



# Fighting Customer Churn

By Team Data Fanatics



One of the leading music streaming companies

Music Streaming Industry

Subscription based model

Seeking market share

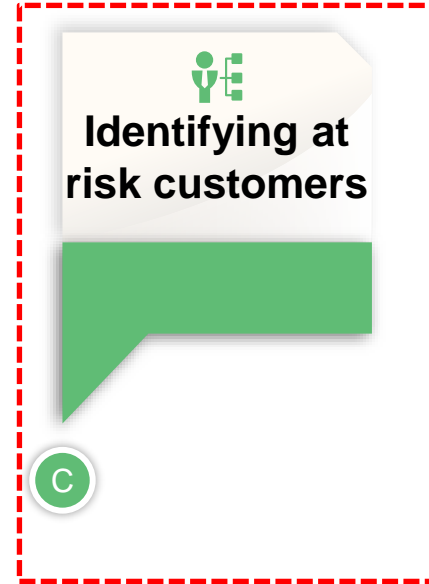
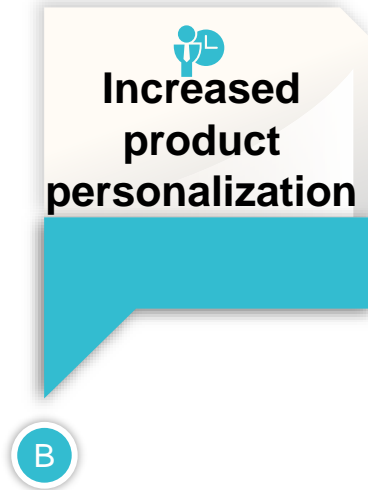
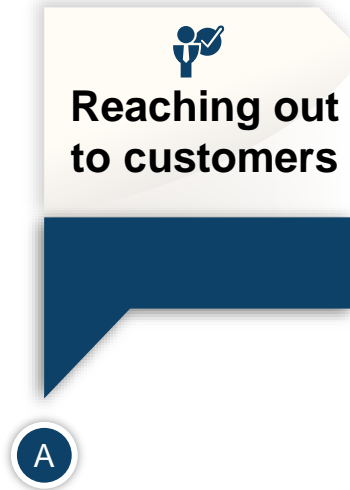
# Business Objective

**We're losing customers at a 9% churn rate**



[Harvard Business School report claims:](#) On average, a 5% increase in customer retention rates results in 25% – 95% increase of profits.

