



experience: **LIAISON** 

SEATTLE | FEBRUARY 15-16, 2023

Predictive & Prescriptive Analytics: Critical Tools for the Enrollment Problem Solver



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Overview



- Why predictive & prescriptive analytics
- Understand real-life use cases through an enrollment funnel
- Discover the functionality of an easy-to-use tool





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An Overview into Predictive and Prescriptive Analytics



Existing Institutional Challenges



Financial Pressures



861 college closures occurred since 2004; 20% of which were non-profit institutions

Shifting Student Demographics



1st year college students are projected to decline by 15% between 2025 - 2029

Performance-Based Funding



37 states operate under performance-based funding policies and need data to make decisions

Declining Graduation Rates



Only 45% of students earn a degree or certificate within 6-years of starting college while 31% drop out entirely

New Business Models



66% of finance professionals say their current business models are not sustainable for the next 5 to 10 years

Covid-19 Impact

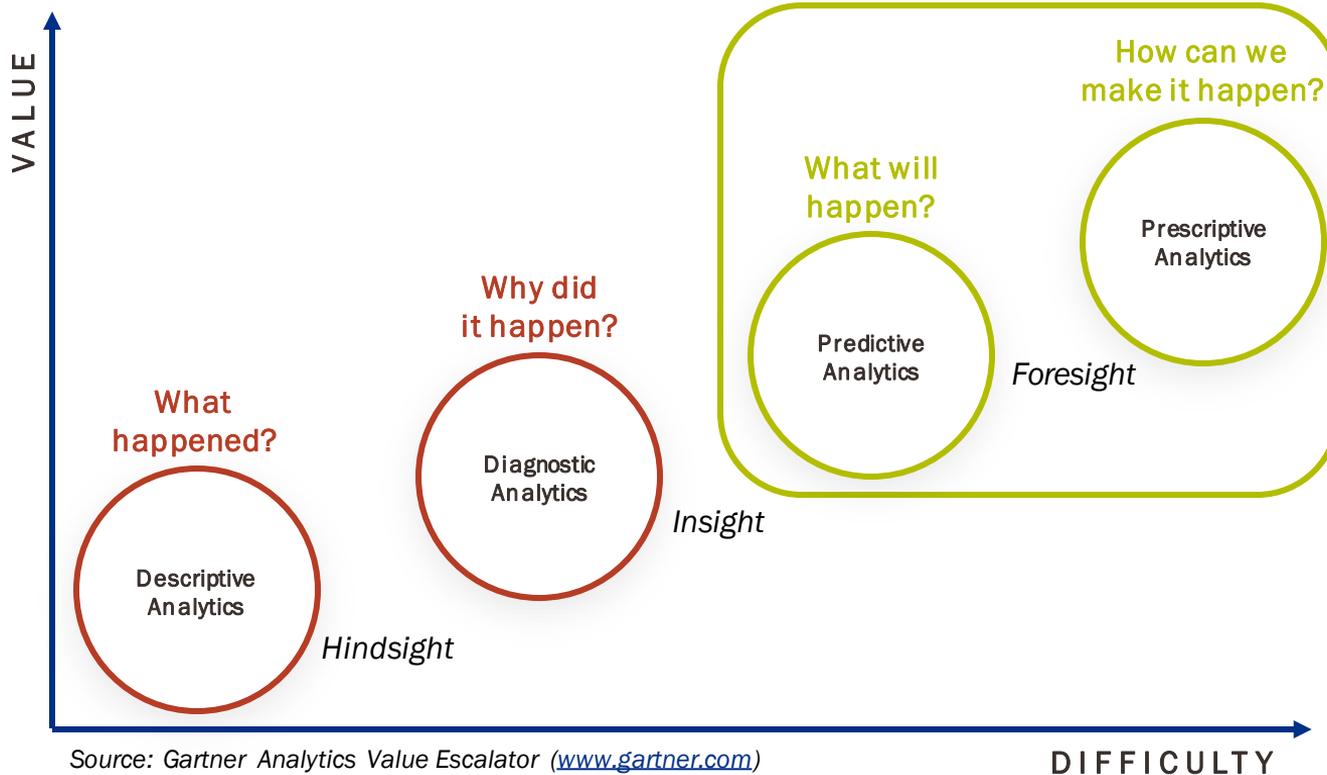


As COVID-19 progressed, many institutions are grappling with enrollment declines and educational quality

