

## **Integrating Financial Risk Factors into GPS Advising through Data-based Markers, Predictive Analytics and Student Counseling**

**Project Lead:** Timothy Renick, Vice Provost and Chief Enrollment Officer, Georgia State University, [trenick@gsu.edu](mailto:trenick@gsu.edu) 404 413-2580

### **Other Team Members:**

Allison Calhoun-Brown, AVP for Student Retention, GSU, [acalhounbrown@gsu.edu](mailto:acalhounbrown@gsu.edu)  
Carol Cohen, Director of the University Advisement Center, GSU, [ccohen1@gsu.edu](mailto:ccohen1@gsu.edu)  
J.L. Albert, AVP for Information Systems & Technology, GSU, [jlalbert@gsu.edu](mailto:jlalbert@gsu.edu)  
Richard Staely, Senior Director, The Education Advisor Board, [rstaley@eab.com](mailto:rstaley@eab.com)

**Project Category:** Proof-of-Concept or Start-Up

**Overview:** This proposal is based on the premise that, at universities enrolling large numbers of low-income students such as Georgia State, effective academic advisement hinges on sound and timely information about not only students' grades and coursework but also their financial circumstances and risks. Georgia State went live with its web-based GPS Advising system in August 2012. The cutting-edge system tracks 30,000 students nightly based on more than 700 markers that identify academic risk factors. In the current project, Georgia State will collaborate with the Education Advisory Board (EAB) to develop a parallel group of markers based on financial risk factors. The first phase of the project will work to identify and test such markers based on seven years of GSU financial student data. The second phase will explore the effectiveness of several models for advisor interventions based on these financial risk factors, culminating in the opening of a Student Financial Resources Center at Georgia State.

**Impact on Completion:** This project has the potential to lead to significant improvement in student success rates state-wide and nationally. GPS Advising systems have received great attention in recent months and have been designated a high-impact best practice by Complete College America. When Georgia State went live in August, it was one of only five schools nationally with such a system. As of April 2013, there are at least 20 other public universities that have announced plans to adopt such systems, and several USG schools and the System office have expressed strong interest in this new technology. Even though much of the literature confirms the centrality of financial issues to student progression and completion, at present no GPS system integrates financial risk factors. Moreover, few schools have piloted models for how financial risk factors might be integrated into student advisement. This project will address both deficiencies by providing practical insights and data on: (1) the role of financial factors in student retention, progression and graduation; and (2) the potential for holistic advisement—advisement covering both academic and financial concerns—to mitigate the risks of such factors.

**Potential Lessons to Be Learned:** We want to understand better the role that financial risk plays in student completion. By combining the vast student data of Georgia State with the expertise in developing predictive analytics of EAB, we should be able to learn: (1) those financial behaviors, decisions and factors that contribute most substantially to academic risk; and, just as significantly, (2) whether such information can be *actionable*. In other words, after identifying the risk, can we develop and implement effective and impactful interventions? There is currently very little national research on either of these two important issues.

## Project Concept

This proposal is based on the premise that, at universities enrolling large numbers of low-income students such as Georgia State, effective academic advisement hinges on sound and timely information about not only students' grades and coursework but also their financial circumstances and risks. Pathways to completion most definitely are shaped by the student's GPA and rate of credit accumulation, but they just as assuredly depend on factors such as whether a student is at risk of failing to meet Satisfactory Academic Progress (SAP), about to run out of hours funded by Pell, or carrying high levels of unmet need. In fact, during the Fall 2012 semester, Georgia State had under 200 students on academic exclusion (i.e., unable to enroll for academic reasons) and over 3,000 who were unable to register due to financial problems such as loss of aid or problems with SAP.

