Churn Modeling Report

Hi, I’m Patrick,

I am a data analyst and web developer. In this presentation, I will be taking you through my findings for the rapid rate of customer churn at the bank that owns this data. The bank operates in three cities- Accra, Kumasi and Bolga. Let’s get analyzing.

ABOUT PROJECT

Vision: To build a prototype for my Machine Learning project

Stack: I used Gretl throughout this project. Kindly check the documentation here

Stage of project: This project has been completed. Please click here to view the project files.

Outcome: The code is supposed to predict the likelihood that a particular customer or group of customers will leave the bank.

Next Steps: click here to see the version II of this project

ABOUT THE DATA

Data Source: Super Data Science (section 5)

Variables: Customerid, Surname, Creditscore, Geography, Gender, Age, Tenure, Balance, NumOfProducts, HasCrCard, IsActiveMember, EstimatedSalary and Exited

Number of rows in the Train data: 10,000

Number of rows in Test data: 1,000

Number of Columns in Train data: 13

Transformations: Since most of my audience are from Ghana, I transformed the Geography variables Spain, Germany and France to Accra, Kumasi and Bolga respectively for easy comprehension

Focus Areas for my analysis

1. Problem
2. Any KPIs?
3. How about age?
4. What next?

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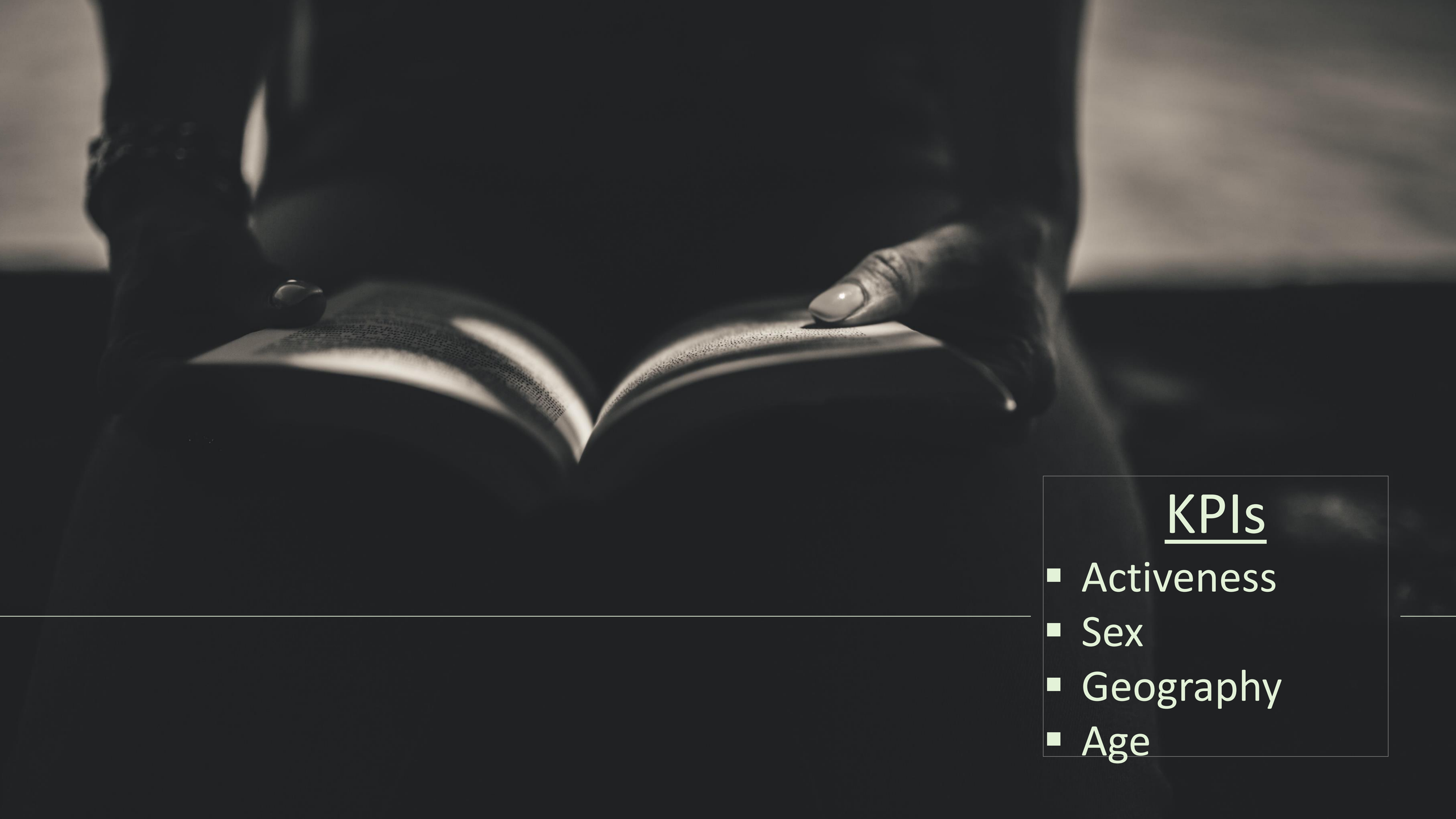
Customers leave the bank at an alarming rate. What can we do?



