A Guide To

PREDICTIVE MODELING IN

ENROLLMENT MANAGEMENT
Table of Contents

1. What is Predictive Enrollment Scoring? 2
   How is it different from traditional models?
   How to think about impact.

2. Finding Complex Patterns in Data 9
   How predictive enrollment models are built.
   Making Predictions and Measuring Results.

3. Taking Action With Real-Time Enrollment Data 14
   Applying predictive enrollment fundamentals to
   your admissions strategy.

4. Results from Institutions Like You 19
   Practical examples of how other institutions are
   applying predictive enrollment models.
   Specific use cases and results.
Predictive enrollment scoring is a data-driven way for institutions to identify students by their likelihood to enroll in order to have the biggest impact on their institutional goals. Scores enable institutions to prioritize students, send targeted communications and measure impact on a student-by-student level.
There are several existing methods of predictive modeling available, so how is Uversity’s predictive enrollment scoring, called *Enrollment Intelligence*, different?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Social behavioral data</strong></td>
<td>Historical data, such as demographics, tell you that students might be interested in your institution based on last year’s class. Social behavioral data, based on students’ interactions with Uversity’s mobile apps, tell you that he or she is actually interested right now.</td>
</tr>
<tr>
<td><strong>2. Real-time vs. Point-in-time</strong></td>
<td>Traditional models rely on comparing data over points-in-time, which means the most powerful and accurate version of your enrollment model may not be available until late in your yield season. <em>Enrollment Intelligence</em> uses advanced data science to deliver the real-time insights you need to proactively shape today’s incoming class.</td>
</tr>
<tr>
<td><strong>3. Machine Learning Technology</strong></td>
<td>Advanced data science, using a neural network approach, powers our predictive enrollment scoring. By testing millions of model options, we are able to find the best-fit predictive model based on your data set.</td>
</tr>
<tr>
<td><strong>4. Seamless integration</strong></td>
<td>Save time as a staff by relying on one powerful source for predictive enrollment analytics that integrates both institutional data from your CRM and social behavioral data.</td>
</tr>
</tbody>
</table>
I think social behavioral data is new and exciting, and definitely see potential for Enrollment Intelligence to be a larger part of how we approach enrollment. It gives our team validity.

Brad Green
Assistant Director of Recruitment
University of Nebraska, Kearney
How to think about impact:

Admitted students are ordered by their *Enrollment Intelligence* score, or probability to enroll, and then divided into 10 equal groups so that each group includes the same number of students.

<table>
<thead>
<tr>
<th>FIRST NAME</th>
<th>LAST NAME</th>
<th>PROBABILITY TO ENROLL</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACHAEL</td>
<td>CHANDLER</td>
<td>98%</td>
</tr>
<tr>
<td>EMILY</td>
<td>HUNT</td>
<td>98%</td>
</tr>
<tr>
<td>JENNIFER</td>
<td>SCHILD T</td>
<td>97%</td>
</tr>
<tr>
<td>CHASITY</td>
<td>PAPIERNIK</td>
<td>96%</td>
</tr>
<tr>
<td>JERLAN</td>
<td>BROWN</td>
<td>96%</td>
</tr>
<tr>
<td>JADE</td>
<td>PICKENS</td>
<td>95%</td>
</tr>
<tr>
<td>KAITLYN</td>
<td>SMITH</td>
<td>95%</td>
</tr>
<tr>
<td>JONATHON</td>
<td>JACOBS</td>
<td>94%</td>
</tr>
<tr>
<td>ERIK</td>
<td>JOYCE</td>
<td>93%</td>
</tr>
<tr>
<td>TAYLOR</td>
<td>SIMMONS</td>
<td>93%</td>
</tr>
<tr>
<td>ALEXIS</td>
<td>CELOZZI</td>
<td>91%</td>
</tr>
<tr>
<td>ASHLEY</td>
<td>DAWSON</td>
<td>87%</td>
</tr>
<tr>
<td>BIANCA</td>
<td>REED</td>
<td>86%</td>
</tr>
<tr>
<td>STEPHANI E</td>
<td>JASIONEK</td>
<td>86%</td>
</tr>
<tr>
<td>RAHKIM</td>
<td>HUNT</td>
<td>85%</td>
</tr>
<tr>
<td>GIANNA</td>
<td>ARCHAMBE AU</td>
<td>85%</td>
</tr>
<tr>
<td>BIANCA</td>
<td>REED</td>
<td>85%</td>
</tr>
<tr>
<td>STEPHANI E</td>
<td>JASIONEK</td>
<td>84%</td>
</tr>
<tr>
<td>RAHKIM</td>
<td>HUNT</td>
<td>84%</td>
</tr>
<tr>
<td>GIANNA</td>
<td>ARCHAMBE AU</td>
<td>79%</td>
</tr>
</tbody>
</table>

