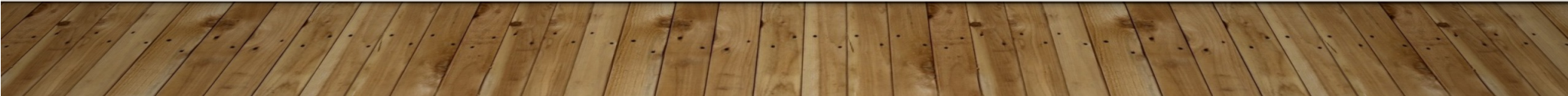


KING COUNTY HOME SALE PRICE ANALYSIS

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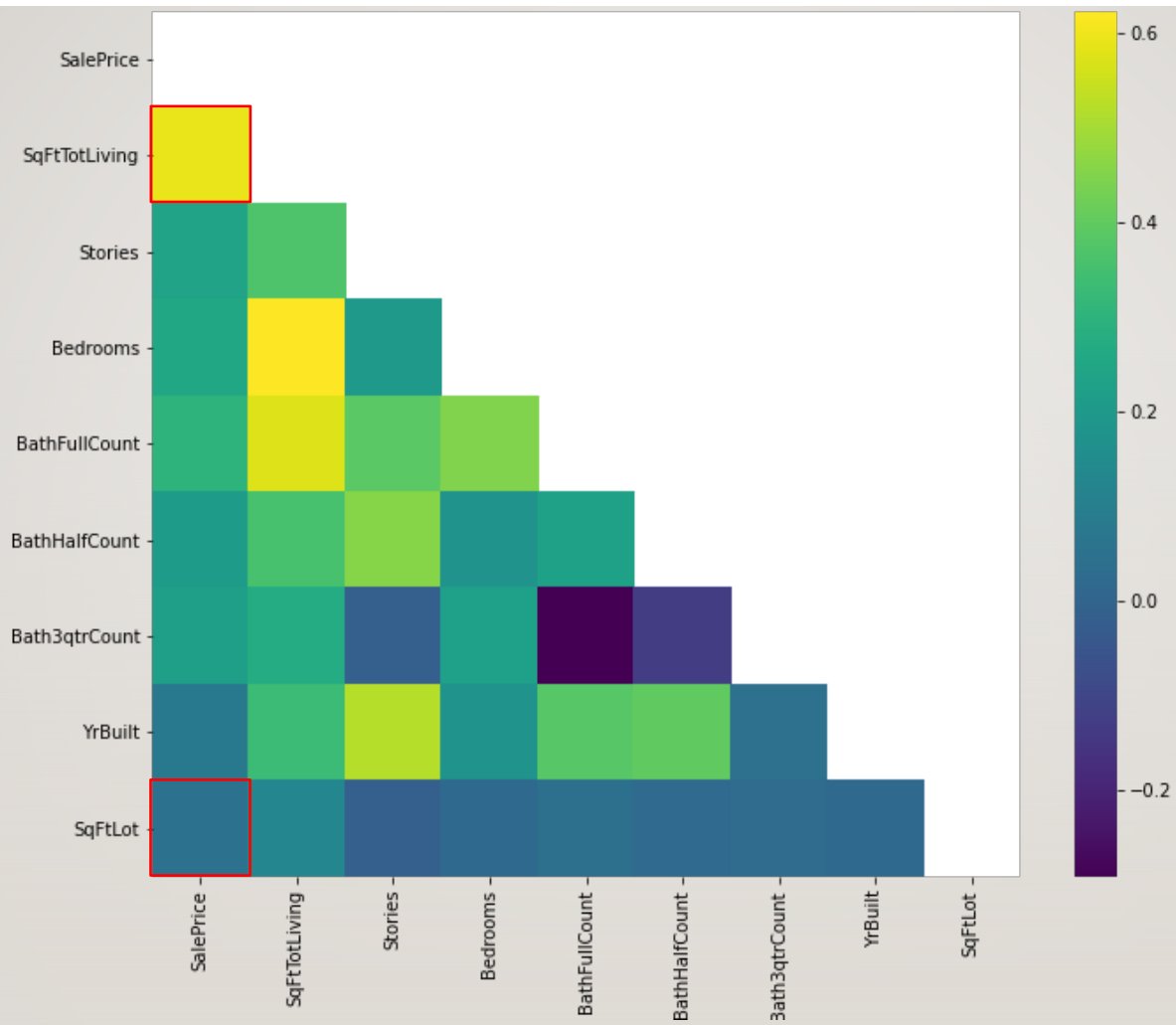


BUSINESS PROBLEM

- Investigate Home Improvement Projects to Evaluate Expected Effect on Sale Value
- Evaluated Three Potential Improvements:
 - Adding a porch
 - Open Porch
 - Enclosed Porch
 - Both an Open and an Enclosed Porch
 - Upgrading to a Forced-Air Heating System
 - Converting an Attached Garage to a Bedroom

DATA

- Analyze Data from King County Department of Assessments
 - Real Property Sales between 2015-2020
 - Residential Building Records
 - Parcel Records



METHODS

- Base Model

$$\sqrt{\text{saleprice}} = \beta_0 + \beta_1 \sqrt{\text{livingspace}} + \beta_2 \sqrt{\text{lotsize}}$$

METHODS

- Adding a porch

$$\sqrt{\text{saleprice}} = \beta_0 + \beta_1\sqrt{\text{livingspace}} + \beta_2\sqrt{\text{lotsize}} + 4.76 * \text{open} + 42.73 * \text{enclosed} + 70.51 * \text{both}$$

- Adding open porch increased sale value by $4.76^2 = \$23$
- Adding enclosed porch increased sale value by $42.73^2 = \$1826$
- Adding both porches increased sale value by $70.51^2 = \$4972$

METHODS

- Upgrading to a Forced-Air Heating System

$$\sqrt{\text{saleprice}} = \beta_0 + \beta_1\sqrt{\text{livingspace}} + \beta_2\sqrt{\text{lotsize}} - 49.27 * \text{forced air}$$

- Decreased sale value by $49.26^2 = \$2427$

- Converting an Attached Garage to a Bedroom

$$\sqrt{\text{saleprice}} = \beta_0 + \beta_1\sqrt{\text{livingspace}} + \beta_2\sqrt{\text{lotsize}} + 79.09 * \text{garage renovated}$$

- Increased sale value by $79.09^2 = \$6256$

SUMMARY

- Adding open porch will increase sale value by \$23
- Adding enclosed porch will increase sale value by \$1826
- Adding both porches will increase sale value by \$4972
- Converting to forced-air heating system will decrease sale value by \$2427
- Converting attached garage to bedroom will increase sale value by \$6256

CONCLUSIONS

- Recommendations:
 - Add enclosed porch
 - Add both porches
 - Convert attached garage to bedroom
- Not Recommend:
 - Add open porch
 - Convert to forced-air heating system

NEXT STEPS

- Factor cost of renovation into analysis
- Reevaluate model depending on specific property
 - Consider effect of converting open porch to enclosed porch
 - Consider factoring in different neighborhoods

Thank You!

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