

# Predicting an advertisement's success

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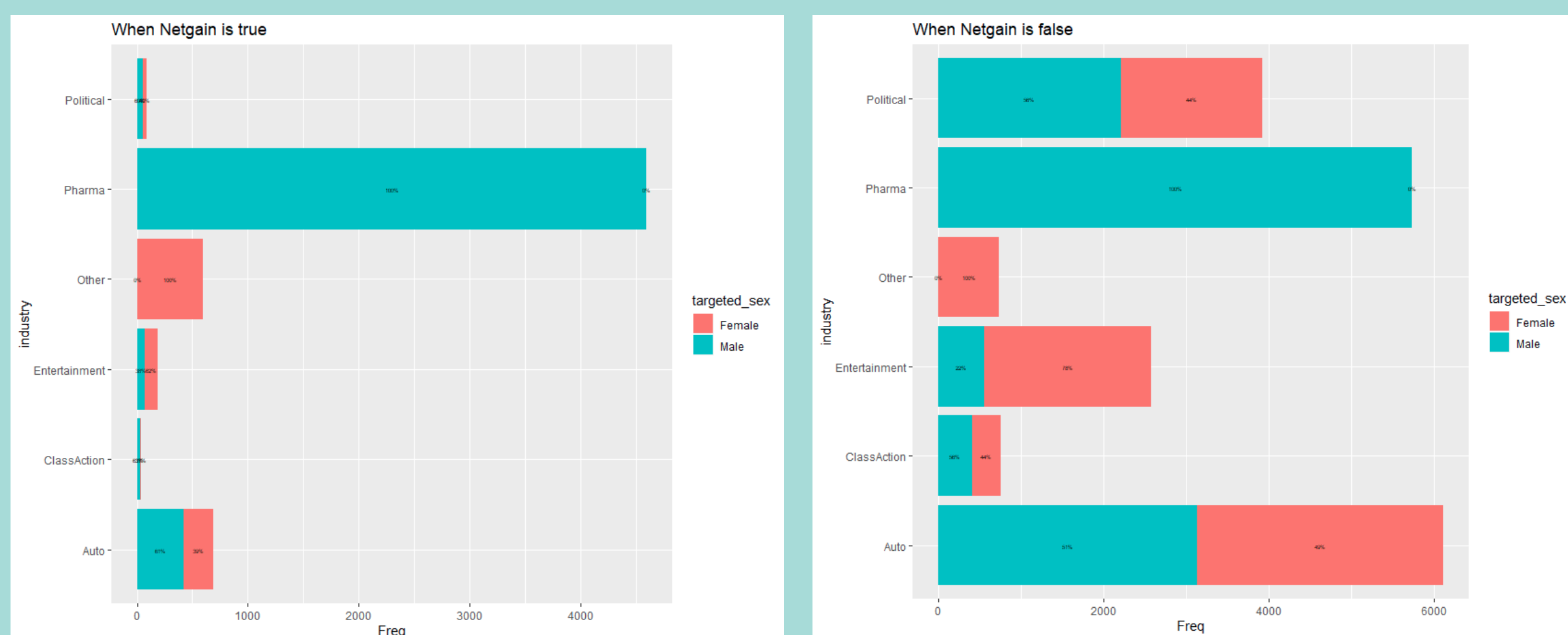
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## Abstract

Here we explore the Ad data to find various insights on how certain features affect an Ad's success., and assess the scope of revenue that can be generated by a proposed ad. Further, we predict whether the revenue generated will cover costs to produce and air the ad.