Group 1 contains students who are the most likely to enroll, while Group 10 consists of students who are the least likely to enroll.
Right now, your time and effort may look like this chart - evenly split across all students on your list.

But watch what happens when you unlock the power of Enrollment Intelligence. You can shift your focus and align your efforts where they will have the most impact.
The result you want to see is an increase in yield with less time and fewer resources spent. Knowing which students will enroll at your campus earlier in the cycle means your counselors get their summers back!

Creating an environment where students talk through the concerns and anxieties of where to attend college with their peers has proven a valuable tool in increasing yield from admitted to enrolled students in our enrollment funnel.

Bryan Dougherty
Dean of Enrollment Management
Embry-Riddle Aeronautical University, Prescott Campus
Machine learning allows our predictive enrollment model, Enrollment Intelligence, to identify complex relationships between known predictors and historical outcomes more rapidly than traditional modeling practices. Enrollment Intelligence prioritizes your list of admitted students by their likelihood to enroll, as early as February, which enables your admissions team to measure the impact of their yield strategies throughout the enrollment cycle.
Here's how our predictive enrollment model works:

1. **Collect historical admit data.** Enrollment managers understand which traditional signals affect an admitted student's decision to enroll, such as family income and campus visit. To build a predictive enrollment model, we collect institutions' historical data from previous admit cohorts to find out how these factors relate to enrollment outcomes.

2. **Add social behavioral data.** Then, we add another layer of introspection by gathering admits' social behavioral data, based on interactions with Uversity mobile apps, and incorporating it into their existing institutional data to determine how these signals relate to enrollment.

3. **Determine predictive signals.** Advanced data science uses a neural network approach to power our predictive enrollment model based on the combined dataset. The neural network trains on part of the dataset, evaluating millions of models to find the one that fits the dataset the best.

4. **Test model accuracy.** The best-fitting model is then tested on the remaining portion of the dataset to determine how well it predicts enrollment. Admits scored and placed in Group 1 should exhibit the highest likelihood of enrolling, while admits in Group 10 should have the lowest probability of enrolling.

5. **Get your predictions.** Using the best-fit model, Enrollment Intelligence generates enrollment predictions for your incoming class as early as February. Institutional and social behavioral data are fed into our predictive enrollment model to determine each admit's probability to enroll in real-time. Automatically, admits are prioritized, grouped and displayed by their scores in a dashboard. (Pg. 11)
Your Enrollment Intelligence Model: Custom Model with Institutional + Social Behavioral Data

Roles Tracked: 2015 Admits

- Select tag name
- Condition
- Tag Value

AND

State
- is
- AL, FL

OR

Enrollment Status
- is
- Deposited

AND

GPA
- more than
- 3.5

OR

SAT
- between
- 1370, 1500

You are currently viewing: 140 admits

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Admits so far</th>
<th>Yield in this Rank Last Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>232</td>
<td>74%</td>
</tr>
<tr>
<td>2</td>
<td>232</td>
<td>47%</td>
</tr>
<tr>
<td>3</td>
<td>232</td>
<td>36%</td>
</tr>
<tr>
<td>4</td>
<td>232</td>
<td>28%</td>
</tr>
<tr>
<td>5</td>
<td>232</td>
<td>17%</td>
</tr>
<tr>
<td>6</td>
<td>232</td>
<td>20%</td>
</tr>
<tr>
<td>7</td>
<td>232</td>
<td>15%</td>
</tr>
<tr>
<td>8</td>
<td>232</td>
<td>19%</td>
</tr>
<tr>
<td>9</td>
<td>232</td>
<td>15%</td>
</tr>
<tr>
<td>10</td>
<td>232</td>
<td>17%</td>
</tr>
</tbody>
</table>
6. Take action.

