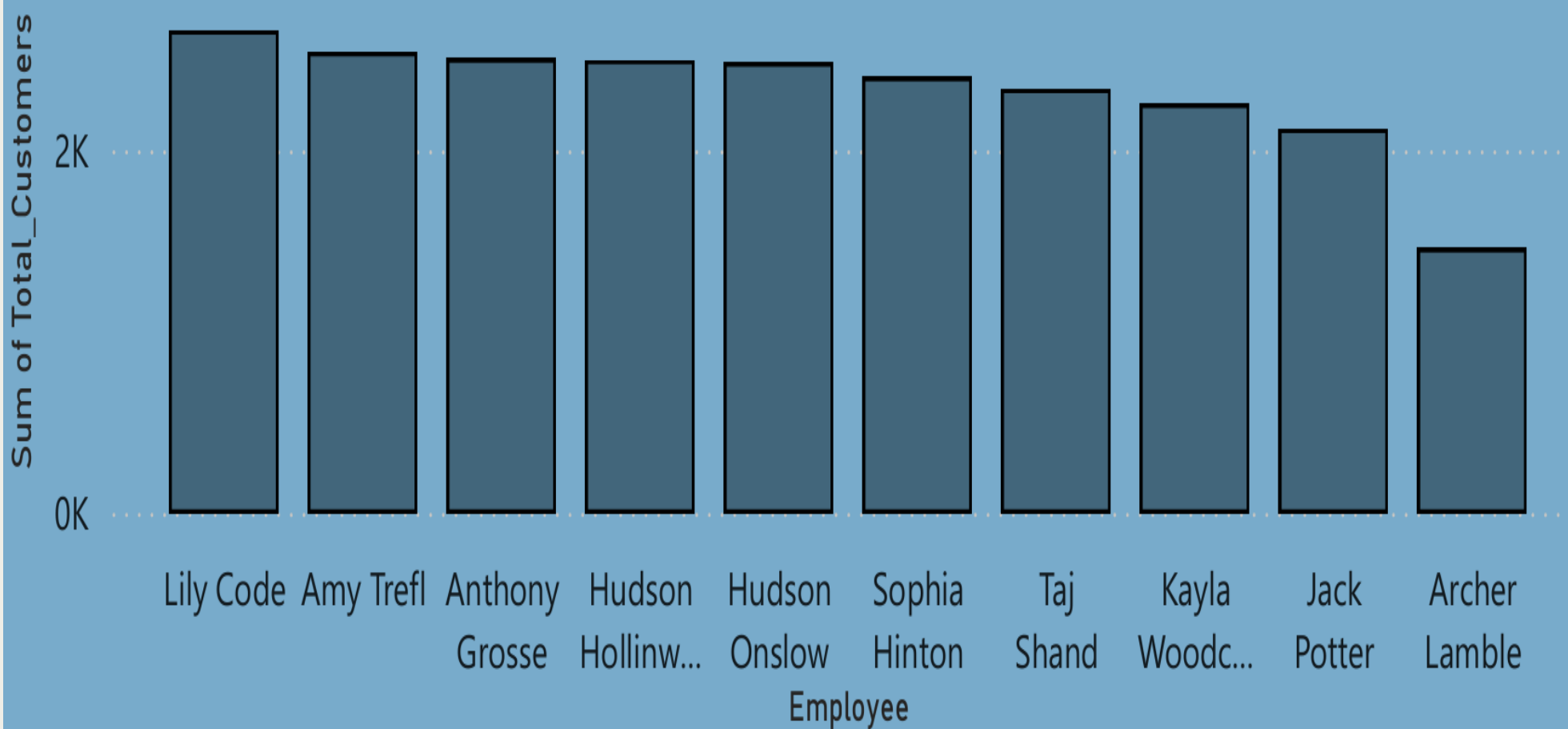
Salesperson Analysis

Lowest 3 Salespersons in Quantity Sold



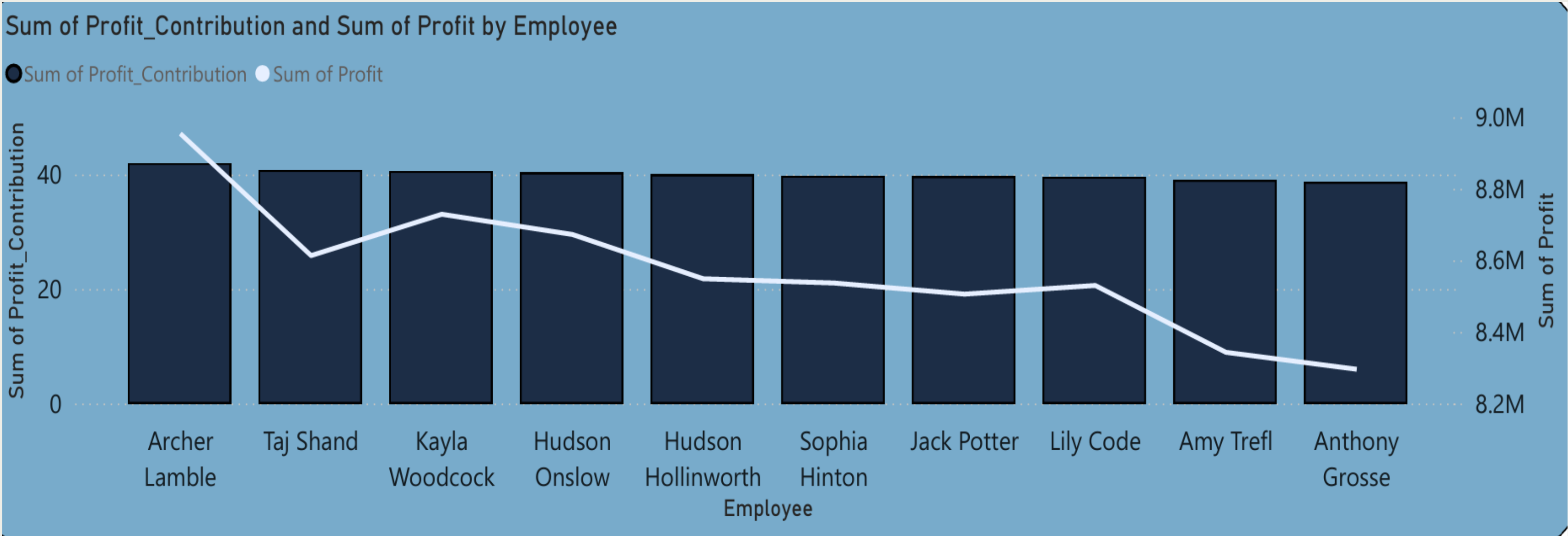
Hudson Onslow, Sophia Hinton, and Amy Trefl are the lowest in terms of units sold, indicating limited sales activity or engagement. This could be due to inexperience, lack of support, or assignment to less active customer segments. These employees represent an opportunity for improvement through targeted coaching, territory realignment, or performance incentives to help them contribute more effectively to overall sales goals.

Customer Reach per Salesperson



Lily Code and Amy Trefl manage the highest number of customers, suggesting a broad but possibly shallow customer reach. In contrast, top performers like Archer Lamble serve fewer customers but generate much higher profits, indicating deeper, more valuable relationships. This contrast shows