



Diamond Price Prediction for Xi Diamonds Inc.

“Unveiling the Mysteries Behind Diamond Pricing”

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ANALYST





Xi Diamonds Inc.

- Fluctuations in diamond sales.
- Customer demand for transparent pricing.

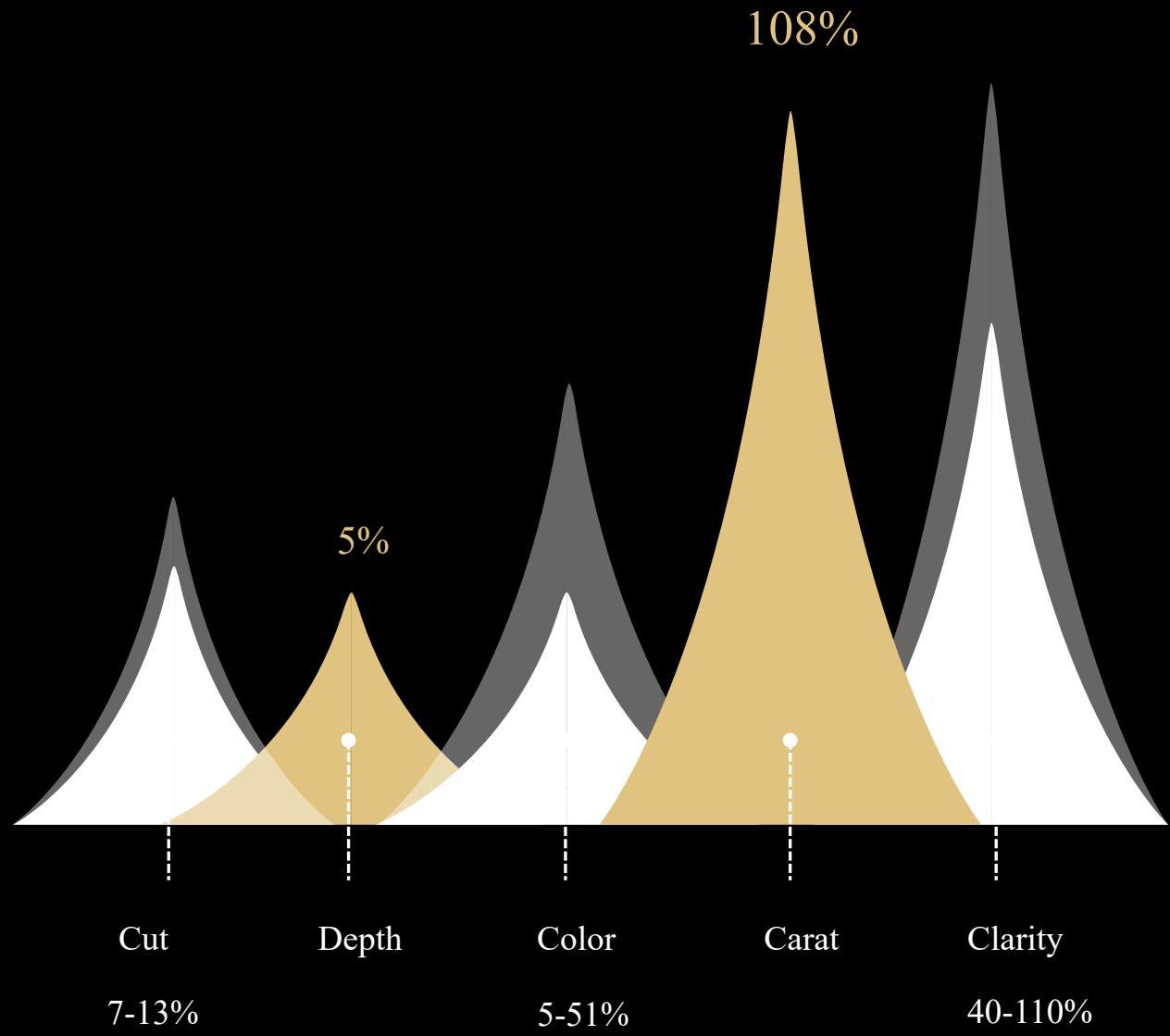
Objective:

- Uncover key determinants of diamond prices.
- Refine pricing strategy for a competitive edge.

