

Case Study: Touchdowns to Diplomas - How Does College Football Success Relate to Future Admissions

Anyplace University, a mid-sized institution committed to academic excellence, is at a crossroads. Faced with stagnant enrollment figures and mounting competition, the university's leadership is exploring creative avenues to reinvigorate its campus life and academic reputation. At the center of this discussion is the university's football program—a potential catalyst for change.

Coach Marcus Daniels, the current Athletic Director at Anyplace University, is a beloved figure on campus and a former college football hero renowned for his record-setting performances in his playing days. Having experienced firsthand the transformative power of athletic success, Coach Daniels is convinced that investing in a winning football program can energize the student body, attract higher-caliber applicants, and ultimately lead to improved enrollment numbers.

However, not everyone is on board with his vision. Dr. Elaine Carter, the Dean of Admissions, is skeptical of the proposal. She argues that the push for athletic investment might be more about personal nostalgia than sound strategy. According to Dr. Carter, the true drivers of enrollment are robust academic programs and proactive recruitment, not just a successful sports season. The debate has ignited a spirited discussion among the Board of Trustees, prompting the university to seek independent, data-driven insights. Elaine isn't completely opposed to the idea of pouring more money into athletics, but she also argues that we should be careful to examine possible effects for males and females, as well as different racial backgrounds.

To help Anyplace University navigate this challenging decision, they have contacted Bobby at Data Insight & Strategy Consultants (DISC) and informed him of their problem. Bobby has compiled and started cleaning some key data sets:

- a. **College Football Records** (`college_football_records.csv`): Historical win-loss data that captures the performance of the football program over multiple seasons.
- b. **College Scorecard Data** (`combined_scorecard_data.csv`): Detailed institutional data that includes enrollment figures, admissions metrics, standardized test scores, retention rates, and demographic information.

Bobby wants your team to help analyze the data. He sends you a memo based on what he has found initially looking at the data.

Memo from Bobby, Lead Data Analyst
Data Insight & Strategy Consultants (DISC)

Hey team!

I'm sorry I can't help you finish this. We need to have a presentation ready for the Board of Trustees by March 27th. While these aren't data whizzes, they are very smart and appreciate a well-justified analysis. They aren't going to make a decision without sound reasoning and a solid presentation.

The `College_Scoreboard_Data_Dictionary.xlsx` file provides comprehensive descriptions of all variables available in the College Scorecard dataset, but I wanted to point out some key variables of interest:

- **Enrollment Metrics:** Total undergraduate enrollment (UGDS), along with gender-specific counts.
- **Admissions Indicators:** Admission rates (ADM_RATE), SAT and ACT scores, which serve as proxies for the quality of the incoming class.
- **Student Success Measures:** Retention rates (RET_FT4) and 150% completion rates (C150_4).
- **Cost Variables:** Tuition fees (TUITIONFEE_IN, TUITIONFEE_OUT) and related financial measures.
- **Demographic Breakdowns:** Racial composition of enrollment (UGDS_WHITE, UGDS_BLACK, UGDS_HISP, UGDS_ASIAN).

Despite its richness, the dataset is not without issues—some variables aren't measured in every year for every institution. However, we believe that by linking last year's football success to the subsequent year's admissions outcomes, we should have enough to answer some of the board's questions. Be sure that you also address Dr. Carter's concerns about how this effect changes based on gender or race.

One more thing to consider: maybe enrollment isn't the only thing we can look at. I know of some universities with fixed maximum enrollments. We might also want to examine standardized testing scores. It's possible that after a winning season, incoming students show higher SAT/ACT scores, indicating improved applicant quality. Alternatively, an institution with fixed enrollment might have lower admission rates—suggesting more applications and increased selectivity. There are many factors to consider here. Good luck!

Data Insight & Strategy Consultants (DISC)
Bobby, Lead Data Analyst

On March 27th, you'll need to have something to show the Board. Clean and combine the data sets and make key visualizations and/or run some models to determine the effect of football success on enrollments, while also considering these other aspects. Your presentation could influence the next generation of Anytown University students!