AIR ASSOCIATION FOR INSTITUTIONAL RESEARCH
Data and Decisions for Higher Education

Dear Steve,

Thank you for submitting your proposal. A printable summary is below. Your confirmation number is 11663. A confirmation email will be sent to you within 24 hours.

Applicants will be notified of the status of the proposed project on February 2, 2016.

If you have questions or need assistance regarding your application please contact the AIR Grant staff at 850-385-4155 x109 or grants@airweb.org.

SUMMARY

Personal Information

Name	Dr. Stephen L. DesJardins
Informal Name	Steve
Affiliation	University of Michigan-Ann Arbor
Unit/Department	CSHPE
Title	Professor
Year began this position	2002
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Demographics

Highest degree	
Discipline of highest degree	
Position description	
Staff members in IR office	
Campus type	
Years of experience in IR	
IR Roles	
Year of birth	
Race/Ethnicity	
Gender	

Grant Type

I am applying for a:

Research Grant

Financial Representative

Name

Craig Reynolds

Affiliation

University of Michigan

Department

Office of Research and Sponsored Projects

Title

Director of Research and Sponsored Projects

Address

Wolverine Tower First Floor, Room 1050

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City

Ann Arbor

State or Province

Michigan

Zip or Postal Code

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Country

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Additional Contacts

Project Description

Project title:

Predicting Law School Admissions and Enrollment

Statement of the research problem and national importance (limit 750 words):

- What is the research problem this proposal intends to address?
- How does this topic relate to the research priorities areas of access, affordability, and value of legal or graduate/professional education?
- Why is this topic of national importance?
- Why is it timely to conduct this research at this time?

Enrollment in law schools has been decreasing for the last few years (Hansen, 2015). While some stakeholders believe that enrollment have leveled off and could possibly increase in the coming years, new strategies need to be considered so law school administrators can increase the number of students who enroll each year. Therefore, this research project intends to address how law schools can use data systematically to admit students into their programs and then predict which students will actually enroll at the institution. Specifically, this research project aims to answer the following three questions:

1. How can law schools use student-level data to predict admission of students who apply?
2. How can law schools use student-level data and financial aid award data to predict the enrollment of students who were admitted to the institution?
3. How can law schools use data to effectively and efficiently distribute scholarships and financial aid to increase enrollments?

These are important and timely problems to address for law schools because enrollments in law schools have been declining in recent years. Given that law schools, including top law schools in the country, are currently failing to meet class targets, empirical models need to be developed to help admissions officers and administrators admit qualified students and efficiently use their resources (e.g., scholarships) to craft a high quality and diverse class. In addition to developing models that predict admissions, it is even more important that models that predict enrollment are created so admissions officers can have a better understanding of which students will be likely to enroll if they are admitted into the institution.

This research project will combine institutional data from the University of Michigan with advanced statistical methods to help law school stakeholders better understand the relationships between student factors and their probabilities of admission and enrollment. Admissions officers at the study institution have expressed an interest in using data-driven decision making in order to help them make their admission and enrollment processes more efficient and effective. They believe they will be more effective if they have a better understanding of the mechanisms underlying the admissions and enrollment processes. Efficiency will be enhanced by employing statistical modeling that will help them to better understand the sensitivity of their students to the provision of aid, thereby allowing them to target these scarce resources more effectively. Such methods have been used for many years to craft undergraduate classes, but have not been widely used in law schools. For example, using advanced predictive modeling and administrative data will allow us to examine the relationship between different types and amounts of scholarships on student enrollment. Once these models are estimated, we plan to build an Excel-based tool that would allow admissions and aid officers to conduct "what-if" scenarios in order to understand how adjustments to financial aid influence student probabilities of enrollment. As a result, practitioners will be able to effectively and efficiently use limited scholarship money to incentivize students who may not otherwise enroll in law school, thereby, increasing both access and affordability of legal education.