Why are financial risk factors crucial to academic advising? During the Fall 2012 semester, Georgia State enrolled over 14,000 students with some level of unmet financial need. Our tracking data shows that levels of unmet need have a direct correlation to academic performance. 62% of Georgia State students with no unmet need are able to maintain a 3.0 GPA, while only 27% of students with \$10,000 or more in annual unmet need are able to do so. In a state with the HOPE scholarship (and accompanying requirement to maintain a 3.0 GPA), financial factors are often the difference between staying enrolled and dropping out. Georgia State students who lose the HOPE scholarship graduate at rates *40 points lower* those who hold on to it. Significantly, advisement interventions can make a large difference in such cases. "Keep HOPE Alive"—a home-grown program Georgia State instituted that, in return for a modest \$500 incentive grant, requires students who have lost HOPE to meet with advisors and attend academic and financial-literacy workshops—is a striking example. Overall, only 9% of Georgia State students who lose HOPE ever gain it back again; last year, over 60% of the students in the "Keep Hope Alive" program regained the scholarship at their next opportunity.

The implications are clear: *If we employ GPS Advising to monitor and to engage only the students' academic decisions, we are realizing only a fraction of its potential.*

The current proposal maps out a collaboration between Georgia State University and the Education Advisory Board (EAB) to address this deficiency and to explore a potential means of greatly increasing the impact of GPS systems. Georgia State and EAB will use Georgia State's rich repository of financial data and EAB's expertise in student analytics to develop a set of markers that predict risk levels based on the students' financial decisions and circumstances. These financial markers will then be integrated with more than 700 academic markers that Georgia State currently tracks daily via its EAB-developed GPS Advising system. As part of this project, Georgia State will pilot two distinct models for financial interventions and counseling in response to these markers being 'tripped' by students—one based on structured interventions from the training of current academic advisors in the University Advisement Center, another on interventions from a cohort of dedicated financial counselors situated in our new "Student Financial Counseling Center." The University will then track retention and progression data to assess the comparative effectiveness of these two intervention models.

By the close of the project, the partners will deliver: (1) a practical model for how institutions might develop risk markers and predictive analytics based on student financial systems; (2) a set of such markers and analytics as they apply to a university with one of the largest Pell

populations in the country; (3) better understanding of methods of and challenges to integrating financial factors into a GPS advising system; and (4) preliminary retention, progression and graduation data pertinent to assessing two distinct models of interventions designed to help students determined to be at academic risk due to financial factors.

As such, the project will enhance our knowledge and understanding of issues of importance System-wide, critical to Complete College Georgia, and at the center of Georgia State's College Completion Plan. First, it will directly increase our body of knowledge concerning **risk factors to student success**, building upon the predictive analytics of the already-functioning GPS system at Georgia State University to gauge the impact of adding financial risk factors to the process. Second, it will provide an important, additional layer to **education planning**, increasing the information used by advisors and students to select majors, courses, and programs of study through adding insights and cautions gleaned from financial data. Third, the project will explore multiple models for the **advisement** of students who are found to be at academic risk due to financial factors, and will track preliminary RPG data for each of the models piloted.

It is important to clarify a potential point of confusion. The goal of this project is not to experiment with various types of financial interventions with financially at-risk students—however worthwhile such an undertaking may be. Rather, the point is to explore, document and address the *academic* importance of financial markers as a component of a GPS system. For instance, one benefit of data-based e-advising is that it can help to identify those majors in which a particular student is likely to be successful. This is true of Georgia State's e-advising system, and it is profoundly important. But advisors cannot employ this information effectively without understanding financial factors. Predictive analytics may show that a student is likely to excel in either philosophy or biology, for instance, but if this same student has already completed 90 hours in preparation for a major in the humanities, only has 30 hours of aid remaining, and needs 60 more hours to complete a degree in biology, then the advisor would be irresponsible to advise that the student pursue a biology major—at least not without the student first having a financial plan to cover the additional hours in place. In another instance, a student who is struggling in a course halfway through a semester may meet with an advisor. Whether the student should withdraw from the course or persist, though, may be a product first and foremost of financial considerations. If the student is at risk of falling out of compliance with SAP, then a grade of “W” may be more harmful than taking a C- in the course. If the student is at risk of having a GPA fall below 3.0 and hence losing the HOPE scholarship—a very real scenario for thousands of Georgia State students—then a C- may be more harmful than a “W”.

We believe that this project has the potential to add a critical component to completion efforts, not merely at Georgia State but throughout the USG and nationally. Georgia State has already successfully gone live with a GPS Advising system. We have a proven track record of using data to develop effective student success programs. Our undergraduate student body is 30% first generation, 87% on federal financial aid, 53% Pell recipients, 60% non-white, and 58% transfer. In short, Georgia State University is uniquely positioned to initiate the proposed project and to bring it to a successful completion.