KPIs

- Activeness
- Sex
- Geography
- Age

Column1	Coefficient	p-value	Odds Ratio
Const	−3.91258	<0.0001	
Credit Score	−0.00067486	0.016	0.9993
Age	0.072655	<0.0001	1.0754
NumberOfProducts	−0.0950198	0.0456	0.9094
IsActiveMember	−1.07578	<0.0001	0.341
Kumasi	0.747595	<0.0001	2.1119
Female	0.526721	<0.0001	1.6934
Tenure	−0.0158791	0.0893	0.9842
log_Balance	0.0690263	<0.0001	1.0714

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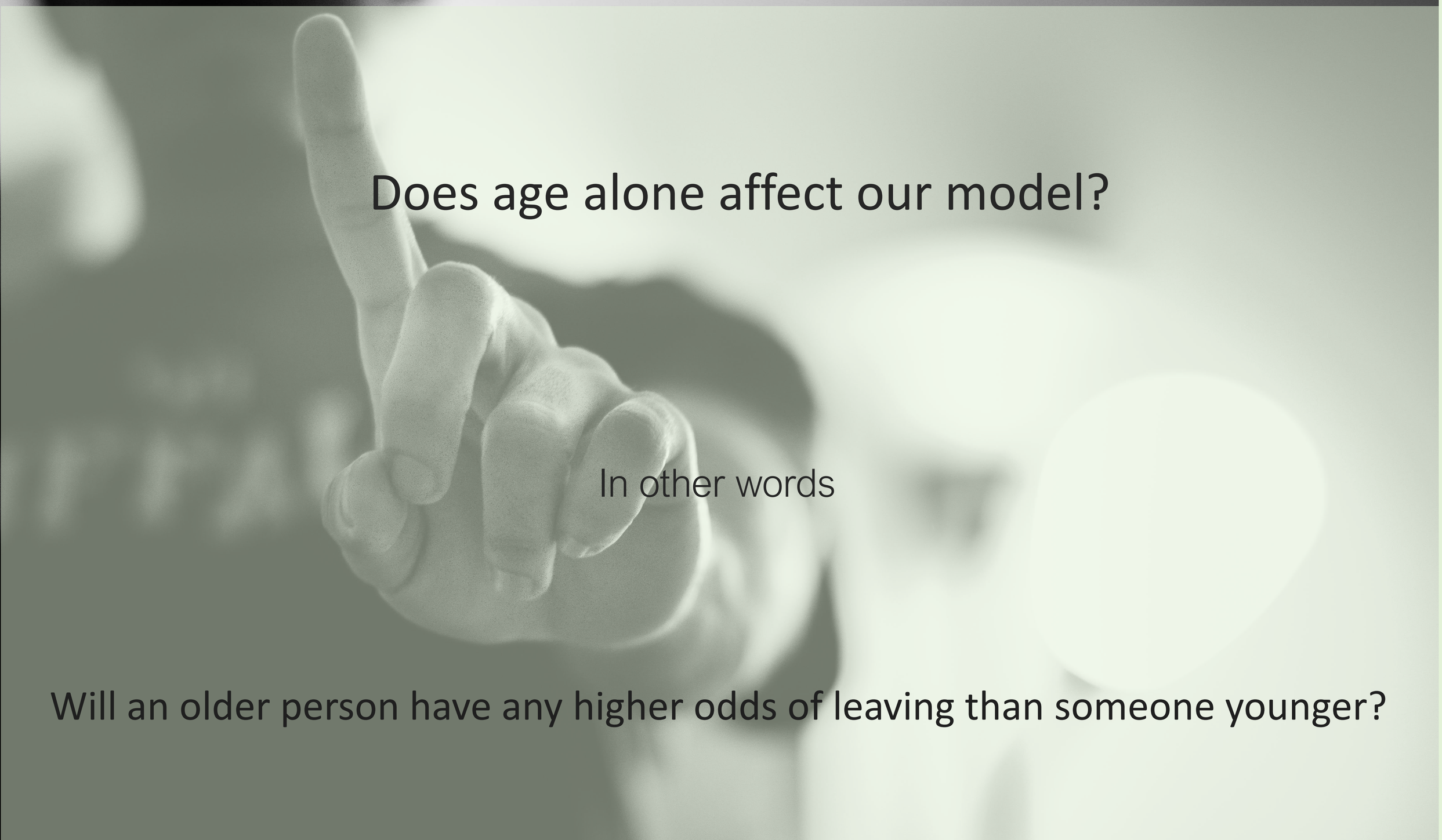
Females tend to leave the bank more. Odds ratio
Is 1.7 greater than that for males


Maybe female customers are not treated rightly in the bank. Or maybe something else. Whatever it is, there is a problem. We have to do something about our female customers



Does age alone affect our model?

