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Applications Quest: A Case Study on Holistic Diversity in Admission

Abstract

After the 2003 U.S. Supreme Court decisions on the University of Michigan admission cases, which struck down racial preferences and quotas in Michigan's undergraduate and law school admission, several groups have challenged race-conscious admission, school placement policies and academic support programs. Even the federal government has challenged race-conscious scholarship and support programs at various institutions. Race-conscious affirmative action policies in higher education have been in existence since the early 1960s. At a time when there is significant momentum to attack these programs, solutions that adhere to the 2003 U.S. Supreme Court decisions that include race, gender and national origin are rare or essentially non-existent. One solution to this 30 year-old debate comes in the form of software that allows for holistic comparison of applications in the admission process.

This paper will focus on one particular program, Applications Quest, and discuss a recent case study using its application with real admission data. The conclusion will provide implications of software programs, like Applications Quest, on race-conscious admission, school placement and academic support policies and offer recommendations for future research.

Introduction

As a result of the 2003 U.S. Supreme Court decisions in *Gratz v. Bollinger* (2003) and *Grutter v. Bollinger* (2003), the "university campus today is the site of much backlash" (Chubin & Malcom, 2006). Recall that the *Gratz v. Bollinger* decision struck down the race based point system in undergraduate admission at Michigan and the *Grutter v. Bollinger* decision upheld the "narrowly tailored" use of race in admission. This backlash can be captured in a letter to the *Chicago Sun-Times*:

As many predicted after the 2003 U.S. Supreme Court decisions on the University of Michigan admissions cases, the ambiguities in those decisions and the absence of definitive guidance from the U.S. Departments of Education and Justice have encouraged activist groups to challenge universities on the use of race in the conduct of admissions, financial aid, and academic support programs. Some colleges and universities have capitulated in the face of threats of legal action and intimidation. Many have voluntarily scrapped programs designed to serve underrepresented minority students for fear that they would become targets. Worse still, the federal government is complicit in this activity by challenging minority focused scholarship and support programs at several institutions and threatening to withhold federal funding for research and education.... It is disappointing that many universities have not stood their ground and, instead, have succumbed to risk-averse legal advice that suggests that it is better to switch than to fight. (Slaughter, 2006)

An anti-affirmative action organization has estimated that more than 100 colleges “have voluntarily abandoned race restrictions [as a criterion], and only a handful have refused to do so” (Schmidt, 2006) in undergraduate admission. Several race-specific programs have fallen to this same backlash (Schmidt, 2004). On a state-by-state basis, various organizations have vowed to attack race-conscious policies. As a result, California has passed Proposition 209 (Myers, 2005) and Michigan recently passed Proposal 2 (Michigan Proposal 2, 2006). Both prohibit preferential treatment on the basis of race, gender or ethnicity. Research has shown that there are educational benefits to diversity (Chang, et. al. 1999; Maruyama & Moreno, 2000; Gurin et. al. 2002; Marin, 2000; Moses & Chang, 2006). President George W. Bush also supports diversity but acknowledges the challenges universities are facing:

I strongly support diversity of all kinds, including racial diversity in higher education. But the method used by the University of Michigan to achieve this important goal is fundamentally flawed. America is a diverse country, racially, economically, and ethnically. And our institutions of higher education should reflect our diversity. A college education should teach respect and understanding and goodwill. And these values are strengthened when students live and learn with people from many backgrounds. Yet quota systems that use race to include or exclude people from higher education and the opportunities it offers are divisive, unfair and impossible to square with the Constitution. (President Bush discusses affirmative action case, 2003)

Based on these findings, why is there still a debate on this issue? Why didn't the 2003 Supreme Court decisions put an end to this debate? In 2003, the U.S. Supreme Court struck down racial quotas to achieve diversity and left the decision to diversify up to institutions (Malcom et. al. 2004). These decisions also left the door open for more debate on how to achieve diversity.