From the dashboard, your admissions team can manage their outreach strategy by pairing specific Enrollment Intelligence groups with targeted messaging channels. Counselors can even filter their list of admits by student-level data points to focus their time and effort where it will have the most impact. Predictive enrollment scores can feed seamlessly into your institution’s CRM for additional transparency.
Making Predictions and Measuring Results

To evaluate the performance of our predictive enrollment model, ranked scores are compared against actual enrollment outcomes and visually represented as a gains chart. For an institution with a 29% historical yield, enrollment managers can expect three in every ten students to enroll in the institution. But how do they know which three students? Utilizing Enrollment Intelligence, enrollment managers can determine how to optimize their teams’ efforts to focus on the students that will have the greatest impact on their institution’s enrollment.
Now that Enrollment Intelligence has uncovered which students to target, you can integrate the real-time data about your students’ likelihood to enroll into your existing communication plan.
University’s mobile app, called **Schools App**, enables your admit class to communicate with fellow students and admissions staff on their mobile devices. At the same time, **Schools App** includes features that allow you to designate different types of communication for students based on their likelihood to enroll.

Target and personalize your messaging to send students in the highest groups information relevant to attending, such as admitted student events or life on campus. Provide students in lower groups with more general information about your institution.
Every student is different, so why treat them all the same? Pairing *Enrollment Intelligence* groups with the appropriate *Schools App* tool enables your team to more effectively reach and engage admitted students regardless of whether or not they join the app:

For students most likely to enroll, help them take the next step with an *Announcement*, sent directly to their phones, that encourages them to deposit, sign up for orientation or apply for housing. *Announcements* enables you to target students by multiple variables for optimum specificity, including probability to enroll, region and major.
Focus resource intensive, high-touch outreach on students who are on-the-fence. Don’t let your communications get lost in students’ crowded inboxes. Private Messaging enables you to send personal, student-specific information directly to the individual’s phone.

Students in the remaining groups are the least likely to enroll. Instead of logging hours on the phone, leverage traditional channels, such as email, to keep students informed about important deadlines or events.
Students are more engaged because they’re receiving personalized, relevant information on the devices they use most. And that means better outcomes for you with fewer hours logged.

<table>
<thead>
<tr>
<th>DATE</th>
<th>OPEN RATE</th>
<th>CLICK THROUGH RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>86 %</td>
<td>25 %</td>
</tr>
<tr>
<td>March</td>
<td>70 %</td>
<td>30 %</td>
</tr>
<tr>
<td>April</td>
<td>90 %</td>
<td>37 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE</th>
<th>SENT</th>
<th>REPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>March</td>
<td>200</td>
<td>70</td>
</tr>
<tr>
<td>April</td>
<td>300</td>
<td>100</td>
</tr>
</tbody>
</table>

Over the course of the admissions cycle, you reach more of the right students at the right time. RSVPs to events climb, deposits stick and ultimately, you hit your enrollment target.
Learn how other institutions are using predictive enrollment scoring to increase yield, improve staff workflows and enhance engagement with their incoming students. Unlock the power of your admit class with *Enrollment Intelligence* and take control of your enrollment target by reaching the right students at the right time.
Embry-Riddle Prescott Welcomes Its Largest Class in School History

As the world’s largest and most respected university specializing in aviation, aerospace, security and intelligence, Embry-Riddle is leading the path for multi-campus, outcome-driven institutions. Embry-Riddle has over 120,000 graduates around the globe, two residential campuses in Arizona and Florida and a variety of online degree programs offered worldwide.

Challenge:

Following traditional recruitment strategies, Embry-Riddle in Prescott, Arizona found it difficult to meet their aggressive enrollment goals. Prescott entered the 2012-2013 year with a rejuvenated team, led by a new Dean of Enrollment Management, and increased enrollment targets.