that managing more customers does not always lead to better results. The company should focus on quality of engagement over quantity of accounts.

Salesperson Analysis Cont.



The chart shows that only three employees—Archer Lamble, Kayla Woodcock, and Taj Shand—generate almost all the profit, while the rest, including Hudson Onslow, Sophia Hinton, and Amy Trefl, contribute minimally. This imbalance highlights a lack of performance distribution across the team. It suggests a need for better training, mentoring, or resource allocation to develop the lower-performing employees and reduce over-reliance on a few top performers.

Salesperson Recommendations

Mentor underperformers using top performers as role models — conduct knowledge-sharing sessions.

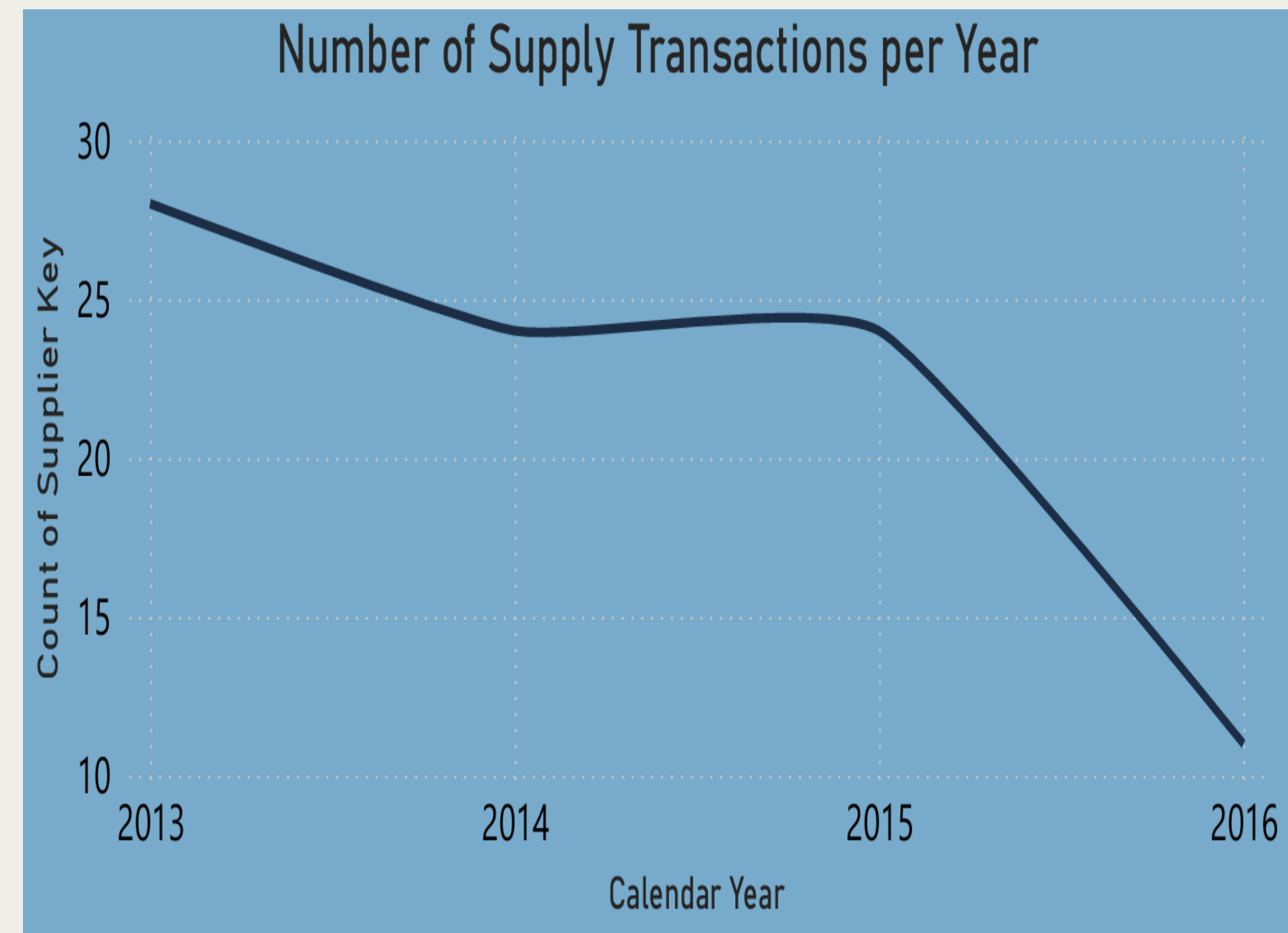
Train high-volume sellers (like Kayla) to upsell high-margin products to improve profitability.