The U.S. Supreme Court recently heard two cases on race-conscious school placement policies (Parents Involved in Community Schools v. Seattle School District No. 551, 2007; Meredith v. Jefferson County Board of Education, 2006). A Seattle (WA) parents group and a Kentucky parent challenged the use of race in school placements within their communities. In the Seattle case, the court considered whether Seattle's so-called integration tiebreaker system, which had been discontinued, was tailored to meet a “compelling interest” by the school. In Kentucky, Crystal Meredith, a mother of a Louisville (KY) child, claimed her son was denied entrance into

the neighborhood school because he is white. In June 2007, the Supreme Court struck down both school systems' policies that used racial classifications to determine which schools students could attend. In these hearings, Justice Antonin Scalia asked, “Is there anything unconstitutional about designing a mingling of the races and having policies to achieve a racial mix?” (Asquith, 2006) Furthermore, Justice Ruth Bader Ginsburg said, “It's hard for me to see how you have a racial objective but a nonracial means to get there.

How would you get there without quotas?” (Asquith, 2006) The answer to this question is *Applications Quest* and other holistic review software programs.

If a holistic review is implemented such that it doesn't give preferential treatment to race, gender or national origin then this process should be reproducible and measurable. A reproducible holistic review process will yield the same results when given the same applications. This does not occur in manual holistic review processes.

The Applications Quest Model

After the 2003 U.S. Supreme Court decisions on the University of Michigan admission cases, Applications Quest was created (Gilbert, 2006). Applications Quest can best be described as a data mining and analysis software tool that facilitates holistic review in admission, school placement and academic support programs. The underlying concept behind Applications Quest is holistic comparisons of applications. In the 2003 U.S. Supreme Court decisions (*Gratz v. Bollinger*, 2003; *Grutter v. Bollinger*, 2003), it was clear that the only permissible use of race in admission was a holistic approach where race was one of many attributes and race did not receive preferential treatment. This is also the case in Proposition 209 in California (Myers, 2005) and the more recent Proposal 2 in Michigan. In fact, Proposal 2 specifically bans “programs that give preferential treatment to groups or individuals based on their race, gender, color, ethnicity or national origin for public employment, education or contracting purposes.” (Michigan Proposal 2, 2006) The keyword is “preferential” treatment. If an admission process were per-

forming a true holistic evaluation, then, according to all the aforementioned cases, race, gender or national origin could be used. The problem that exists today is that no one has devised a truly holistic evaluation system that does not give preferential treatment to race, gender, national origin, etc., such that it can be proved that no preference was given. The University of Michigan implemented a holistic review process, but its process is more subjective than holistic (University of Michigan, 2006). Essentially, its manual, holistic review will suffer from critical flaws that prohibit it from being truly holistic and fair because these approaches are more subjective, not reproducible or measurable.

Reproducible and Measurable

If a holistic review is implemented such that it doesn't give preferential treatment to race, gender or national origin then this process should be reproducible and measurable. A reproducible holistic review process will yield the same results when given the same applications. This does not occur in manual holistic review processes. For example, select an admission team at any university that uses manual holistic review. Give them 100 applications to review and ask them to recommend 25 for admission using their holistic review process. Wait one year and then repeat this exercise with the same 100 applications. There is no guarantee that the admission team will produce the exact same results given the same applicant pool; therefore, their process is not reproducible. Furthermore, a holistic review process should be measurable. When one application is recommended over another application, can that decision be measured in such a way that race, gender, national origin are not given preferential treatment? If this is not the case, then your holistic review process is not measurable. At best, manual holistic reviews are subjective; therefore, they are not reproducible or measurable. As a result, these subjective reviews can be criticized for being preferential on the basis that the admission team can not prove that they are not. Software like Applications Quest provides a reproducible and measurable approach to holistic review.

Measuring Differences

In Applications Quest, holistic review is accomplished by measuring the difference, or similarity, between applications. Imagine if two applications could be compared in such a manner that their relative difference, or similarity, could be quantified on a 100 point percentage scale. Using this notion, two identical applications would be 0 percent different and 100 percent similar. All other application comparisons would fall between 0 percent and 100 percent on this relative scale.

If this measure could be obtained, then one could compare every application to every other application, which would result in a difference matrix (see Table 1).

