



Subject: Analysis of Mortgage Points Forecasting with Multilinear Regression

This memo presents our findings, conclusions, and recommendations from a multilinear regression analysis aimed at predicting appropriate mortgage points for clients, considering closing costs and current inflation rates.

Overview

The analysis includes 20 observations from national companies that aimed to assess the relationship between offered mortgage points, home closing costs, and inflation rates.

The analysis reveals a Multiple R value of 0.62729, which reveals a moderate positive correlation between the independent variables, (inflation_rate, closing_costs) and the dependent variable (mortgage points), predictors and outcomes, respectively,

The R-square value of 0.39349, indicates that approximately 39.35% of the variance in mortgage points is explained by our model, with an Adjusted R-square of 0.32213, adjusting for the number of predictors and ~60% of the variation is due to other factors not included in the model.

The ANOVA F-value of 5.51459 supports the strength and validity of the model with a significant p-value of 0.01426, affirming that the model's predictions are statistically significant.

Analysis of Coefficients

- **Intercept:** The model's intercept is -0.82226. Although this figure is not statistically significant (p-value: 0.48990) meaning there is not enough evidence to come to a conclusion, its negative value suggests that other external factors which are not included in this analysis that may influence the number of mortgage points.
- **Closing Costs:** There is a low positive correlation with mortgage points and closing cost rise, as indicated by a coefficient of 0.00199. This indicates that mortgage points are expected to change for each unit increase in closing costs. The low magnitude of this coefficient can also point to the thought that other influential variables are not present in the model.
- **Inflation Rate:** There is a significant positive coefficient of 0.26385 which indicates that higher inflation rates are associated with an increase in mortgage points. This indicates that mortgage points are expected to change 0.26385 for each 1% increase in inflation rate. A moderate but not

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