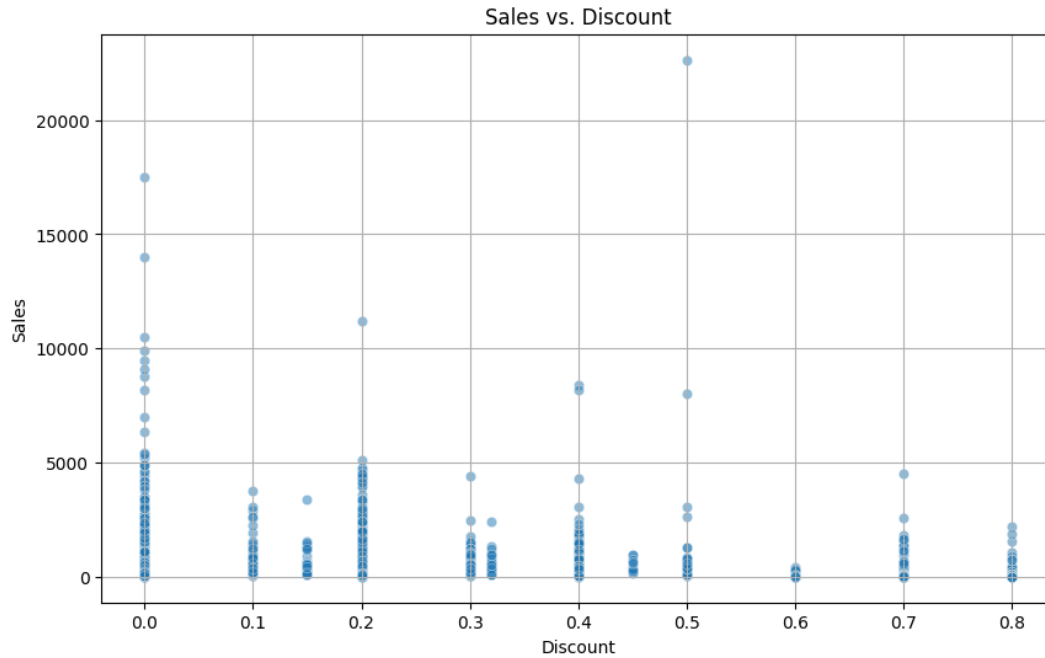
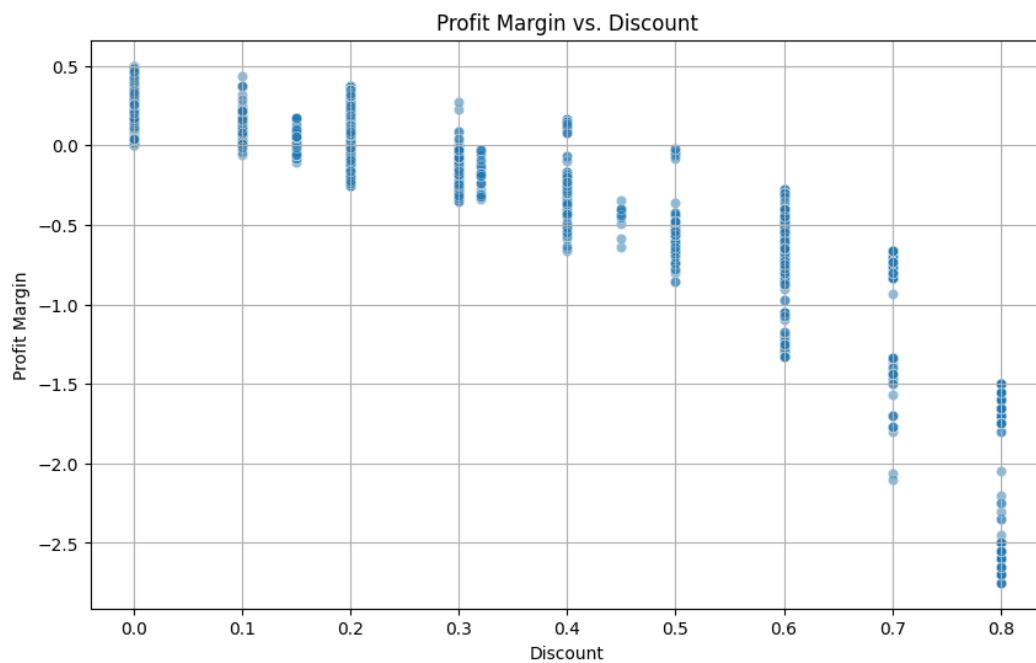


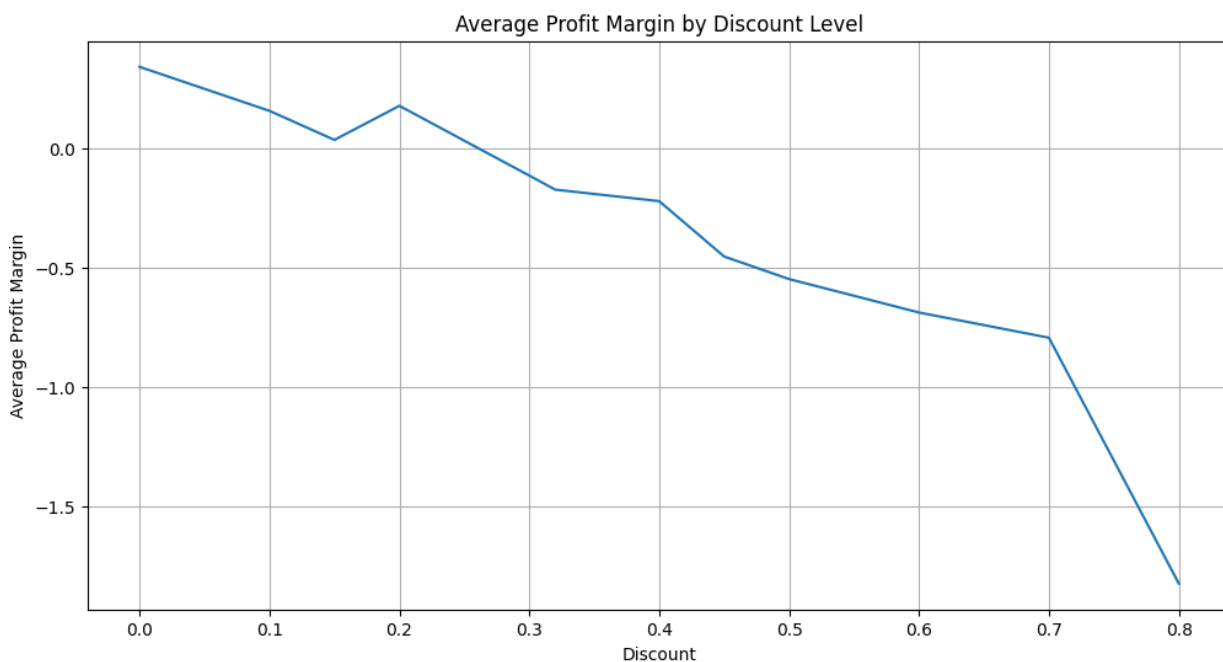
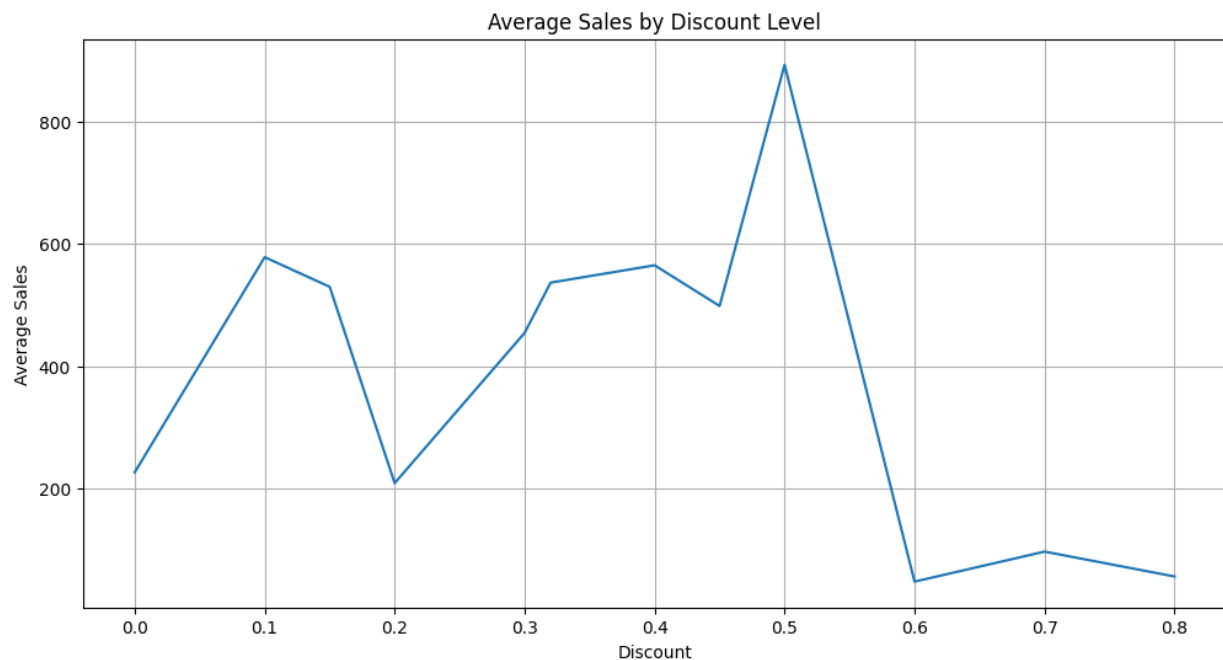
### A. Scatter plots and correlation analysis on sales, profitability, and discount.



