

FIGURE 16.6

An Analysis of Regression Measures the Variance in Y

Total Variance in Y

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graph LR; A[Total Variance in Y] --> B[Regression Variation: Variance in Y related to changes in X]; A --> C[Residual Variation: Variance in Y not related to changes in X];
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The diagram illustrates the decomposition of the total variance in the dependent variable Y . A central box on the left, labeled 'Total Variance in Y ', has two lines extending from its right side to two boxes on the right. The top box is labeled 'Regression Variation: Variance in Y related to changes in X ', and the bottom box is labeled 'Residual Variation: Variance in Y not related to changes in X '. The entire diagram is enclosed in a dashed purple border.

Regression Variation:
Variance in Y related
to changes in X

Residual Variation:
Variance in Y not
related to changes in X

Some of the variance is attributed to changes in X ; the remaining variance is not attributed to changes in X .