DDS Analytics – Frito Lay

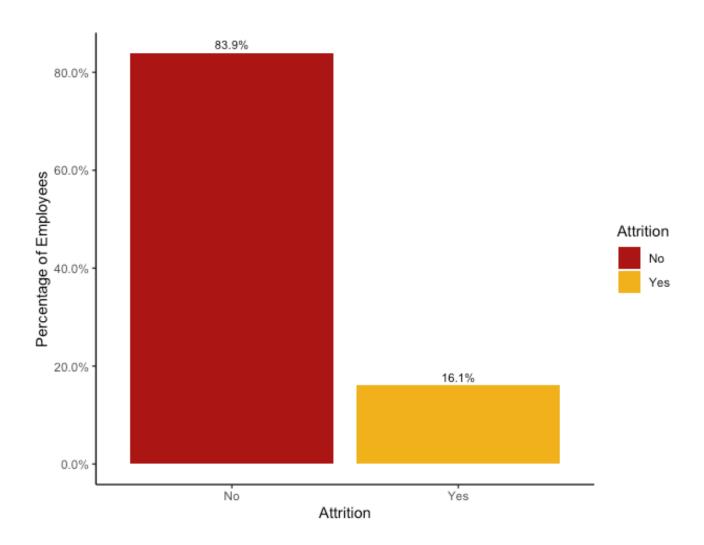
Case Study 2 Presentation
Hollie Gardner