Sales vs. Discount: There is no strong linear relationship between sales and discount levels. While sales may increase slightly with certain discounts, the effect is inconsistent, indicating that discounts do not guarantee higher sales.

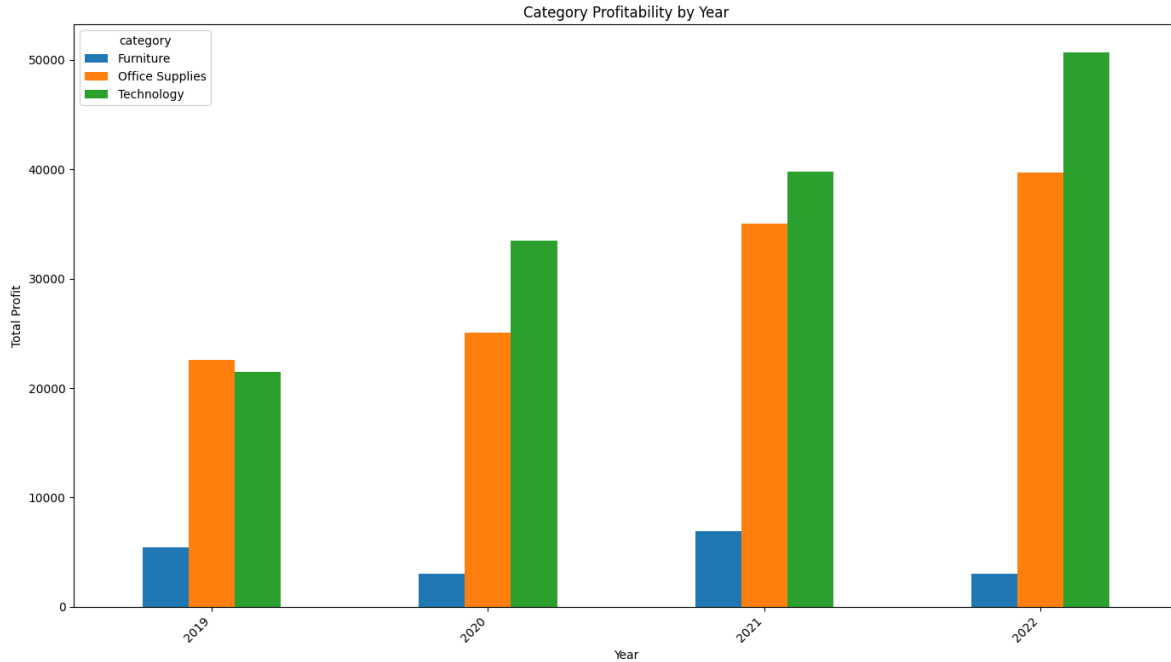


Profit Margin vs. Discount: A strong negative correlation exists as discounts increase, profit margins decline significantly. This confirms that higher discounts directly reduce profitability.

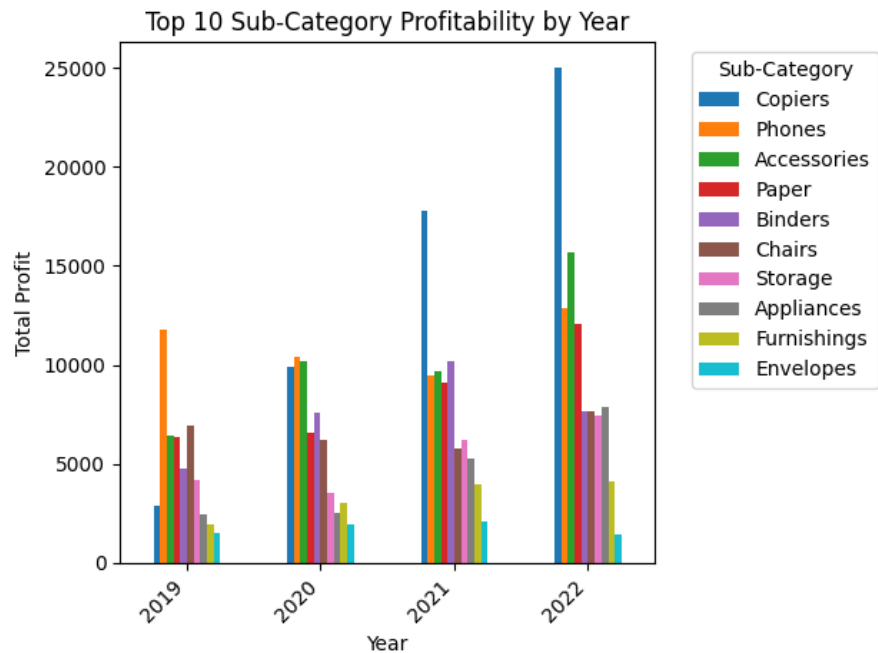


Key Insight: Discounts create a trade-off. They may help increase sales volume to a limited extent but consistently erode profit margins. Therefore, discount strategies should be applied selectively and strategically to balance volume growth with profitability.

