**Scatter plot analysis: Is bigger always better?**

Throughout the course of history, humanity has pondered the age-old question: does size matter? Our group decided to attempt to answer this question as it relates to housing prices by utilizing scatter plots and simple linear regression. It may seem logical that the bigger the house, the higher the price. While this is what intuition may tell you, the data contradicts this intuition.

Initially, we plotted total livable area versus sale price across our entire dataset:

Chart, scatter chart

Description automatically generated

At first glance, it seems that there is may be a positive relationship between the two variables, meaning that as total livable area increases, sale price would also increase. However, when you layer in a simple linear regression, it becomes immediately clear that size plays a rather minimal role in driving sale prices.

Chart, scatter chart

Description automatically generated

While the line of best fit is trending upward, the r-squared value of 0.1049 calculated from the linear regression tells us that only 10.49% of the variation in sale price can be explained by total livable area. Based on this result, it can be determined that there are other variables at play when it comes to determining sale prices, and total livable area on its own is a relatively insignificant driver.

Analysis of total number of rooms versus sale price tells a similar story. When plotting total number of rooms against sale price, it seems as if there may be a slight positive trend.

Chart, scatter chart

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Again, however, the calculated linear regression model shows us that the number of rooms on its own is an insignificant driver of sale price. The r-squared value of 0.0294 indicates that only approximately 3% of the variation in sale price is explained by the number of rooms.

Chart, scatter chart

Description automatically generated

Based on this result, it is clear that there are other variables at play that are much stronger drivers of sale price than just size alone.