

## Task 1: Exploratory Data Analysis (EDA) and Business Insights

1.

Paul Parsons, with over \$10,000 in revenue, significantly outperforms other top customers who average around \$7,500—a 30% higher spending pattern. While this highlights the potential spending capacity of customers, it also poses a risk due to over-reliance on a single customer. Strategic focus should prioritize retaining Paul Parsons while identifying ways to elevate other customers to comparable spending levels, thereby reducing dependence and diversifying revenue streams.

2.

South America leads all regions with \$220,000 in revenue, outperforming Europe (\$170,000) and North America and Asia (\$150,000 each). This unexpected dominance suggests effective regional strategies that warrant closer analysis. Scaling these strategies to larger markets, particularly North America and Asia, presents a significant opportunity for growth.

3.

Transaction data reveals clear seasonality, with peaks in January (105 transactions) and July–September (95 transactions) followed by consistent declines in Q4. These trends indicate optimal windows for marketing campaigns and inventory management. The Q4 2024 downward trend, however, requires immediate attention to maintain momentum through proactive interventions such as targeted promotions or strategic discounts.

4.

Technology products, particularly the ActiveWear Smartwatch and SoundWave Headphones, dominate sales. This underscores strong demand in this category. However, the significant drop in sales from top products (100 units) to bottom products (60 units) signals untapped potential in underperforming items. A focused strategy to revitalize sales of these lower-tier products could unlock additional growth.

5.

Despite the platform's focus on high-value electronics, books lead in sales volume with 675 units sold. This contrast highlights a strategic opportunity: leveraging high-volume book sales to cross-sell higher-margin electronics. Bundled offerings or targeted cross-category promotions could effectively capitalize on this hybrid model, combining the volume advantage of books with the profitability of technology products.