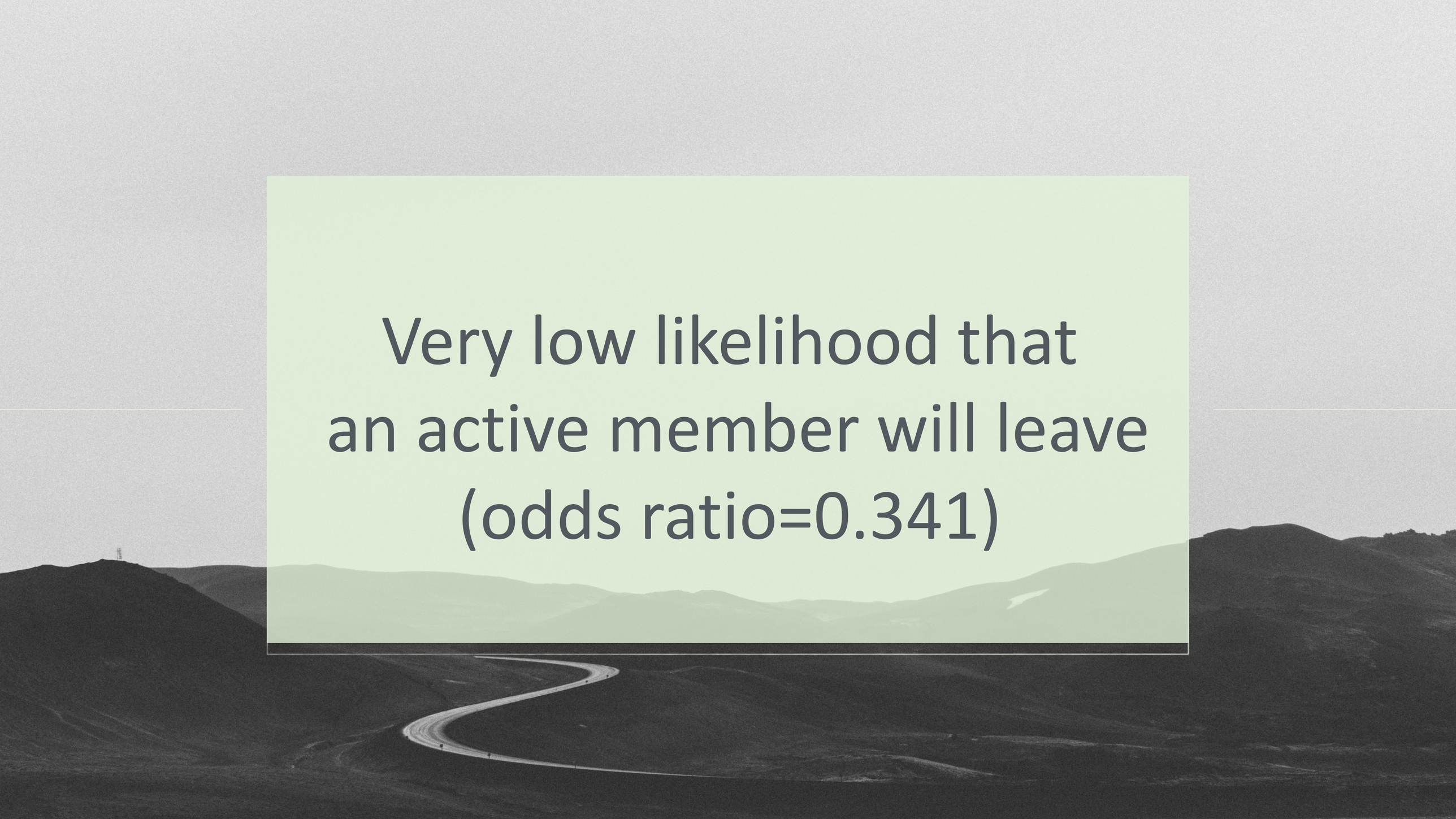
In other words

Will an older person have any higher odds of leaving than someone younger?

Sure!

According to the data,

When age increases by 1 year, the odds of leaving increases by 1.0754



Very low likelihood that an active member will leave (odds ratio=0.341)

Next Steps

Something terrible is happening at the Kumasi branch, Let’s go find out…

Thank You!

Website

Email