

Decreasing Worker Union Attrition Rates

Maira Asmat





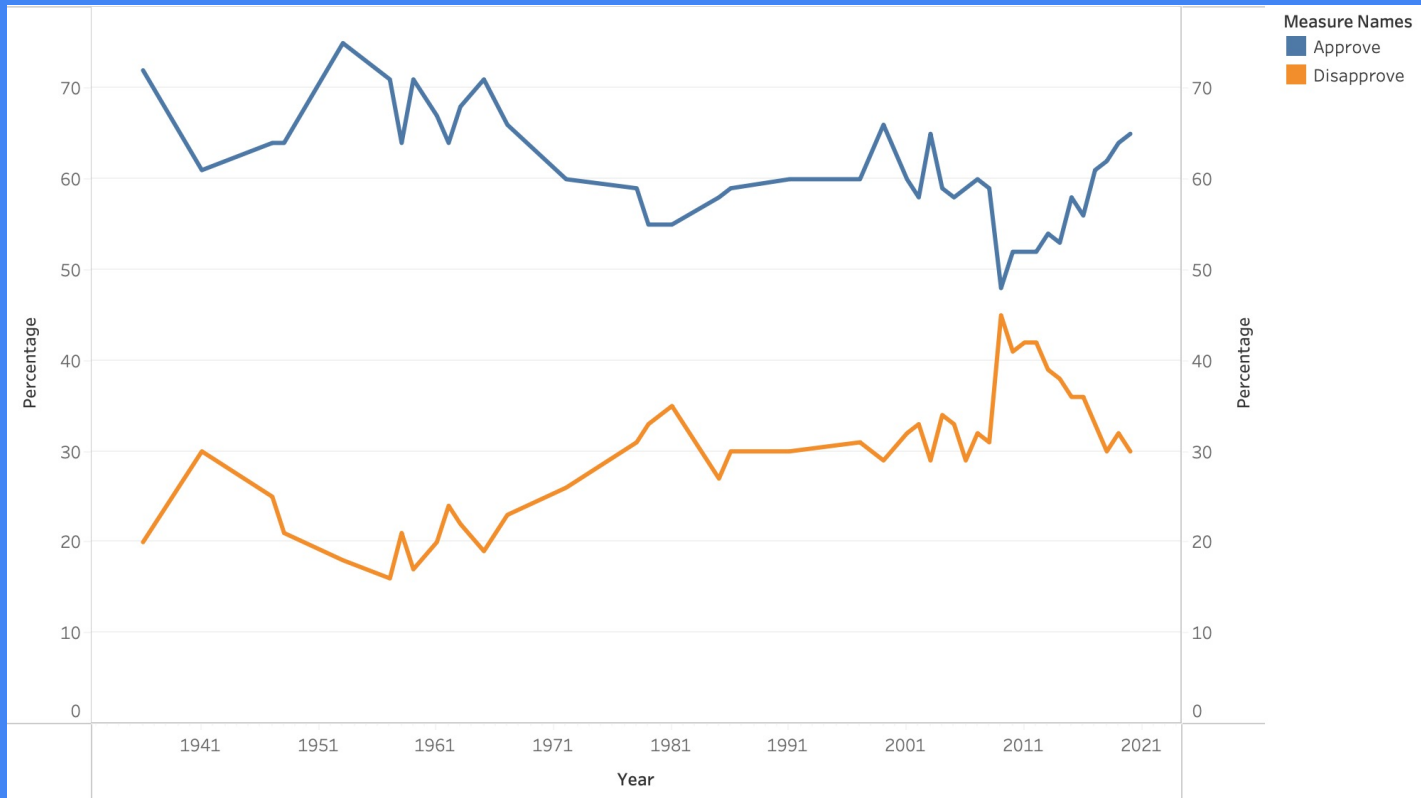
The Problem:

Majorities of adults see decline of union membership as bad for the U.S. and working people

Despite Americans rallying for more unions, membership rates continue to decline



American Sentiment Towards Unions



Source: <https://news.gallup.com/poll/12751/labor-unions.aspx>

The Solution:

