

Task - 1

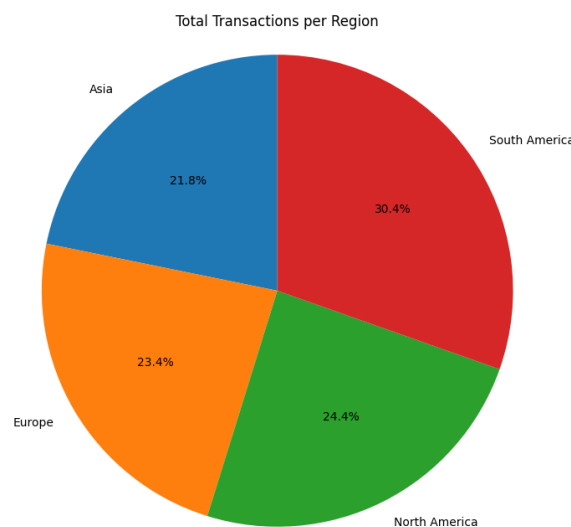
Aryan Sai Arvapelly

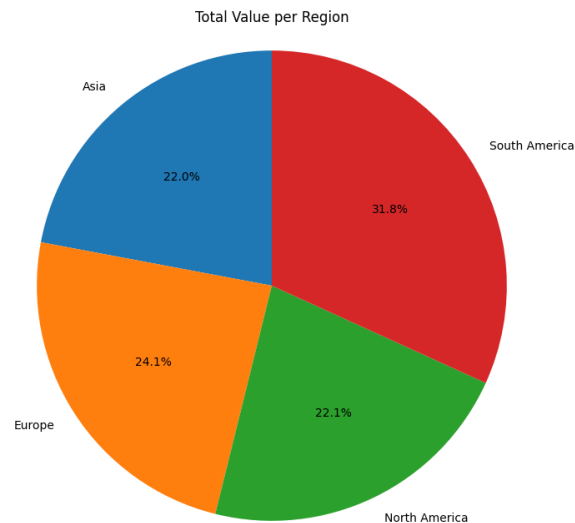
Exploratory Data Analysis (EDA) and Business Insights

From the exploratory data analysis conducted, I found a few valuable business insights:

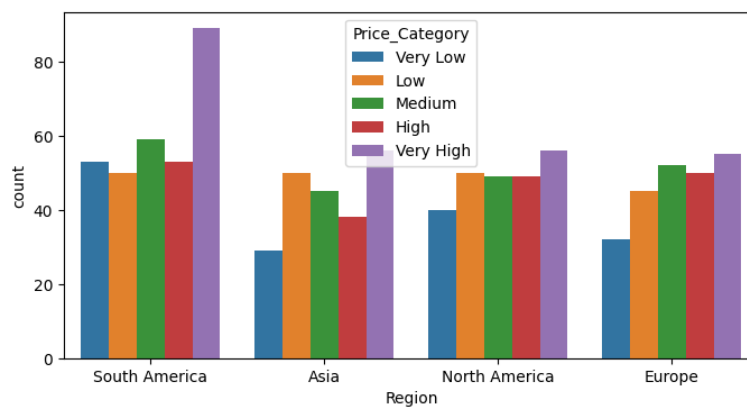
1. Regional Based Analysis:

- "South America" dominates the sales by accounting for 30.4% of all transactions and 31.8% of the total revenue. This highlights a significant opportunity for targeted marketing campaigns to leverage its strong customer base.
- "Asia" and "North America" contributed the lowest revenue. Business can focus on addressing the needs of these regions.



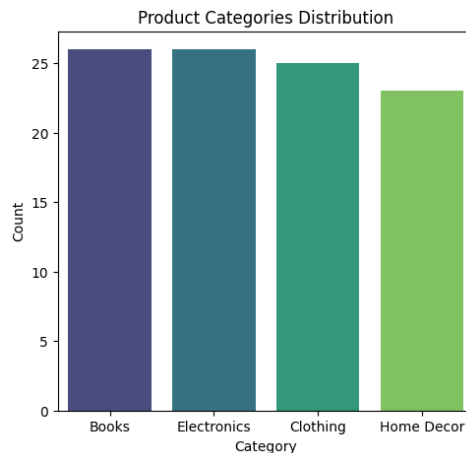


- By analyzing the concentration of price categories in each region, helping identify which regions prefer high-value or low-value products. "South America" shows a high concentration of **Very High** priced products, indicating market success in premium products. While "Asia" prefers products in the lower price segments.



2. Product-Category Popularity:

- The "Books" category has the highest number of products and likely contributes significantly to sales. Investing in additional book titles could further boost revenue.



- "Books" also generated the highest number of transactions and revenue, making it a key area for continued growth.

3. Product Popularity:

- "BookWorld Biography" is the top-selling book, while "SoundWave Novel" generated the highest revenue.
- "ActiveWear Rug" is a favorite and brought in the most revenue in the Home Decor category.
- "ActiveWear SmartWatch" is the best-selling electronic product and leads in total revenue.
- "ActiveWear Jacket" is the most sold in the clothing category and also significantly contributes to total revenue in electronics.
- Incorporating these insights into inventory planning, marketing, and sales strategies can increase customer satisfaction, drive sales, and ultimately improve profitability for the business.

4. Region and Category based analysis

- In "South America," Books contribute the most in terms of total revenue and the number of transactions, while Clothing is the lowest contributor.
- This helps the business focus on promoting Books through marketing and inventory planning. It also highlights the need to improve the Clothing category, potentially through better offerings, to increase sales and overall profitability.

5. Peak Transaction Periods:

- Analyzing transaction dates reveals that "July" had the highest revenue, while "January" saw the most transactions.
- In "January," the Books category generated the most revenue, highlighting a strong demand for books during this period.
- Targeting these peak periods with strategic marketing, such as discounts or campaigns, can effectively enhance sales and customer engagement.

6. High-value Customers:

- Abigail Jones, William Adams, David Li, Gerald Hines, Matthew Johnson, Paul Parsons, Belinda Garner, Hunter Fuller, Juan Mcdaniel, Misty Higgins are top 10 high values customers.
- Developing loyalty programs targeting high-value customers could enhance retention and repeat purchases.

6. High-Value Transactions:

- The average transaction value is **\$689.99**, suggesting a preference for premium products. This insight can guide product offerings and pricing strategies to appeal to customers who prefer high-value items.