

0 0 0 0



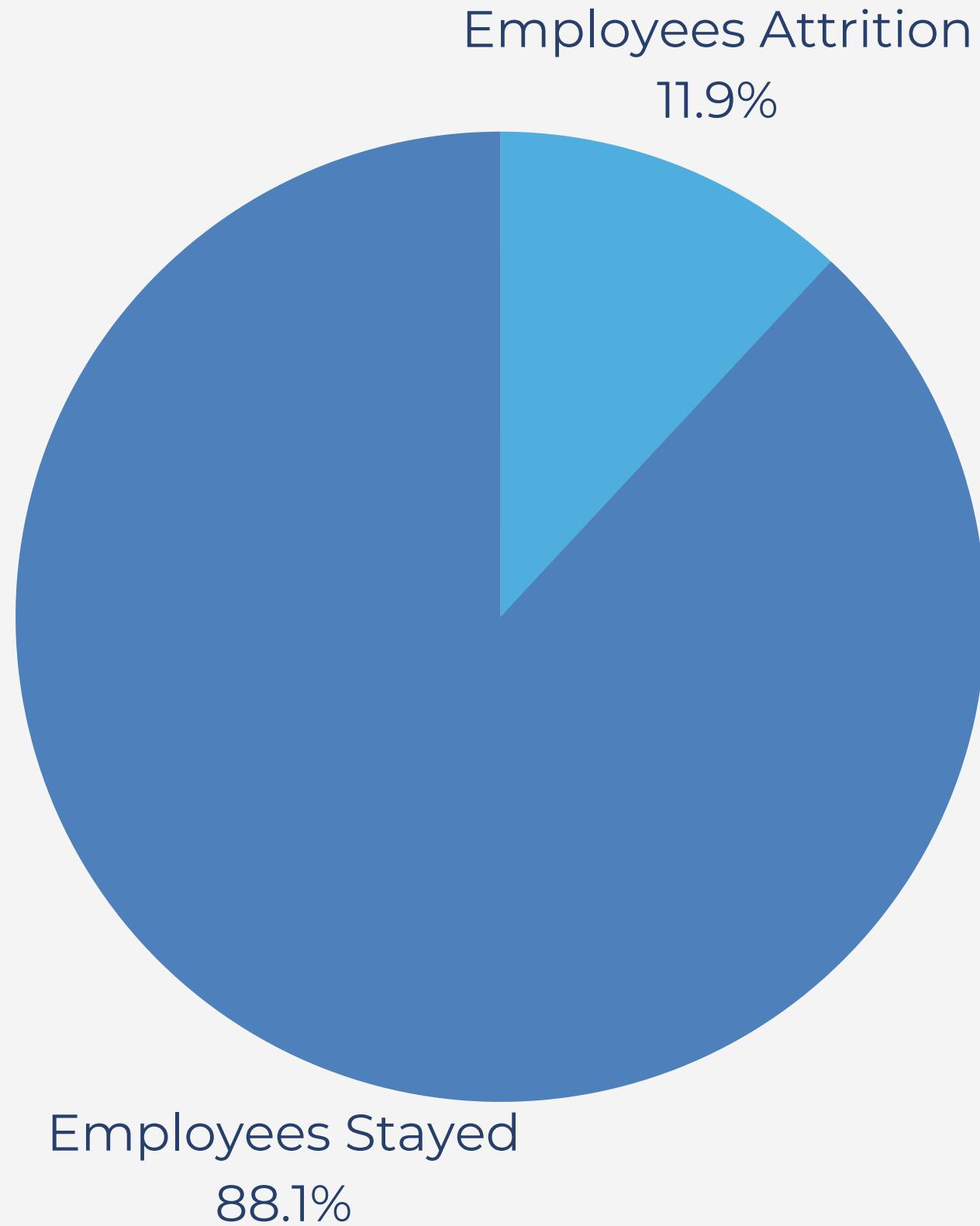
# IBM *ATTRITION PREDICTION*

# TABLE OF CONTENTS

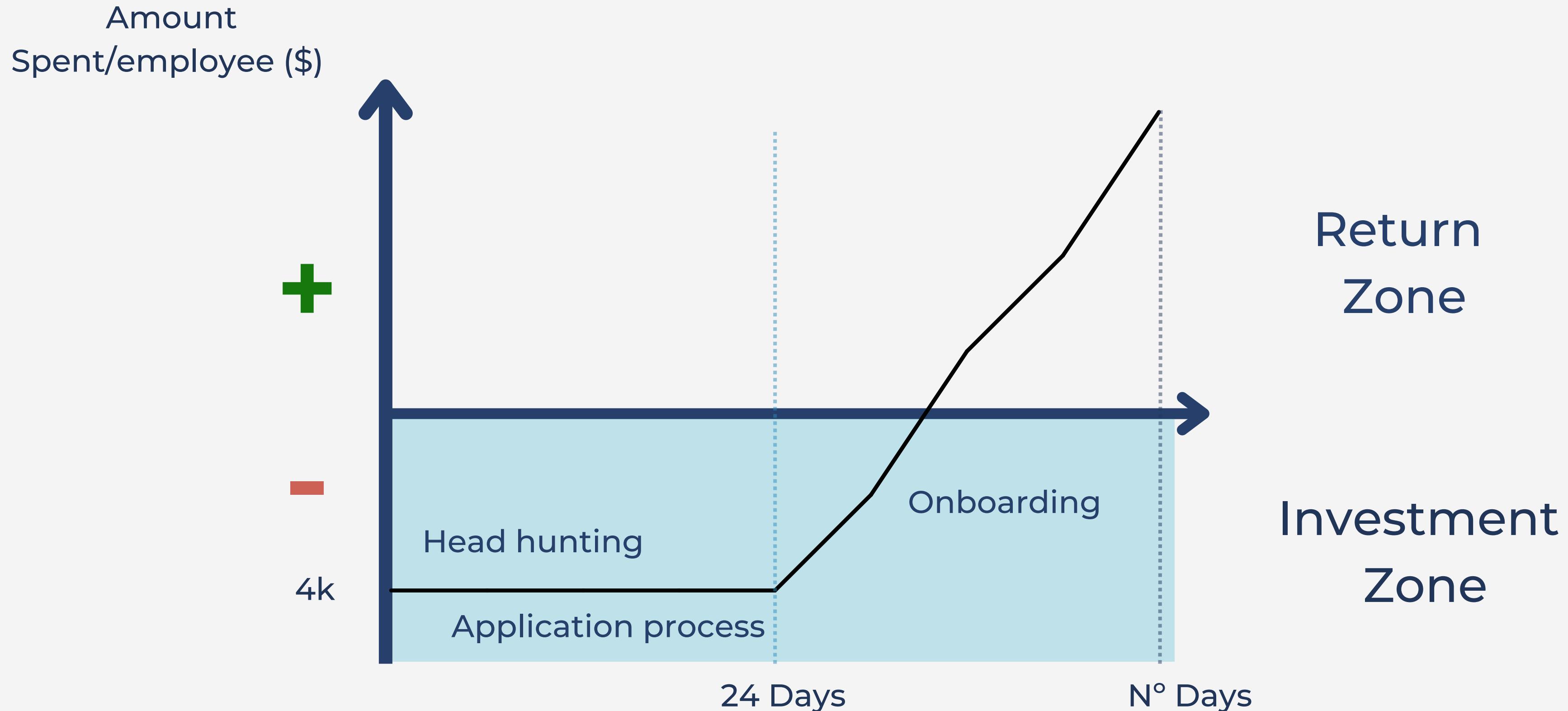
1. Company Specific Problem
2. Cost of hiring an employee
3. Employee Profiles & Insights
4. Solution
5. Conclusions
6. The Team



# Attrition Rate Last Year



# COST OF AN EMPLOYEE HIRE





# WHY DO PEOPLE QUIT?



## Data Insights

- Lack of career progression opportunities.
- Lack of employee engagement.
- Inadequate job profile matching.

## Other Considerable Factors

- No clear business goals or direction.
- Poor conflict resolution mechanisms.



# WHY DO PEOPLE STAY?



## Data Insights

- High job satisfaction
- High job involvement

## Other Considerable Factors

- Good paternal/maternal leave benefits
- Good work-life balance



# OUR SOLUTION



# Early Detection Attrition Model

Updated Employee Data  
(Updated Quarterly)



Machine Learning Model



The likelihood  
that a employee  
will stay or leave



# Data Source

HR Data Lake  
Company Data Catalog  
Company Wide Feedback System

# Sample Features

Years per Company \*  
Total Satisfaction \*  
Job Involvement  
Marital Status  
Overtime Work

# MODELS AND RESULTS

## Artificially Balanced Dataset

SVM

ROC: 0.9582  
Precision: 0.9083  
Recall: 0.8708.