Reassign accounts from low-performing to high-performing salespeople if needed.

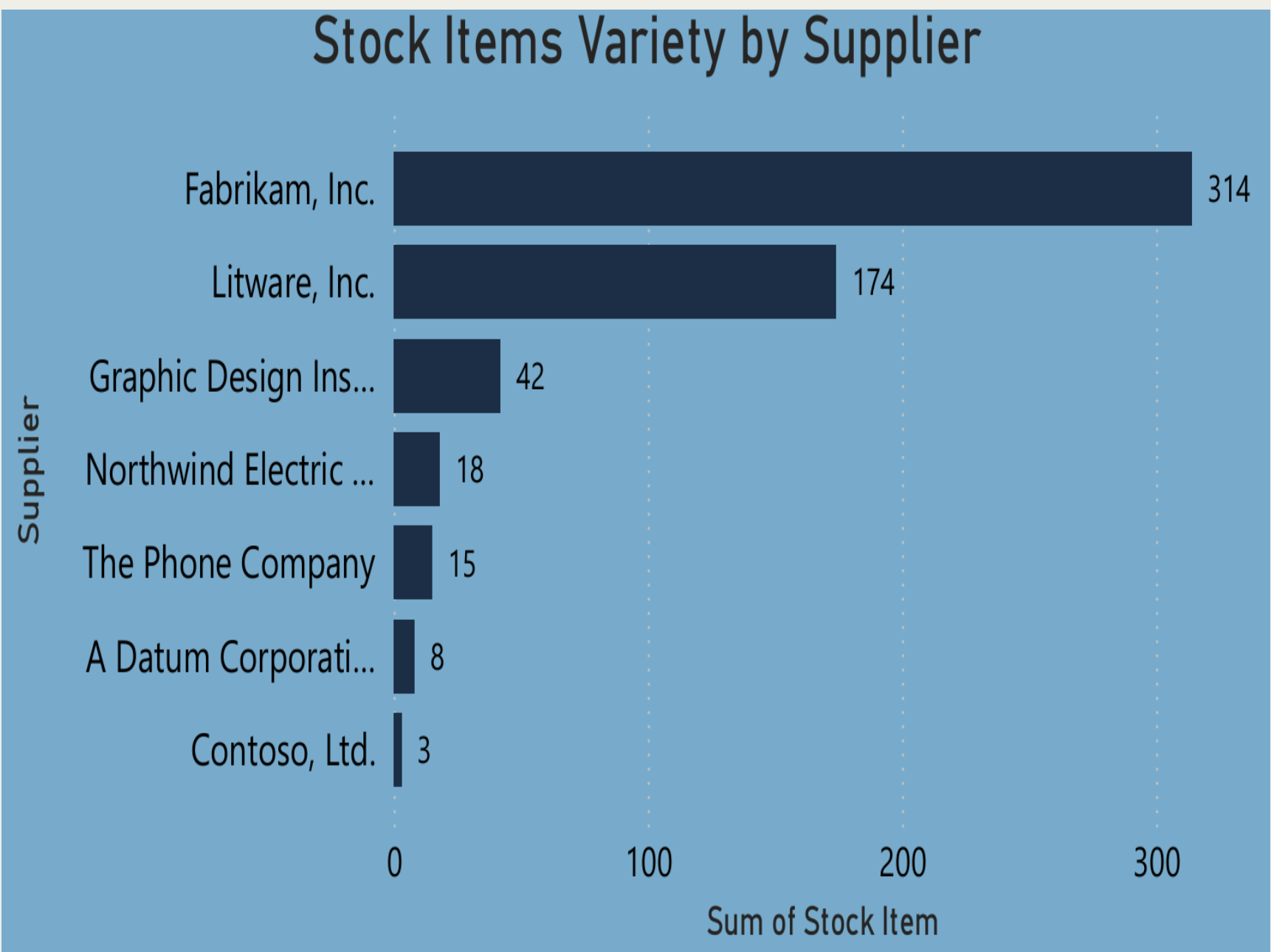
Balance workload — some reps have too many low-value customers; focus on quality over quantity.