- Model predicting following year's attrition rate by state
- Time-series
- Non-linear regression
- Use coefficients to determine impactful features

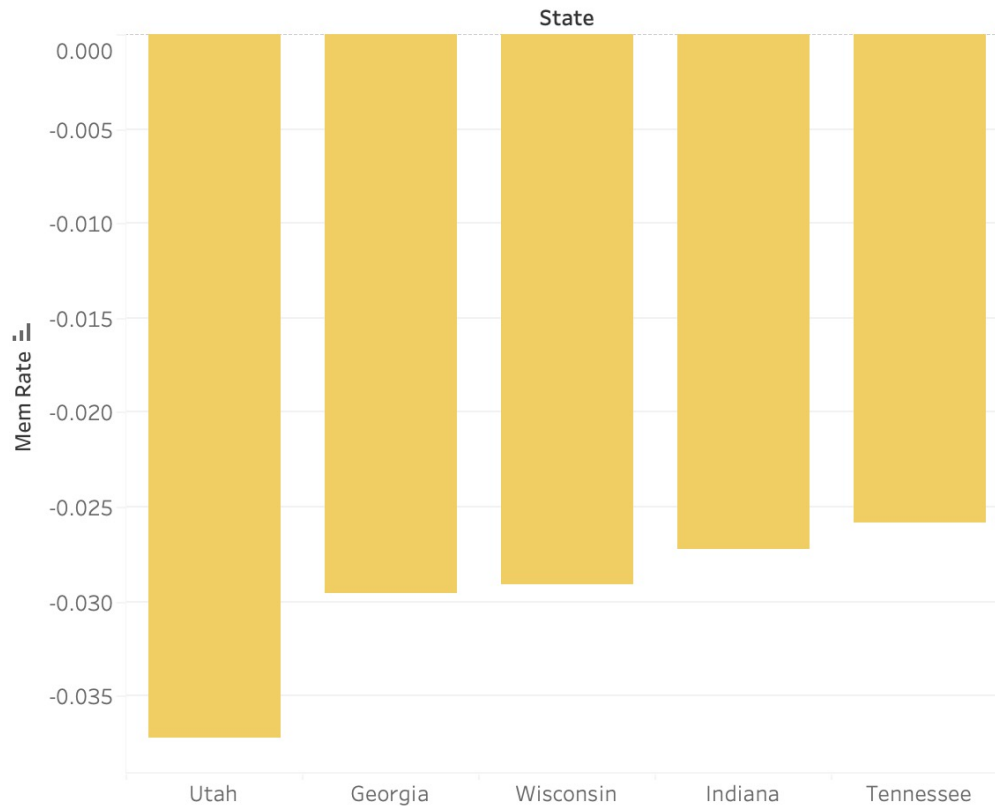


Which States to Focus On?

42	Idaho	5.1%
43	South Dakota	5.1%
44	Mississippi	5.0%
45	Tennessee	4.6%
46	Virginia	4.6%
47	Louisiana	4.5%
47	Arkansas	4.2%
49	Georgia	3.9%
50	South Carolina	3.4%
51	North Carolina	2.9%

Source: <https://money.cnn.com/interactive/news/economy/union-membership-by-state/>

Which States to Focus On?