XGB Classifier

ROC: 0.9813  
Precision: 0.9705  
Recall: 0.9038

Logistic Regression

ROC: 0.9652  
Precision: 0.9203  
Recall: 0.8571

Random Forest

ROC: 0.9847  
Precision: 0.9794  
Recall: 0.9121

## Unbalanced Dataset

SVM

ROC: 0.8128  
Precision: 0.7692  
Recall: 0.2041

XGB Classifier

ROC: 0.8177  
Precision: 0.4545  
Recall: 0.1024

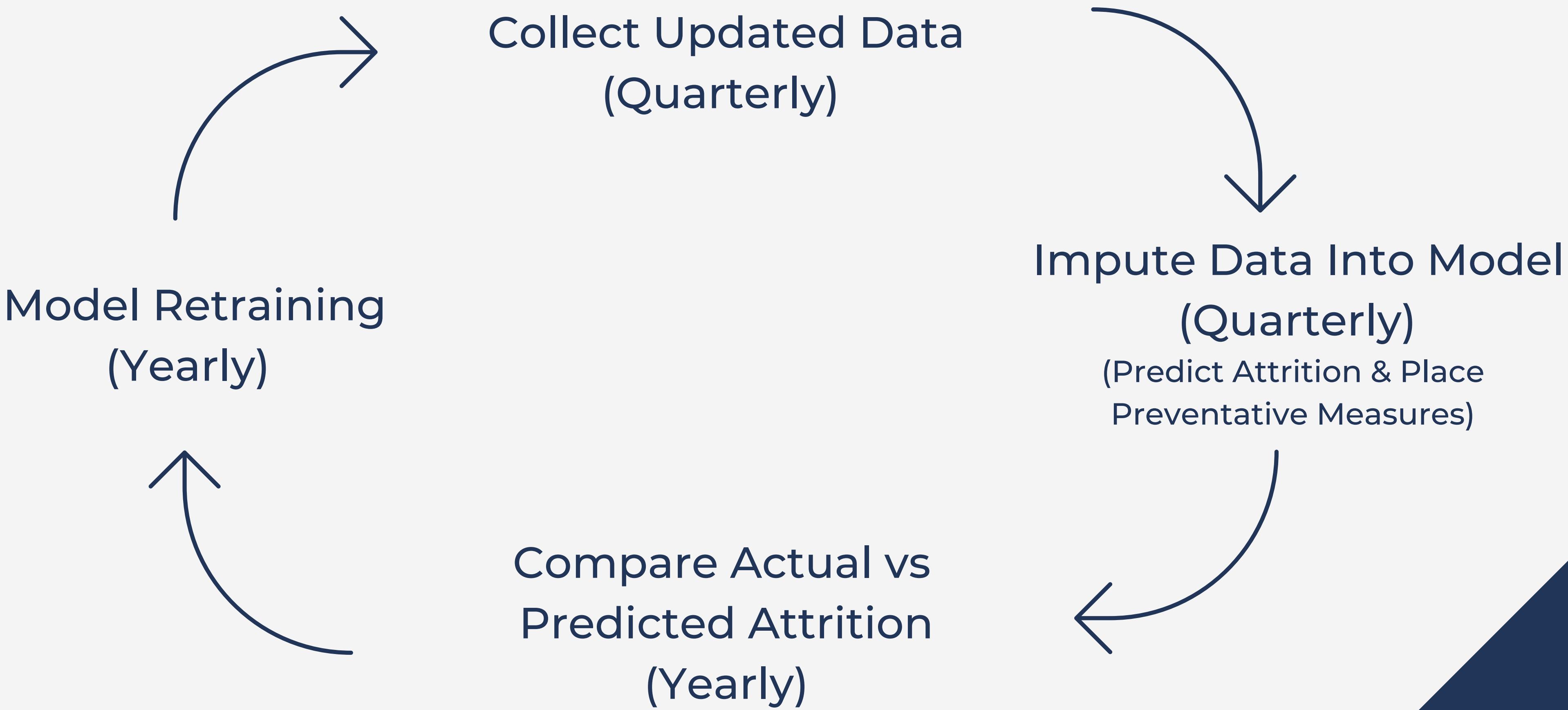
Logisitc Regression

ROC: 0.8200  
Precision: 0.5833  
Recall: 0.1429

Random Forest

ROC: 0.8353  
Precision: 1  
Recall: 0.040816

# PROJECT DEVELOPMENT



# Live Evaluation & Monitoring

Analytics  
Consultants

ROC AUC Score  
&  
Recall  
&  
Precision

HR  
Department

Attrition Ratio



# RECOMENDATIONS



- Professional Development Program.
- Feedback mechanism culture.
- Flexible work schedules.
- Employee benefits e.g. gym discounts.
- Implement conflict resolution seminars.
- Implement company "engagement days".
- Realign on company direction yearly.

# ANALYTICS CONSULTANTS



Paulino Herrera



Federico Cañadas



Lutho Dabula



Johnny Naime



Andrea Palomino



Lia Dollison



Sergio Reyes



Jesus Fuster



THANK  
YOU

**OFFICE**



C. del Marqués de Valdeiglesias, 6,



+34 6100 33 567



[www.teambconsulting.com](http://www.teambconsulting.com)