# Feasible Business Initiatives



# Success Metrics

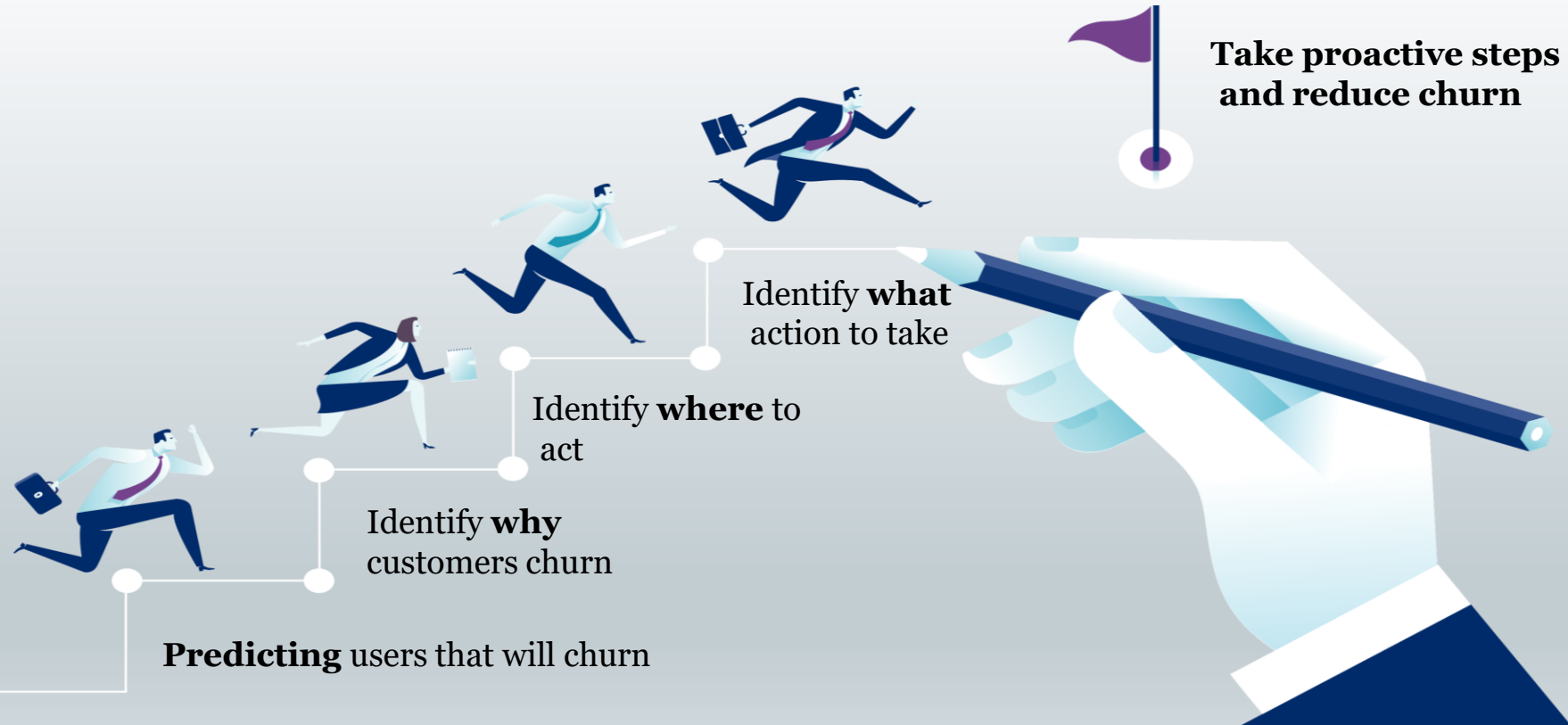


**Monthly  
premium  
subscribers  
churn rate**

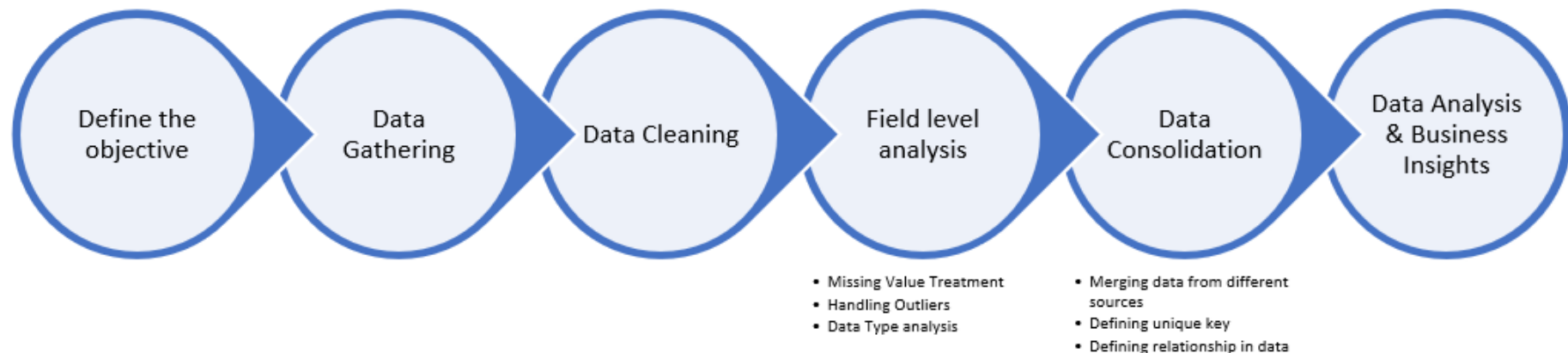
**Net Promoter  
Score (NPS)**

**Return on  
Incentives**

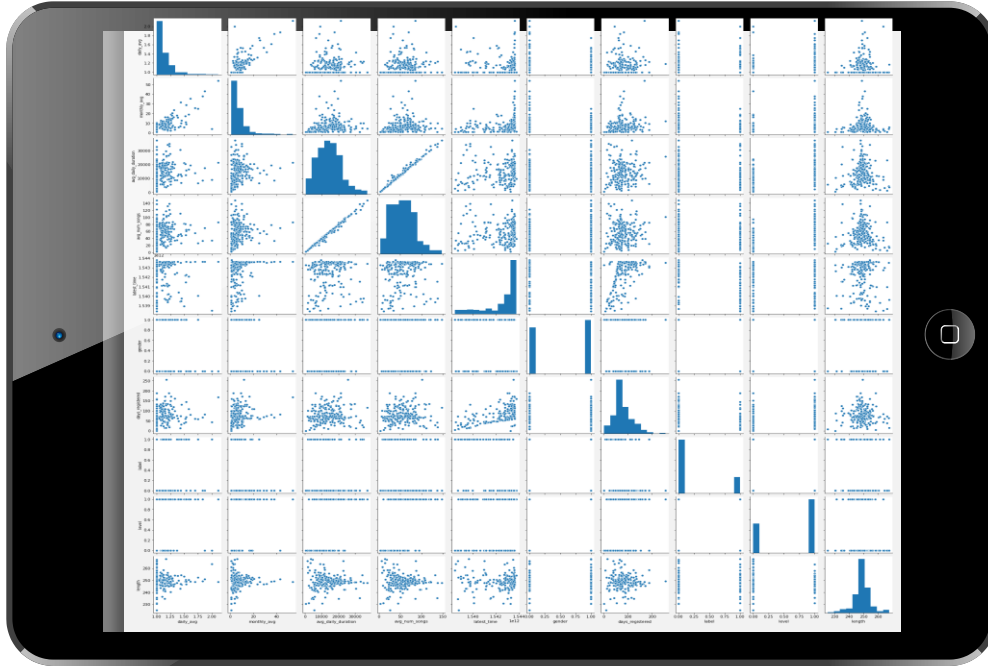
# Analytics Solution



# Leveraging Data



# Data Overview



1