Additionally, the application of inferential techniques and simulation tools will introduce data-driven decision-making into law school admissions, which will dramatically shift the culture. By using data to predict enrollment, admissions officers will be able to use information from previous cohorts to more accurately predict which students will enroll instead of anecdotal evidence. By constructing these models, stakeholders will see the power of data analytics and how it can help improve their admission processes.

In conclusion, this topic is of national importance because law school enrollments have been declining across the country and specifically at the study institution. By applying enrollment management methods used successfully to craft undergraduate classes, we believe we can assist our law school colleagues in crafting a class that will be of high quality, sufficient size, and diverse on a number of important dimensions.

Review the literature and establish a theoretical grounding for the research (limit 1000 words):

- What has prior research found about this problem?
- What is the theoretical/conceptual grounding for this research?

In recent years, law schools have been concerned with a steep enrollment decline. The number of applicants to ABA-Accredited law schools has decreased from 87,900 in 2010 to 54,130 in 2015 (Sloan, 2015). To address this issue, some lower ranked law schools relaxed their admissions standard to stabilize enrollment, but by doing so, were barely meeting the minimum threshold set by the ABA (Flanagan, 2015). According to Flanagan, law schools used their financial conditions following the great recession of 2008 to justify relaxed standards in an attempt to increase enrollment. After the recession, the landscape of law school admissions changed because prospective students recognize the tough job market for legal employment and are turning away from law schools, even top tier law schools.

In this context, enrollment management tools can provide meaningful ways for law schools to promote access. It seems plausible that law schools want to pursue high ability students. But there also is a widely shared notion that diversity in legal education should be promoted in order to meet the needs of a changing society and provide a balanced view toward justice. By understanding how students from diverse backgrounds along many dimensions, such as socioeconomic status, location, make choices and what factors affect their law school choice, law schools can not only predict enrollment effectively, but also diagnose the obstacles that students face in pursuing legal education and develop effective practices for widening access.

To help law schools with managing enrollment effectively and efficiently, various theoretical frameworks accounting for student choices can illuminate how practitioners in law schools should conceptualize law school enrollment. Traditionally, there have been two disparate strands of approaches toward student's college decision-making process: economic models and status-attainment models. The economic model is based on the assumption that prospective students are rational actors that make a college decision based on a cost-benefit comparison and ultimately decide to attend the option that maximizes their utility (Hossler et al, 1999). A number of studies take this approach to investigate the student enrollment decisions, finding that financial aid allocation processes have a critical influence on students' enrollment decisions (Klaauw, 2002; Kotler & Fox, 1985; DesJardins et al., 2006).

Although the economic model provides a valuable lens that explains the important financial factors affecting college choice decision, students may not always be as rational as this theory assumes. Considering the limitation of the traditional economic model, sociologists suggest a status-attainment model that considers how socioeconomic background characteristics may influence students' behaviors. Most of the research using this model focuses on the interactive process between variables that measure individual contexts and variables that measure broad social contexts (Hossler et al, 1999).

Considered separately, neither the economic model nor the status-attainment model can provide a sufficient framework for understanding differences across groups in the college choice decision-making process (Perna, 2006). Manski (1993) also supported this notion, arguing that economic approaches provide a better explanation for decision making while sociological approaches shed light on how students gather information. In light of the need for comprehensive model, Hossler and Gallagher (1987) suggested a three-stage model that emphasizes the student's perspective: predisposition, search, and choice. Predisposition is when a student decides to attend college instead of pursuing alternatives, such as joining the labor market. Search is when the student obtains information about specific institutions. Choice is when student completes their applications and decides to attend a particular institution. This three-stage model provides a useful framework for studies on student choice such as Perna's (2006) 4-layer model of student college choice which incorporated different layers of contextual variables that jointly affect students' college choice.

In contrast with the aforementioned models focusing on the undergraduate admission and enrollment process, student choice at the graduate level may require different explanations. Unlike the campus-wide level centralized admissions system of undergraduate programs, graduate admissions processes vary depending on departments because major decisions are made by the faculty. Also, the characteristics and backgrounds of graduate students are different than those of undergraduate students. Chickering and Havighurst (1981) further explain the difference between undergraduate students and potential law students based on adult development theory and indicate that students at different stages of life will have various needs that influence their educational and career goals.

