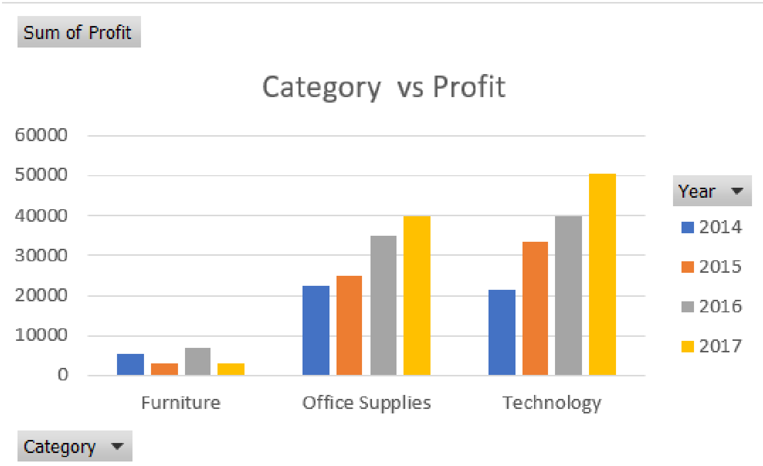
Aim to Maximize Profit of the Superstore

Our main aim is to improve the overall profit of the superstore by using data analysis and making effective business decisions.

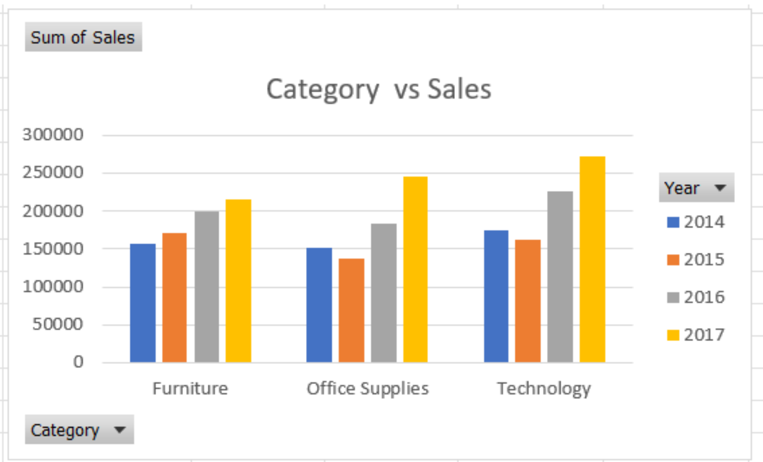
Category vs Profit



Main Point -

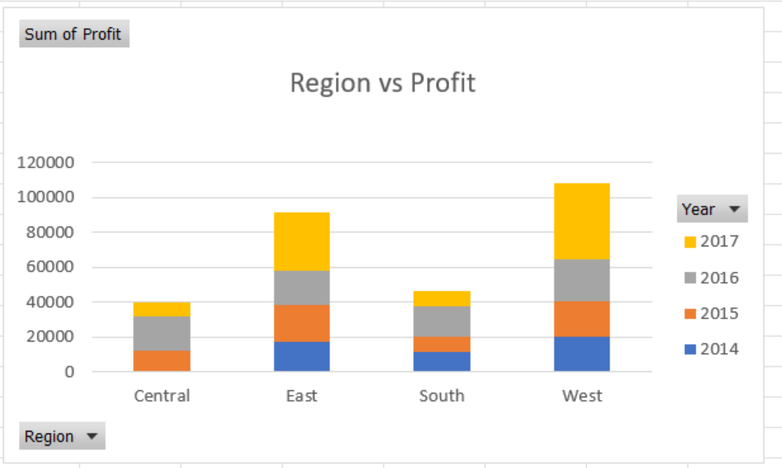
- **Technology** is the most profitable category across all years.
- **Office Supplies** shows steady profit growth.
- **Furniture** has the lowest profit — requires targeted strategies to improve or reconsider its role in the business.

