

# Capstone Idea 2:

## Employee or Customer Churn Prediction

*P. A. Ortiz Otalvaro*

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### I. Business Problem: Employee churn

Predicting employee churn is more complex than predicting customer churn. Employee churn can be expensive for companies due to the costs related to the search of a replacement, extra trainings, the loss of productivity while a new employee adapts to the new role, and even possibly customer dissatisfaction.

### II. Business questions

1. For a given scenario, which are the main drivers of employee churn?
2. When are employees most likely to leave?
3. Which is the probability of an employee to leave a company?
4. How can new hiring be planned in advance to increase employee retention and productivity?

### III. Data: Links and descriptions

#### Option 1: Kaggle, HR Analytics employee attrition (employee churn)

*Description:*

The data contains

- employee id
- employee record date ( year of data)
- birth date
- hire date
- termination date
- age
- length of service
- city department
- job title
- store number
- gender
- termination reason
- termination type
- status year
- status
- business unit <https://www.kaggle.com/HRAnalyticRepository/employee-attrition-data>

#### Option 2: IBM fictional employee data (employee churn)

Fields:

- Age
- Attrition
- BusinessTravel
- DailyRate

- Department
- DistanceFromHome
- Education
- EducationField
- EmployeeCount
- EmployeeNumber
- EnvironmentSatisfaction
- Gender
- HourlyRate
- JobInvolvement
- JobLevel
- JobRole
- JobSatisfaction
- MaritalStatus
- MonthlyIncome
- MonthlyRate
- NumCompaniesWorked
- Over18
- OverTime
- PercentSalaryHike
- PerformanceRating
- RelationshipSatisfaction
- StandardHours
- StockOptionLevel
- TotalWorkingYears
- TrainingTimesLastYear
- WorkLifeBalance
- YearsAtCompany
- YearsInCurrentRole
- YearsSinceLastPromotion
- YearsWithCurrManager

<https://www.ibm.com/communities/analytics/watson-analytics-blog/hr-employee-attribution/>