Considering the major differences between undergraduate and graduate students, this research will develop and test an expanded economic model for understanding the admissions and enrollment models for law schools. As Chickering and Havighurst (1981) suggested, students pursuing law school

degrees may have different needs compared to high school seniors considering an undergraduate education. The former have concrete educational and career goals and have experienced the college choice process previously when they were undergraduate students. Therefore, it can be assumed that students deciding to apply and enroll in law school are more informed actors than students pursuing undergraduate programs. They may know the possible outcomes of their choices and how to rank their alternatives better than undergraduate students (Hossler et al, 1999). Therefore, an expanded economic model will be employed to predict the probability of enrollment and analyze the sensitivity of the admitted students under different conditions such as changing the amount of financial aid or type of financial aid awarded. As students pursuing law school degrees are assumed to be more informed than students applying to undergraduate programs, their decision are expected to be affected by factors more than socio-demographic and academic aptitude. Their experiences and information accumulated through employment before applying and undergraduate studies are expected to affect the students applying to law schools. Further, specific financial aid packages and negotiating for increased financial aid is also expected to influence students' enrollment decisions.

Describe the research method that will be used (limit 1000 words):

- What are the research questions to be addressed?
- What is the proposed research methodology?
- What is the statistical model to be used?

In order to examine law school admissions and enrollment, this research will address the following research questions: What student factors predict admissions at the University of Michigan Law School? What student factors predict enrollment at the University of Michigan Law School? To what extent can financial aid be leveraged to incentivize students to enroll at the University of Michigan Law School?

In order to answer these questions, four cohorts of data from the University of Michigan Law School will be analyzed using logistic regression analyses. All data necessary to complete this analysis have been obtained; in fact, one cohort of data has been cleaned and is ready for analysis. Once the other data sets have been cleaned, they will be added to the initial cohort to create a dataset that contains four-years worth of data on admissions and enrollment.

A statistical model will be constructed that takes full advantage of the student level information that is included in the data set. For this analysis, vectors of demographics, prior academic achievement, and location will be used for the admissions models. In addition to these variables, financial aid information and institutional variables will be added to the enrollment models. Currently, we plan to include the following variables in either the admissions and/or the enrollment models: age, gender, undergraduate institution, undergraduate GPA, undergraduate major, highest degree earned, highest LSAT score, law interest, length of employment before applying, type of employment, location, distance from the institution, military service, decision plan of applicants, in-state/out-of-state, citizenship, average LSAT score, number of times the student took the LSAT score, type of financial aid awarded, amount of financial aid, if the student asked for a financial aid increase, and if they were awarded a financial aid increase.

The enrollment models created for this project are different from the models to predict undergraduate enrollment because we will be able to analyze the influence of a student asking for a financial aid increase. This analyze will determine the association between asking for a financial aid increase and receiving a financial aid increase. Similar variables are not available in undergraduate models nor are they available in other law school data sets. Therefore, these data give us unique opportunity to examine how requests for more financial aid and the result of that decision are associated with law school enrollment. Further, these data provide the specific financial aid amount included in the student's admission offer. Therefore, we will be able to analyze how the initial financial aid offer influences a student's probability of enrollment.

Preliminary Data

Descriptive Statistics for Admissions Models

Overall, there are 4,826 students who applied to the institution for admission in Fall 2014. (Note: all data presented here are preliminary). The average age is 24.25. Females represent 44% of the sample. Only 2% of the cohort applied for early admission decisions. A majority of the applicants are from out of state (95%). The mean undergraduate GPA is 3.49. The average max LSAT score is 165.

Descriptive Statistics for Enrollment Models

Of the 4,826 students who applied to the University of Michigan law school in Fall 2014, 1,310 were admitted (27%). Of the the students who were admitted, 50% are female, 60% are white and 15% are Asian. The majority of students who were admitted are from a state other than Michigan (93%). The mean undergraduate GPA is 3.69 and the average max LSAT is 168. Of those who were admitted, 78% received some type of scholarship offer from the University of Michigan, with an average of $24,447 offered in aid. Of students who were admitted, 5% asked for a financial aid increase and 2% received an increase.

