

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

### 1. Seasonal Trends :

**Orders peak in January**, this is due to promotions and marketing to start the year. Sales stay steady from February to October, with a **dip in November**, possibly because customers are waiting for holiday discounts in December and January. To counter this, offering **special coupons** for November orders, redeemable in December and January, could help maintain momentum.

### 2. Seasonal Product Alignment:

Products like **Jackets, activewear**, and products suited for colder weather peak during **December and January**. **Fitness and Tech** Items like smartwatches and headphones are popular in **spring and summer**, often tied to outdoor activities, fitness goals, or travel. Books are sold most during summer, particularly in June and July, aligning with vacation periods when people tend to read more. Keep stocks according to season. Businesses should align their stock and marketing efforts according to these seasonal trends to ensure they are prepared for peak demand periods and to avoid overstocking off-season products.

### 3. Improving Customer Onboarding

62 customers of 199 customers have their first order before signup. This could be some error in data collections or an option in the E Commerce website to place an order as a guest etc. Only around **18 of 199** are placed with order within the first 50 days. This shows there is a gap in customer onboarding new customers can be given **some offer on their first order**.

### 4. Category-Specific Sales Opportunities:

Different regions show preferences for specific categories:

- **Asia & Europe:** Clothing is the top-selling category.
- **North America:** Electronics lead in sales.
- **South America:** Books are the most popular.

This suggests the need for region-specific cross product marketing and product stocking to better align with customer preferences and maximize sales.

### 5. South America as a Key Market:

South America has the highest sales, likely due to having the most number of customers and the highest number of transactions from this region. To further capitalize on this, businesses should focus on increasing marketing efforts in South America, offering localized promotions or products that cater to the specific needs and preferences of customers in this region as well as focussing on low ordering areas.