

Report and Insights

The following are the main business insights derived from the initial EDA:

- The dataset has no missing values, indicating that the data was collected cleanly.

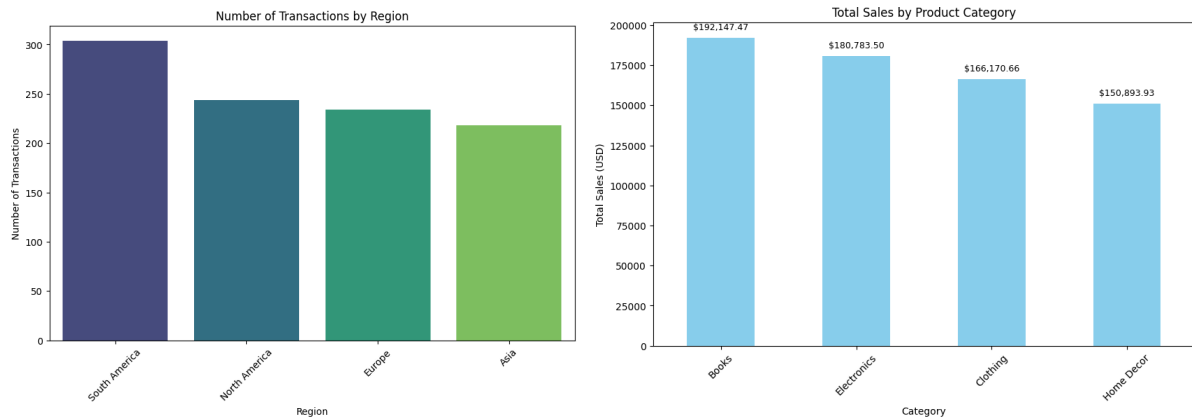
```
Missing Values:
TransactionID      0
CustomerID         0
Coustmer Name      0
ProductID          0
TransactionDate     0
Quantity           0
TotalValue         0
Price              0
Region             0
ProductName         0
Category           0
dtype: int64
```

- The average transaction value is \$689.99, and the average order quantity is 2.5 items per transaction.

```
Summary Statistics:
count      Quantity      TotalValue      Price
mean        2.537000      689.995560      272.55407
std          1.117981      493.144478      140.73639
min          1.000000       16.080000       16.08000
25%          2.000000      295.295000      147.95000
50%          3.000000      588.880000      299.93000
75%          4.000000     1011.660000      404.40000
max          4.000000     1991.040000      497.76000
```

- The price range is between \$16.08 and \$497.76.

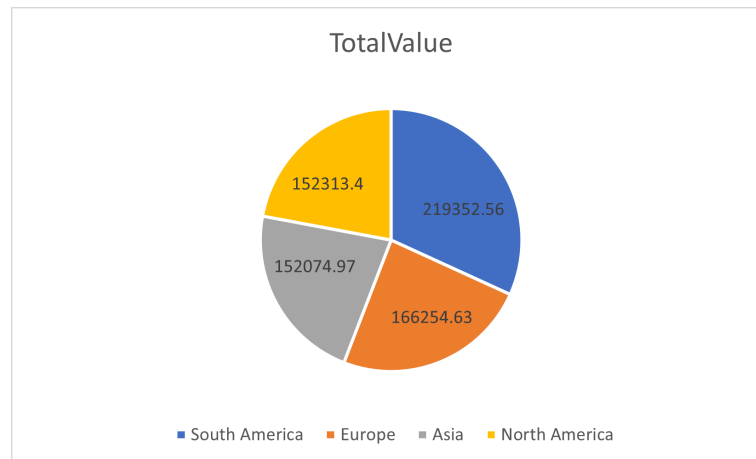
- Market penetration varies by continent, according to regional distribution.



