State Investment Opportunity - Analyzing Data from College Exams

Using data to identify states with the greatest potential for returns on investment, and recommendations to improve participation rates

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Problem Statement

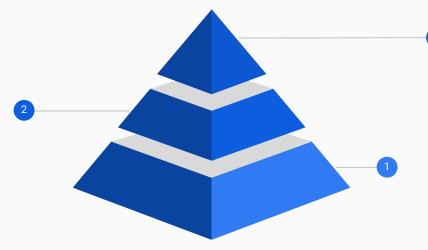
The SAT is a college entrance test, but not all states use it to the same degree.

- Which state to invest in to increase SAT participation?
- What steps can the College Board take within this state that may be effective?

Methodology

Data Mining and analysis

 Using visualization tools (scatterplots, Tableau maps eg) and statistical analysis to study correlations



Conclusion

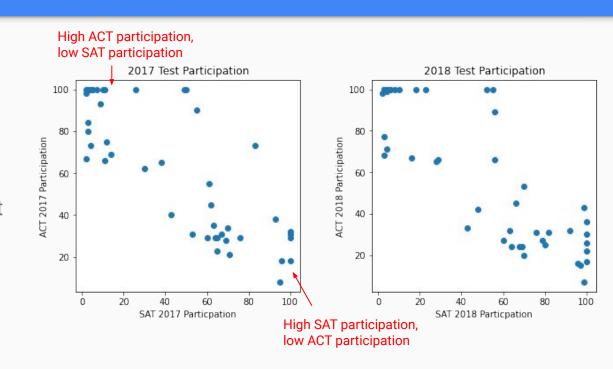
 Suggestions to attain our goal

Business understanding and analytic approach

- Goal: To boost participation rate in a specific state
- Clean and understand given data

Analysis SAT vs ACT Participation

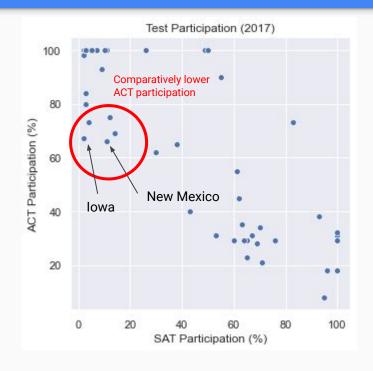
- SAT and ACT participation rates are <u>inversely</u> related.
- Trend is consistent for both years
- If a state has high ACT participation it is unlikely that SAT will be popular
- Students only take one test



Analysis States With Low ACT Participation

Out of the states that don't take SAT, which ones use the ACT least?

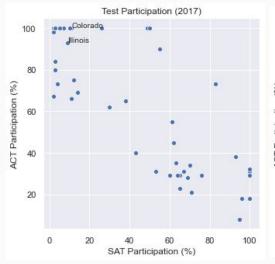
- Untapped market in red circle
 - Low SAT participation, but also (relatively) low ACT participation
 - These include: New Mexico, Kansas, lowa

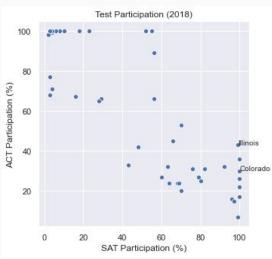


Analysis Mandatory Testing

- Making SAT/ACT mandatory decreases participation in the other test significantly
- See: Colorado and Illinois making SAT mandatory caused a huge increase in participation rate

ACT participation dropped by >50% between years





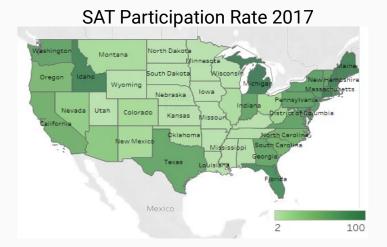
Analysis Universities Not Requiring Tests

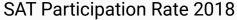
- 2. Some states have universities going test-optional, so participation rates are low for both tests.
 - One example: Maine (lowest ACT participation percentage, next highest state has double the rate)
 - Some universities in New Mexico do not require SAT or ACT*
 - New Mexico State University
 - University of New Mexico
 - If universities require the test, this leads to increased participation

Analysis Geographic Location

3: Geographic Location of SAT/ACT offices

- States with high SAT participation Northeast and Southwest of the United States.
- States with high ACT participation center of the United States.

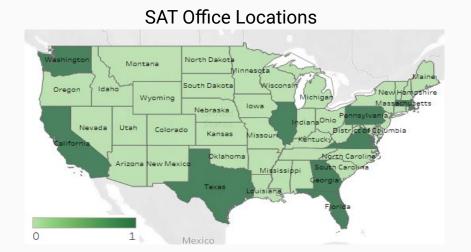






Analysis Geographic Location

Participation rate highly depends on College board team local accessibility, States with high participation located in/near Local team located States. States show high increment of participation from 2017 to 2018 also located in/near the local team located States.





Analysis Trends in the data

- Similar states also scored full 100% participation rates for both years; on the other hand, states that have the lowest participation rates also remained similar.
- This trend can be seen in both the participation rates and scores attained by each state for both tests

Conclusion Most Promising State

New Mexico

Reasons:

- 1. ACT or SAT is optional
 - Optional for public schools
- 2. Low SAT and ACT participation rates
- 3. Located near SAT's Regional Office (Texas)



Conclusion Increasing Participation in New Mexico

- Expand the team to New Mexico
- Negotiate contracts with state's educational board
- Work with universities to encourage the usage of SAT for college admissions

SAT Office Locations



Questions

And Answers