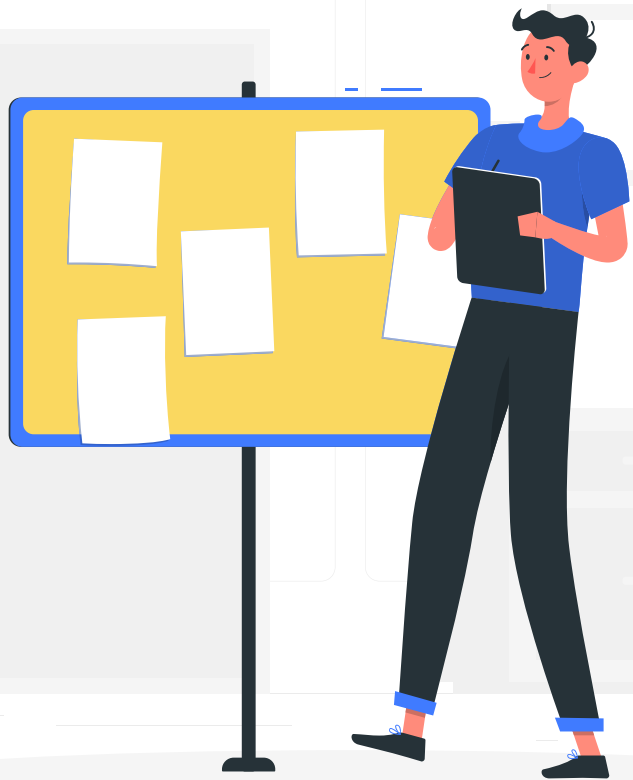
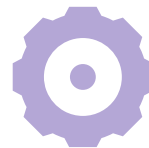


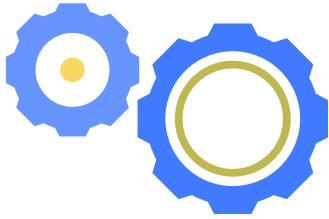
Tableau Visualization

<https://public.tableau.com/app/profile/maira.asm/at/viz/UnionStates/HoverMap>





Why This Solution?



Data Science Goal:

Predict union membership attrition




Desired Business Impact:

Stop losing union members



Impact Hypothesis:

Programs/lobbying directed towards at-risk individuals will reduce the number of employees who leave their unions



Future Recommendations

01

Create model with features such as demographics, income, legislation

02

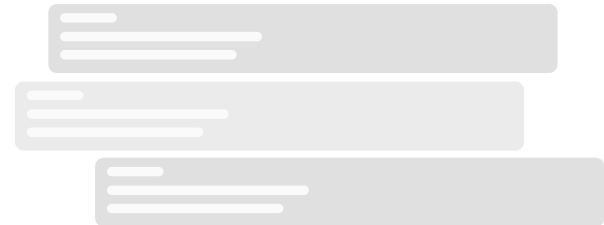
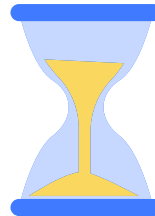
Change lobbying techniques

03

Increase funding towards programs that target immigrant workers

04

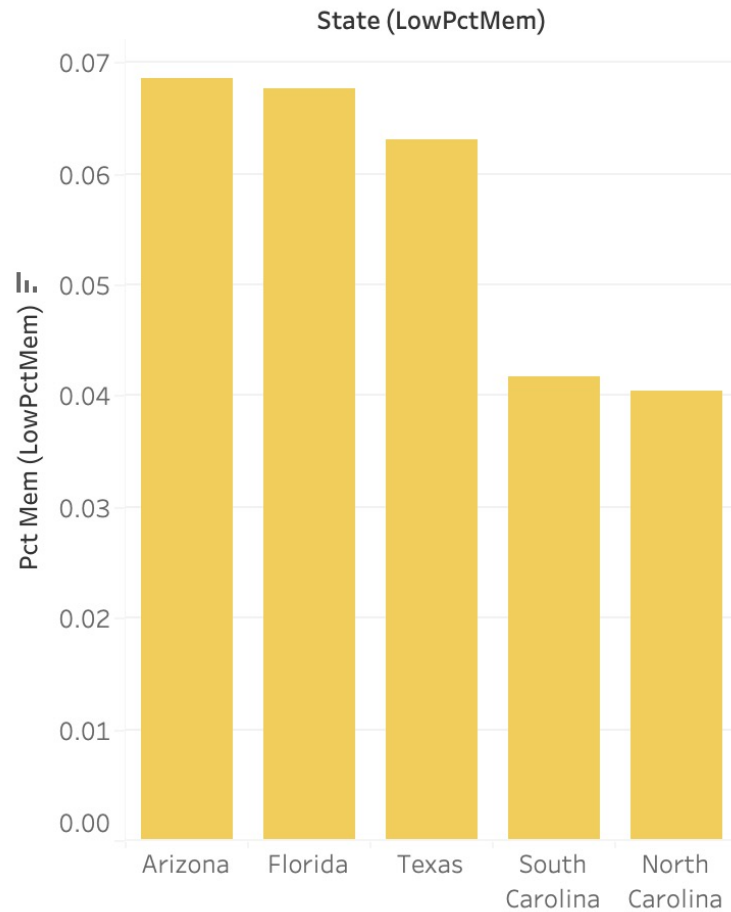
Introduce more internships or change their nature