Demographics

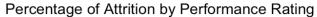


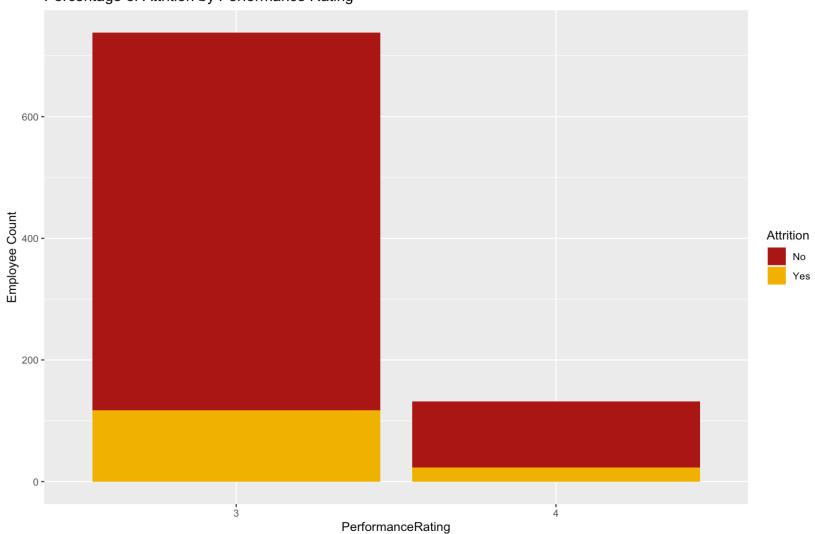
870 employees





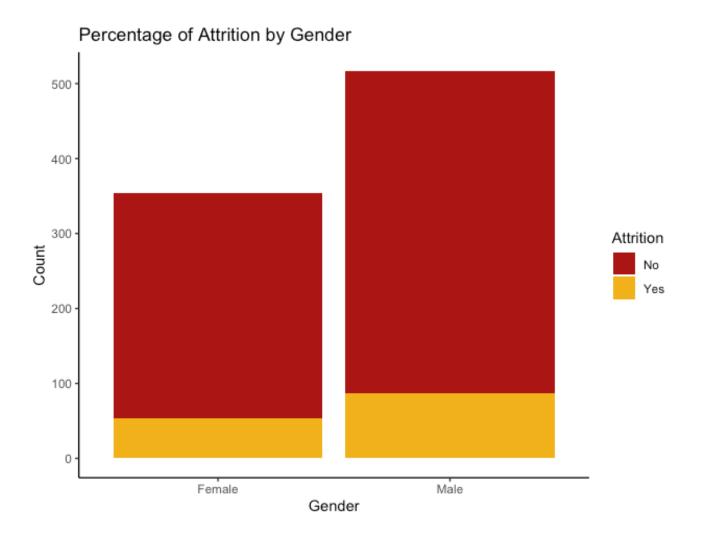
Performance





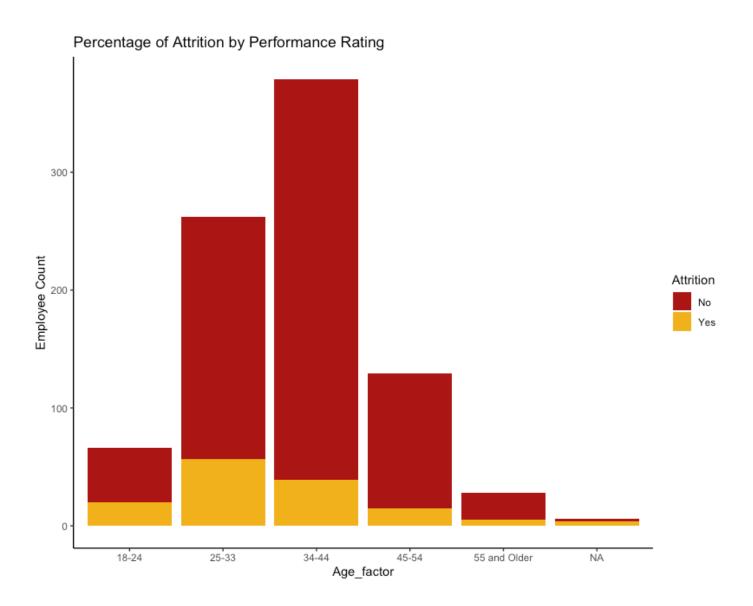


Gender





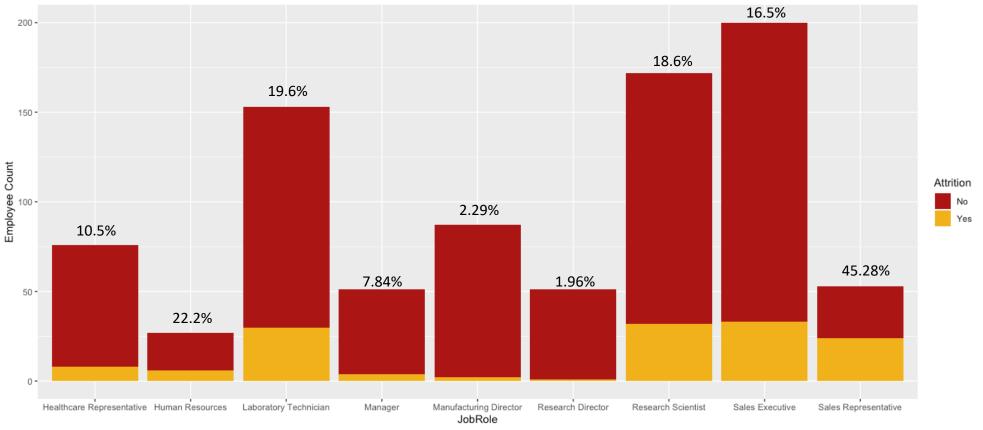
Age





Job Role