Accelerated enrollment declines have driven institutions to utilize advanced analytics to survive the market paradigm shifts

Sources: Hechinger Report, Insidehighered, Kaufman Hall, Chronicle, LinkedIn, Wiley, Forbes, nces.ed.gov

The Emergence of AI and ML as Decision Drivers



The Value of Predictive & Prescriptive Analytics



Proactively identify issues



Empower users with information



Gain a deeper understanding of the individual



Make decisions confidently, with strong data backing



Leverage knowledge from data scientist and subject matter experts

We Need to Create the Recipe



Data



Ingredients

Algorithms



Appliances

Models

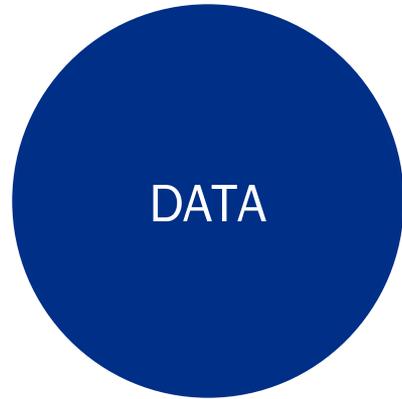


Recipes

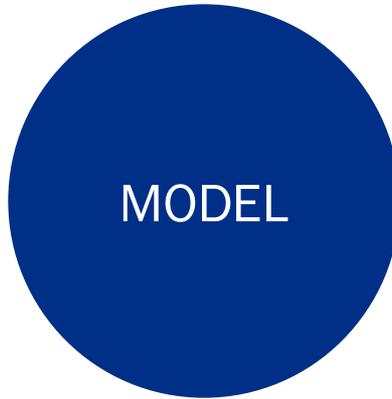
Predictions



Dishes



DATA



MODEL



ANSWER

Ingredients

(Prospective Students)