While many students are offered scholarships to attend the University of Michigan, it seems that few students ask for a financial aid increase. Therefore, combining multiple cohorts of data together, as we plan to do, will be important for our analysis in order to reach a large enough sample size to conduct statistical tests of the influence financial aid, especially asking for an increase, has on students' probability of enrollment. Further, there is valuable financial aid information within this data that will help us understand how the initial financial aid offer influences students' probability of enrollment.

References cited (no word limit):

Chickering, A. W., & Havighurst, R. J. (1981). The life cycle. In A. W. Chickering and Associates, The Modern American College (pp. 16-50). San Francisco, CA: Jossey-Bass.

DesJardins, S. L., Ahlburg, D. A., & McCall, B. P. (2006). An integrated model of application, admission, enrollment, and financial aid. Journal of Higher Education, 77, 381-429.

Flanagan, R. C. (2015). Do Med Schools Do It Better: Improving Law School Admissions by Adopting a Medical School Admissions Model. Duquesne Law Review, 53, 75.

Hansen, M., (2015, March 01). As law school enrollment drops, experts disagree on whether the bottom is in sight. ABA Journal. Retrieved from: http://www.abajournal.com/magazine/article/as_law_school_enrollment_drops_experts_disagree_on_whether_the_bottom

Hossler, D., & Gallagher, K. S. (1987). Studying Student College Choice: A Three-Phase Model and the Implications for Policymakers. College and University, 62, 207-21.

Hossler, D., Schmit, J., & Vesper, N. (1999). Going to college: How social, economic, and educational factors influence the decisions students make. Baltimore: John Hopkins University Press.

Kotler, P., & Fox, K. F. (1985). Strategic Marketing for Educational Institutions. Englewood Cliffs, NJ: Prentice-Hall.

Manski, C. F. (1993). Dynamic choice in social settings. Journal of Econometrics, 58, 121–136.

Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In J. C. Smart (Ed.), Higher education: Handbook of theory and research (Vol. XXI, pp. 99–157). New York: Springer Press.

Sloan, K. (2015, July 20). Has law school enrollment hit rock bottom? The National Law Journal. Retrieved from http://www.nationallawjournal.com/id=1202732508706/Has-Law-School-Enrollment-Hit-Rock-Bottom?slreturn=20151113163600

Van der Klaauw, W. (2002). Estimating the effect of financial aid offers on college enrollment: A regression–discontinuity approach. International Economic Review, 43, 1249-1287

Project Description - Appendix

There are no files attached.

Datasets

List the datasets that will be used and explain why they best serve this research (limit 500 words)

For this research, Stephen DesJardins and a team of graduate students are using a private, restricted data set from the University of Michigan Law School. Four fall cohorts of data with many demographic, location, academic, and prior work experience variables will be used to construct models that predict admissions. Once admissions had been predicted, separate models will be developed that predict enrollment at the institution, conditional on being admitted. These data sets best serve this research because student level data and financial aid data are included. Therefore, these data allow the researchers to examine both student characteristics as well as financial aid information and its influence on enrollment at the University of Michigan Law School. Further, these data sets are the most useful for this research because other data sets do not provide information about the financial aid that is offered to students at the point of admissions. These data provide a unique opportunity to analyze how financial aid information is associated with enrollment at law schools. Specifically, we plan to create scenarios that vary financial aid offers in order to understand how changes in financial aid influence a student's probability of enrolling at the University of Michigan Law School. Finally, these data also include information on whether or not the student asked for a financial aid increase and if they received it. This variable will be included in our models to understand how asking and possibly receiving a financial aid increase changes the probability of a student enrolling at the University of Michigan Law School.

Statement of use of restricted datasets (limit 250 words):

Applicants should provide a statement indicating whether the proposed research will require use of restricted datasets. If restricted datasets will be used, the plan for acquiring the appropriate license should be described.

