GRAY™
DECISION INTELLIGENCE

PES Economics Agent

Answers at your Fingertips

November 13, 2025

Today's Speakers

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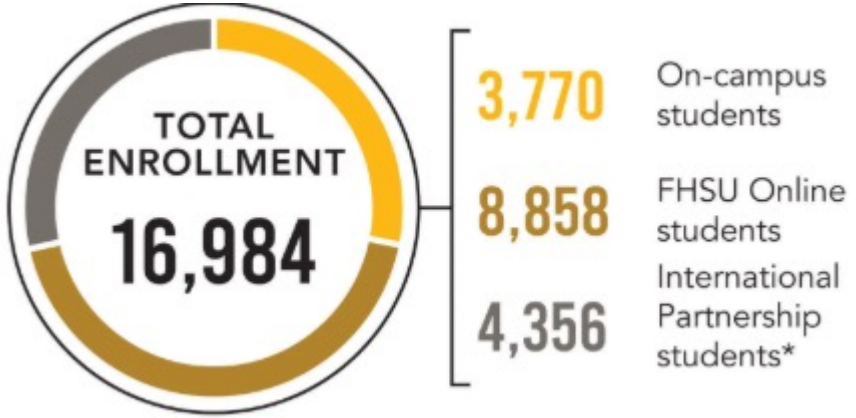
Fort Hays State University

About Fort Hays State University

Founded in 1902 as the Western Branch of Kansas State Normal School. The institution was originally located on the grounds of Fort Hays, a Nineteenth-Century frontier military outpost.

- Regional Comprehensive offering Associate, Bachelor's, Master's, and Doctorate (DNP) degrees on-campus, online, and through international partnerships
- Colleges: Education, Business, Arts/Humanities/Social Sciences, Science & Technology, Health & Behavioral Sciences
- 80+ unique program offerings with many concentrations, certificates, minors, & micro-credential offerings
- Roughly 500 Faculty/500 Staff
- Accredited through the Higher Learning Commission
- 1 of 32 Kansas public higher education institutions Governed by the Kansas Board of Regents



Margins are only one component of a complete Program Evaluation System.

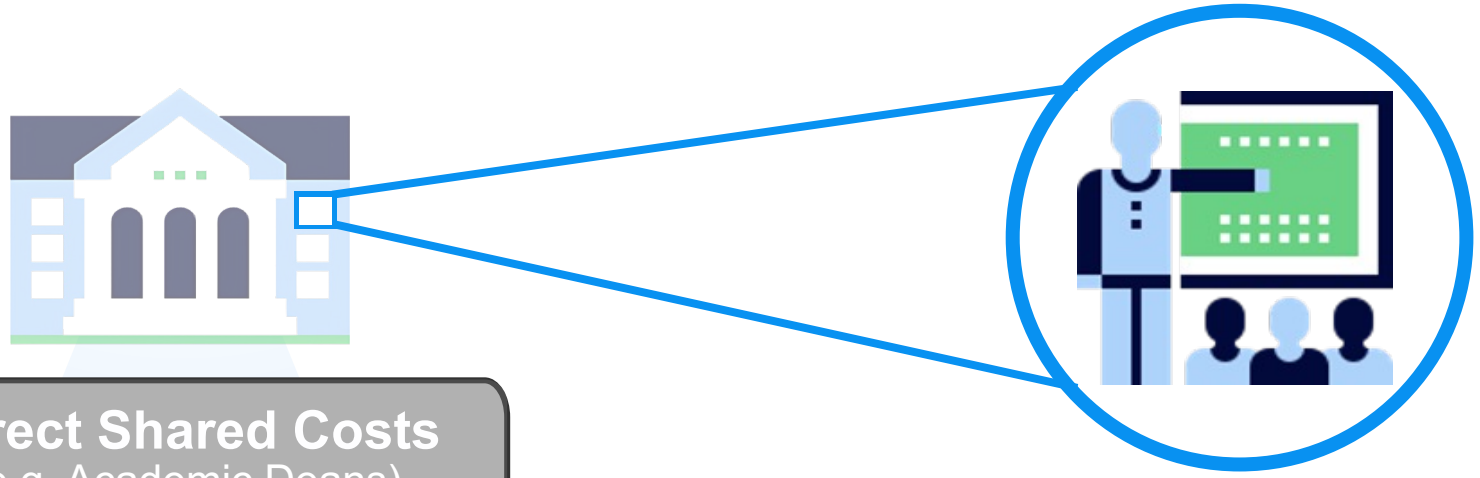
Why are margins important?