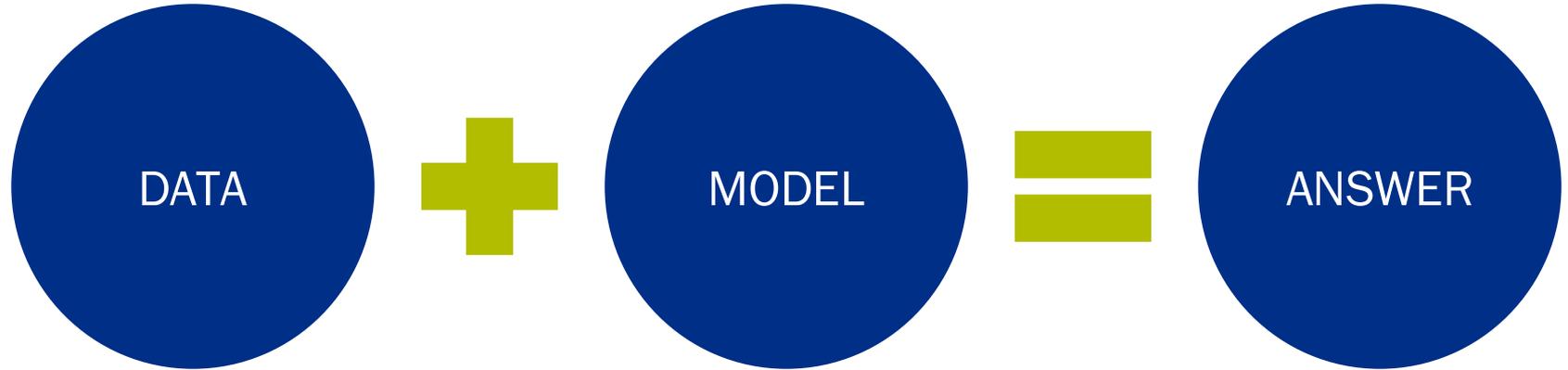
Recipe

Delicious Meal

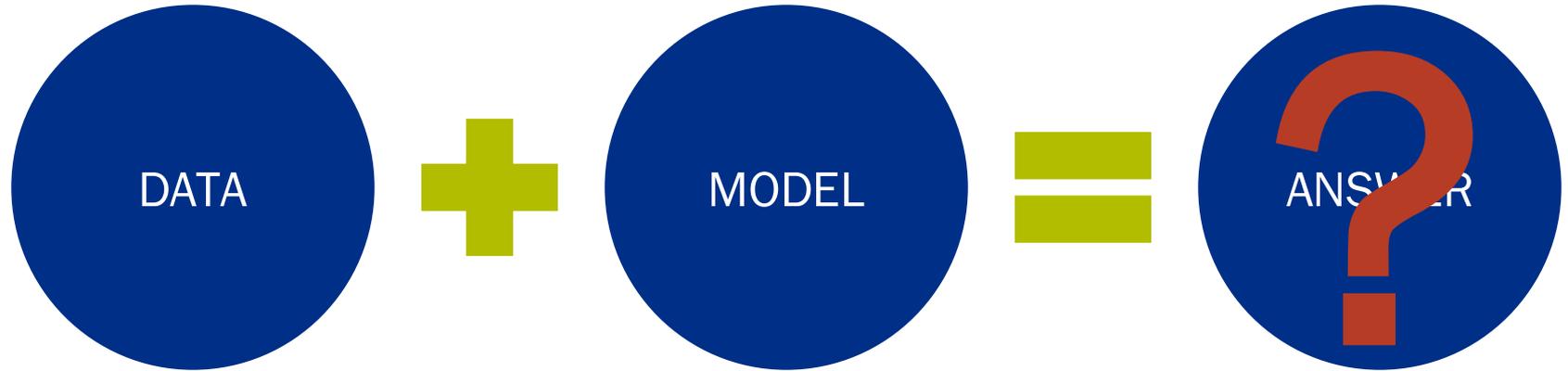
(Exceptional Students)



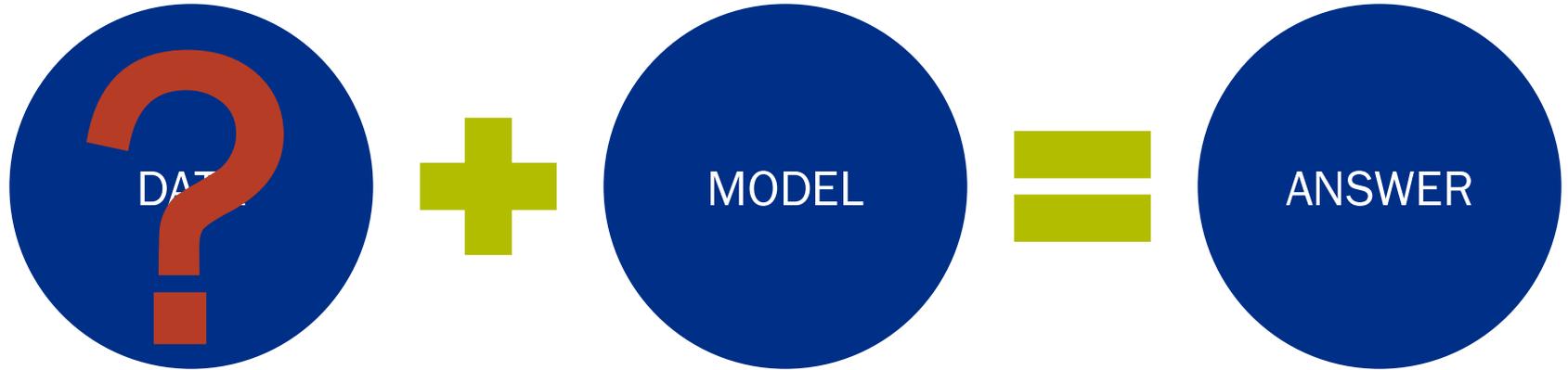
Now We Understand



This is a Prediction



What is This?



A Prescription!!!