Expected Outcome:

- Streamline product lineup.
- Strengthen bond with customers.





The Heart of the Matter

Carat weight is the most significant predictor of price.

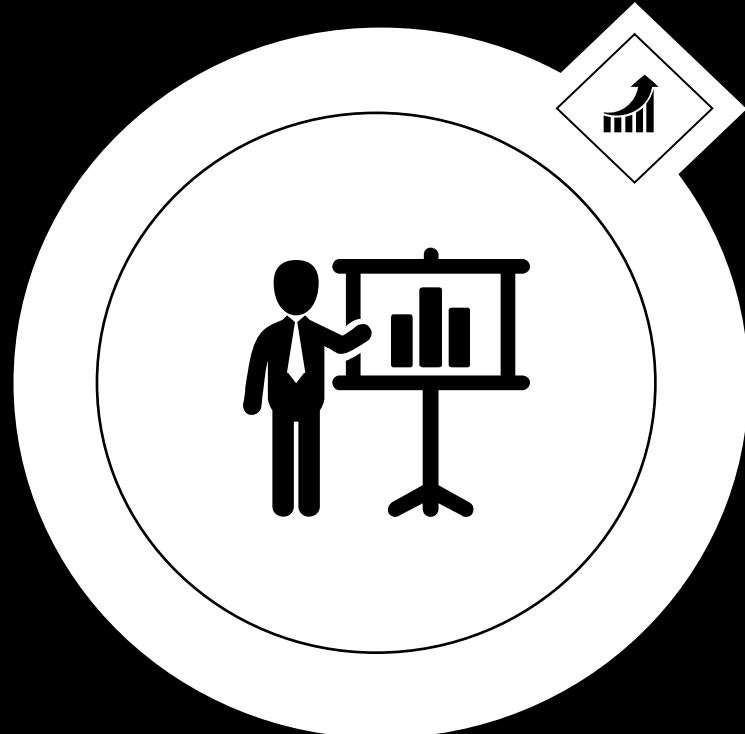
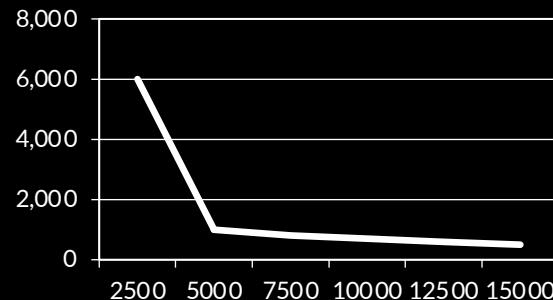
The Data Overview

 **53,940 Diamonds**

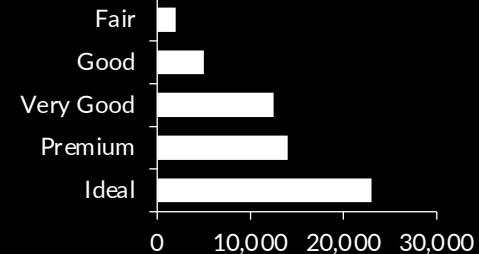
Each record in the dataset represents a random diamond with its unique characteristics



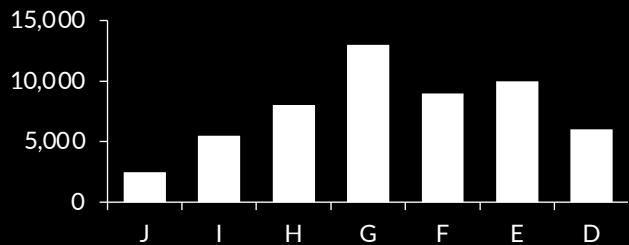
Price Distribution



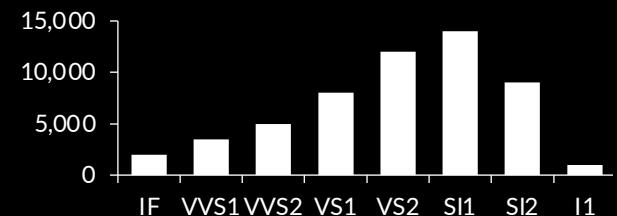
Cut



Color



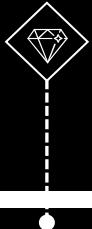
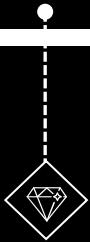
Clarity