Introduce performance-based incentives tied to both volume and profit margin.

Supplier Analysis

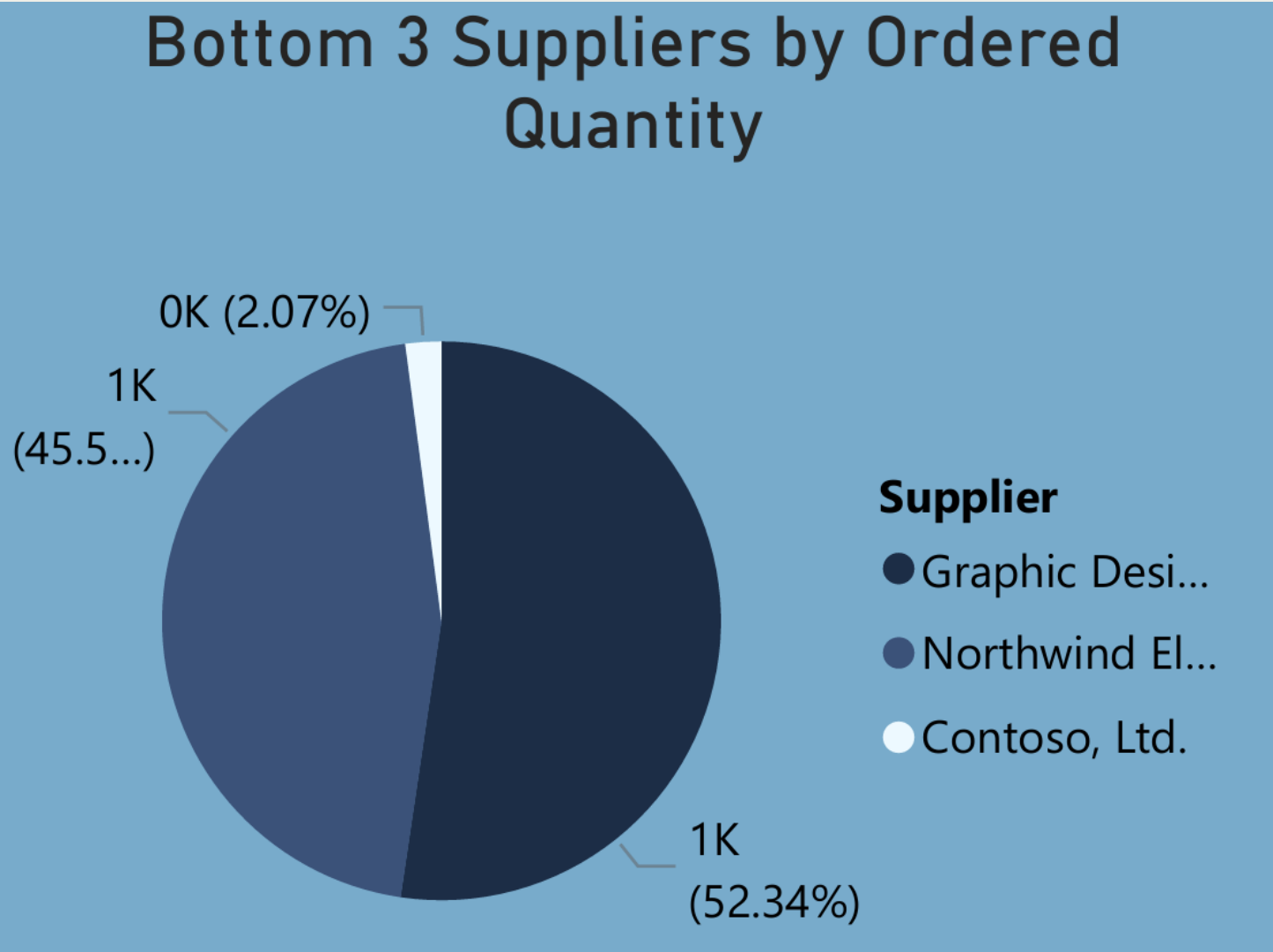


The number of supply transactions increased from 2013 to 2015, peaking at over 25,000, but dropped sharply in 2016 to around 10,000. This decline aligns with the drop in sales and ordered quantity, suggesting reduced procurement activity. It could indicate inventory overstocking in prior years, supplier consolidation, or operational cutbacks, all of which require further investigation.