Examples Through an Enrollment Funnel

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-
-
-

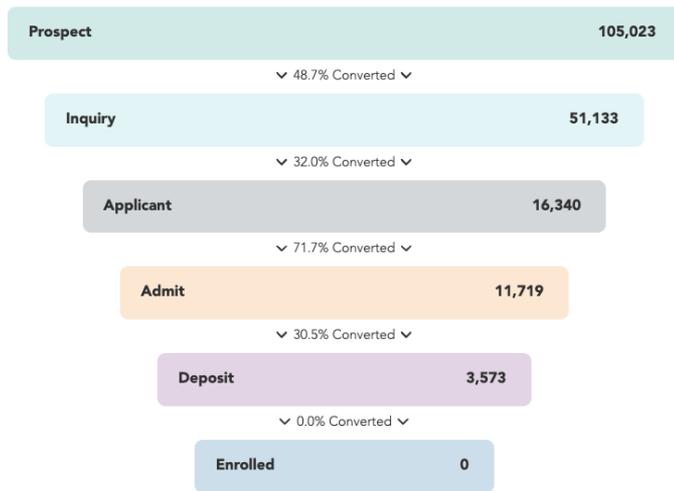
Predictions Throughout the Enrollment Funnel



Enrollment Prediction - 2023



Enrollment Funnel - 2023



Funnel Grid - 2023

Phase	Rewind Phase Prediction	Current Phase Prediction
Prospect	851	52
Inquiry	1,763	2
Applicant	3,606	0
Admit	2,333	858
Deposit	2,583	2,573

Developing a Financial Aid Matrix Strategy



The Challenge

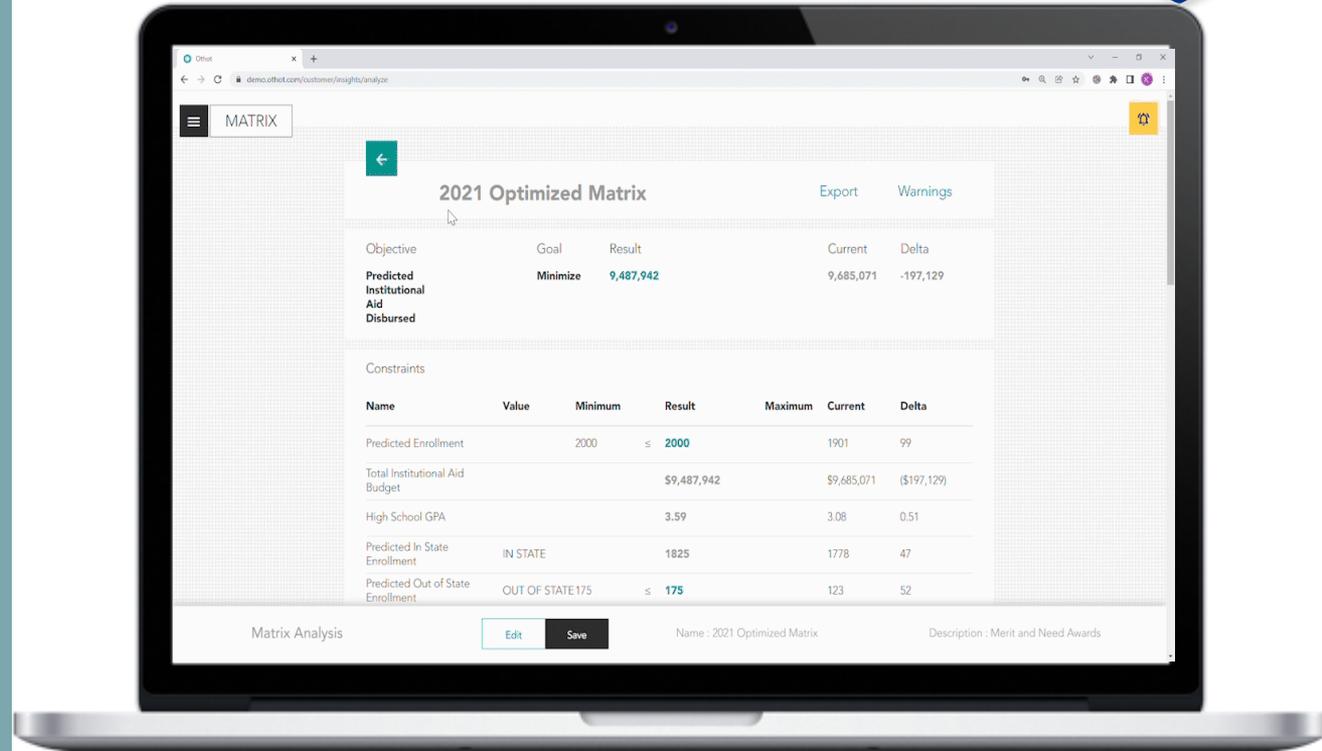
Institution was evaluating a proposed financial aid matrix strategy developed in-house but wanted additional validation the predicted outcomes could be achievable given significant additional funding required.



