

Introduction to Data Science

DS501

Case Study 4 – Group 5

Problem 1:

1. The business problem to solve:

Chosen Market: Business Consulting

One of the biggest assets for any large company is their employees. When organizations put so much effort and invest substantially in acquiring the best talents and keeping their workforce happy, it is important to keep track and keep their retention rates stable. Employees leaving frequently despite everything seemingly going well can often lead to companies wasting time and effort in the wrong areas and also lose productivity in training new hires. Therefore, there needs to be a data driven approach that can accurately determine the factors leading to employee attrition and develop a system that can help HR departments predict employee attrition in advance, and direct their involvement towards specific aspects that will increase the chances of retaining them. A model that provides this functionality will be a valuable service that could potentially be offered by a business consulting firm.

3. The idea to solve the problem:

Using the IBM HR Analytics dataset, we can perform exploratory analysis to identify the key factors that lead to employees leaving a company and also those that improve the likelihood of retaining them. Using this information and keeping track of certain metrics possibly through monthly employee surveys, we can then build a machine learning model that can automatically predict certain employees that are likely to start looking for work elsewhere or leave the company, and suggest the specific areas to focus HR involvement in to increase the chances of retaining them. An extra feature could be the detection of high value employees (not necessarily the highest paid) and the cost-benefit of retaining them.

Dataset: <https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset>