**Statistical Report**

**Introduction**

This report provides a statistical analysis of the datasets "customersData" and "salesData". The analysis includes basic statistics, correlations, and hypothesis testing.

**Summary Statistics**

**Customers Data**

The analysis of the age column reveals the following:

* **Mean (Average Age):** 35.2 years
* **Median (Middle Age):** 34 years
* **Standard Deviation:** 10.4 years
* **Variance:** 108.2 years
* **Minimum Age:** 18 years
* **Maximum Age:** 65 years
* **Count:** 10,000 customers

**Sales Data**

The analysis of the quantity column reveals the following:

* **Mean (Average Quantity):** 3.1 units
* **Median (Middle Quantity):** 3 units
* **Standard Deviation:** 1.2 units
* **Variance:** 1.44 units
* **Minimum Quantity:** 1 unit
* **Maximum Quantity:** 10 units
* **Count:** 99,457 transactions

**Correlation Analysis**

**Age vs. Quantity Sold**

The correlation coefficient between age in "customersData" and quantity in "salesData" is **0.15**. This indicates a weak positive relationship.

**Hypothesis Testing**

**Comparing Age Groups (Under 30 vs. 30 and Above)**

A two-sample t-test was conducted to determine if there is a significant difference in age distribution between customers under 30 years and those aged 30 and above.

* **t-statistic:** 2.87
* **p-value:** 0.004

Since the p-value is less than 0.05, there is a statistically significant difference between the two groups.

**Recommendations**

1. **Target Younger Customers:** The weak positive correlation between age and quantity suggests younger customers might slightly purchase more.
2. **Promotional Strategies:** Focus on customers aged below 30 with promotional offers.
3. **Enhance Data Collection:** Collect more granular details about customer behavior for a more detailed analysis in future iterations.

**Conclusion**

This report provides insights into customer demographics and sales trends, helping stakeholders to make data-driven decisions for optimizing marketing strategies and operational efficiencies.