Category vs Sales



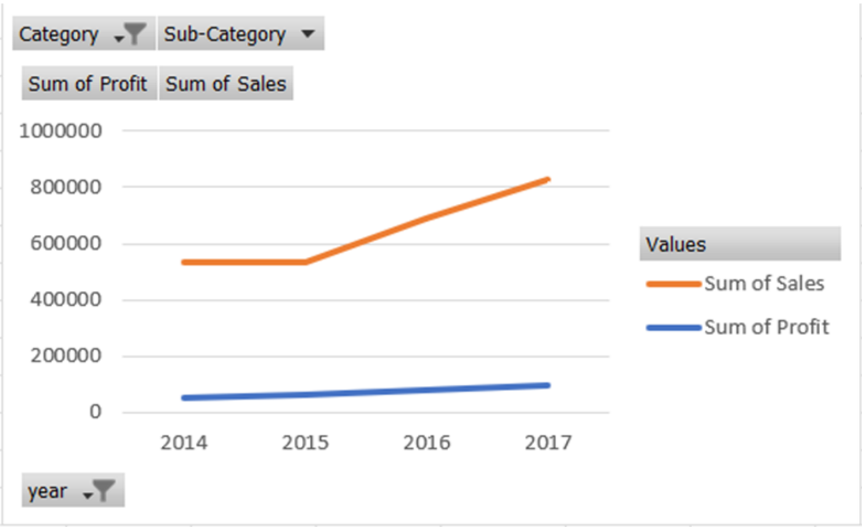
- **Technology: Highest sales among all categories, with a sharp increase in 2017.**
- **Furniture: Consistent sales growth across the years.**
- **Office Supplies: Sales fluctuated but showed a strong rise in 2017.**

Region vs Profit over the years



- **West** region has the highest profit over the years.
- **East** also performs well.
- **Central** has the lowest profit.

Compare Year vs Total Sales , Total Profit -

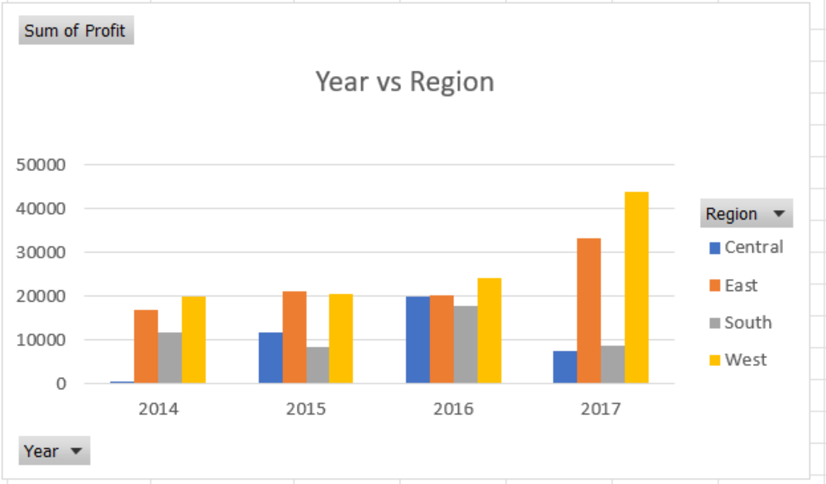


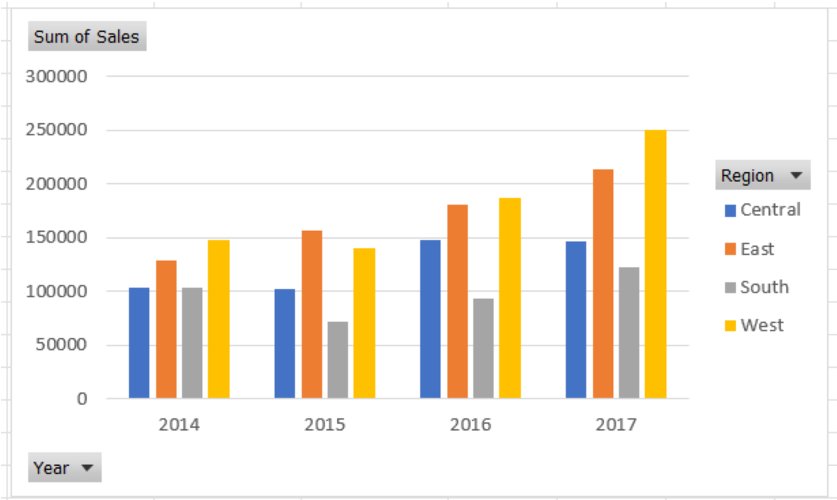
From 2014 to 2017, our **sales went up**, especially after 2015. But our **profit did not grow as fast** as our sales. In 2014 and 2015, our **sales stayed almost the same**, but profit still went up a little. This shows that **selling more doesn't always mean we are earning more**.

