CHURN PREDICTION ANALYSIS FOR BLUE-VALLEY BANK

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PROBLEM STATEMENT

- Blue-Valley Bank has faced rising customer churn over the past five years,resulting in significant financial losses.The bank lacked a way to predict which customers were at risk of leavinf early enough to intervene.This project focuses on analyzing customer data to build a suitable predictive model that identifies high risk churners and supports targeted retention efforts

- The bank decided to build a system that will predict churn identify key churn driver and segment clients by churn risk

Modeling Churn:From Insight to Action

- -we used historical data

- Applied two models:

- Logistic regression(baseline)

- Decision tree (final model)

- We selected key features driving churn

- Segmented clients into(high,low and medium risk churners) this wil enable tailored retention strategies per risk level
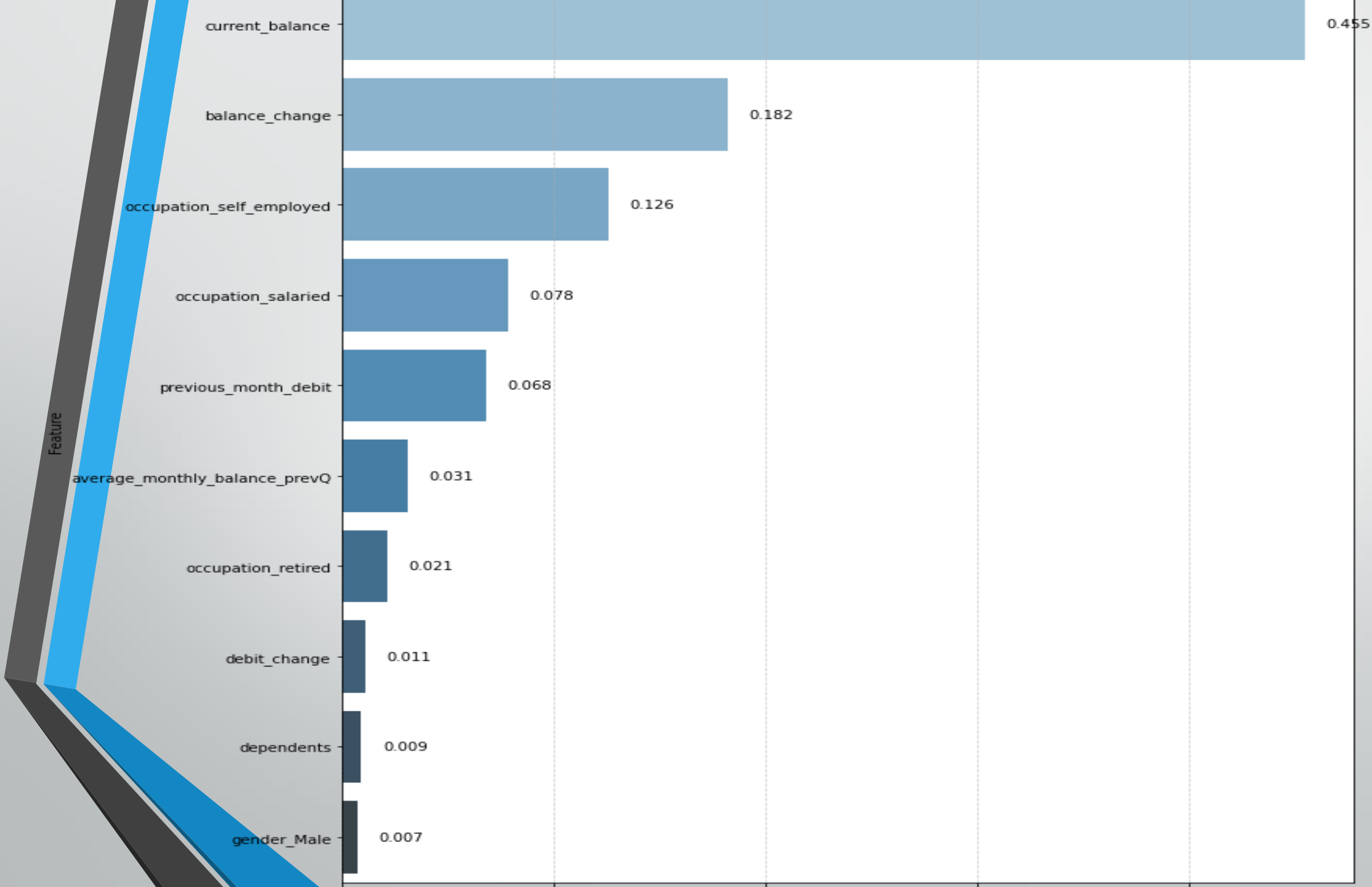
LOGISTIC REGRESSION FEATURE IMPORTANCE
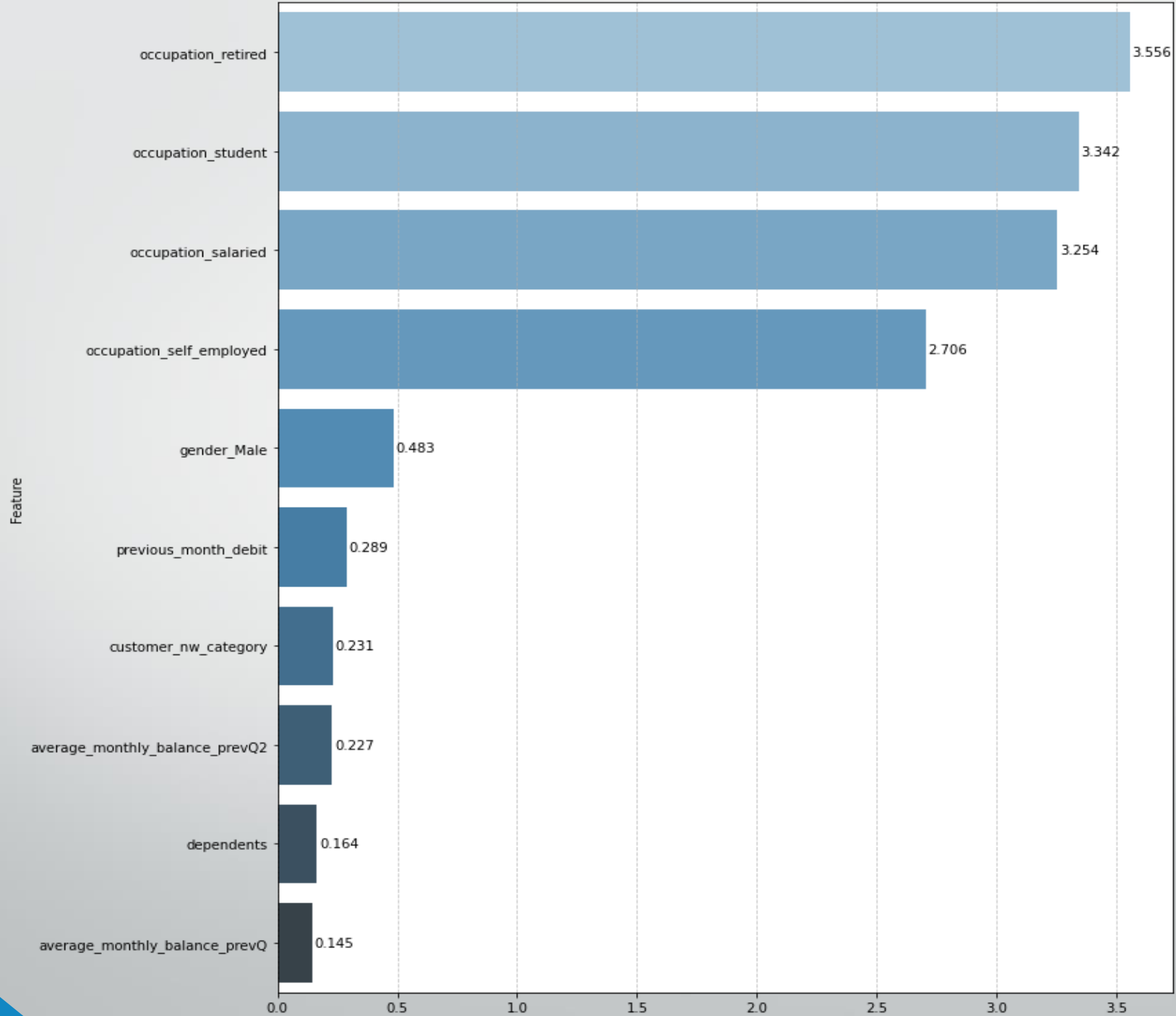
WHAT DRIVES CHURN?