If restricted datasets will not be used, leave this text box blank and click Save and Continue.

For this research project, the data are restricted and can only be used by Stephen DesJardins and his research team of graduate students. Data from Fall 2012 through Fall 2015 have been obtained from the University of Michigan Law School. One cohort of data has been cleaned and processed. That data is currently being used to develop an initial model of admissions and enrollment and then additional cohorts will be added to increase the number of students included in the model. Because all of the data have been obtained from the University of Michigan Law School, no licenses are required.

Timeline and Deliverables

Timeline:

Provide a timeline of key project activities.

The detailed timeline is provided below. This timeline was developed around the University of Michigan academic calendar as most of the budget is allocated to hire graduate students to complete the work. Further, the budget allocates time for Steve Desjardins to supervise the work of these students, thereby creating a unique opportunity for graduate students to learn how to construct enrollment models from an experienced higher

education researcher. Funds from this grant would begin to cover a portion of students' funding in May 2016 and continue to partially fund them though April 2017.

May 2016 – August 2016

1. Process and clean all data (May – June)
2. Thoroughly analyze data and produce preliminary descriptive and multivariate results for law school (May-August)
3. Continue to work on the literature review and conceptual framework for publication (May-August)
4. Begin to draft methodology for publication (May-August)

September 2016 – December 2016

1. Re-analyze data after discussing the results with the law school (September)
2. Begin internal report for Law School (September)
3. Develop presentation for Access Symposium (October)
4. Present at the Access Symposium (November)
5. Finish first draft of internal report for the Law School (December)

January 2017 – April 2017

1. Receive feedback from the Law School regarding internal report (January)
2. Present the final version of the internal report to the law school (February)
3. Finalize literature review and conceptual framework for publication (March)
4. Draft full version of publication paper and submit for publication (April)
5. Submit article to Chronicle of Higher Education or Inside Higher Education about the research (April 2017)
6. Develop website (January – April)

Deliverables:

List deliverables such as research reports, books, and presentations that will be developed from this research initiative.

1. Access Group Legal Education Research Symposium Presentation
2. Internal Report to the University of Michigan Law School
3. Research Journal Publication (possibly in the Journal of Legal Education)
4. Article regarding the research in either the Chronicle of Higher Education or Inside Higher Education
5. Educational website

Disseminate results:

Describe how you will disseminate the results of this research.
(Note: Costs of travel to meetings should be calculated on the budget page.)

This research will be disseminated via an internal report to the University of Michigan Law School, a presentation at the Access Group Legal Education Research Symposium, a journal article in a relevant journal, possibly Journal of Legal Education, an article in Inside Higher Education or the Chronicle of Higher Education, and an educational website. Specifically, we plan to provide an in-depth analysis to the University of Michigan Law School in order to inform their decision making processes on admissions which will lead to increased enrollment (Note: part of the budget is dedicated to producing this report). We also plan to present our findings at the Access Group Legal Education Research Symposium so other law schools can learn how to use their data effectively and efficiently to predict admissions and enrollment. This presentation will expose this research to senior law school administrators and researchers who are interested in predicting law school admissions and more importantly, enrollment. In order to reach administrators and researchers who do not attend the Symposium, we plan to submit a research article to the Journal of Legal Education. We will also contact the Chronicle of Higher Education and/or Inside Higher Education and request that a news article about this particular research be published to reach an even broader audience. Finally, we will develop a website that describes the process for constructing our models so admission officers can learn how to create similar models at their schools. By using these different avenues of dissemination, we believe that our research will be received by many different audiences and have broad influence on legal education.

IRB Statement

Statement of Institutional Review Board approval or exemption (limit 250 words):

As part of the proposal, a statement outlining a plan for Institutional Review Board (IRB) approval is required. The statement should outline the applicant's timeline and plan for submitting the proposal to an IRB or explain why IRB approval is not necessary. Final IRB action is not necessary prior to submitting the application.

Currently, we are seeking Institutional Review Board (IRB) approval for this project. Our proposal for IRB approval will be submitted in January and we will work with our IRB to have the project approved by the time funds are distributed. Given that this analysis is of secondary data, we anticipate that this research will be granted "exempt status" from the IRB.

