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OVERVIEW

US Investments Inc. has tasked us with recommending methods for locating profitable real estate assets in the Northwestern U.S. that they can acquire and add to their portfolio.

BUSINESS UNDERSTANDING

- Project focused on finding the housing features that most strongly influence housing price.

- REIT will use the findings to help influence which real estate assets they acquire and rehab.

DATA UNDERSTANDING

- Dataset contains over 30,000 entries distributed over 25 fields

- Some housing features include: Price, Waterfront Status, Patio Square footage, Renovation Year, etc.

- Modeling plan: create a baseline model, then improve performance by adding variables to subsequent models

REGRESSION MODELING RESULTS

Model	Value
Model 1	37.0
Model 2	50.0
Model 3	51.0
Model 4	47.0

Axis: -, 10.0, 20.0, 30.0, 40.0, 50.0, 60.0
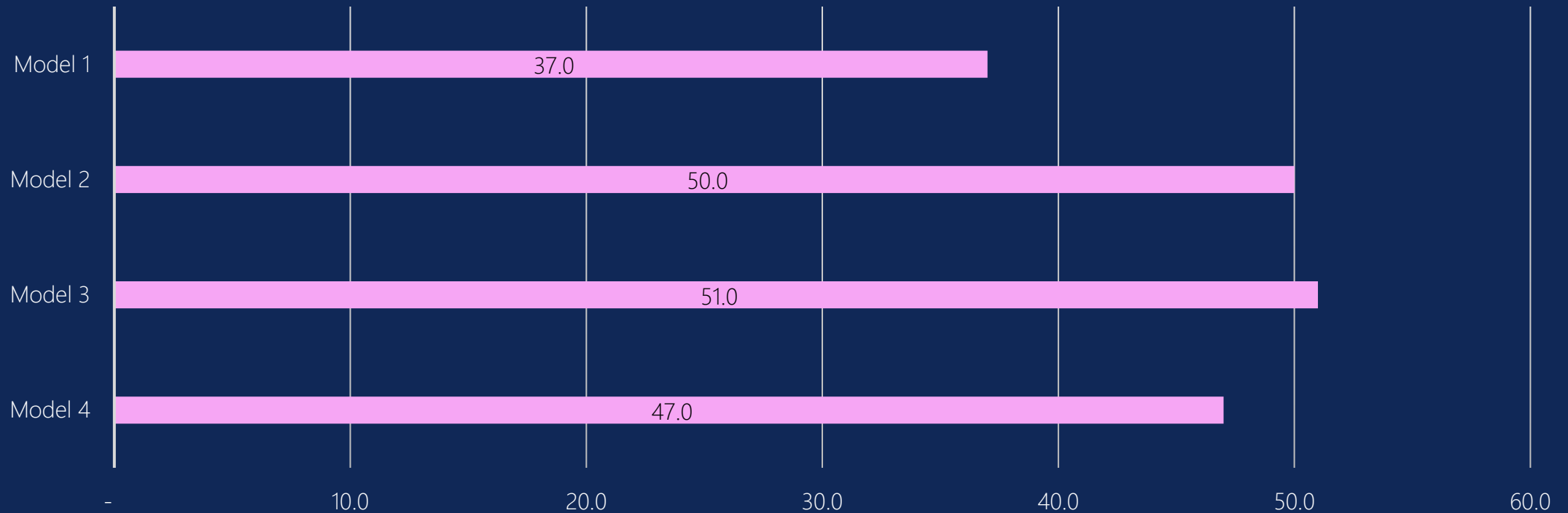
Note: Model performance increases, final model coefficient adjustments cause decrease in performance

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REGRESSION MODELING RESULTS

	Model 1	Model 2	Model 3	Model 4
Accuracy	37%	50%	51%	47%
Price Offset	$396,336	$352,431	$338,354	$370,981
Variables	1	5	6	6

Through the iterations model performance measured by prediction accuracy and difference in price prediction increased

RESULTS

Living Square Footage	Number Of Bedrooms	Waterfront Status	House Grade	View Quality	Build Year
Focus: Larger square footage Increase of 1 = increase of $510 in price	Focus: Greater amount of bedrooms	Focus: Homes on Waterfront	Focus: Ratings of Excellent, Luxury, or Mansion	Focus: Ratings of Fair, Excellent, or None	Focus: Larger (newer) years Increase of 1 = decrease of $1,588 in price

RECOMMENDATIONS

After four iterations of our regression model, I would recommend that our client focus their home acquisition strategy on the following metrics:

- Square footage of living space : Where a larger square footage should result in larger sale prices
- Number of bedrooms : Where more bedrooms should result in larger sale prices
- Waterfront status : Where homes that are on a waterfront should result in larger sale prices
- Overall grade of the house : Where a grade rating of Excellent, Luxury, or Mansion should result in larger sale prices
- View quality : Where a view quality of Fair, Excellent, or None should result in larger sale prices
- Year house was built : Where a larger year(ie newer year) should result in larger sale prices

NEXT STEPS

Variables

- Find more variables
- Preferably linear
- Better train model

Data

- More data points
- Can improve model predictions

Techniques

- Different modeling approaches for given data
- Different analysis methods may yield more findings

THANK YOU

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