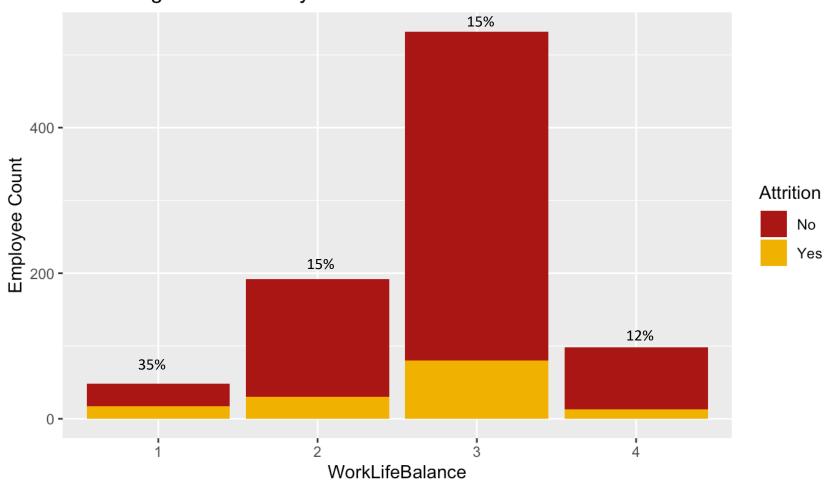


Work-Life Balance



Work Life Balance

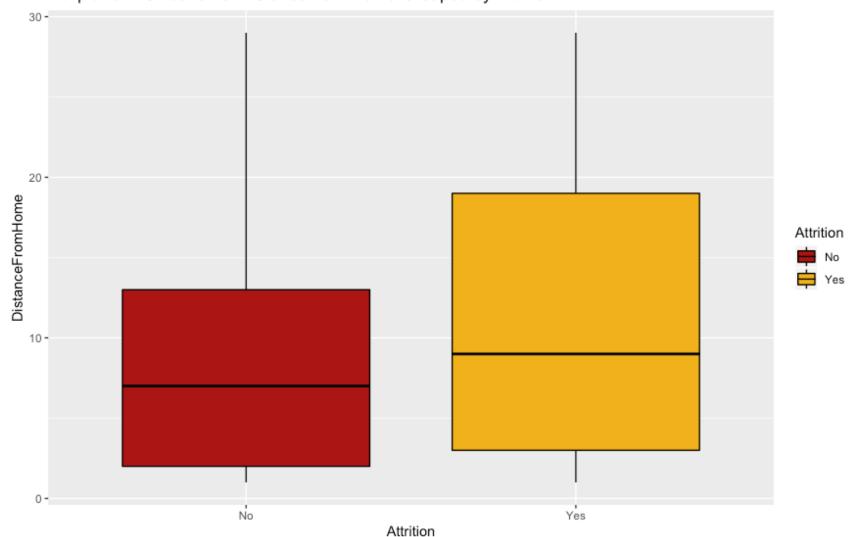
Percentage of Attrition by Work Life Balance





Distance From Home

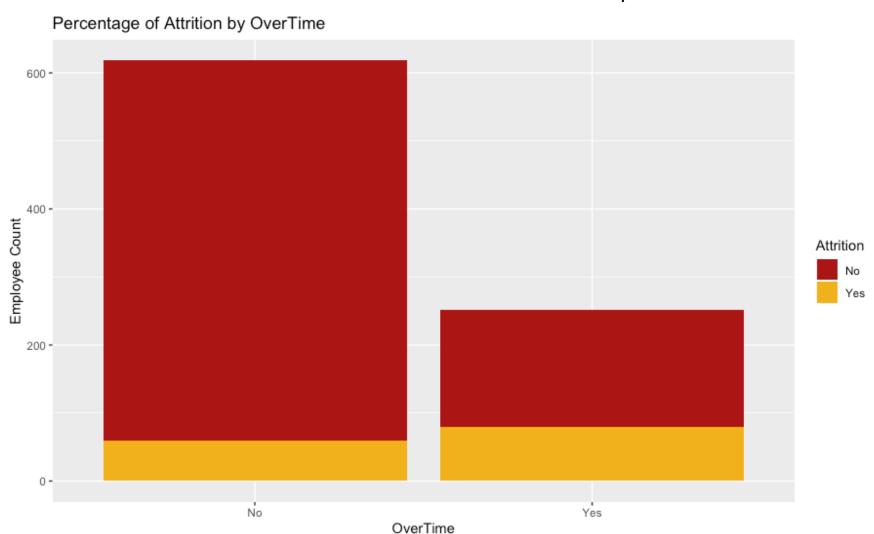
Boxplot of Distribution of Distance from Home Grouped by Attrition