Cross-subsidies fund what markets won't: *investing in your mission.*

- Institutions use the funds to subsidize other mission-critical programs and activities.

Program Economics Methodology

Gray DI calculates revenue, cost, and margin for teaching; we usually exclude overhead.



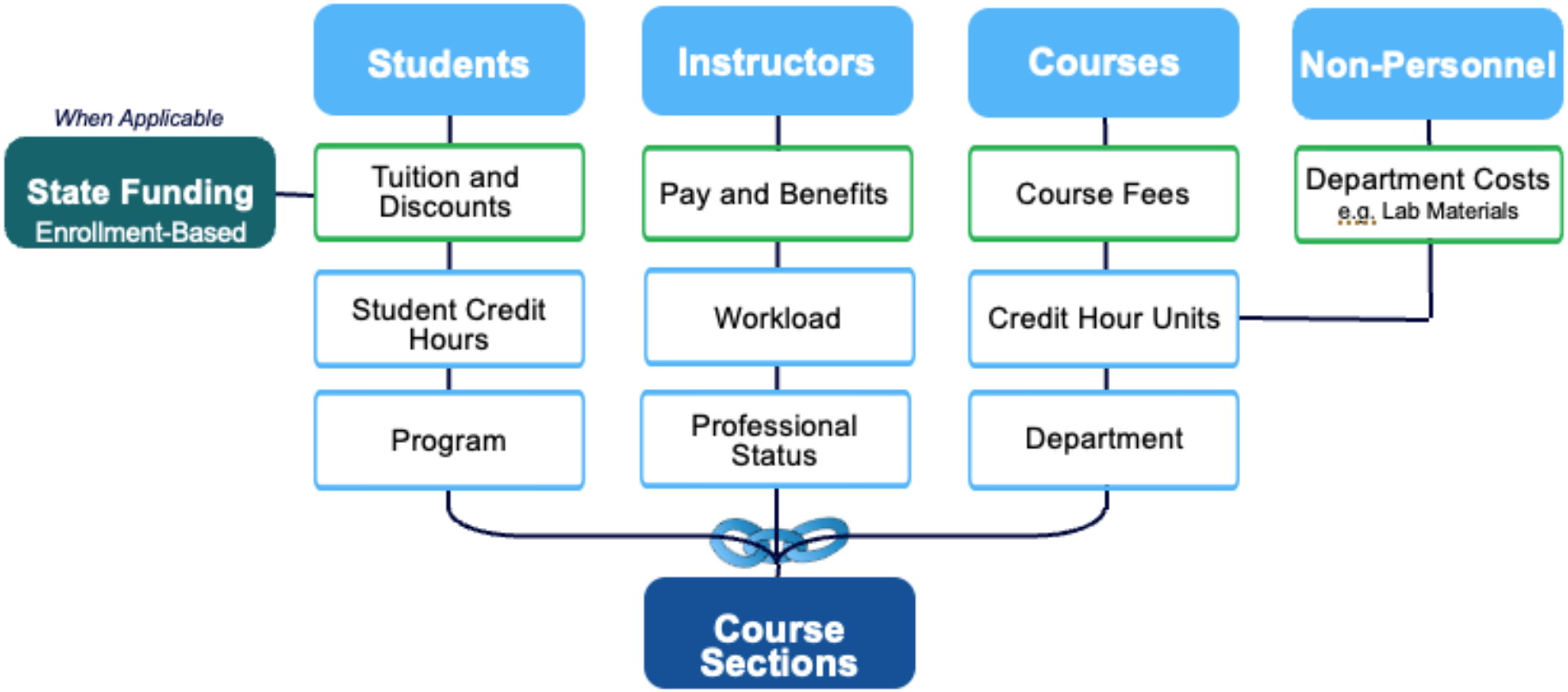
Direct Shared Costs
(e.g. Academic Deans)
Department-Level Input