The Solution

Develop a model initially focusing on admitted population with criteria known at time of admission and awarding. Predictive and prescriptive simulations were completed on prior populations to confirm if additional yield would be feasible.

Matrix Optimization in Action



Columbia College Chicago

- 34% increase in new student enrollment
- \$1M increase NTR
- 14% increase in diversity



Columbia College Chicago

Columbia College Chicago had a financial aid strategy it believed could yield more students but was eager to validate and update the approach. Using Othot's Student Success platform, the college grew enrollment 34%, NTR by \$1M, diversity by 14%.

[Read More >](#)

Optimizing Marketing & Recruiting Activities



The Challenge

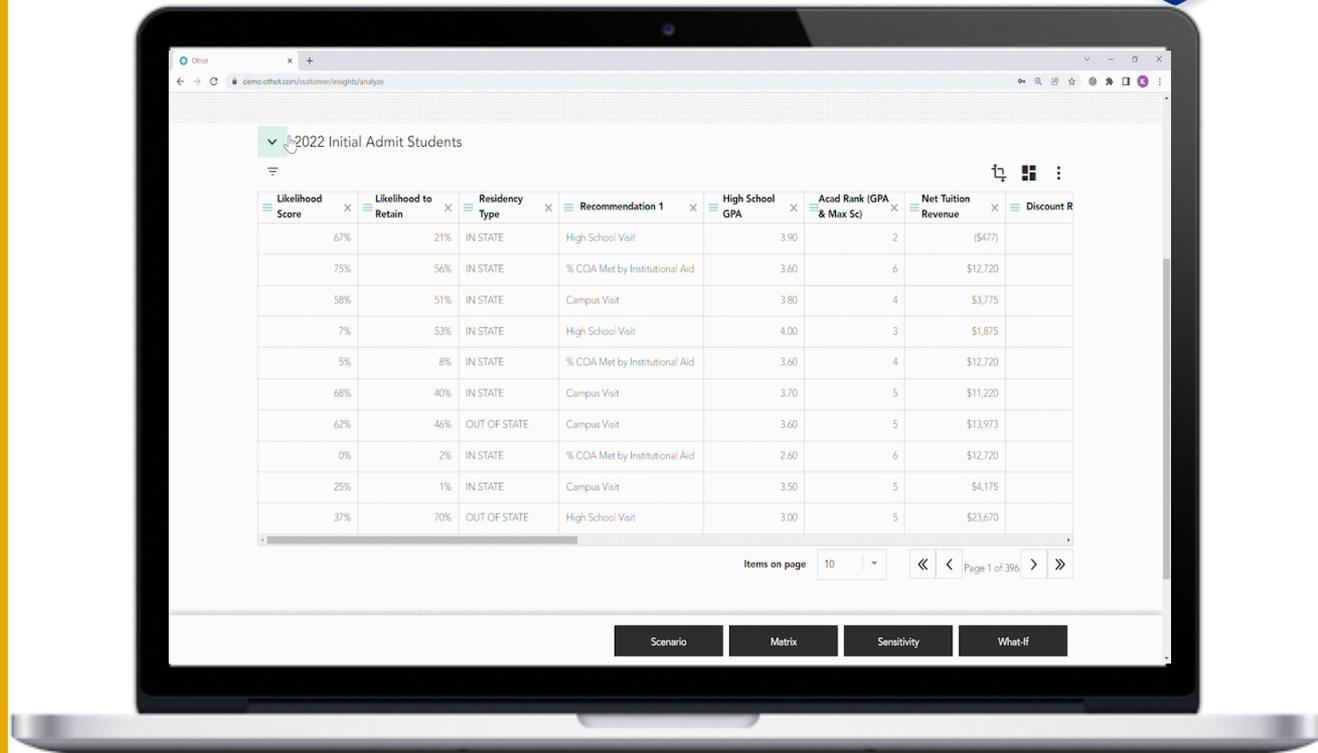
During the pandemic, an institution needed to be hyper-targeted on whom to invite to campus for limited-capacity events, and who to engage with viewbooks.