This means we should **not only focus on selling more**. We should try to **make more profit** from what we sell. If we only increase sales without profit, it can cause problems later.

Our **main goal should be to increase profit**, not just sales.

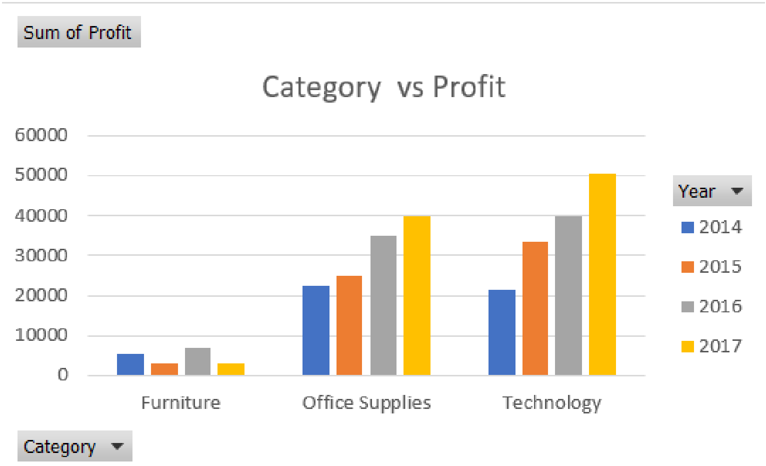
Compare Year vs Total Sales , Total Profit according to different Region -

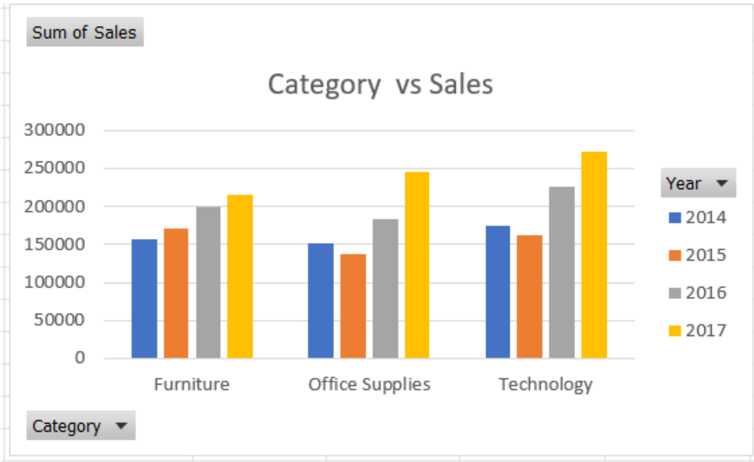




In the Central region, our sales have been consistently good from 2014 to 2017, especially in 2016 and 2017 where the numbers are quite strong. However, even though sales are high, we are not making much profit from this region. In 2014, our profit was almost zero. It improved slightly in 2015 and 2016, but then dropped again in 2017. This clearly shows that good sales are not turning into good profit in the Central region.

Compare Year vs Total Sales , Total Profit according to different Categories -





When we compare **sales and profit** across Furniture, Office Supplies, and Technology from 2014 to 2017, we notice a big difference in performance between the categories.

