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Statistically Significant

Improving Job Posting Interaction Rates

This analysis is designed to help employers who use Indeed maximize traffic towards their job postings. To make our analysis relevant to college students, we narrowed the dataset to only intern and entry level positions.

Exploratory Analysis

We first looked at the relationship between clicks and applies, finding that applies is a perfect linear function of clicks. This seems very unlikely, so we recognize the applies data might not be accurate. However, it would make sense if applies and clicks are proportional, so we decided to continue with this relationship. We also only had one month in 2016 and 2018, so we decided to only look at the 2017 data. However, having more full years would make our analysis stronger.

We looked at a correlation graph of the continuous variables, and saw that few variables had a strong relationship. Clicks, applies, and candidate reviews had a positive correlation with each other, and job age days had a negative correlation with most variables. This implies that the longer a job post has been up, the less activities and clicks it will have. We wanted to further analyze this, so we split the data into four quarters and ran a F-test of clicks verse quarters, with the null hypothesis of the Betas of each quarter equal to zero. The F-statistic is 19.92 and the p-value is <2e-16. With an alpha of 0.05, there is at least one Beta that is not equal to zero and there is significant difference in the number of clicks for each quarter. This means that we have shown seasonality in our full dataset.

Statistical Testing

Understanding that the quarters are significantly different, we split the data into different industries and performed the same F-test on five industries. The first industry we looked at was Accounting/Consulting, and we found the p-value was 6.692e-13. We ran a general linear hypotheses test where we adjusted for multiple hypotheses by using the Bonferroni correction, multiplying our obtained p-values by a factor of six. Testing the Accounting/Consulting data, the fourth quarter was significantly different from the rest. This result implies that it is optimal for Accounting/Consulting companies to post jobs in the fourth quarter to get the most activity on Indeed.

Testing a total of five industries, we found that, based on the industry, certain quarters had significant difference in their mean clicks. This supports our argument of seasonality because the different mean number of clicks in certain quarters show a non-standard trend of clicks, highlighting certain industries experience highs and lows in terms of students looking for employment.

Maximize Clicks

After finding that seasonality impacts click numbers, we looked at other aspects to see if there is a way to boost those numbers more. A job will get its most clicks on the first few weeks of posting, and will then soon level out afterwards, remaining constant. A company posting a job in the season of their industry will help them capture those maximum number of clicks in the first few weeks, as well as avoid being buried by low traffic.