Exploratory Data Analysis (EDA) Report

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

Business Insights from EDA:

1. Regional Sales Distribution:
   - South America leads in total sales with $219,352.56, but other regions
     show potential for growth. Monitoring trends over time can help optimize performance.
2. Product Category Performance:
   - The "Books" category generated the highest revenue at $192,147.47. Categories like
     electronics and home decor also show promise for high profitability.
3. Customer Acquisition Trends:
   - The peak signup year was 2024, with 79 new customers. Focus on sustaining
     growth by improving onboarding and retention strategies.
4. Average Transaction Value:
   - The average transaction value was $690, indicating that there may be
     room for premium product introduction or upselling to boost basket size.
5. Top-Selling Products:
   - Products like:
     - ActiveWear Smartwatch
     - SoundWave Headphones
     - HomeSense Desk Lamp
     These are the most frequently purchased items. These could be bundled with other
     items for cross-selling.
6. Regional Growth Opportunities:
   - Sales analysis over time shows opportunities to improve growth in underperforming
     regions through localized marketing campaigns.
7. Profitability Focus:
   - Electronics and books command the highest profitability margins. Expanding these categories
     or focusing on premium pricing can boost overall profits.
8. Cross-Sell Opportunities:

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 - Product pairs often purchased together can be strategically bundled to drive additional revenue.

For example:

- Bundling ActiveWear Smartwatch with SoundWave Headphones

- Combining HomeSense Desk Lamp with other office products

This includes analyzing shopping carts to find patterns.

Conclusion:

These insights highlight both strengths and areas of opportunity, paving the way for improved strategies in marketing, product offerings, and customer retention.