

Executive Summary

Illinois has been having lower than national average population growth since 2000 and recently has been having **negative population growth** which is **worrying especially that the state is in deficit** and need the population to **generate economy** and income for the state.

Sentiment analysis is performed on recent news article related to Chicago and Illinois using Natural Language Processing to **understand some of the major concerns** and **identify opportunities** to reverse the trend.

Methodology

Sentiment Scoring

- News articles is filtered for english language and 'population' word
- Sentiment scoring is performed using Affin package
- Negative sentiments are considered if the affin score is below -10, and positive if above 10. ANything is between is considered neutral is removed from analysis

Topic Modeling

- TF-IDF and LDA is used to identify some theme in the news articles
- N-grams (7-gram) and also word frequencies are performed to analyze the positive and negative sentiments separately
- Stopwords and emojis are removed before running n-grams

Targeted Analysis

- NER Tagging is used to identify organizations and people
- A more targeted Sentiment analysis is performed for organizations and people separately
- Word clouds are build to visualized words used in articles

Population Decline in Illinois

Illinois has been having a declining population growth for the past 6 years, and 1 of 7 countries to have a negative growth rate in 2016. However, Illinois has slow growth rate than the US national average beginning in 2000¹. Some of the reasons of population migration out of the state is because

- Crime rate has been increasing including vandalism and gun violence
- High level of taxes to the resident
- High level of deficit in the state budget and mismanagement of funds
- Reduce number of job opportunities or low wage positions
- Chicago teachers on strike disrupting school year

Suggested corrective actions

- Increase number of police presence and patrol in the city
- Take immediate actions to control the city and state budget
- Provide training to the residents for better opportunities and higher salary

¹ Source: http://worldpopulationreview.com/states/illinois-population/

Why Business should stay in IL?

clean financial medical already school pepsicocome diverse second another cost around capacity economic market year really individuals companies projects this provide across like working you taxdepartment building new years city communities imthink still students organizations state bill company development he foundation solar first going well university if much program would look training community including help illinois jobs also chicago get opportunity fullenergy and health national work see two public programs one need looking need support research support research sales wanthousing quarter includes part youngday executive continue clinical youth create three skills little team good care higher they good care higher cost about they good care higher they g

Talent Pool

There are plenty of world class education institutes in Chicago such as University of Chicago, Northwestern, Loyola, UIC. This will ensure access to high skills workers

Healthcare

Chicago is a hub for healthcare in the midwest region with many pharmaceutical and health business growth opportunities

New Business

New development such as in solar energy and other programs to spur growth may help new business and existing business to find new opportunities

New Development

There is a huge growth in real estate development that will attract talents and new businesses to the city

Why Resident should stay in IL?

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south might several man never doesnt held he by want court news know need worse say large last pension support births families time nearly sincecook districts war great north chicagos workingmen united national could but power department homeless use eighthour government least may according residents among use eighthour government least may according residents among use eighthour government least may according residents among long new two american people like working long new two american people like students would go school chicago police back population housing illinois every made statein schools black percent that also day without we made teachers report crime local work another officials home see meeting first this women system get income former per much cities rate way camemen bill well put taxes data
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Housing Market

The affordable housing market in the state will give a lot of value to the Illinois residents

Public transportation

Great public transportation will increase residents mobility but also decrease traffic and reduce emission

Education

There are many access to great education in the state of Illinois from the Carter Schools to world class university education such as University of Chicago, Northwestern, University of Illinois

Government

Being the hub for the midwest there are plenty of job opportunities in the government, political, and also non-profits sector

Conclusion

Negative population growth is not sustainable for Illinois especially that the state is currently in deficit.

A healthy population growth will ensure the state economy will thrive. In addition addressing some of the residents and business concerns will make the people happier that will lead to a happier state.