Biographical Sketch(es)

Biographical sketch (limit 750 words):

Stephen L. DesJardins received a Bachelor's of Science in economics from Northern Michigan University, a Master's of Arts in policy analysis and labor economics from the Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota, and a PhD in higher education with a concentration in research and evaluation methods, also from the University of Minnesota. Prior to joining academia, he worked in market research in the private sector and was a policy analyst and institutional researcher for 13 years at the University of Minnesota. His research interests include student transitions from high school to college, what happens to students once they enroll in college, the economics of postsecondary education, and applying new statistical techniques to the study of these issues. He serves on the editorial board of Economics of Education Review, is a contributing editor to Research in Higher Education, and is the methodology section editor for Higher Education: Handbook of Theory and Research. His research has been published widely in education and economics journals, including the following relevant article to this project:

Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall (2006). An integrated model of application, admission, enrollment, and financial aid. Journal of Higher Education, 77, 381-429.

More specifically, his research includes investigating the effects of factors that are student-related such as one's background and prior education on postsecondary enrollment and student success and examining the effects of education programs (e.g., interventions), policies (e.g., curriculum design) and processes (e.g., course sequencing) on educational outcomes. He has extensive experience in constructing student-unit record data bases and utilizing these data to study such issues. This experience is especially relevant to this research given that the entire data set for this project is institutional student-record data. Therefore, he will use his expertise to guide graduate students in their development and analysis of these data in order to ensure quality work and also train these graduate students to do excellent research with institutional data.

For this project, DesJardins has expertise in modeling admission and enrollment in postsecondary education. He was one of the first higher education scholars to research and analyze admissions and enrollment in undergraduate education. He has written scholarly papers on the process of admissions and enrollment since early in his career. The knowledge he gained from systematically analyzing admission and enrollment in undergraduate education will help the research team develop models of admissions and enrollment for law schools.

Budget

- Research Grant Budget - Desjardins

Funding History

Funding history (limit 250 words):

A statement of prior, current, and pending funding for the proposed research from all sources is required. The statement should also include a history of all prior funding from AIR to any of the PIs for any activity. Funding from other sources will not disqualify the application but may be considered in the funding decision.

This law school admissions and enrollment research project is currently not supported by any grants or foundations. Other than this grant opportunity with Access/AIR, we are not engaged with other funders about this work because we believe that this grant opportunity from Access/AIR is a direct fit for this current line of research. Additionally, Stephen DesJardins has not been funded from AIR in the past 10 years.

Dissertation Advisor Letter of Support

There are no files attached.

Research Grant
Proposal Budget Form

Personnel - Time on Project (Enter percentage as a decimal)	**Personnel - Salary & Benefits**	**Personnel - Salary/Stipend** (Time on Project x Salary and Benefits)

Principal Investigator

| % (FTE) academic year | academic year $ | academic year $ |
| % (FTE) summer | summer $ | summer $ |

Second Principal Investigator

| % (FTE) academic year | academic year $ | academic year $ |
| % (FTE) summer | summer $ | summer $ |

Third Principal Investigator

| % (FTE) academic year | academic year $ | academic year $ |
| % (FTE) summer | summer $ | summer $ |

Graduate Research Assistant

| % (FTE) academic year | academic year $ | academic year $ |
| % (FTE) summer | summer $ | summer $ |

Total Salary and Wages (calculated from above fields) $

Travel

2016 Acess Group Legal Education Research symposium: $

Other research related travel: $

(*Note*: Other planned travel should be listed in the "Timelines and Deliverables" section)

Other research expenses $

Please provide a breakdown of expenses below and add the total value in the box to the right. Allowable expenses include: materials, such as software, books, supplies, etc.; consultant services, such as transcription, analysis, external researchers, etc.; and costs for publishing articles in journals. The purchase of computer hardware, overhead or indirect costs, and living expenses are not allowable. If you have questions about specific expenditures please contact AIR.

TOTAL REQUESTED $