The Solution

Prescriptive analyses identified individuals most likely to attend an on-campus event and generate funnel conversion. Additionally, predictive analyses helped determine geo-markets with limited benefit from prior distribution and better target emerging geo-markets.

Prioritizing Resources in Action



2022 Initial Admit Students

Likelihood Score	Likelihood to Retain	Residency Type	Recommendation 1	High School GPA	Acad Rank (GPA & Max Sc)	Net Tuition Revenue	Discount R
67%	21%	IN STATE	High School Visit	3.90	2	(\$47)	
75%	56%	IN STATE	% COA Met by Institutional Aid	3.60	6	\$12,720	
58%	51%	IN STATE	Campus Visit	3.80	4	\$3,775	
7%	53%	IN STATE	High School Visit	4.00	3	\$1,875	
5%	8%	IN STATE	% COA Met by Institutional Aid	3.60	4	\$12,720	
68%	40%	IN STATE	Campus Visit	3.70	5	\$11,220	
62%	46%	OUT OF STATE	Campus Visit	3.60	5	\$13,973	
0%	2%	IN STATE	% COA Met by Institutional Aid	2.60	6	\$12,720	
25%	1%	IN STATE	Campus Visit	3.50	5	\$4,175	
37%	70%	OUT OF STATE	High School Visit	3.00	5	\$23,670	

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Scenario Metric Sensitivity What-if

University of Delaware

- 4.8% increase in applications
- 2x growth in event attendance



The screenshot shows a presentation slide on a blue background. At the top left is the "Slate Stage" logo, which consists of a small circular icon with a laptop and the text "Slate Stage". The main title of the slide is "Search & Rescue: How the University of Delaware is Using Cutting-Edge Strategies to Guide High School Seniors to Campus". Below the title, it says "University of Delaware | Othot, Inc.". At the bottom left, there is a "WELCOME!" message in green and yellow, followed by "We will begin momentarily." in white. At the bottom right, there is the "slate" logo in white and the "INNOVATION FESTIVAL" logo in white with a colorful diamond icon.

<https://slate-partners.technolutions.net/share/recording?id=bcae896f-5511-4488-af57-be44e43aa43f&target=blank>

Shaping the Class



The Challenge

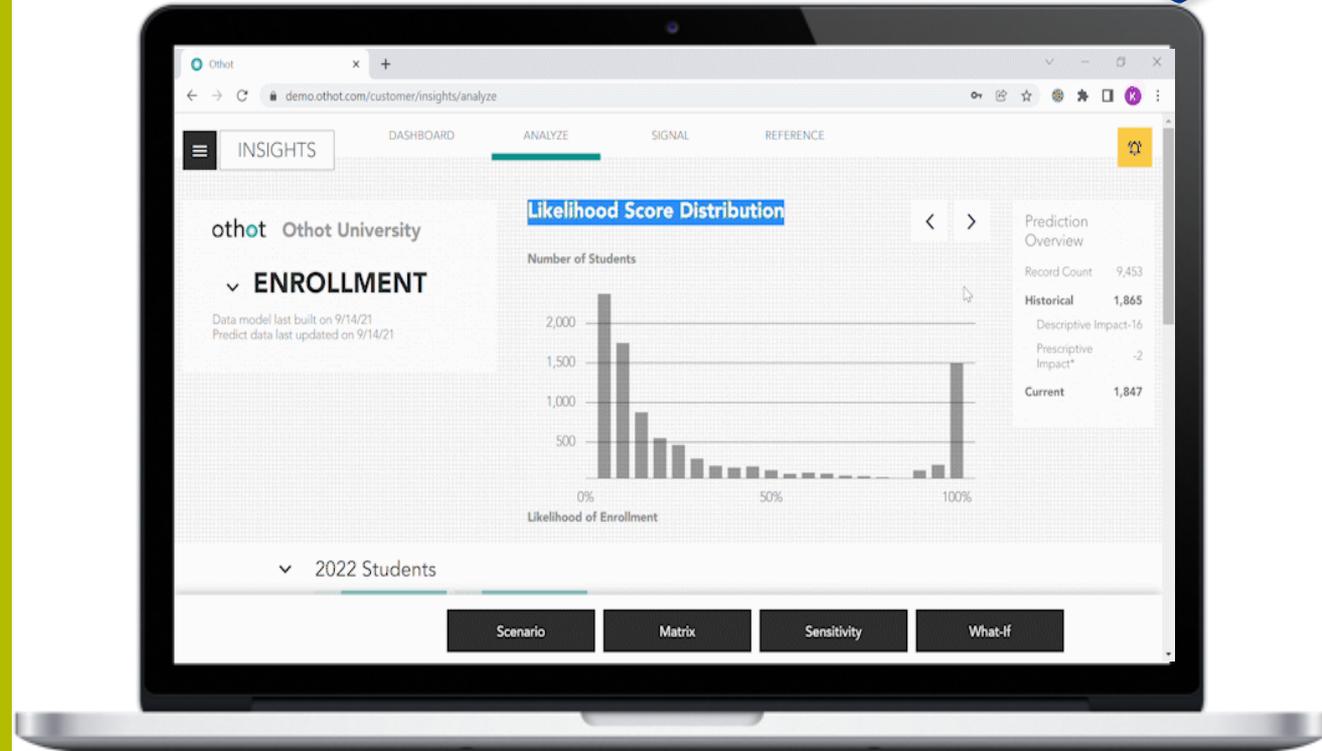
Law school able to achieve enrollment quantity goal year over year, but wanted to focus on academic quality goals, specifically increasing average LSAT and average undergraduate GPA scores.



The Solution

Rather than just focusing on admission decisions, insights from the inquiry population highlighted who to engage with that met the higher academic standards. Driving those students to apply through forum attendance and other behavioral cues led to a better admission pool.

Shaping Your Class in Action



University of Pittsburgh School of Law

- 7% increase in diversity
- Increased average LSAT score to 160
- Best admission year for scores, GPA, & gender-based demographics



University of Pittsburgh School of Law (Pitt Law)

With law school enrollment down nationwide, the University of Pittsburgh School of Law was seeking a solution to combat the declines. Othot's advanced analytics platform helped the institution achieve its enrollment goals.

[Read More >](#)