## **Project Plan**

**Phase One: Marker Identification (May to August 2013):** Offices at Georgia State (including Financial Aid, Student Accounts, Banner and IS&T) will work with the technical teams from EAB to identify and extract pertinent financial data about Georgia State students. With the assistance of the Office of Institutional Research (IR), this data will be correlated with the academic performance (e.g., grades, retention, completion rates) of the same students. Data will be scrubbed and then analyzed by EAB to develop a preliminary set of financial markers that might be used to identify key financial characteristics and behaviors that increase levels of academic risk. EAB and Georgia State have already successfully completed a process parallel to this one in developing more than 700 academic markers.

**Phase Two: Marker Integration Pilot (September to December 2013):** The proposed financial markers will be shared with campus experts in Financial Aid, Student Accounts, advisement and other pertinent offices to determine their usefulness and appropriateness from an implementation and student counseling perspective. Once an agreed upon list is identified, beta testing will be run on the accounts of a pilot group of students, and adjustments will be made as needed. The agreed upon and refined markers and the correlative predictive analytics will be shared with a group of advisors and run for the students of these advisors. Advisors will begin to integrate the information into advising sessions—the “go live” pilot stage.

**Phase Three: Counseling Interventions (January to May 2014):** Building on continuing feedback from the pilot group of advisors, the Education Advisory Board staff will collaborate with the staff members from the Office of Financial Aid, Student Accounts, and the University Advisement Center to provide support for developing a sequence of interventions/counseling to be deployed when the financial markers are tripped. Intervention models will be based upon two distinct groups of interveners: (1) Academic advisors in the University Advisement Center; and (2) Financial Counselors in the Student Financial Counseling Center.

**Phase Four: Full Implementation with Collection of Assessment Data (July 2014 to May 2015):** The financial markers and interventions will be rolled out for all advisement sessions for freshmen, sophomores and juniors in the University Advisement Center, and interventions/counseling will be divided between the University Advisement Center and the Student Financial Counseling Center. All interventions and counseling sessions will be designated by type of marker and type of intervention, and corresponding tracking data will be collected following interventions for issues including GPA, courses failed, retention, credit-hour accumulation, and, when pertinent, completion rates.

## **Goals**

Each of the four phases outlined above will produce at least one deliverable—and all of these deliverables (as well as supporting data) will be shared with the USG. The first three phases will be completed within twelve months. As discussed in the previous section, the goals are to provide: (1) a practical model for how institutions might develop risk markers and predictive analytics based on student financial systems; (2) a set of such markers and analytics as they apply to a university with one of the largest Pell populations in the country; (3) better understanding of methods of and challenges to integrating financial factors into a GPS advising system; and (4) preliminary retention, progression and graduation data pertinent to assessing two distinct models of interventions designed to help students determined to be at academic risk due to financial factors.

Significantly, the data, predictive analytics and advisement best practices produced by this project will be useful not only to institutions that adopt GPS advising systems but also to all universities that serve students who face financial obstacles to completion.

## **Evaluation**

As our collaborators at EAB point out, there has never been a systematic effort to develop predicative analytics from the financial data of a large student body such as Georgia State's, so much of the work will result in new and potentially significant findings. Each of the four phases of the project will have evaluative measures. In Phase One, the viability of the financial markers developed will be evaluated by their predictive ability within the historical data. In Phase Two, we will move from testing the markers in a purely mathematical sense to testing them in two practical ways: (a) by means of feedback from staff professionals in Student Accounts, Financial Aid and advisement, and (b) then by beta testing in actual advisement sessions with students. In Phase Three, we will develop advisement modules and test them in sessions in the University Advisement Center and the Student Financial Resources Center. In Phase Four, we will begin to evaluate the two modes of advisement interventions developed as a part of this project by means of the subsequent GPA and RPG data of the students impacted. Georgia State's already operating GPS Advising system makes it possible to track the consequences of all advising sessions and to collect pertinent data.