# 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**

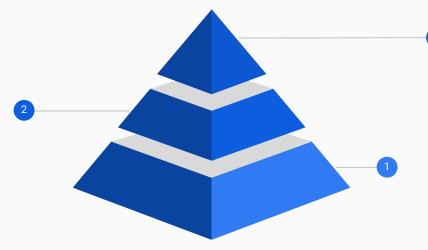
The SAT is a college entrance test, but not all states use it to the same degree.

- 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

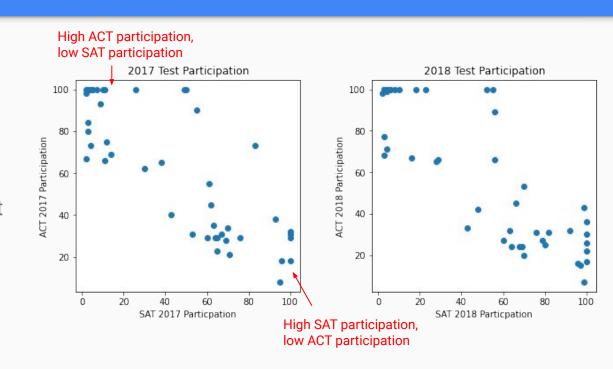
 Suggestions to attain our goal

#### Business understanding and analytic approach

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

## Analysis SAT vs ACT Participation

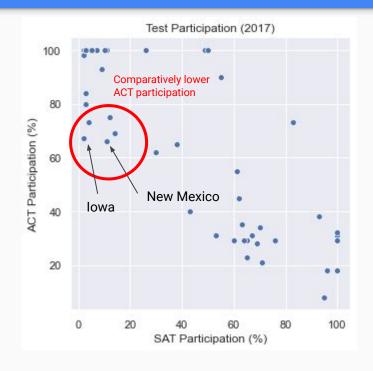
- SAT and ACT participation rates are <u>inversely</u> related.
- Trend is consistent for both years
- If a state has high ACT participation it is unlikely that SAT will be popular
- Students only take one test



## Analysis States With Low ACT Participation

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

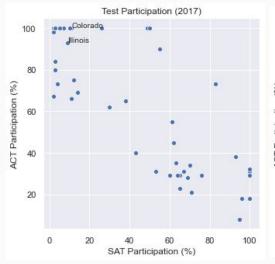
- Untapped market in red circle
  - Low SAT participation, but also (relatively) low ACT participation
  - These include: New Mexico, Kansas, lowa

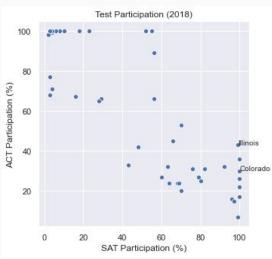


## Analysis Mandatory Testing

- 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





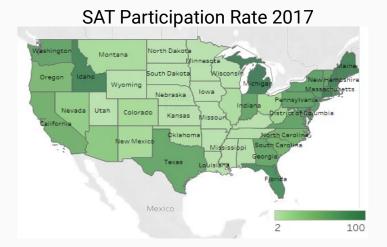
## Analysis Universities Not Requiring Tests

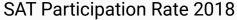
- 2. Some states have universities going test-optional, so participation rates are low for both tests.
  - One example: Maine (lowest ACT participation percentage, next highest state has double the rate)
  - Some universities in New Mexico do not require SAT or ACT\*
    - New Mexico State University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

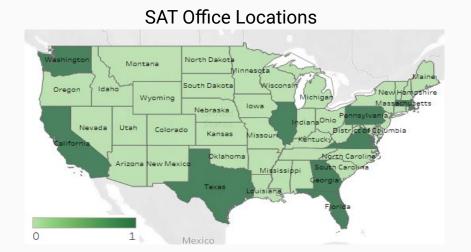






## Analysis Geographic Location

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**

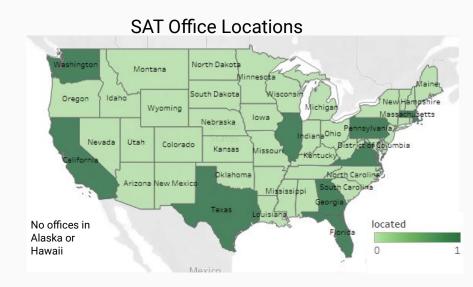
#### Reasons:

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



## Conclusion Increasing Participation in New Mexico

- Increase the team's reach and presence in New Mexico
- Negotiate contracts with state's educational board
- Work with universities to encourage the usage of SAT for college admissions



### Questions

**And Answers**