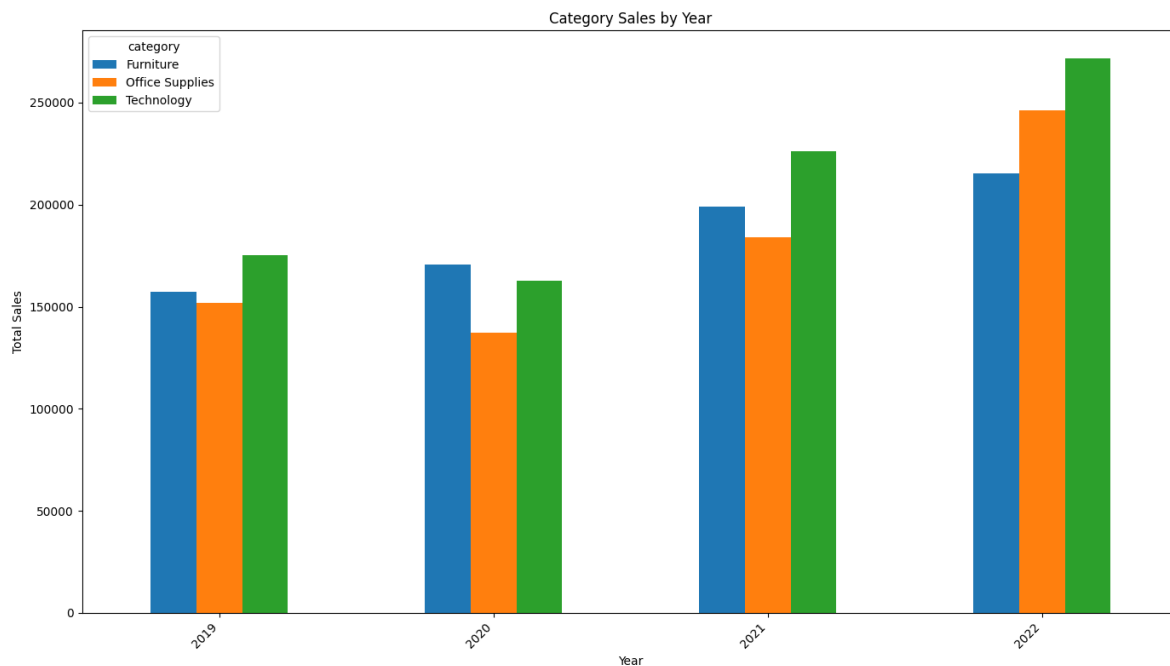
## B. Category and Subcategory Performance Over Time



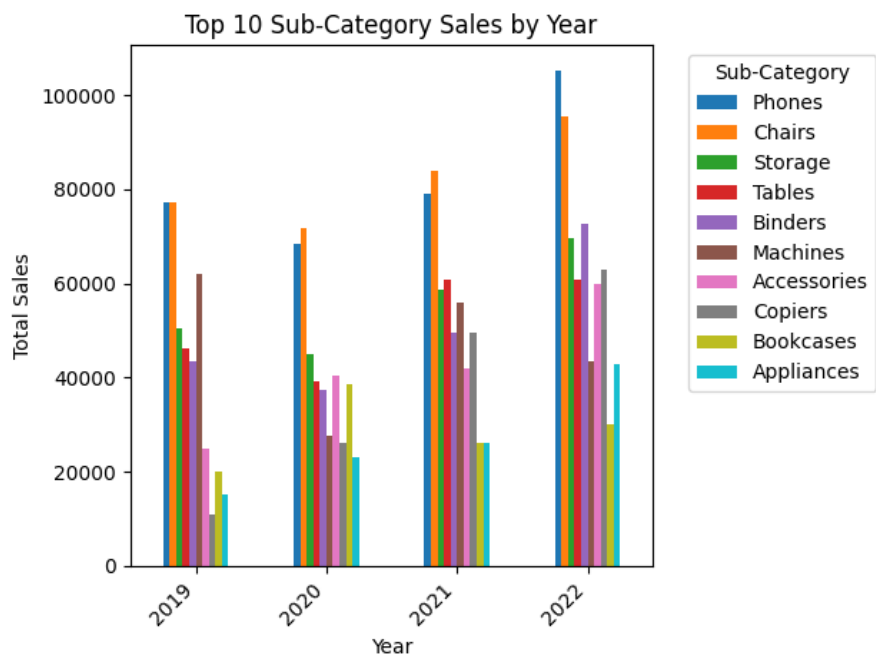
Shows how each major product category (Furniture, Office Supplies, Technology) contributes to total profit over time, revealing consistent performers and those with fluctuating profitability.



Highlights profit trends for the 10 most profitable subcategories, offering a deeper view into which specific areas drive profit and how they've evolved.



Displays annual sales volumes by category, helping to track growth, seasonal patterns, or shifts in customer demand over time.



Focuses on the sales trends of the top-selling subcategories, enabling identification of leading sales drivers and their consistency or volatility year over year.