Methodology

- Problem Objective
- Contextualise
- Understand

PLAN

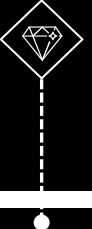
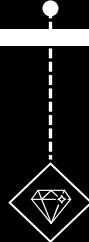


ANALYSE

- EDA
- Missing Data
- Clean
- Outliers
- Feature Engineer
- Prepare for linear regression

- Model creation (98.2% R-sqrd)
- Check Assumptions
- Transformation & Normalisation
- Validation (0.018 MSE)

CONSTRUCT

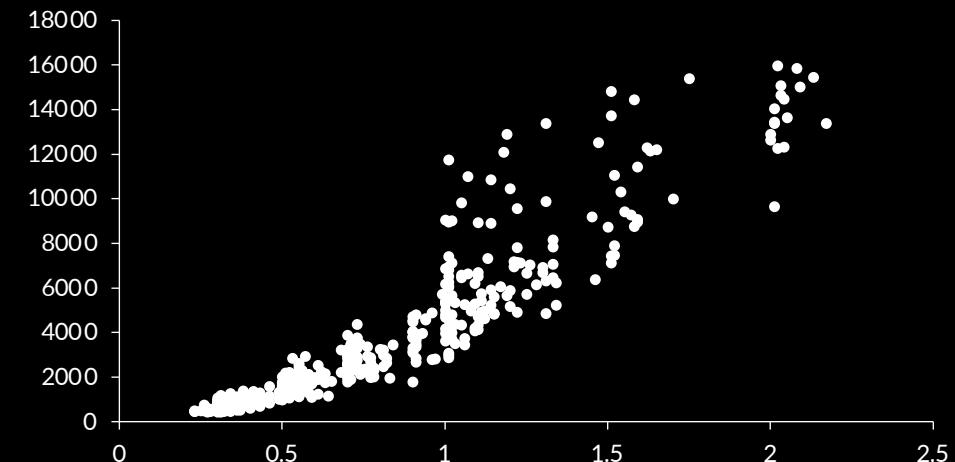


EXECUTE

- Interpret model
- Share story

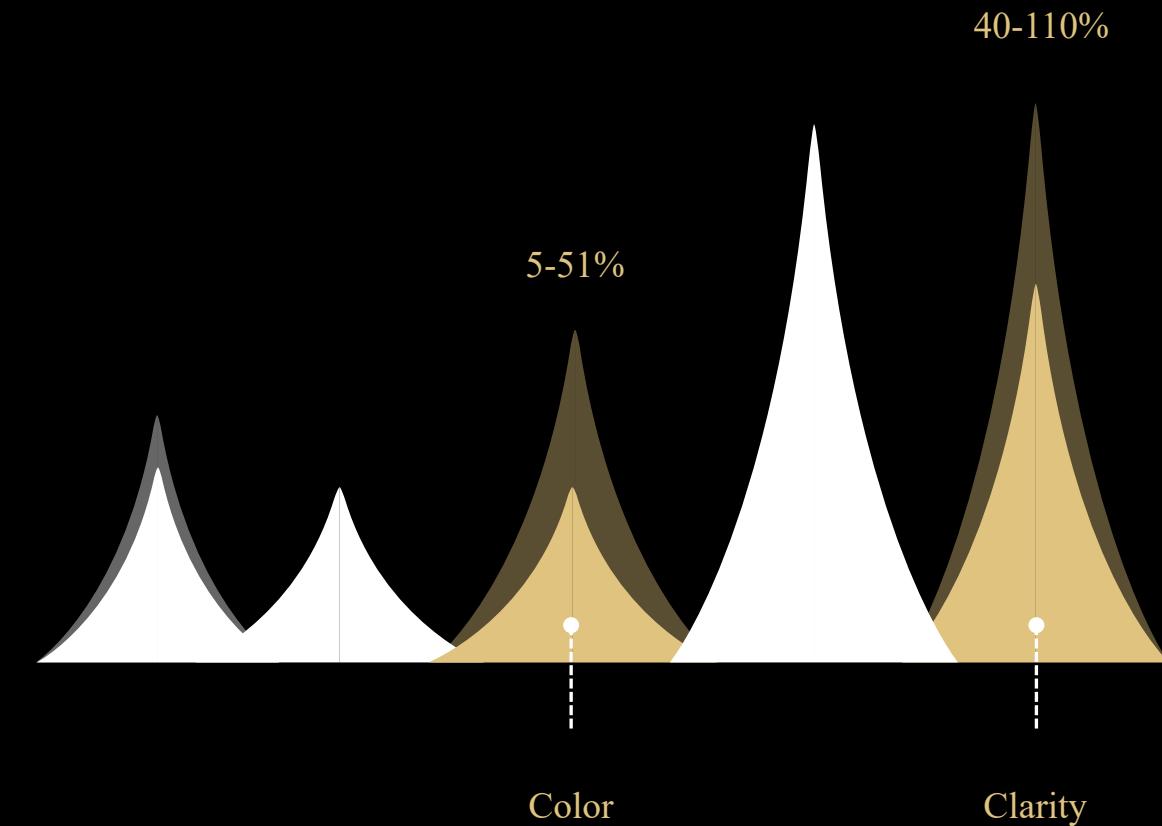


The Carat Weight



The larger the diamond (by weight), the more significant its impact on price.

Clarity and Color



(D, E, F)



(G, H, I, J)



(K, L, M)



(SI1 - SI2)

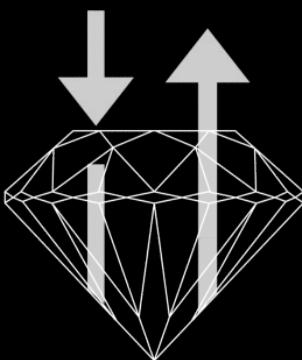


(VS1 - VS2)

About the Shape!

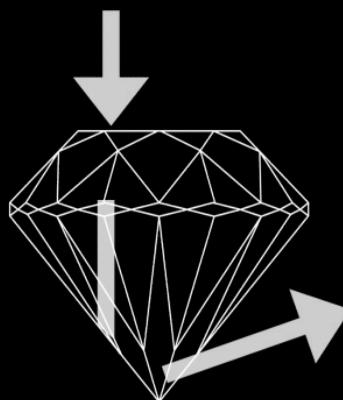
- (Fair, Good, Very Good, Premium, Ideal)
- A quick guide on how different cuts can influence a diamond's shine and price

EXCELLENT
& VERY
GOOD CUTS

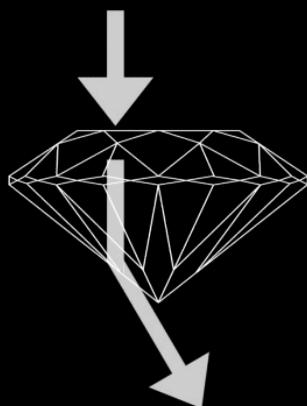


IDEAL

GOOD & FAIR CUTS



TOO DEEP



TOO SHALLOW

Recommendations



Inventory Procurement

Focus on procuring diamonds that align with attributes customers value the most, i.e., carat, cut, color, and clarity.



Marketing and Communication

Emphasize the quality and size (carat) in marketing campaigns as they significantly influence the price and perceived value.



Pricing Strategy

Be ready to adjust diamond prices in line with their carat, especially since it has a significant multiplicative effect on the price.



Further Research

Since the depth of the diamond didn't significantly impact the price, further qualitative research might be useful to understand if and why customers value depth.

THANK YOU!!

Do you have any Questions?



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*"Those who utilise time like Gold,
One day will shine like a Diamond"
- anonymous*



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