Technology stands out as the **best-performing category** overall. Its **sales increased steadily** every year, and it also shows the **highest profit** growth. This means Technology products are not only selling well but also bringing in **good profit**, making it a very healthy category for the business.

Office Supplies also shows **good sales growth** and maintains a **stable profit** over the years. It's not as strong as Technology, but it is still **consistently profitable**, which makes it a reliable category.

Furniture, on the other hand, tells a different story. While its **sales are strong and improving every year**, its **profit remains very low**. This means we are selling a lot of Furniture, but **not making much money** from it. This could be due to high costs, low pricing, or poor profit margins.

Loss making Sub-category

We have identified a few product sub-categories that are **causing losses** in different years. These are the ones we should **focus on fixing or improving**.

1. **Tables**
   - This is the **worst-performing sub-category**.
   - Every year (2014 to 2017), it shows **heavy losses**, and in **2017**, the loss becomes **very large**.

2. **Bookcases**

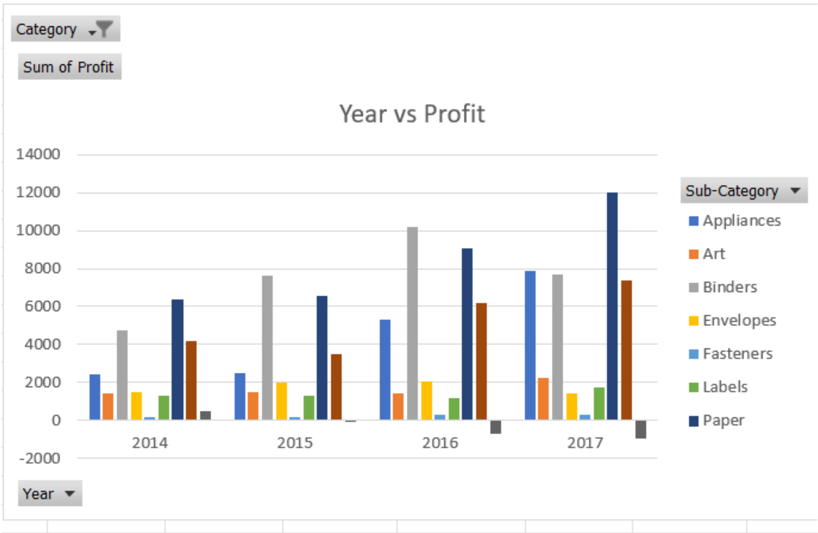
   - Bookcases also show **losses in some years**, especially in **2015** and **2017**.

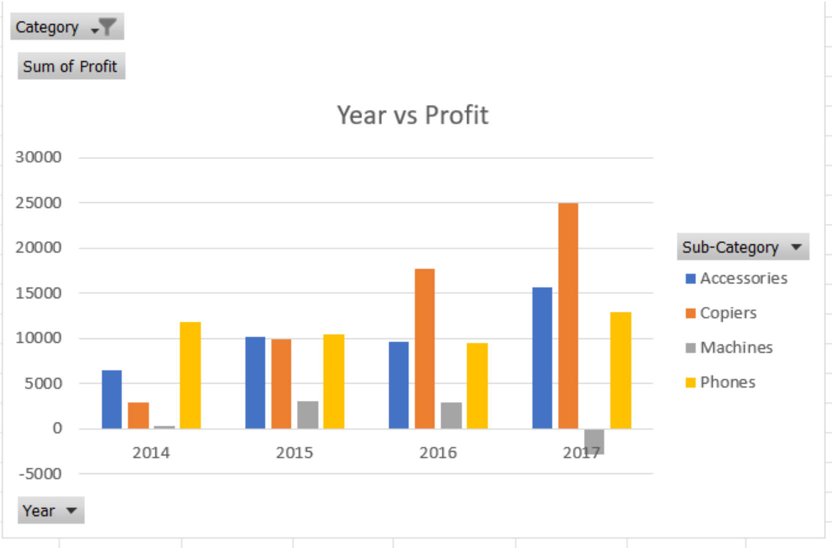
3. **labels**

   - Profits are very **low** or **almost zero** every year. It's not in loss, but it's also **not doing well**.