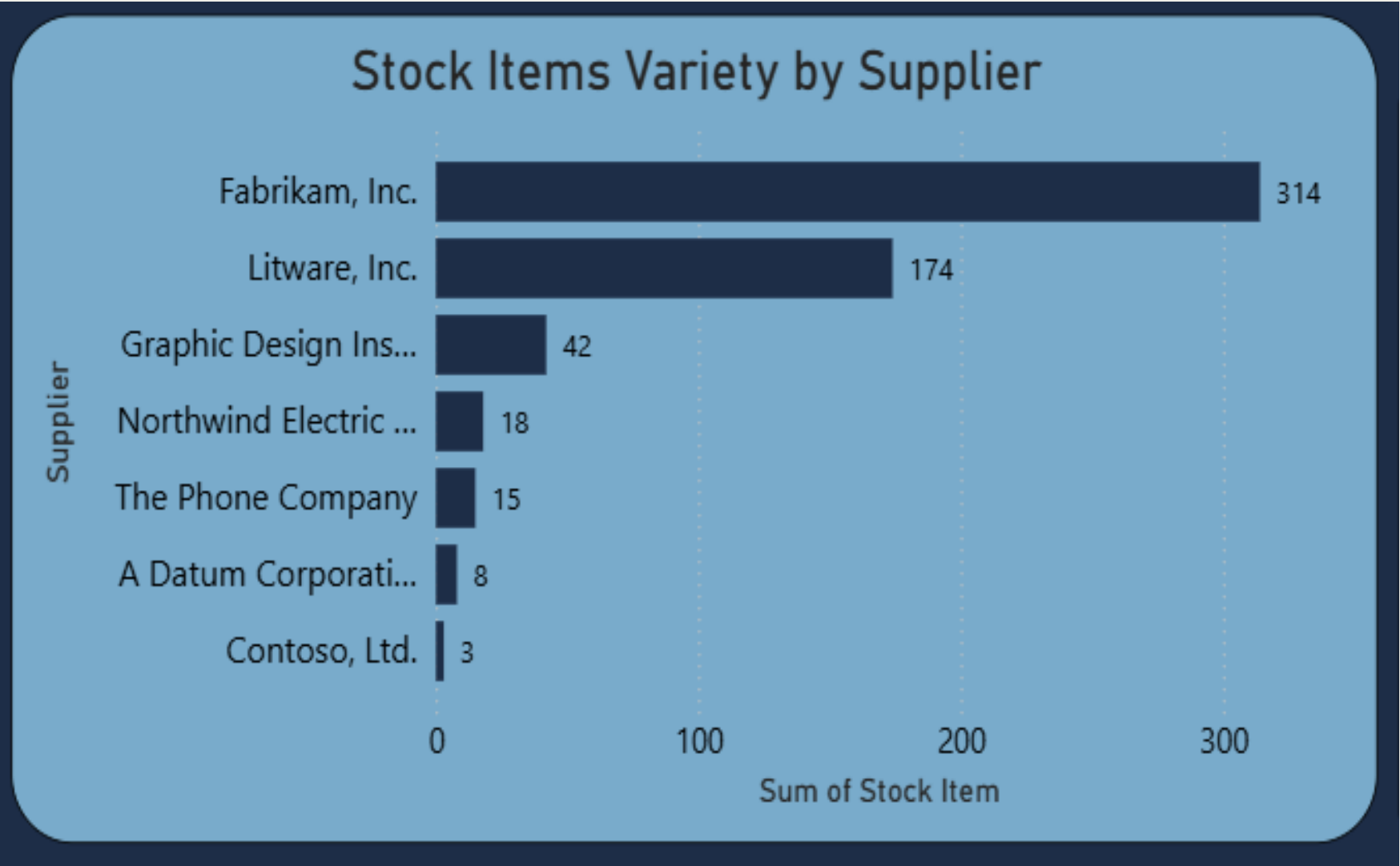


Fabrikam, Inc. offers the widest variety of stock items (314), far exceeding other suppliers like Litware (174) and Graphic Design Institute (42). This diversity makes Fabrikam a one-stop shop for many product needs, reducing complexity in procurement. Leveraging this variety can improve inventory management and reduce the need to coordinate with multiple smaller suppliers.

Supplier Analysis cont.



Contoso, Ltd., Northwind Electric, and Graphic Design Institute are the least used suppliers, contributing less than 3% of total orders combined. Their minimal usage raises questions about their necessity. The company should evaluate whether these suppliers offer unique items or if their products can be sourced from more reliable or cost-effective vendors to simplify the supply chain.



- Report: Stock Items Variety by Supplier**
- **Fabrikam, Inc.** dominates with **314 items** (major dependency).
 - **Litware, Inc.** follows with **174 items**.
 - **Graphic Design Ins.** provides **42 items**.
 - Other suppliers (Northwind, Phone Company, A Datum, Contoso) contribute very few items (3–18 each).

Supplier Recommendations

Strengthen partnership with Fabrikam, Inc. — negotiate better pricing or volume discounts due to high dependency.

Consolidate suppliers — evaluate if low-volume suppliers add value or can be replaced by existing vendors.

Reduce dependency on Fabrikam by diversifying supply.