Past Approach:

Before partnering with Uversity, Prescott relied on traditional enrollment strategies, but did not see the efforts equate to reaching their enrollment targets. Yield rates throughout the enrollment cycle, especially from admitted to enrolled, were inadequate to meet enrollment targets and in perpetual decline. The office did not have the technical expertise or human resources to effectively leverage social media strategies beyond the traditionally deployed email and phone outreach in order to positively affect this yield.

Achieving Enrollment Goals:

Prescott implemented Uversity’s mobile app, Schools App, in the 2012-2013 school year as a way to improve yield. While email and phone calls remained important to each counselor’s interaction with prospective students, their contact rates needed a boost. Schools App features, such as Announcements and Private Messaging, empowered counselors to personalize interactions and engage students continuously on their mobile devices.

At the same time, the Prescott team leveraged Uversity’s predictive enrollment model, Enrollment Intelligence, based on social behavioral data quantified in the app, to attribute one enrollment score to each student. Understanding a student’s likelihood to enroll earlier in the cycle helped counselors reconfigure and prioritize how they approached admitted students. Counselors could pull student-level analytics that compared how likely a student was to enroll with whether or not the student had deposited in order to identify high-priority outreach efforts.
Results:

From the start, Prescott’s admissions team appreciated the “set it and forget it” ease-of-use that Schools App offered. Admitted students created their own community and engaged staff when they needed information to help make their decision. Access to one powerful source for enrollment analytics, as early as February, meant the team felt ahead of the game and in control even before the deposit deadline approached.

- Increased first-year student enrollment by 27% from 2012-2014
- Exceeded expected yield by 7% in 2014 cycle
- Grew net tuition revenue by $1.3 million dollars
Schools Apps has been a great addition to our recruitment strategies, as it helps us get in touch with students more effectively through their preferred way of communication. It’s also allows them to build their own connections and build an affinity to ERAU, which helps solidify that ERAU is the place for them.

Sara Bofferding
Director of Admissions

Creating an environment where students talk through the concerns and anxieties of where to attend college with their peers has proven a valuable tool in increasing yield from admitted to enrolled students in our enrollment funnel.

Bryan Dougherty
Dean of Enrollment Management
Embry-Riddle Aeronautical University, Prescott Campus
As a result of demographic shifts in Illinois’ student population and increased competition within the state, Western Illinois University, a medium-sized public institution with 10,000+ undergraduates, has experienced a decline in enrollment rates over the past eight years. To generate growth in enrollment, Andrew Borst, Director of Admissions, depends on data to execute his strategic enrollment management plan. Using a predictive modeling approach, he incorporates static metrics, such as admissions counselor interactions, campus visits, and deposit status, into a logistic regression model which indicates the strength of each metric as a predictor of enrollment. Logistic regression, however, is a point in-time comparison that measures where the class ended up last year with where the class is right now, and as such, uses metrics that cannot be adjusted or measured again until the end of the enrollment cycle.

This year, Andrew integrated dynamic metrics based on social behavioral data, such as students’ engagement level, EI ranked scores, and in-app poll responses, to enhance the value of the existing model. The addition of this dataset improved the accuracy of the predictive model by approximately 15%, and ensured that Andrew was allocating resources to the right students without the cost of focusing on students who were likely to change their minds later in the decision timeline. Furthermore, the enhancements to the predictive model helped build trust in university leadership who were allocating financial aid and marketing funds. Andrew demonstrated how they could influence on-the-fence students based on their online social behavior, so that more resources could be apportioned to strategically recruit that group of students.
The main benefit of *Enrollment Intelligence* is that it gives me real-time information about how students are interacting with one another and our school, providing valuable information to build your class.

Andrew Borst  
Director of Admissions
Find, Track and Contact Students On-the-Fence at University of Nebraska, Kearney

The University of Nebraska, Kearney is the third-largest institution in the state of Nebraska with a total enrollment of 7,000 undergraduate students. After experiencing its highest enrollment in history, the institution struggled to meet its target enrollment last year, missing the goal by nearly 100 students. Brad Green, Assistant Director of Recruitment, decided to explore predictive models as part of his admissions strategy. He turned to EI to triangulate its real-time predictions with historical enrollment data in an effort to shape his admissions strategy and gain more visibility into students’ likelihood to enroll.