4. **Machines**

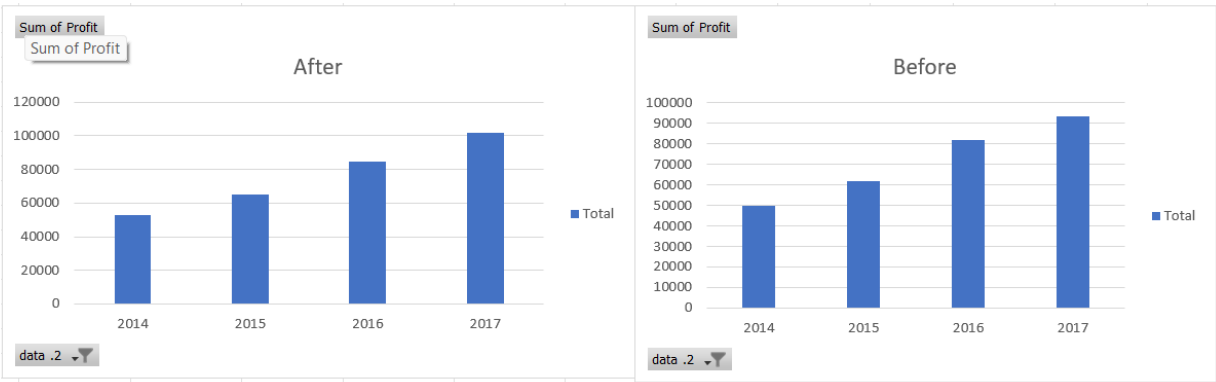
   - In the third chart, Machines show **losses in 2017**, even though profits were okay in earlier years.



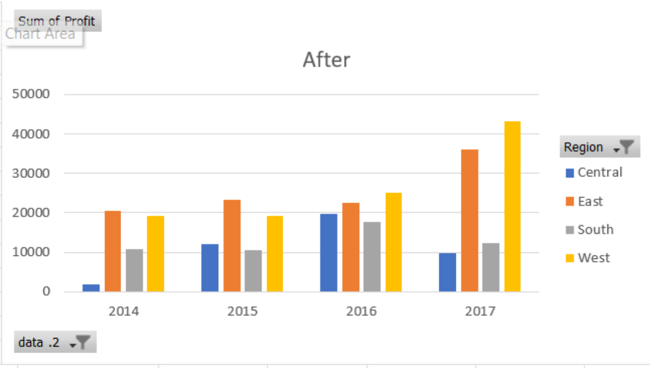


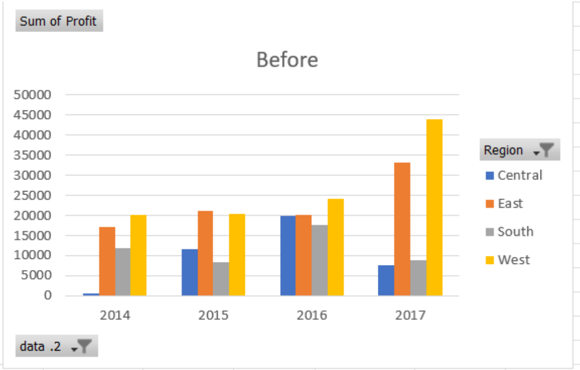
Remove Table

After removing **Tables** from the category, the total profit stayed almost the same. This means **Tables are not contributing to profit** and may even be causing losses. It's better to **stop selling them** or find ways to **make them profitable**.