Table 1. Sample Difference Matrix

Application ID1	Application ID2	Difference
0	1	30%
0	2	50%
1	2	70%

The difference matrix contains application pairs and their measured difference. Using this difference matrix it is easy to imagine that some applications would be more similar than others. If the difference matrix were mapped onto paper where each application was represented by a point, there would be clusters of applications (or points), such that the applications within a specific cluster are more similar than those outside of the cluster. Essentially, these clusters represent holistic, diverse applicant pools and can facilitate holistic review. By selecting applications from each cluster, holistic diversity can be optimized. In an effort to evaluate the effectiveness of the Applications Quest model, a case study was done.

The Case Study

In a small controlled case study, admission applications for a psychology graduate program at a research extensive university were processed in Applications Quest. This psychology program received 236 applications in 2004 for 17 admission slots. Electronic copies of the 236 applications were provided for this study. Seventeen of the 236 applications were marked as "Accept". The others were rejected. The application attributes were ID, application type (US or Foreign), citizenship, gender, race, degree (doctoral or master), institution of first degree (undergraduate), major at first institution, grade point average at the first institution, second institution, major at second institution, grade point average at the second institution, third institution, major at third institution, grade point average at the third institution, GRE verbal, GRE quantitative, TOEFL score, permanent city of residence, permanent state, permanent zip code and graduate school action (R-reject, A-accept).

Step 1: Difference Index

The first level of analysis called the difference index was executed on the 17 applications that were accepted by the graduate committee. Applications Quest computes a difference index for applications based on their overall difference. For example, the difference matrix in Table 1 contains a dif-

ference value for each pair of applications. The average of all the difference values for all the applications is the difference index. The difference index is a measure of the overall holistic diversity for a group of applications. The difference index for the 17 applications accepted by the graduate program committee was 44 percent. In other words the applications accepted by the graduate program committee were on average 44 percent different or 56 percent similar, holistically speaking. Table 2 has some statistical data for the 17 accepted applicants.

Table 2. Average Scores for Accepted Applicants from Psychology Graduate Program Case Study

	Average	Highest	Lowest
GRE Quantitative	575	710	380
GRE Verbal	492	630	300
INST1 GPA	3.36	4.0	0.00

This group consisted of 11 females and six males, 10 doctoral applicants and seven masters, 11 U.S. citizens and six not specified. Along the race attribute there was one Hispanic, three Asian, 11 white and two not specified. The next step in the study, involved purging applications that did not meet the department's minimum requirements.

Step 2: Qualified Applicant Pool

There are exceptions in every admission group, i.e. those that are accepted below the minimum GRE and GPA requirements. In order to accommodate for this effect, all of the applicants that met or exceeded the lowest GPA and/or GRE score of the lowest accepted applicant were kept in the applicant pool. All those that did not meet this requirement were deleted from the pool. Those applicants that met this minimum requirement are referred to as the qualified applicant pool. The qualified applicant pool contains all the applicants that could be accepted based on the minimum qualifications of those that were actually accepted. Next, the qualified applicant pool was processed in Applications Quest.

The qualified applicant pool contained 207 applications. The difference index for the qualified applicant pool was 41 percent, compared to 44 percent for the accepted applicants. The average scores for the qualified applicant pool can be found in Table 3.

The qualified applicant pool consisted of 156 females and 51 males, 193 doctoral applicants and 14 master's, 135 U.S. citizens, 8 foreign and 64 not specified. Along the race attribute there were three Native Americans, eight Hispanic, 10 Asian, 18 black, 152 white and 16 not specified. In

the final step of this case study, the 207 applications were processed in Applications Quest and 17 applicants from the qualified applicant pool were recommended.