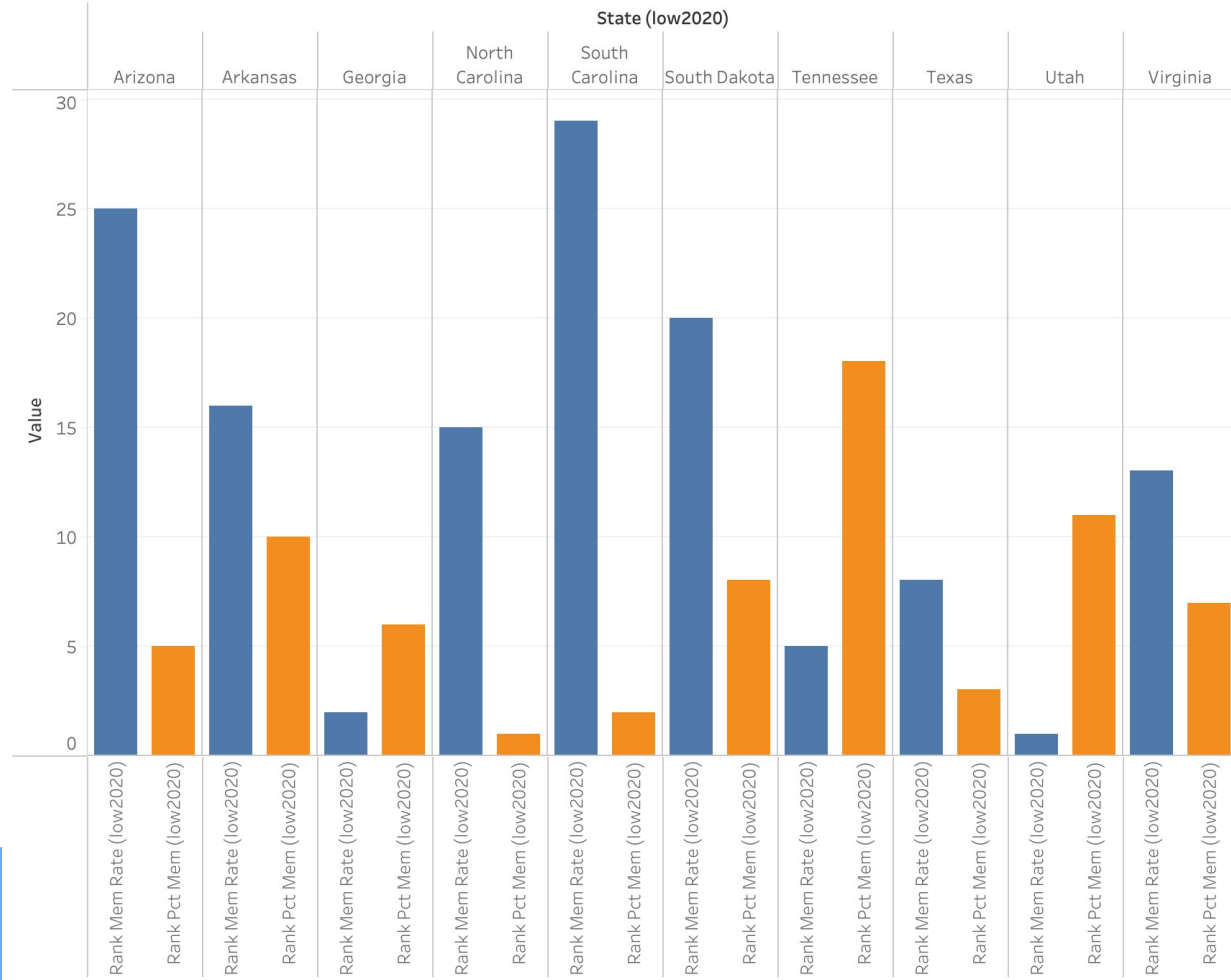


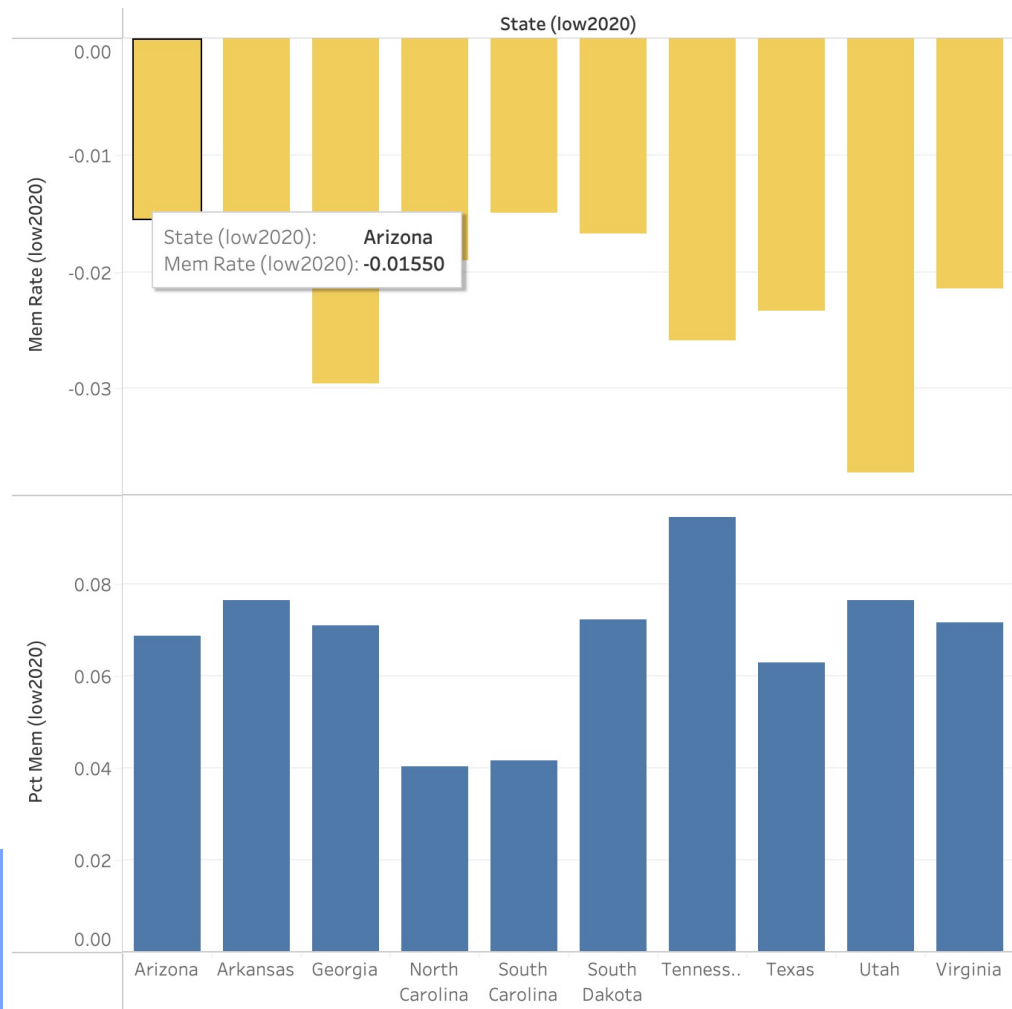


Appendix











-1.63%

Average rate of change in membership

13.57%

Average percent of employees in unions