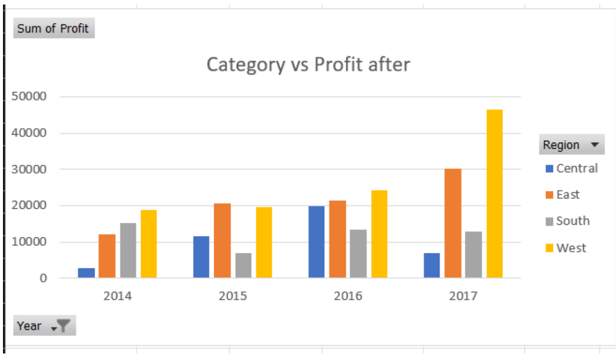


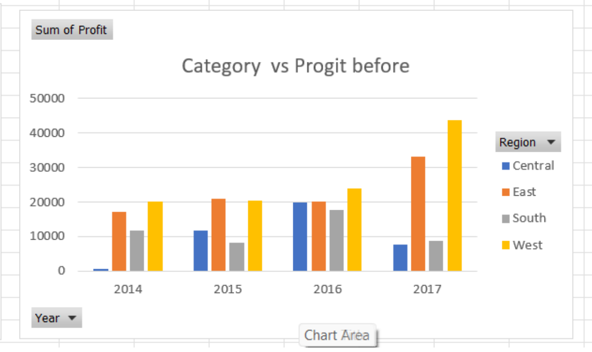
When we compare profit **before and after removing the Tables sub-category**, the total profit across all regions stays **almost the same**. This means Tables are **not helping overall profit**, even in specific regions.





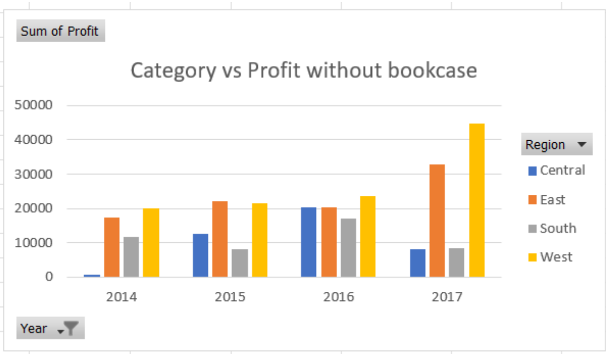
Machine –

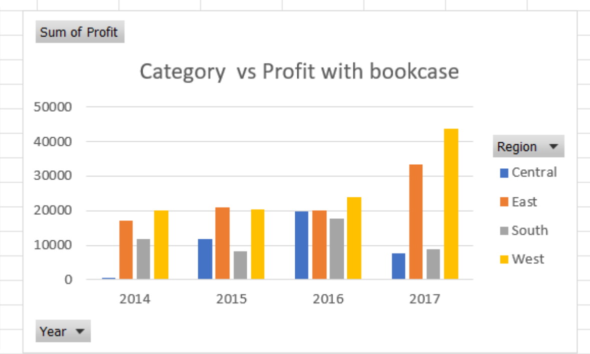




To **increase profit**, instead of removing **Machines**, we can consider offering **discounts on Machines** to boost their sales. Since Machines still contribute to overall profit, improving their sales performance through targeted promotions or discounts could **maximize revenue without eliminating the category**. Meanwhile, removing **Tables**, which consistently show poor profitability, remains the most effective step.