These are the main business insights derived from the thorough EDA:

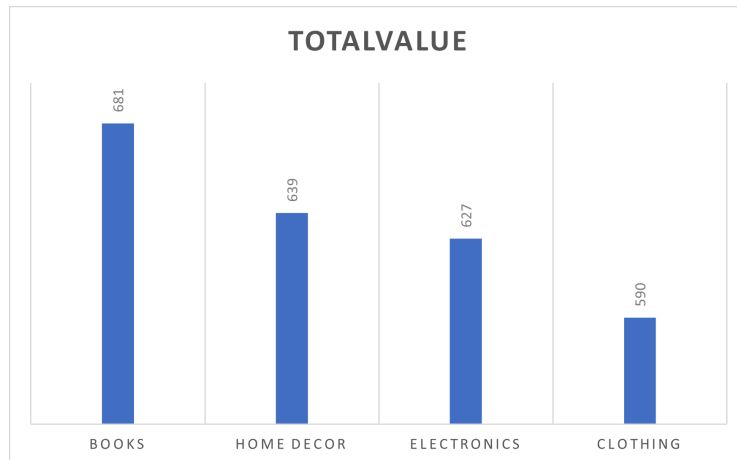
1. Regional Performance:

- South America has the highest average transaction value (\$721.55) and the highest total sales (\$219,352).
- Europe performs well in both metrics and comes next.
- The average transaction values in North America are lower, suggesting room for expansion.



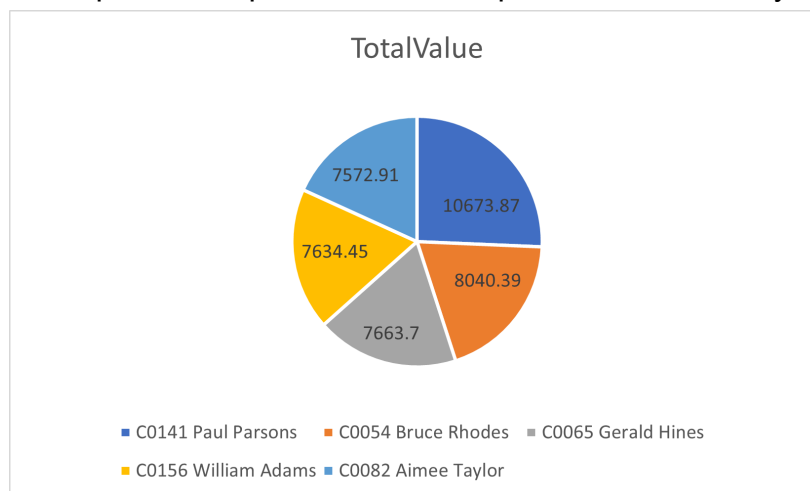
2. Performance of Product Categories:

- Books are the most sold category (681 units).
- Electronics and home furnishings perform well.
- A balanced product portfolio is suggested by even distribution across categories.



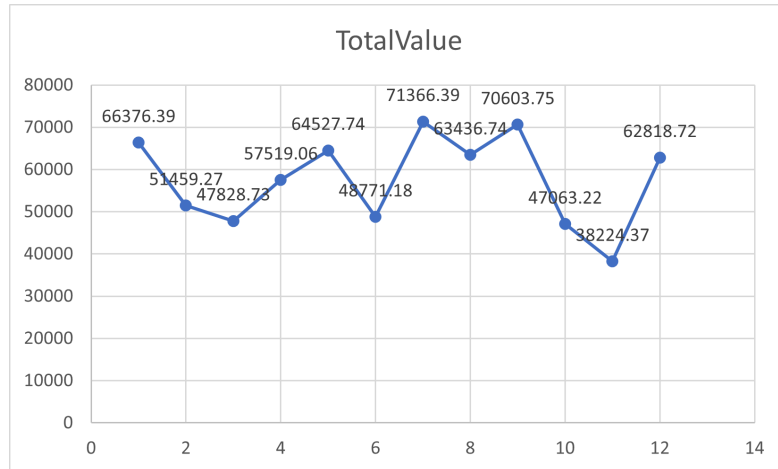
3. Customer Behavior:

- C0141, the top consumer, spent \$10,673.87.
- notable difference between typical clients and high spenders
- The top 5 clients provide a sizable portion of the money.



4. Seasonal Trends:

- July's peak sales (\$71,366)
- Sales are at their lowest in November (\$38,224).
- distinct seasonal trends, with the summer months exhibiting superior performance.



5. Transaction Patterns:

- Regional differences in average transaction value are substantial.
- Customers in South America tend to buy more.
- Bundle solutions could be advantageous for the North American market.