Targeting Impact Awards



The Challenge

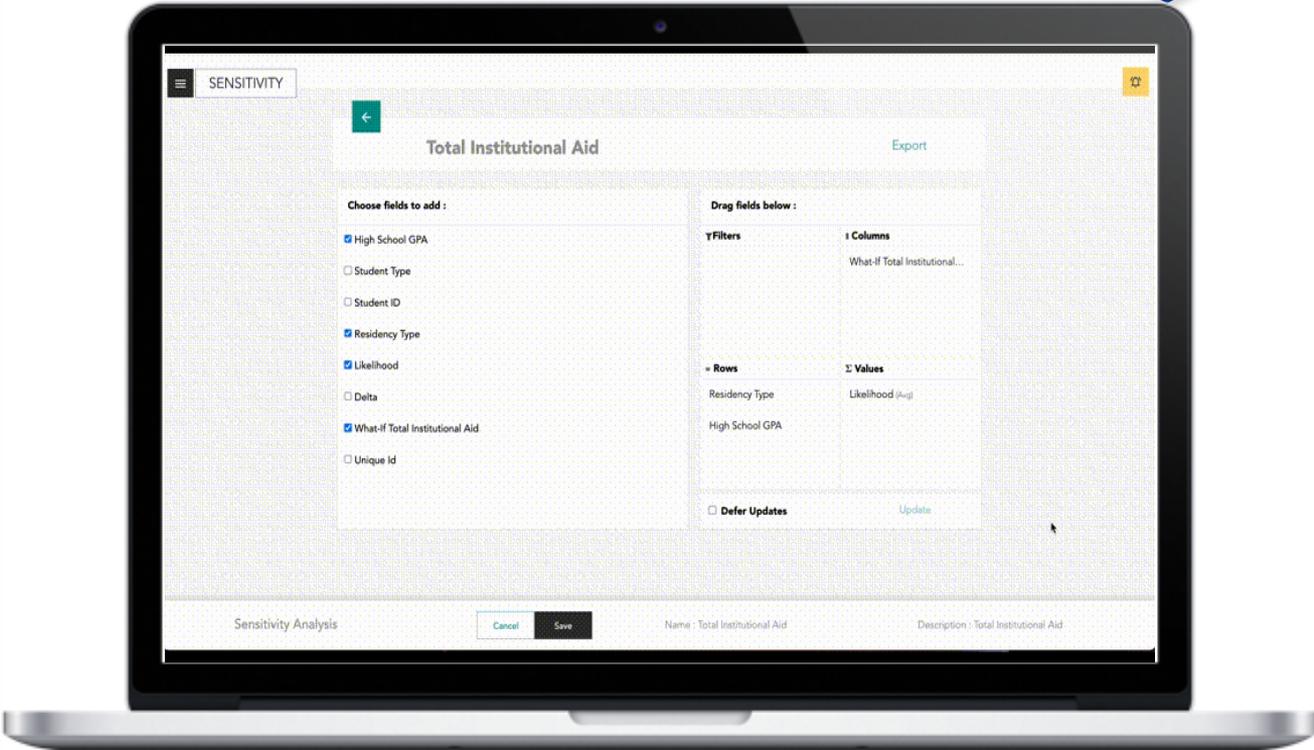
Institution had additional financial aid specifically allocated for impact awards during yield season. Also, wanted to direct allocation at target groups rather than overall admitted population.



The Solution

Using sensitivity functionality for incremental aid, the institution was able to determine individuals where a \$2k - \$6k award would have the largest lift in likelihood to enroll. The institution was able to optimize the allocation within the impact award budget.

Price Elasticity in Action



Florida Institute of Technology

- 9.7% increase in enrollment
- 2% retention rate improvement
- 9% increase in net tuition revenue



Florida Institute of Technology (Florida Tech)

Like many campuses, Florida Institute of Technology wanted to implement a more effective admissions strategy. Using Othot's analytics-driven solution, the school was successful – increasing NTR by 9% and enrollment by almost 10%.

[Read More >](#)



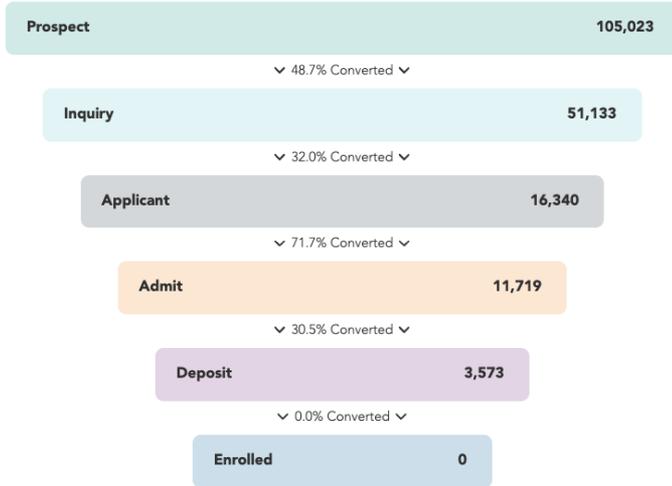
Additional Enrollment Funnel Opportunities



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Q&A



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Thank You



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