Over Time

Pearson's Chi-Squared Test p-value = 2.333e-15



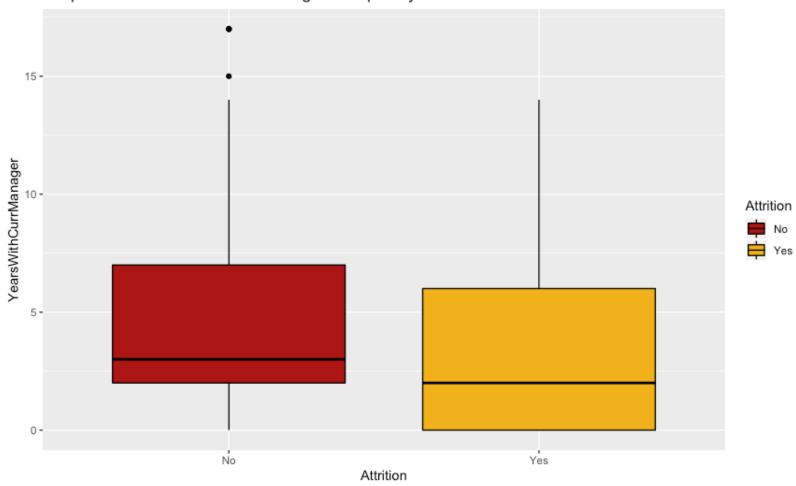


Management



Years with Manager

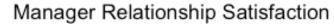
Boxplot of Years with Current Manager Grouped by Attrition