## Observation dataset:

a) Events' log data

2

## Target Variable:

a) When the event page value is 'Cancelled confirmation'  
b) When the event has 'Auth' Column value as "Cancelled"

3

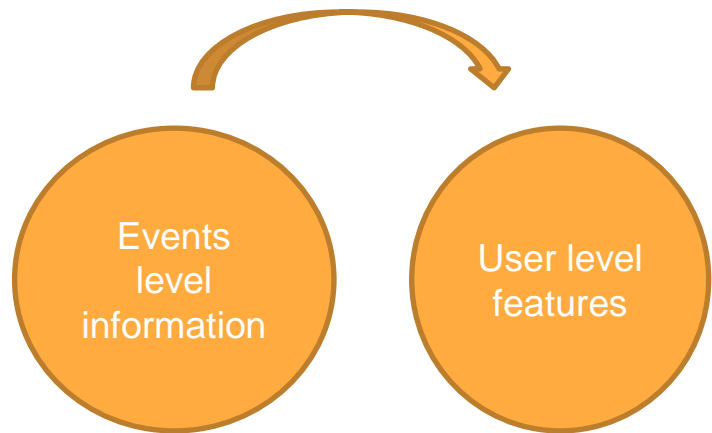
## Explanatory Variables:

a) When the event page value is 'Cancelled confirmation'  
b) When the event has 'Auth' Column value as "Cancelled"