## Graphical Insights

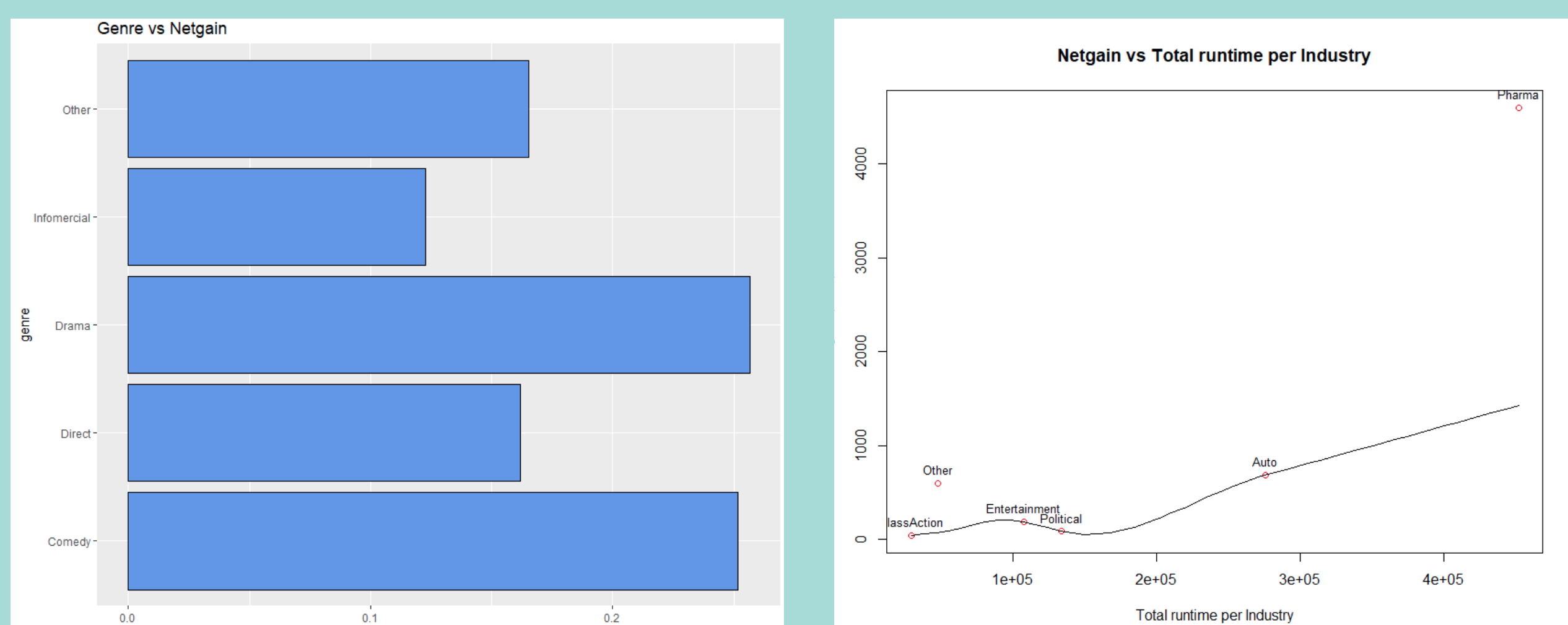
### A. Combined influence of industry and gender on netgain



On comparing both the graphs, we get the following

- More males have been targeted overall.
- Pharma industry is doing the best amongst the other industries.
- Others and Auto have done fairly okay.
- Pharma's target audience was completely male centric and Others's target audience was completely Female centric.
- Political, ClassAction and Entertainment haven't done well

### B. Influence of genre and runtime on netgain



## Model Evaluation

KNN	
Predicted	Actual
	False
False	5904
True	13
DETAILS	
Accuracy	0.924
Specificity	0.692
Precision	0.91
Recall	0.998
F1	0.952

Random Forest	
Predicted	Actual
	False
False	7577
True	375
DETAILS	
Accuracy	0.84
Specificity	0.953
Precision	0.759
Recall	0.478
F1	0.586

## Conclusion

- The industries must try various different methods to increase their demographic reach.
- The most effective ads that resulted in maximum netgain had the following findings :
  - Pharma' and 'Others' industry did the best among all the other industries.
  - Comical and dramatic ads lead to most netgain.
  - Best time to air the ad is primetime i.e., between 20:00 – 23:00 hours.
  - Married-CIV-Spouse and Married-AF-Spouse have the maximum response towards netgain.
  - Targeting males resulted in more netgain than females.
  - Airing your ad for a greater number of minutes per week will result in high netgain given the ad satisfies the above observations
- We performed hyper parameter tuning to improve the accuracy of models. And amongst all the models, KNN did the best in predicting whether an ad will result in netgain or not.

## References

- <https://www.hackerearth.com/challenges/competitive/predict-ad-success/>
- <https://towardsdatascience.com/k-nearest-neighbors/>