Mayowa Amazon data interpretation

Descriptive Statistics:

- **Minimum:**
  - Sales: $88.99 billion
  - Advertising: $3.3 billion
- **Maximum:**
  - Sales: $513.98 billion
  - Advertising: $20.6 billion
- **Mean:**
  - Sales: $265.90 billion
  - Advertising: $9.56 billion

Regression Analysis:

- **Multiple R (Correlation Coefficient):** 0.9749
  - Indicates a strong positive linear relationship between advertising expenditure and Amazon sales.
- **R Square (Coefficient of Determination):** 0.9505
  - Approximately 95% of the variation in Amazon sales can be explained by the linear regression model.
- **Adjusted R Square:** 0.9434
  - Adjusts R Square for the number of predictors in the model.
- **Standard Error:** 37.62
  - Represents the average distance between the actual sales values and the values predicted by the model.

ANOVA (Analysis of Variance):

- **F-Statistic:** 134.32
  - Indicates whether there is a significant linear relationship between advertising expenditure and Amazon sales.
  - The p-value (Significance F) is very low (8.03E-06), suggesting that the model is statistically significant.

Coefficients:

- **Intercept (Y-Intercept):** 19.21
  - The estimated value of sales when advertising expenditure is zero.

- **Advertising Coefficient:** 25.82
  - For every additional billion dollars spent on advertising, Amazon sales are estimated to increase by $25.82 billion.
  - This coefficient is statistically significant (p-value < 0.05).

Interpretation:

The strong positive correlation (Multiple R) and the high coefficient of determination (R Square) suggest that advertising expenditure has a substantial impact on Amazon sales. The regression model indicates that, on average, an increase of $1 billion in advertising spending is associated with an increase of approximately $25.82 billion in sales.

The p-value of the F-statistic and individual coefficient p-values are all very low, providing evidence that the regression model is statistically significant.

Note: While the model is statistically significant, correlation does not imply causation. Other factors not included in the model could also influence Amazon sales.
Overall, the analysis suggests a strong positive relationship between advertising investment and Amazon sales, providing valuable insights for decision-makers.