# Features

## Data transformation:



## Derived features:

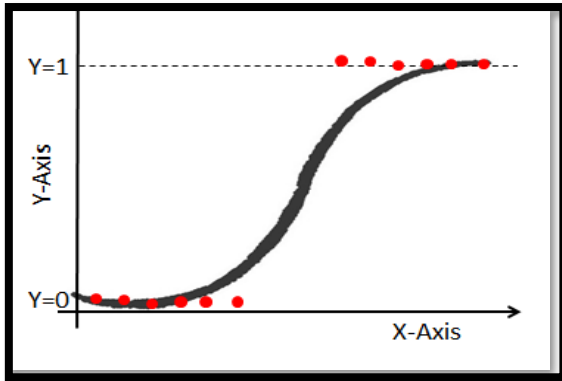
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- Avg. number of sessions logged daily
- Avg. number of sessions logged monthly
- Avg. time spent per session in seconds
- Avg. no. of songs heard daily
- Days since registration
- Latest Auth status - Paid or Free

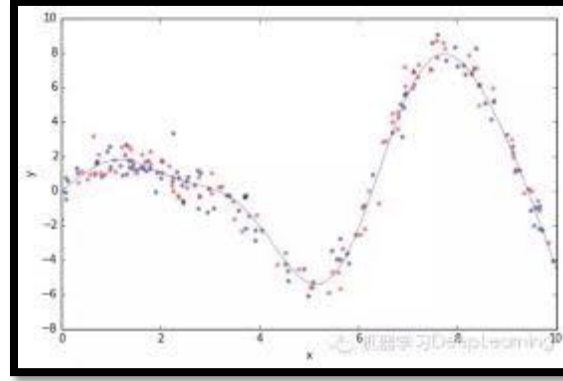
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# Models

