**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. However, several high-frequency buyers exhibited negative or minimal profit, revealing inefficiencies 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. Notable 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, raising concerns about cost structures. Segment-level analysis showed that Home Office customers had the highest AOV ($472.67), suggesting a 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 uniform discounting may not significantly drive retention. Introducing recency-based monitoring tools and tailored re-engagement campaigns, such as loyalty tiering and win-back offers, can help retain profitable customers at risk of inactivity.

**Customer Segmentation & Profiling:** Segmentation by region and customer type revealed significant 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 exhibited moderate retention. 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 drove repeat orders but often delivered lower profit margins. In contrast, categories like Storage and Phones yielded higher margins with fewer purchases. Time-series and visual analyses—including Pareto charts and timeline strip plots—highlighted Q4 as a critical opportunity 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 surface top-value customers and their engagement patterns. Some of the most profitable customers—generating over $14,000 in combined profit—had not ordered in more than 11 months. These individuals represent high-priority reactivation targets. Incorporating recency into CLV scoring allows for more strategic investment in customer retention, avoiding attrition among top contributors and ensuring resource allocation aligns with true customer value.

**Business Impact Summary:** Silent churn among high-CLV customers represents a significant risk but also a recoverable profit opportunity, with some lapsed customers previously generating over $14,000 in combined profit. Strengthening retention through targeted loyalty tiers based on order frequency and AOV can drive further improvements in repeat rate, particularly within the Corporate and Home Office segments. To support this, implementing a "Days Since Last Order" monitoring system is recommended for proactive churn detection. 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.