Indirect Costs
(e.g. Facilities)
Line-Item Input

Direct Variable Economics
(e.g. Faculty, Tuition)
Course-Level Input

Data Gathering

The data model is centered on course sections, students enrolled, and instructors teaching.



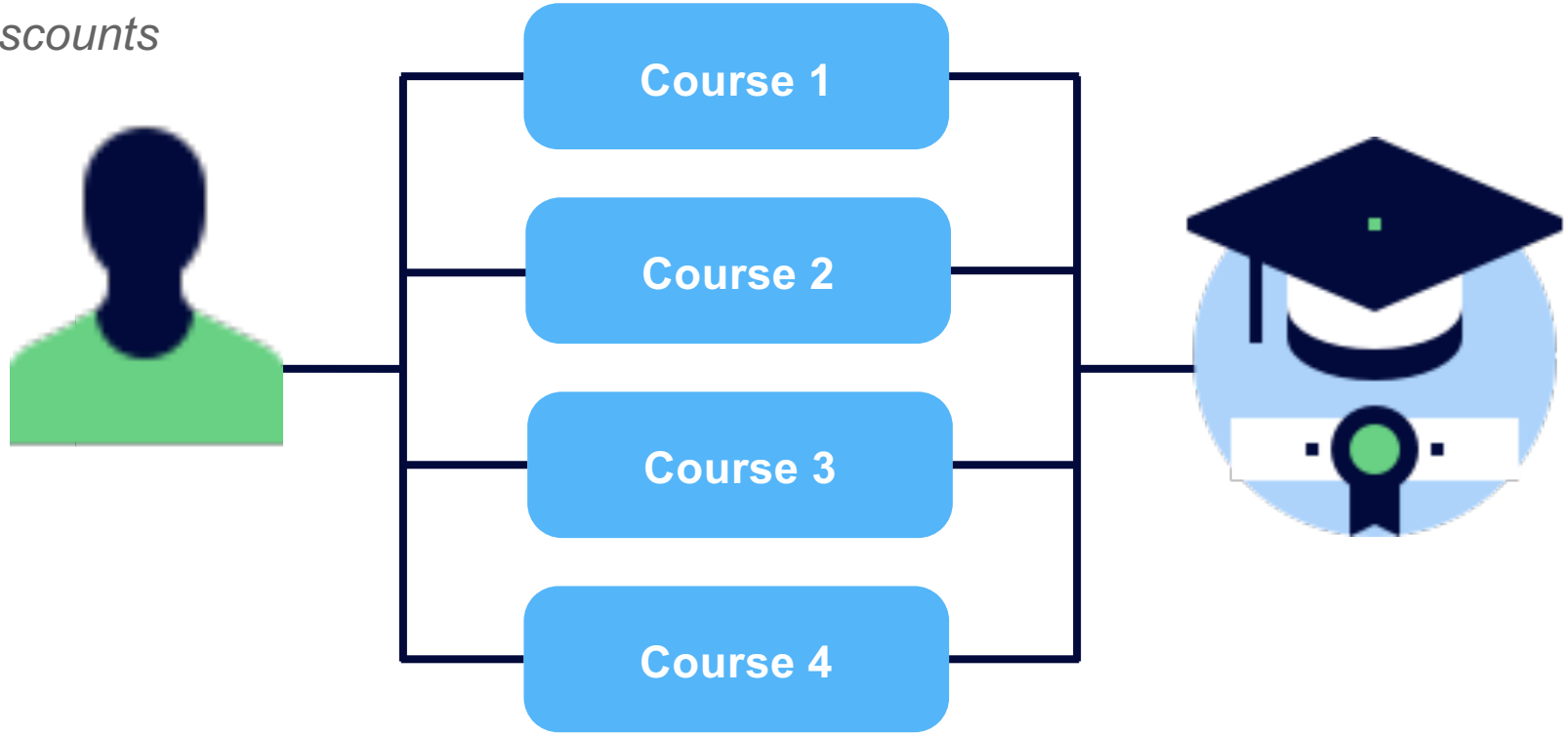
Net Revenue Methodology

- Revenue and discounts follow students into courses and flow to their declared major, or program.