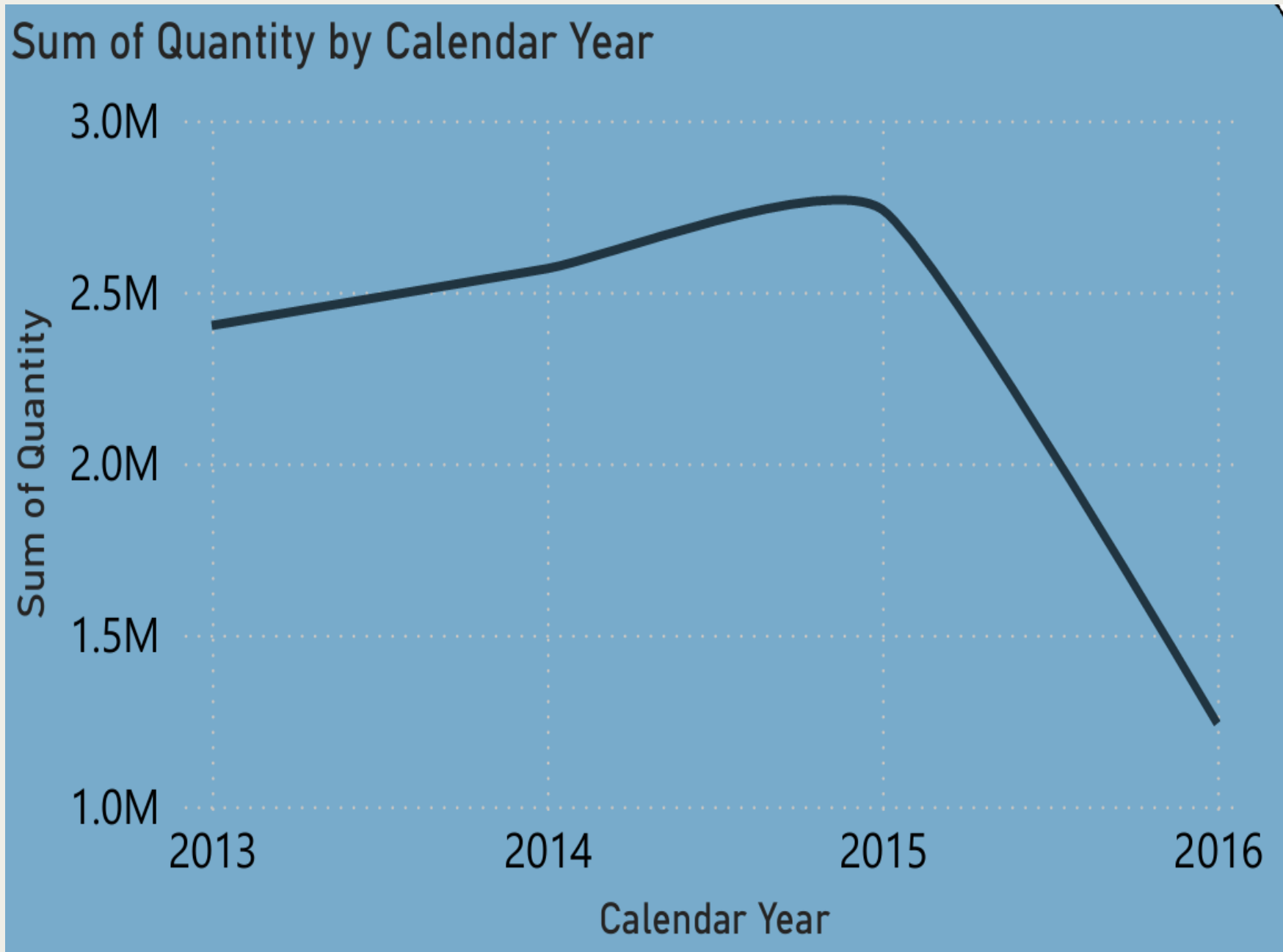
Develop a supplier risk management plan — avoid over-reliance on a single supplier.

Audit supplier performance annually (on-time delivery, quality, cost).

Quantity Analysis

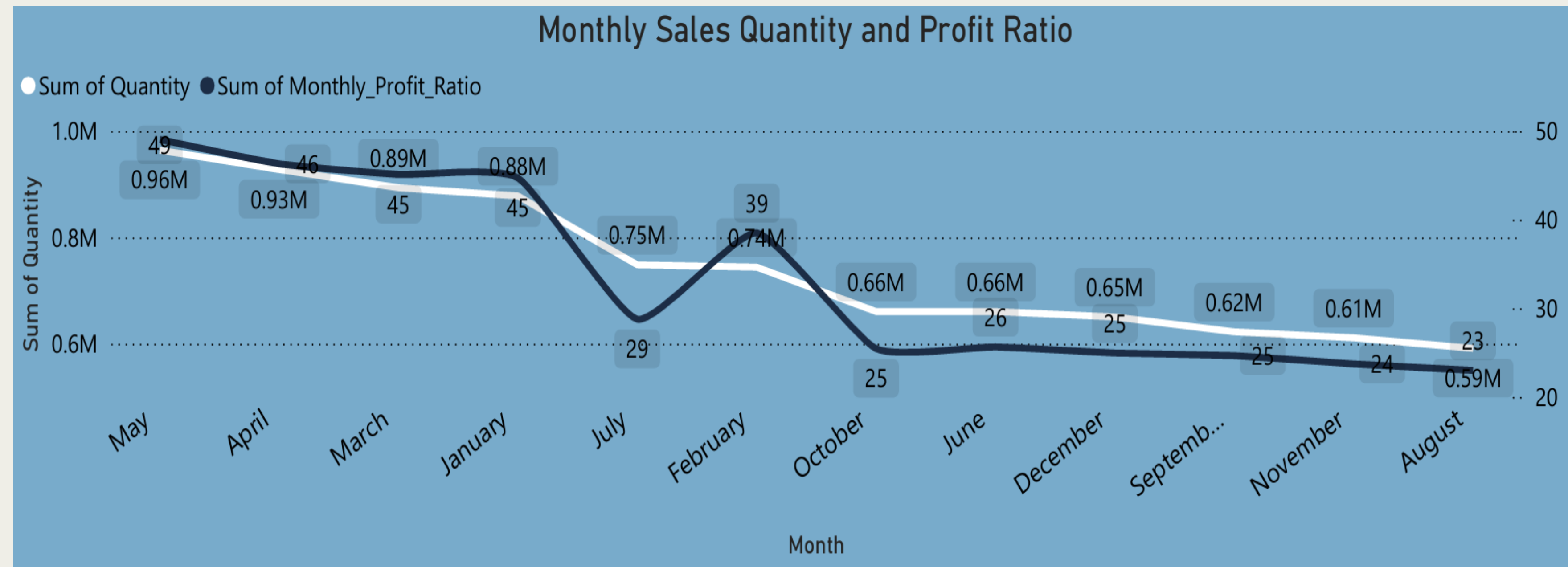


The monthly sales data shows the highest volume in January, followed by dips in February and June, with another peak in December. This pattern suggests strong start-of-year and holiday-season demand. Understanding these cycles allows for better forecasting, inventory planning, and promotional timing to meet customer needs efficiently.