With no set deposit deadline, Brad worked closely with the data team to monitor their student information system, measuring their incoming class at given points in time against static metrics from the previous year. By integrating historically powerful indicators of enrollment, such as email open rates, housing sign-ups and orientation registration with social behavioral predictors, Brad was able to build a more complete picture of individual students and their decision to enroll. One such student who signed up for housing, but did not register for new student orientation was flagged as at risk of not enrolling. Based on her social behavioral interactions, however, EI identified the student as highly engaged with the institution. Using the combination of traditional enrollment indicators and real-time student behavior, Brad recognized that she was on-the-fence about her decision to enroll, and worked with her to register for orientation and complete the enrollment process. The additional layer of insight helped Brad more effectively find, track and contact individual students on-the-fence to secure his incoming class.
I think social behavioral data is new and exciting, and definitely see potential for *Enrollment Intelligence* to be a larger part of how we approach enrollment. It gives our team validity and provides the assessment to make sure we’re on track.

**Brad Green**  
Assistant Director of Recruitment
Allocate Financial Aid to Boost Enrollment at Chestnut Hill College

Chestnut Hill College, a small, private institution with less than 2,500 undergraduates, has experienced consecutive enrollment shortfalls due to a struggling Philadelphia school district and an increase in first-generation students. As the new Director of Admissions, Jamie Gleason’s biggest challenge was adapting to students’ changing demographics and needs, so that he could better distribute financial aid dollars to those at-risk students most likely to enroll and thrive at Chestnut Hill. In an effort to improve yield for his incoming class, Jamie used EI to complement existing enrollment strategies and provide more complete student profiles. Jamie focused his efforts on students who were susceptible to falling off his radar. After cross-referencing Enrollment Intelligence predictions with traditional enrollment indicators, he discovered that there were highly engaged students expressing significant interest in attending Chestnut Hill, but who had not deposited. Concerned with the inconsistency between datasets, Jamie considered the reasons why those students had not deposited, including that they were unable to commit financially to the institution. In order to secure one particular student’s enrollment, Jamie was able to reallocate financial aid dollars and increase his offer by $9,000. For his first year at Chestnut Hill, Jamie set an aggressive enrollment goal. He wanted to implement strategies that would have an immediate impact, and EI provided the visibility he needed to make every student count.
The fact that there is a model working on understanding how [social behavioral] interactions affect students’ college choice and processing all of the factors I cannot see is reassuring. Enrollment Intelligence helps us to find, track and contact those students who are falling off.

Jamie Gleason
Director of Admissions
YIELD MANAGEMENT

Centralized, real-time enrollment analytics to help your admissions team work smarter, not harder to reach your enrollment goals.

PERSONALIZATION

Dynamic features to deliver personalized communication to targeted students through social and mobile channels.

MOBILE STUDENT ENGAGEMENT TOOLS

Engage students continuously during the admissions cycle on their mobile devices with polls, private messages, targeted announcements and roommate matching.

PREDICTIVE SCORING

Powerful data-driven way to identify admitted students by their likelihood to enroll based on social behavioral data.

GROUPS

Automated prioritization of students, empowering your team to align its efforts where they will have the most impact.

REAL-TIME IMPACT

Easy-to-use dashboard that provides real-time enrollment summaries of students by their likelihood to enroll, enabling you to get better outcomes.

STUDENT-LEVEL ANALYTICS

Easy access to advanced, customizable analytics with actionable student data. Measure engagement and maximize your yield strategies based on students' likelihood to enroll.

ENROLLMENT SYSTEM OF RECORD

One powerful source that integrates your institutional data with social behavioral data to give you control over your enrollment goals.
Uversity believes students are more than demographic profiles and personas. Our innovative mobile and data solutions help admissions professionals achieve enrollment success by transforming how colleges and universities engage students during the admissions process. We provide a powerful, data-driven way to measure engagement and maximize yield strategies through our real-time predictive enrollment models.
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ENROLLMENT MANAGEMENT

Questions?
Email us at contact@uversity.com