

Monetizing Industry-wise Trends in Employment

A comparison of trends between number of job openings and the number of successful hires on *Indeed* reveals critical information which can be leveraged to tap business opportunities. Overall job market in the United States remains almost stagnant for the year while the demand is increasing in Canada and Germany.

We also gathered insights for different industries to understand the distribution of jobs in the market requiring higher education in the United States. The job openings in Canada and Germany do not require higher education as per the given dataset.

Demand of workers (based on #Job Postings)

The number of job openings posted under each industry gives an estimate of demand for talent in a particular industry. Aggregating the process across all industries in a state and filtering on the requirement for higher education for the jobs represents the growing demand of graduates in the state. The demand for talent with higher education in retail, healthcare and government is high all over the US.

Supply (Successful job filling)

From our analysis, successful hires from *Indeed* represent the ideal supply of talent to the job opportunities from *Indeed*. We determine supply as the number of jobs that are taken down before 21 days, the average 'job age' in which job is likely to be filled satisfactorily.

Supply - Demand Equilibrium

We decided to categorize jobs that disappear from the portal in four factors - *Indeed* removing the posting after 100 days, employers resetting the age of the job, companies deleting the posting, job getting filled with a hire.

Since we have limited information in this respect, we determine the supply of jobs from *Indeed* to the outside world by distributing the jobs in three bins depending on their age in the database. The jobs with lowest age that disappear from the database are considered to be successful hires through *Indeed*. The jobs with age > 30 days are considered deleted postings.

Opportunity

After observing the demand and supply rate trends, we identified critical industries where the mismatch between demand and supply rate is highest which paves the way for a business opportunity for *Indeed*. We have two possibilities of value proposition :

1. Demand > Supply => Number of jobs in the industry is higher than the candidates applying.
2. Demand < Supply => Number of candidates applying is higher than the number of jobs available.

We performed real-time data analysis using ARIMA to predict the trends and suggest best possible hiring times for employers in the particular industry and best possible time to apply for the job seekers. The model can perform better with more data to capture any influences due to seasonalities.