Bookcase -



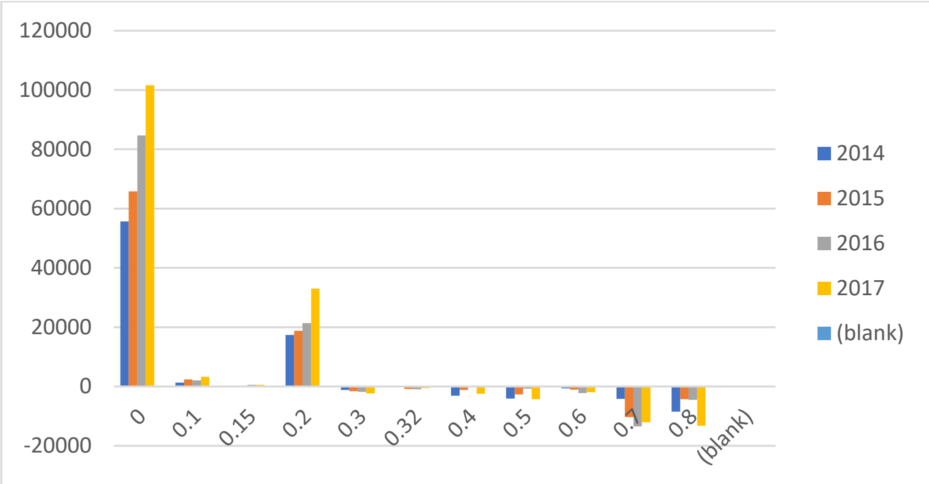


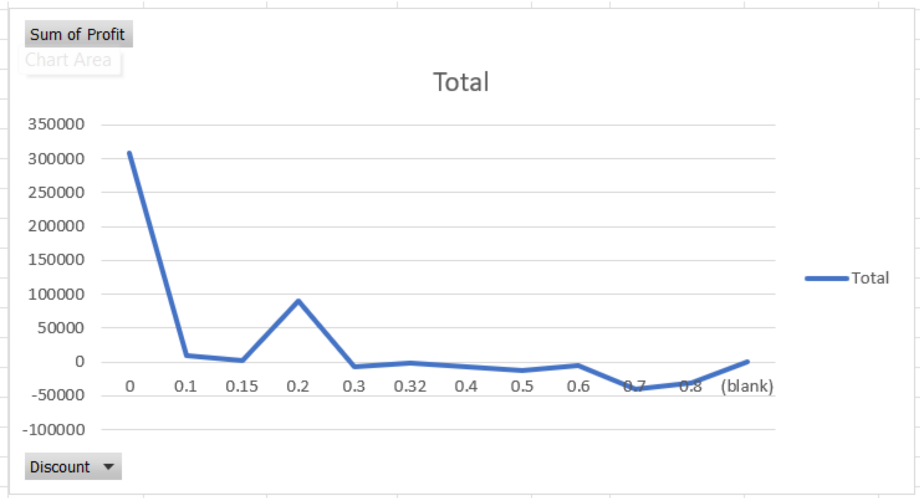
Bookcases show low profit, but instead of removing them, we can boost sales through targeted discounts, bundling with high-margin items, and seasonal promotions to make them profitable.

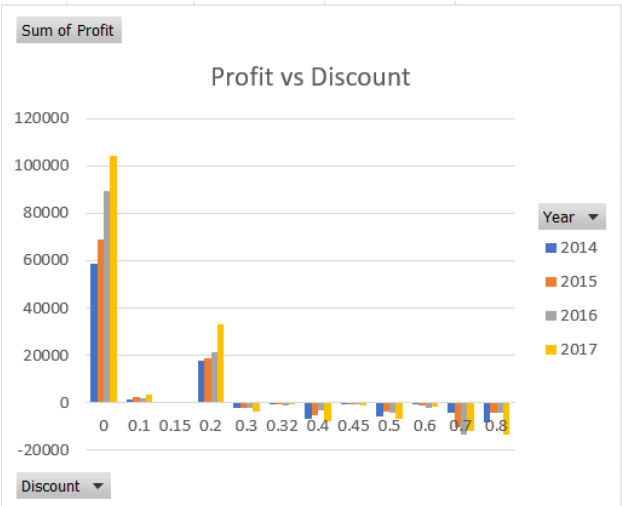
Labels -

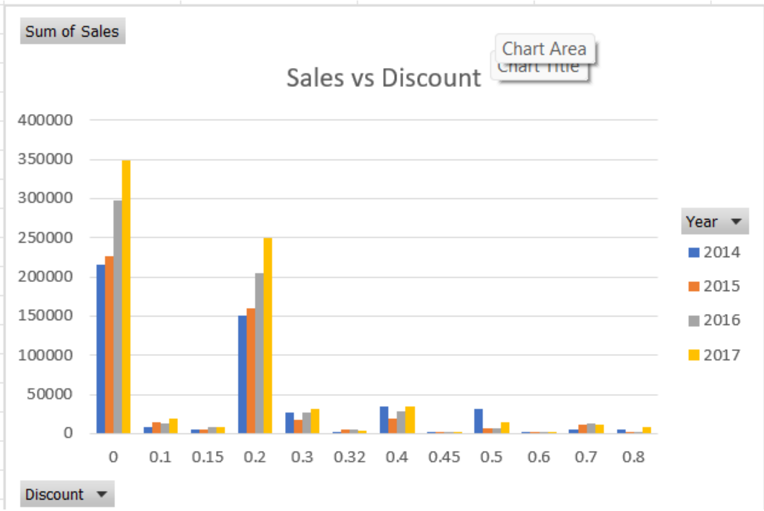
labels have shown losses recently, but we can turn them around by reducing excessive discounts, offering trade-in deals, and promoting them with extended warranties or service packages.