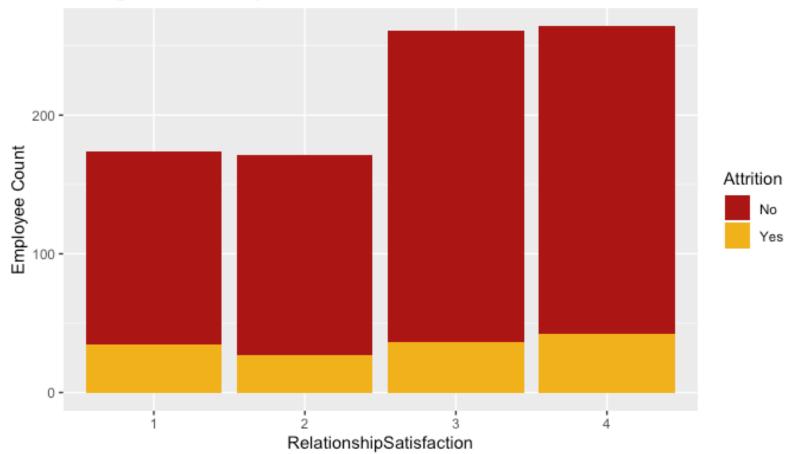




Relationship Satisfaction

Pearson's Chi-Squared Test Not significant



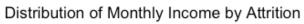


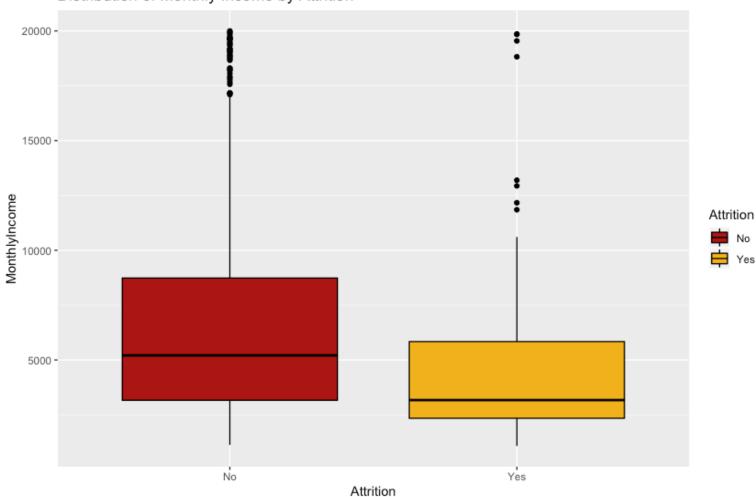


Compensation



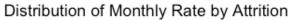
Monthly Income

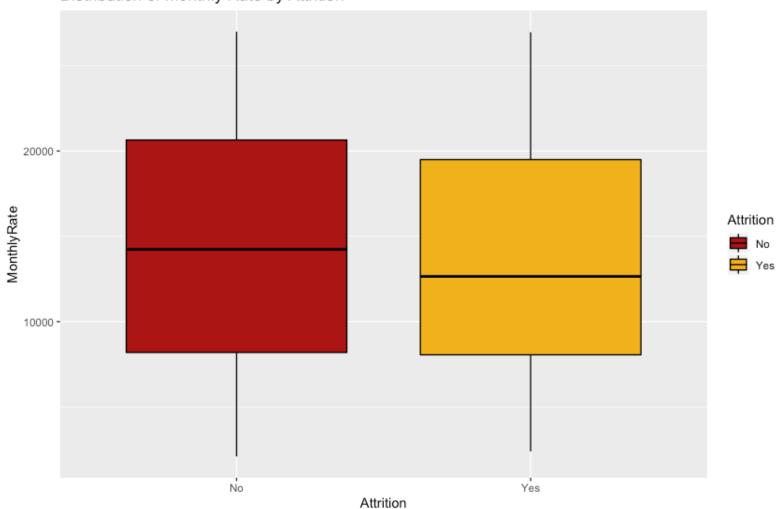






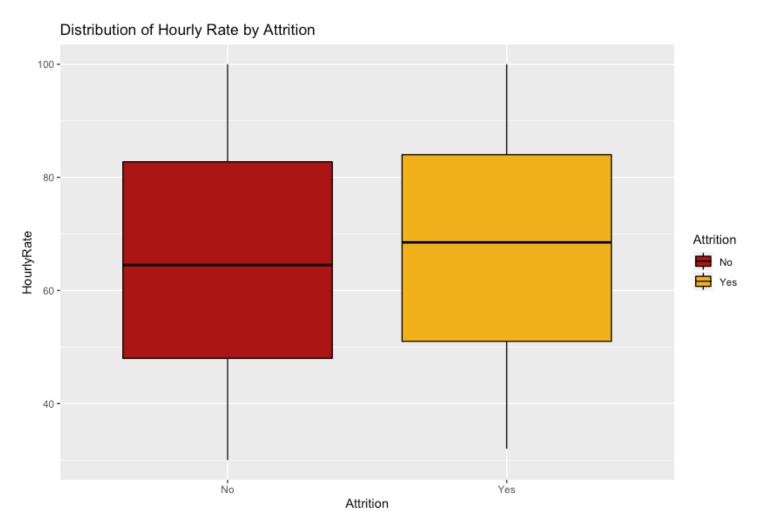
Monthly Rate







Hourly Rate

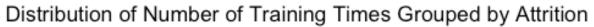


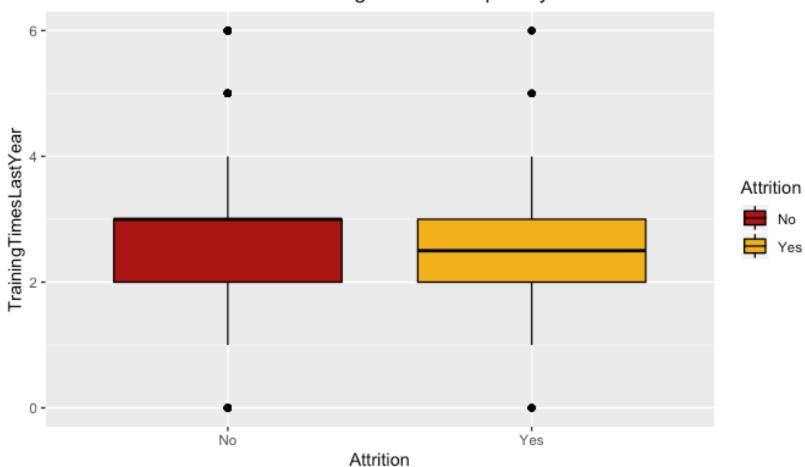


Engagement



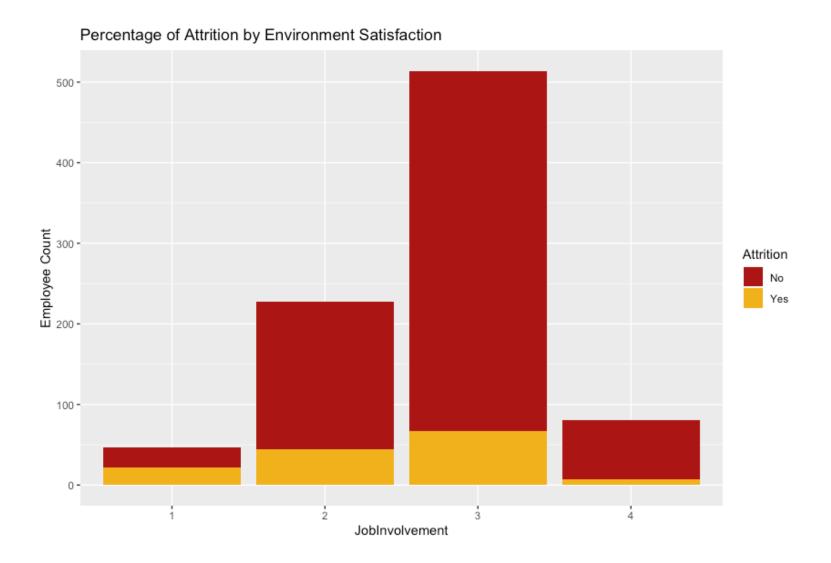
Training Sessions







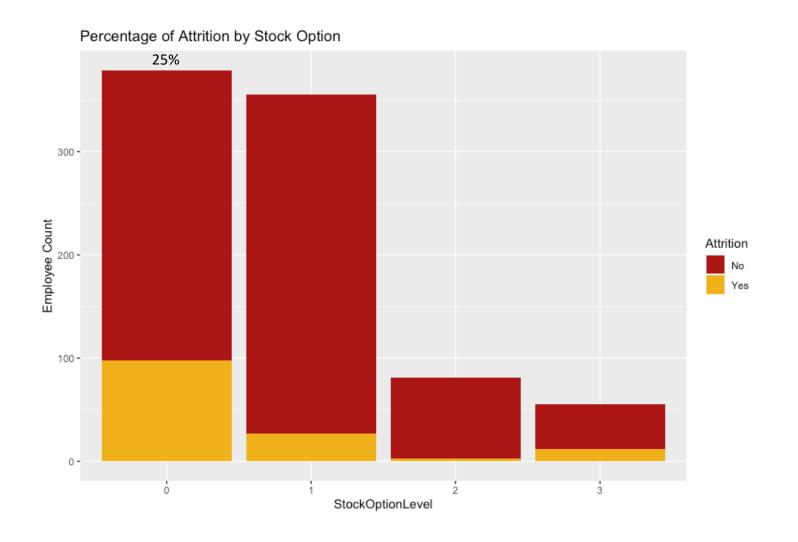
Job Involvement





Stock Option Level

Pearson's Chi-Squared Test p-value = 3.724e-12





Predicting Attrition



Naïve-Bayes

Confusion Matrix

pred No Yes

No 634 46

Yes 96 94

Accuracy: 83.68%

Confidence Interval: (0.8105, 0.8607)

Sensitivity: 0.8685

Specificity: 0.6714



Predicting Monthly Income