Table 3. Average Scores for Qualified Applicant Pool From Psychology Program Case Study

	Average	Highest	Lowest
GRE Quantitative	582	780	260
GRE Verbal	503	780	300
INST1 GPA	3.08	4.00	0.00

Step 3: Recommended Applicants

The recommended and accepted applicants did not share any common applications, therefore none of the recommended applicants were the same as the accepted applicants. The difference index for the recommended applicant pool was 56 percent versus 41 percent and 44 percent for the qualified applicant pool and the accepted applicants, respectively. As such, the recommended applicants were holistically 12 percent more diverse than the accepted applicants. Table 4 contains the average scores for the recommended applicants. Notice that the average GRE scores for the accepted applicants (see Table 2) is very similar to those for the recommended applicants. The recommended applicants consisted of 12 females and five males versus 11 and six, respectively, for the accepted applicants. There were 14 doctoral applicants and three master's among the recommended applicants versus 10 and seven, respectively for the accepted applicants. The program recommended seven U.S. citizens, four foreign and six not specified versus 11 U.S. citizens and six not specified for the accepted applicants. With respect to race, there was one Hispanic, four Asian, four black, six white and two not specified versus one Hispanic, three Asian, 11 white and two not specified for the accepted applicants.

Table 4. Average Scores for Recommended Applicants From Psychology Program Case Study

	Average	Highest	Lowest
GRE Quantitative	580	740	360
GRE Verbal	455	630	300
INST1 GPA	2.72	4.00	0.00

Summary

"The U.S. Supreme Court ruling on *Brown v. Board of Education* (1954) monumentally changed forever educational opportunities available to minority students. The Court unani-

mously voted segregated educational facilities were unequal and therefore, violated the equal protection clause of the 14th Amendment of the Constitution. The Court mandated desegregation of all public schools in the country. It overturned the previous decision in *Plessy v. Ferguson* (1896) which permitted ‘separate but equal’ public facilities for minorities” (Garrison-Wade & Lewis, 2006) Now in the 21st century, these policies are under attack. Recent court decisions have reached the conclusion that diversity is a worthwhile cause; as long as race, gender, national origin, etc. are not given preferential treatment (Gratz v. Bollinger, 2003; Grutter v. Bollinger, 2003). Current court cases are still being debated regarding race-conscious policies in school placement. People, including the U.S. Supreme Court justices, are looking for solutions in this ongoing debate. We are still left with this question: How can one diversify without giving preference to race, gender, national origin, and/or any other attribute?

The findings from a case study using Applications Quest suggest there are solutions using holistic review software. Admission data for a graduate program were processed in Applications Quest. The study revealed that Applications Quest produced holistically more diverse recommended applicants versus the graduate program committee’s accepted applicants with the same academic credentials. Specifically, the recommended applicants were holistically 12 percent more diverse than the accepted applicants. The recommended applicants were selected from a qualified applicant pool such that each applicant was equally qualified as the other applicants. The program grouped admission applications from a qualified applicant pool such that the groups represented holistic, diverse applicant pools where race, gender and national origin were one of many attributes used; no single attribute was the sole determinant of the recommendation. All application attributes were given equal consideration allowing consideration of race, gender, national origin, etc., without violating any of the aforementioned court decisions.

Furthermore, the results produced are reproducible and measurable and can be integrated into any existing admission process. This type of program can empower admission officers during the decision making towards a legal, fair and equitable admission process. The impact of this tool has not been observed, as of yet. However, it is clear that this program and others like it could be a “silver bullet” in this debate, such that future arguments for or against race-conscious admission, school placement policies, and academic programs will be neutralized based on the current status of legal decisions.

Recommendations for Selective Graduate, Professional and Undergraduate Admission

Use a holistic admission program in a three phase admission process as follows:

1. Identify your diversity attributes (e.g., race, ethnicity, gender, political affiliation, religion, etc.) and require all applicants to submit diversity information.
2. Identify applicants that are “Automatic Admits” and accept them.
3. Identify the “Qualified Applicants” (those that meet your minimum requirements) and process them in software like Applications Quest to fill the remaining acceptance slots.
4. Reject all other applicants.

Recommendations for K-12 School Placements

Use a holistic admission program as a diversity placement tool if the number of students preferring a specific school exceeds the number of seats available at the school as follows:

1. Identify your diversity attributes (e.g., race, ethnicity, gender, political affiliation, religion, etc.) and require all families to submit diversity information.
2. Collect the top 3-5 school preferences for each child in addition to the diversity attributes.
3. Pre-group the students by school preference. In other words, all students who select School A as the first, second, third, etc. choice and process them in the software by school preference.

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