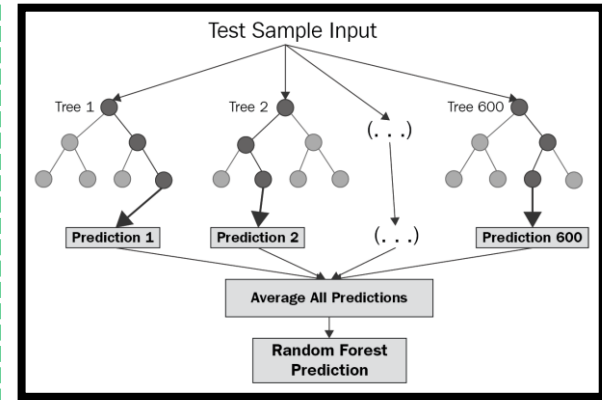
## Logistic regression



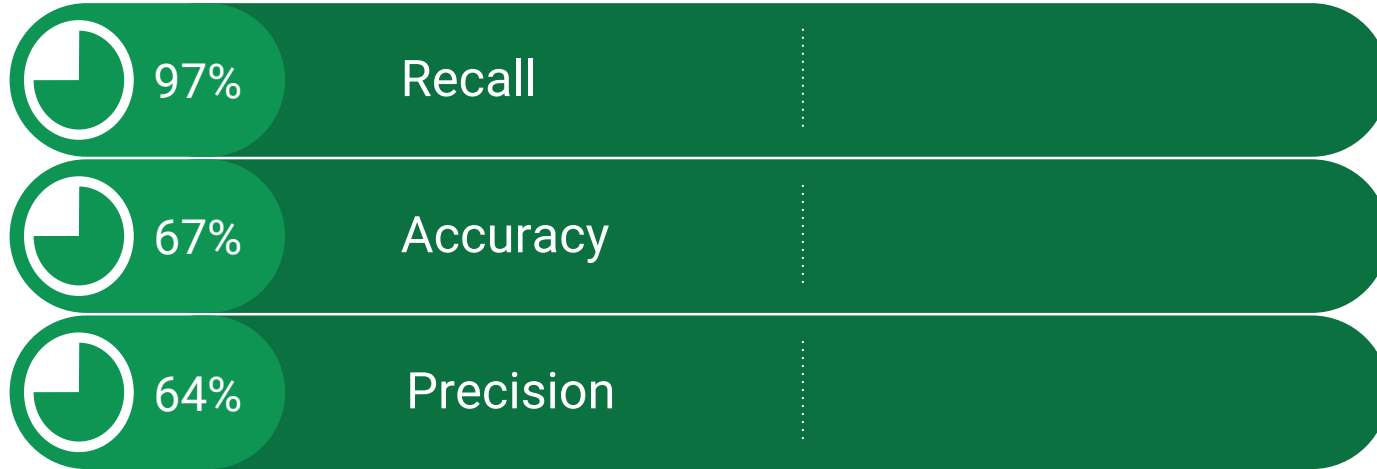
## Gradient Boosting



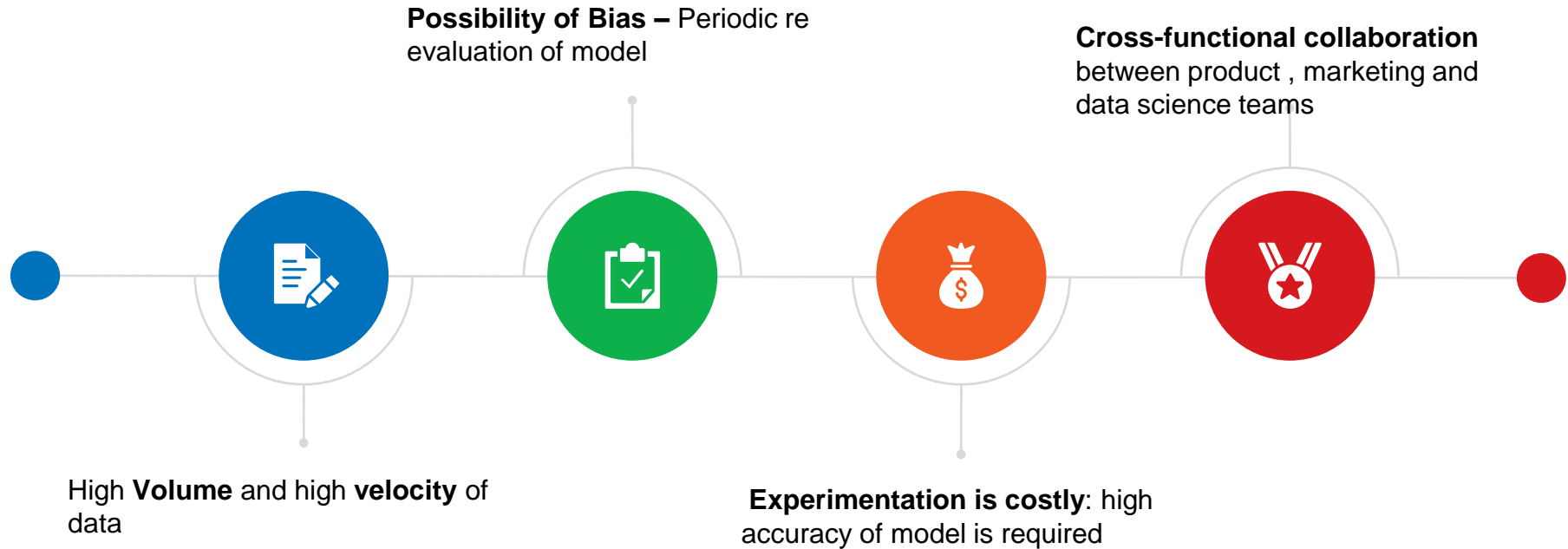
## Random forest (with hyper parameter tuning)



# Results



# Things to remember



# Model Deployment and Scaling

- Needs effective deployment with production
- Big Data is our best friend!
- Not only to store the logs data source but the processing requires Spark setup with cloud infrastructure ( Hadoop, AWS Suite)
- Separate staging and production environments for efficient testing and implementation
- Results to be presented in intuitive UI → communicated to marketing and sales team

# Model Deployment and Scaling

01

Needs effective deployment with production

02

Big Data is our best friend!

03

Separate staging and production environments for efficient testing and implementation

**Results to be presented in intuitive UI**



# Next Steps



● Model Identifies **At-Risk** customers



● Customer Segment –  
**High Risk** - 'lost' cases  
**Low Risk** - not enough incentivization  
**Medium Risk** ---> Target



● A/B Test : Roll out customized emails, app notifications to generate insights