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

### Business Insights Report from EDA

#### 1. Customer Retention and Churn Trends

- **185 customers** have not purchased in over **200 days**, making them at risk of churn.
- Many are nearing **365 days** of inactivity, meaning they may not return without intervention.
- Personalized offers, loyalty rewards, and reminders can help bring them back.
- Customers inactive for **100-200 days** should be targeted with special promotions.
- Retaining customers is cheaper than acquiring new ones, so reducing churn should be a priority.

#### 2. Regional Sales Performance

- South America is the top-performing region with over **\$210,000** in total sales.
- Europe performs well, but North America and Asia have lower sales, showing growth potential.
- Focused marketing efforts and region-specific promotions can improve sales in these regions.
- South America's demand should be supported with better stock management.
- Tailoring products and marketing to regional preferences can boost overall sales.

#### 3. Monthly Sales Trends and Seasonality

- Sales peak in **January, July, and September**, indicating high seasonal demand.
- There is a decline in **March, June, October, and November**, highlighting off-peak periods.
- December sales rise again, likely due to holiday shopping and promotions.
- Businesses should align stock and marketing efforts with seasonal trends.
- Special discounts and offers during slow months can help maintain steady sales.

#### 4. Product Demand and Stock Planning

- The **ActiveWear Smartwatch** and **SoundWave Headphones** are the most popular products.
- Home decor items, like the **HomeSense Desk Lamp**, also see strong demand.
- Ensuring availability of best-selling products can avoid stock shortages.
- Slower-selling items can be bundled with popular products to boost sales.
- Effective inventory planning can improve revenue and reduce unnecessary storage costs.

#### 5. Understanding Order Value Trends

- The average order value (AOV) is **\$687.58**, with spending ranging from **\$82.36 to \$1323.13**.
- Most customers spend between **\$500 and \$800**, creating opportunities for upselling.
- Bundled offers and strategic discounts can encourage higher spending.
- Lower-spending customers can be targeted with affordable deals and promotions.
- Increasing AOV through smart pricing strategies can boost overall revenue.

#### Final Conclusion and Recommendations

1. **Customer Retention:** Bring back inactive customers with targeted offers before they churn.
2. **Regional Growth:** Expand in North America and Asia with localized marketing strategies.
3. **Sales Seasonality:** Plan inventory and promotions around peak demand periods.
4. **Inventory Management:** Ensure popular items are stocked and bundle slow-moving products.
5. **Boosting AOV:** Use bundling and upselling tactics to encourage larger purchases.