YearsSinceLastPromotion NumCompaniesWorked YearsWithCurrManager FrainingTimesLastYear YearsInCurrentRole DistanceFromHome **TotalWorkingYears PercentSalaryHike** Correlation Matrix YearsAtCompany MonthlyIncome **MonthlyRate** HourlyRate DailyRate Age 0.48 0.29 0.65 0.29 0.21 0.22 0.19 **DailyRate** 1 DistanceFromHome 1 HourlyRate 1 MonthlyIncome 0.48 0.49 0.36 0.32 0.33 0.78 MonthlyRate 1 NumCompaniesWorked 1 PercentSalaryHike 1 TotalWorkingYears 0.65 0.78 1 0.64 0.49 0.45 0.46 TrainingTimesLastYear 1 YearsAtCompany 0.29 0.78 0.64 0.77 0.49 0.64 YearsInCurrentRole 0.78 0.55 0.71 0.36 0.49 1 YearsSinceLastPromotion 0.64 0.55 1 0.32 0.45

0.33

0.46

0.77 0.71 0.51

YearsWithCurrManager



8.0

0.6

0.4

0.2

-0.2

-0.4

-0.6

- -0.8

Linear Regression – Monthly Income Prediction

MonthlyIncome ~

Department + JobLevel + JobRole + PerformanceRating + TotalWorkingYears

Adjusted R-squared: 0.9521

p-value: < 2.2e-16