$8,000 net revenue
$10,000 gross revenue
- $2,000 discounts

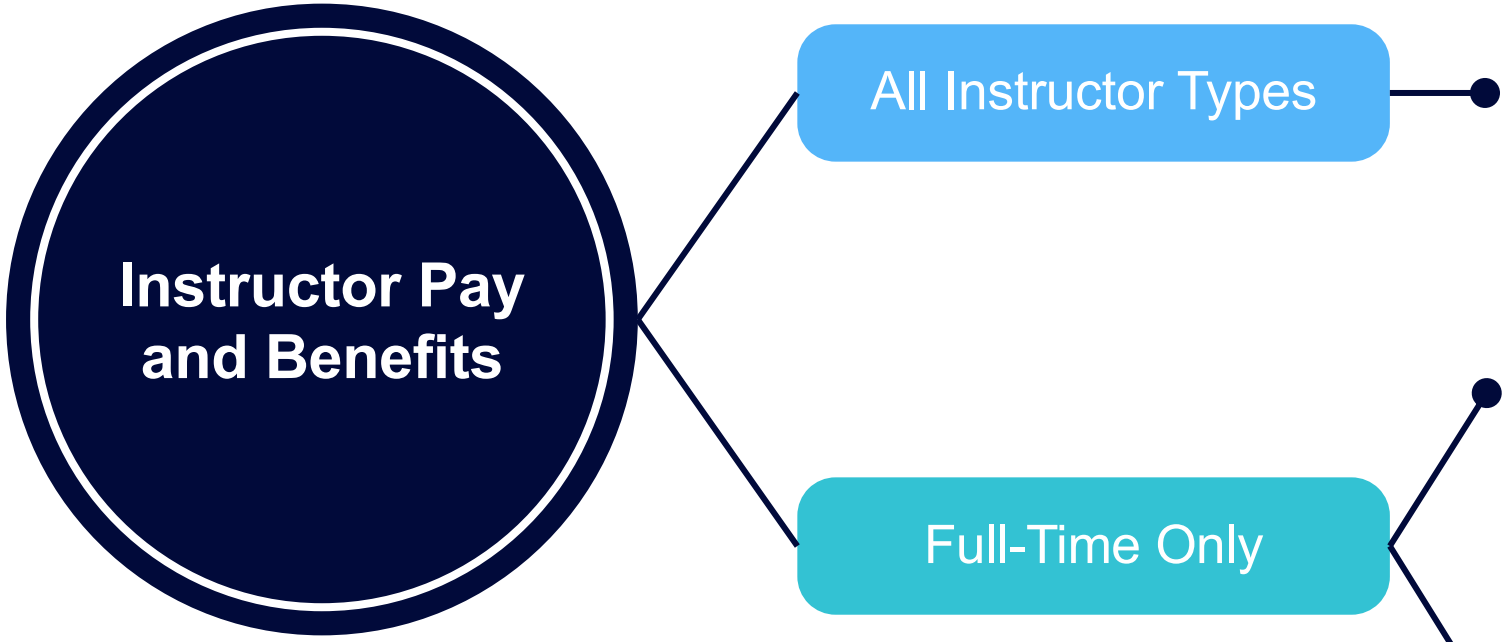
$2,000 per course
assumes equal credit hour value

$8,000 to program



Instructor Cost Methodology

- Instructor pay and benefits are assigned to the courses they teach based on workload units.