Total ordered quantity increased from 2013 to 2015, rising from 1.2 million to nearly 3 million units, showing strong growth. However, in 2016, it dropped back to around 1 million units, confirming the downward trend seen in profit and supply transactions. This consistent decline across multiple metrics in 2016 strongly suggests a systemic issue that must be addressed to restore growth.

Quantity Analysis



Sales quantity peaks in January (0.96M units) and March (0.89M), while profit ratios are highest in January (49%) and March (45%). This indicates that the beginning of the year is both the busiest and most profitable period. The company should align inventory, staffing, and marketing efforts with these high-performance months to maximize returns and prepare for seasonal demand spikes.

Quantity Recommendations

Promote High-Margin, Lower-Volume Products Over High-Quantity, Low-Profit Items

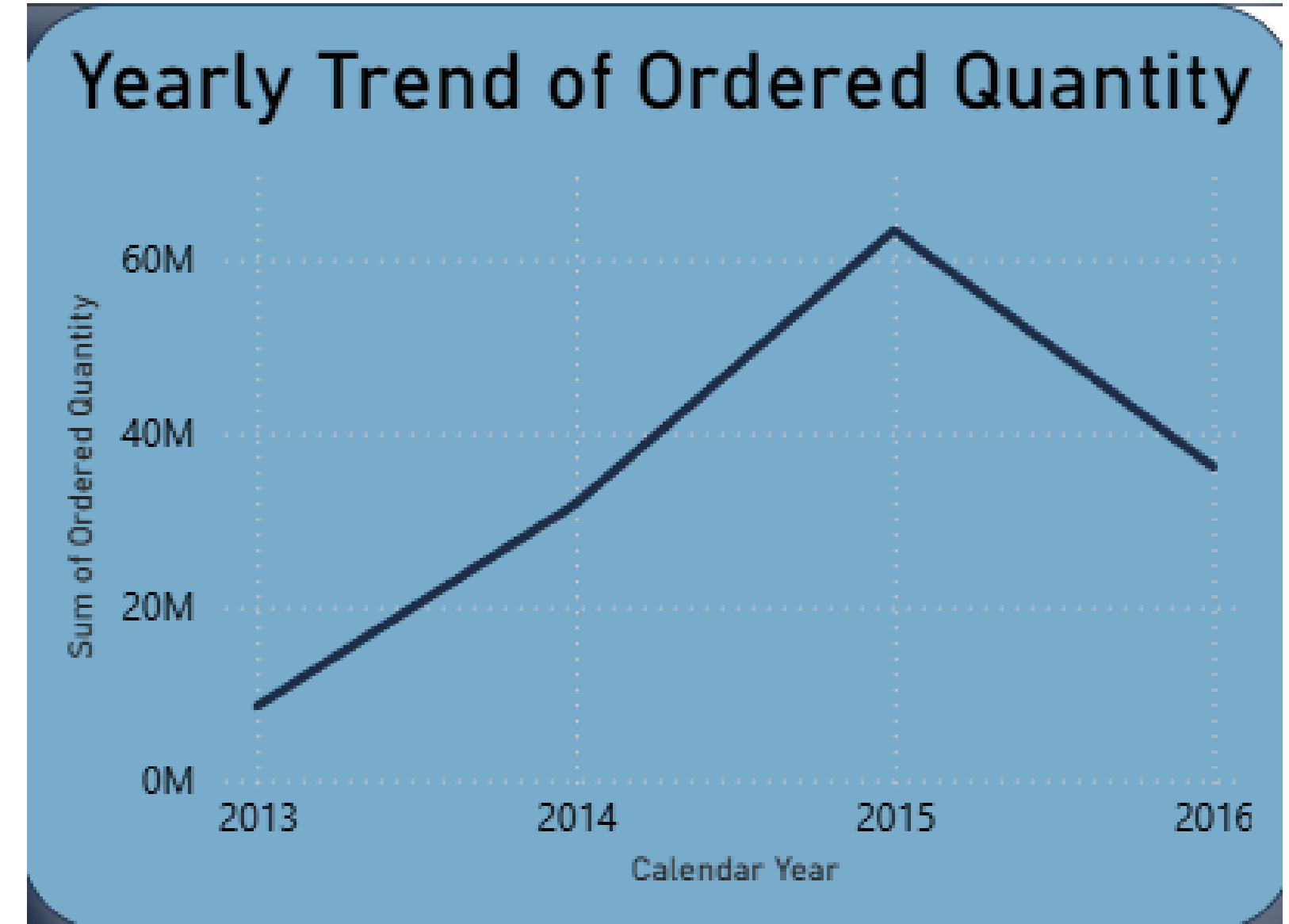
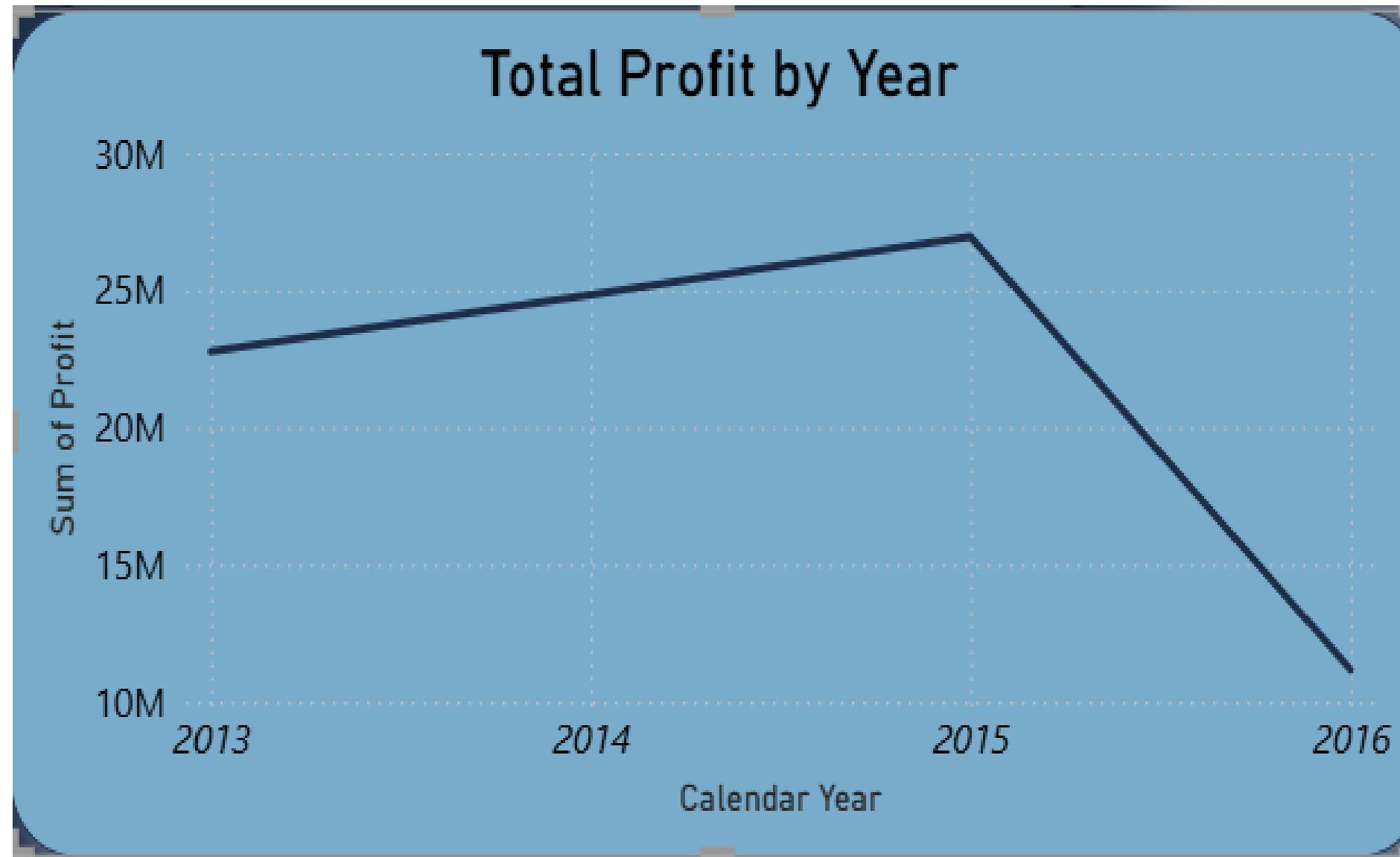
Set Minimum Order Quantities (MOQs) for Low-Volume Customers

Align Inventory with Seasonal Quantity Trends to Avoid Overstocking

Train Low-Quantity Salespeople Using Top Performers' Strategies

Limit Orders for Seasonal Products to Reduce Losses from Excess Inventory

Trend Analysis



Profit Trend Analysis (2013–2016):

- 2013–2015:** Profit grew steadily from \$23M in 2013 to a peak of \$27M in 2015.
- 2016:** Profit dropped sharply to \$11M.

One possible reason for this decline is the significant reduction in **Ordered Quantity**, which decreased from 63M in 2015 to 36M in 2016. This indicates that reduced sales volume may have directly impacted profitability, highlighting potential issues such as lower demand, supply chain constraints, or market shifts.

Top 5 Strategic Recommendations

Diversify Sales Performance: Reduce dependency on top 3 salespeople through training and mentoring.

Optimize Product Portfolio: Promote high-margin items (e.g., bubble wrap) and discontinue losers (e.g., Halloween items).

Improve Customer Profitability: Focus on high-value accounts and fix or exit unprofitable ones.

Streamline Supplier Base: Leverage top suppliers like Fabrikam and consolidate low-volume ones.

Plan for Seasonality: Align inventory, staffing, and marketing with peak months (Jan, Mar, Dec).