**Who Are the Most Valuable Customers?** A composite Customer Lifetime Value (CLV) score was developed using weighted inputs: profit (highest weight), total sales, and order count. Customers generating over $13,000 in revenue and averaging $4,800 in profit consistently ranked at the top. Many high-frequency buyers produced negative or minimal profit, revealing issues in discounting and pricing strategies. Profit margin and recency emerged as more reliable indicators of customer value than order volume alone, supporting more precise targeting of high-return relationships.

**What Patterns Exist in Customer Purchasing?** Customer purchasing behavior displayed wide variability. Average Order Value (AOV) ranged from $2.42 to over $5,000, with a median around $362. Seasonal spikes were recorded in November ($118,000) and December ($83,000), indicating strong holiday-driven demand. Subcategories such as Phones and Chairs produced high profits, while categories like Tables generated revenue but incurred losses. Segment-level analysis showed that Home Office customers had the highest AOV ($472.67), a successful pattern of fewer but higher-value orders and an opportunity for differentiated marketing.

**How Can Customer Retention Be Improved?** The overall repeat purchase rate reached 98.5%, but silent churn risk was observed among high-CLV customers with recency exceeding 300 days. The Home Office segment demonstrated the highest loyalty, with a 99.3% repeat rate. Discount usage remained consistent across all customer types (15.6%), indicating that discounting may not improve drive retention. Introducing recency-based monitoring tools and tailored re-engagement campaigns, such as loyalty tiers and win-back offers through emails or text messages, can help retain profitable customers at risk of inactivity.

**Customer Segmentation & Profiling:** Segmentation by region and customer type revealed interesting behavioral and financial differences. The Consumer segment led sales in all regions, with the West ($362,881) and East ($350,908) performing the highest. Home Office customers showed the highest loyalty and spending behavior, while Corporate buyers were less likely to become repeat customers. These findings support region- and segment-specific marketing strategies, such as increased investment in underperforming regions and enhanced outreach to less-engaged Corporate customers.

**Purchase Pattern Analysis:** Detailed evaluation of AOV distribution, monthly sales trends, and category performance identified several actionable insights. Office Supplies carried repeated orders but usually led to lower profit margins. Categories like Storage and Phones yielded higher margins with fewer purchases. Time-series and visual analyses such as Pareto charts and timeline strip plots revealed Q4 as the most opportune time for seasonal campaigns. These patterns provide a basis for refining pricing, bundling, and timing strategies to improve profitability.

**Customer Lifetime Value Indicators:** A bubble chart of normalized AOV, frequency, and recency was used to showcase top-value customers and their engagement patterns. The most profitable customers generated over $14,000 in combined profit but had not ordered in more than 11 months. These individuals represent high-priority targets for retention campaigns. Adding recent purchase activity to CLV scoring helps businesses focus their retention efforts on the most valuable and active customers, reducing the risk of losing them and making sure resources are used wisely.

**Business Impact Summary:** Losing valuable customers without warning can hurt the business, but it’s also a chance to recover lost profits. Strengthening retention through targeted loyalty tiers based on order frequency and AOV can drive further profit, especially within the Corporate and Home Office categories. To support this, tracking the number of days since each customer’s last order can help identify those at risk of leaving, allowing for earlier and more effective retention efforts. Additionally, pricing inefficiencies in categories like Tables should be addressed by reviewing discount thresholds and bundling strategies to improve margins. Conducting quarterly CLV audits will help refine segmentation efforts, validate targeting accuracy, and ensure resource allocation remains aligned with evolving purchasing patterns.