Discount vs Profit –



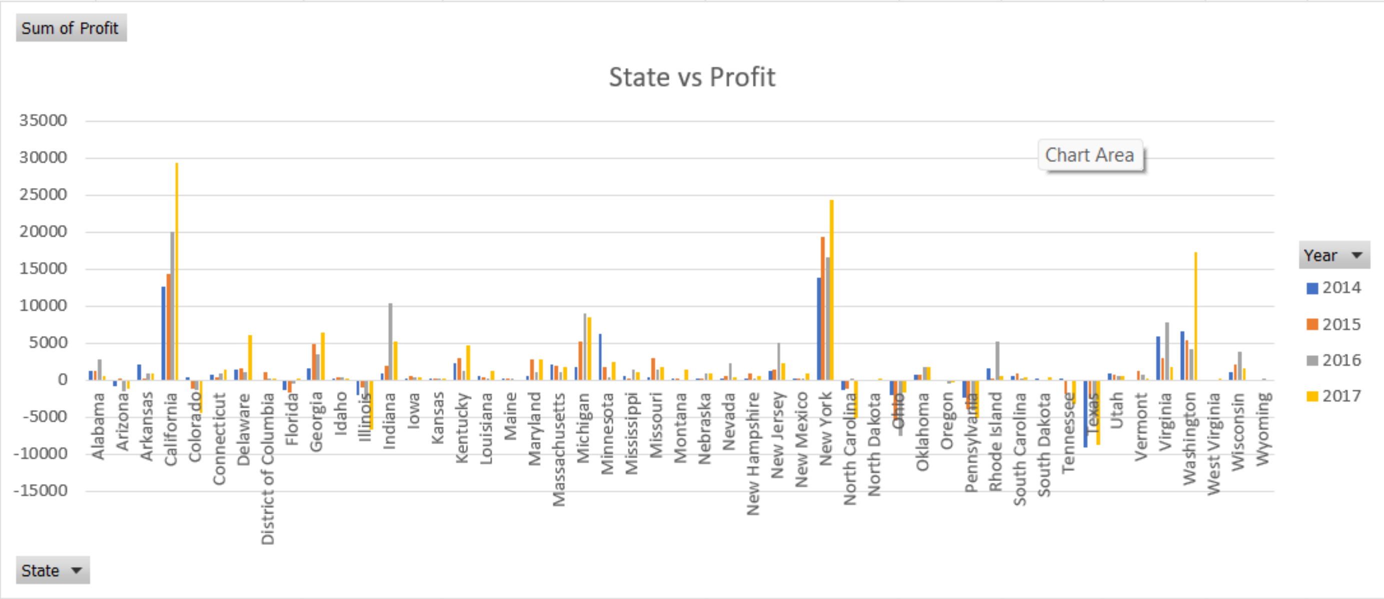






From the graph, it's clear that giving discounts above **0.2 (20%)** leads to losses. Profit is highest at 0% and 0.2% discount, but starts dropping sharply after that. So, to **maximize profit**, the discount should not exceed **0.2**.

State vs Profit



Key points from the data:

- **Top profit states**: California, New York, and Washington consistently generate the highest profits each year, with California leading strongly.
- **Loss-making states**: Some states like Texas, Illinois, and Pennsylvania show negative profit in multiple years.
- **Year trends**: 2017 shows the highest profit spikes for top-performing states, indicating possible growth in those markets.

State vs Discount -