- Based on the two models you can see the logistic regression has different features than decision trees and this is so since the one hot encoded columns had more coefficients and were not scaled unlike decision trees could handle everything so for the features we chose decision trees since it was immune to one hot encoding effects and is able to check on non linear relationships

MODEL PERFORMANCE

LOGISTIC REGRESSION	DECISION TREES
Accuracy-72% F1score-26% Recall-24% Precision-23%	Accuracy-76% F1score-51% Recall-61% Precision:43%
Very low performance	Better performance by far
Conclusion:not chosen as the final model	Conclusion its better and was chosen as the final model but still needed some tuning
	We noticed overfitting and we used pruning to give a better performance on the model

CUSTOMER SEGMENTATION

Risk category	Description	Strategy
High risk churner	Most likely to churn based on key features like low balance	Immediate personal approach eg encouragement of high balance,for the self employed better loans offer with minimal interest
Medium Risk	Some churn signals	For those with dependents we offer saving mechanisms and even easy loan availability incase of an emergency they are able to access funds fast
Low risk	No signal of churn	Better customer services continue offering the services that will sustain them

Business Impact

- Early warning system for customer churn will help in early planning

- Clear understanding of customers leaving

- Has risk based segmentation that better engages with clients better

- Its realiable in churning since it uses a better model in prediction

NEXT STEPS & Q&A

- Continousious check of churning to see who else is likely to churn

- Having one on one meeting with clients and hear what they would love the bank to do better

- Planning more wisely and using the right retention strategies to keep the clients

- We are ready to collaborate more Questions?

THANK YOU