Instructional Cost: Full-time salaries, adjunct wages, and benefits are assigned to individual classes based on course workload units.

Release Cost: Corresponding share of full-time pay and benefits removed from direct instructional cost based on provided release units.

Unassigned Cost: Remaining share of full-time pay and benefits for faculty whose teaching plus release load are less than standard load.

Allocating Costs to Students

- The "fair share" of each section's cost is allocated to all students in the class by student credit hour.

History 101 *Illustrative*

$10,602 Instructional Cost

÷ 75 SCH

25 students × 3 credit hours

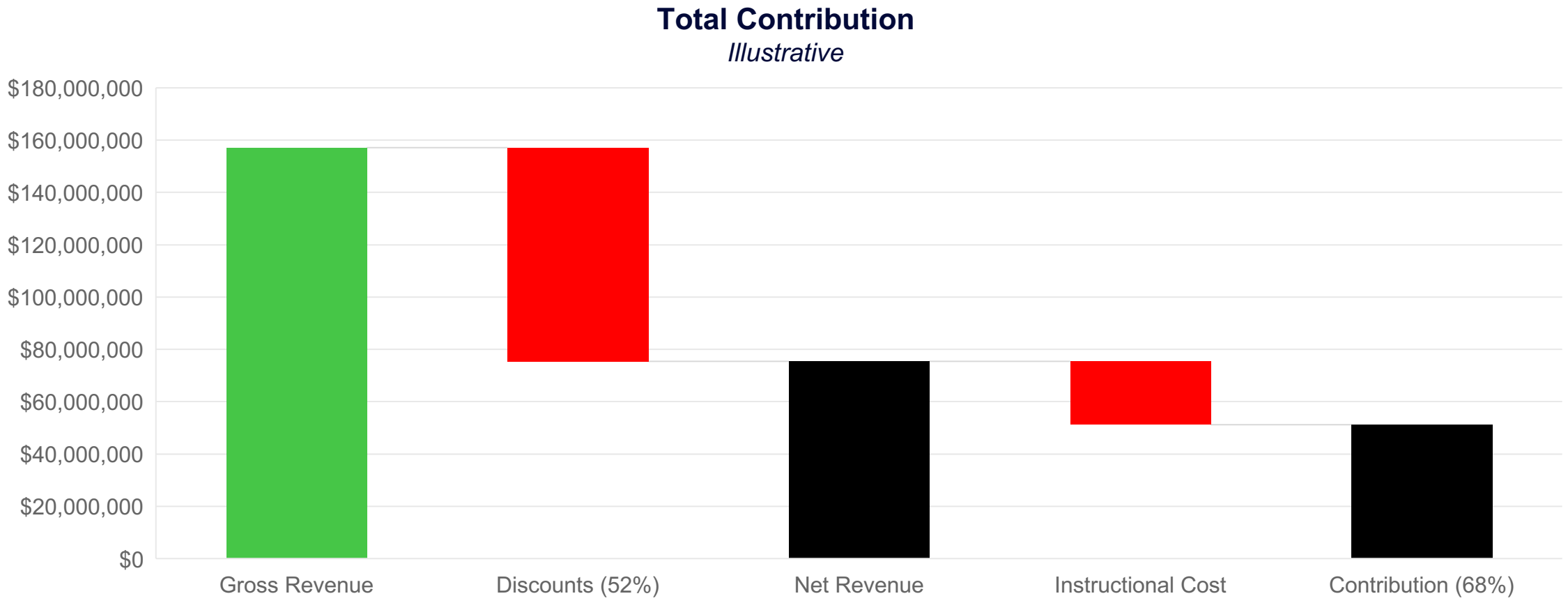
=

$141 per SCH

History Majors | **Biology Majors** | **Other Majors**

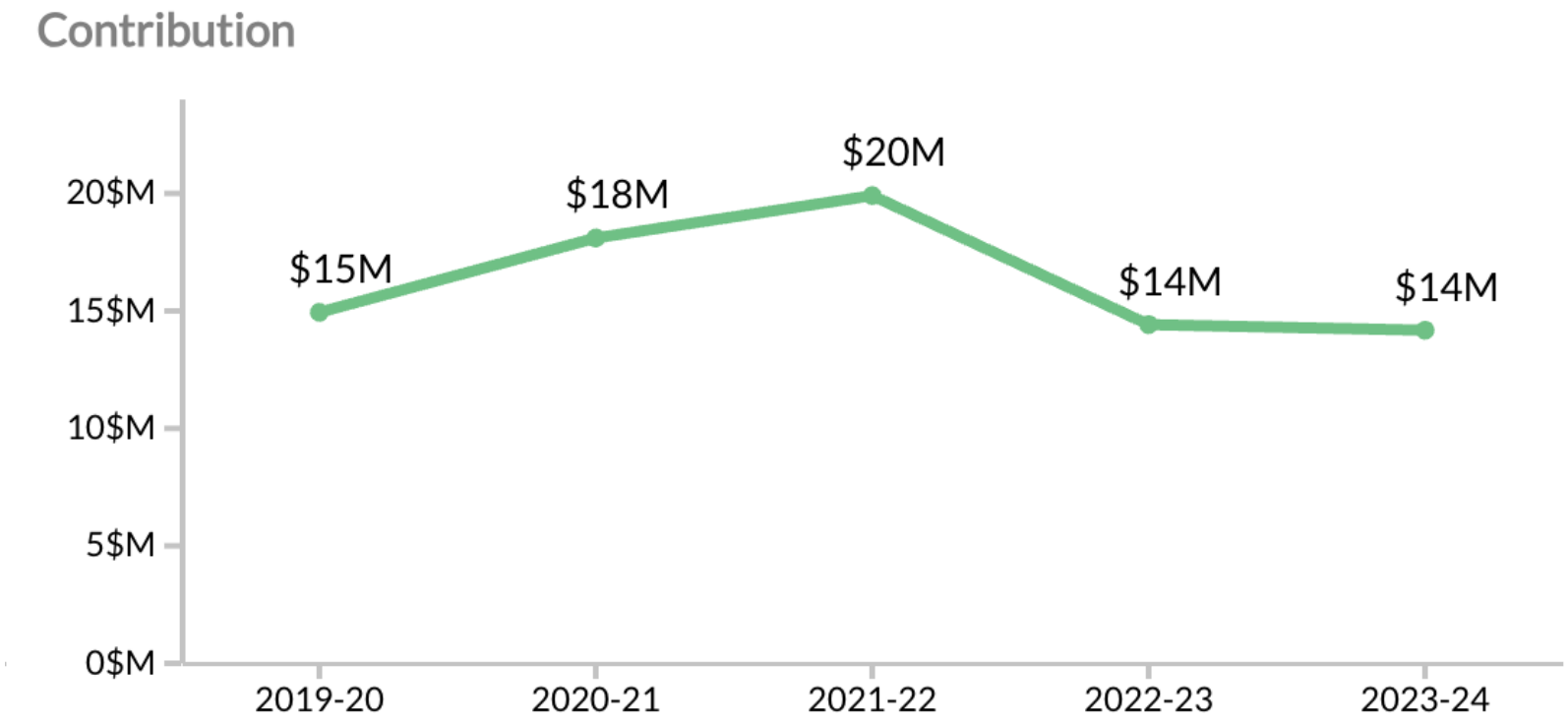
Putting it All Together: Contribution

- Net revenue less direct instructional cost equals contribution margin.



In PES Economics & Outcomes:

Visualize trends over time.

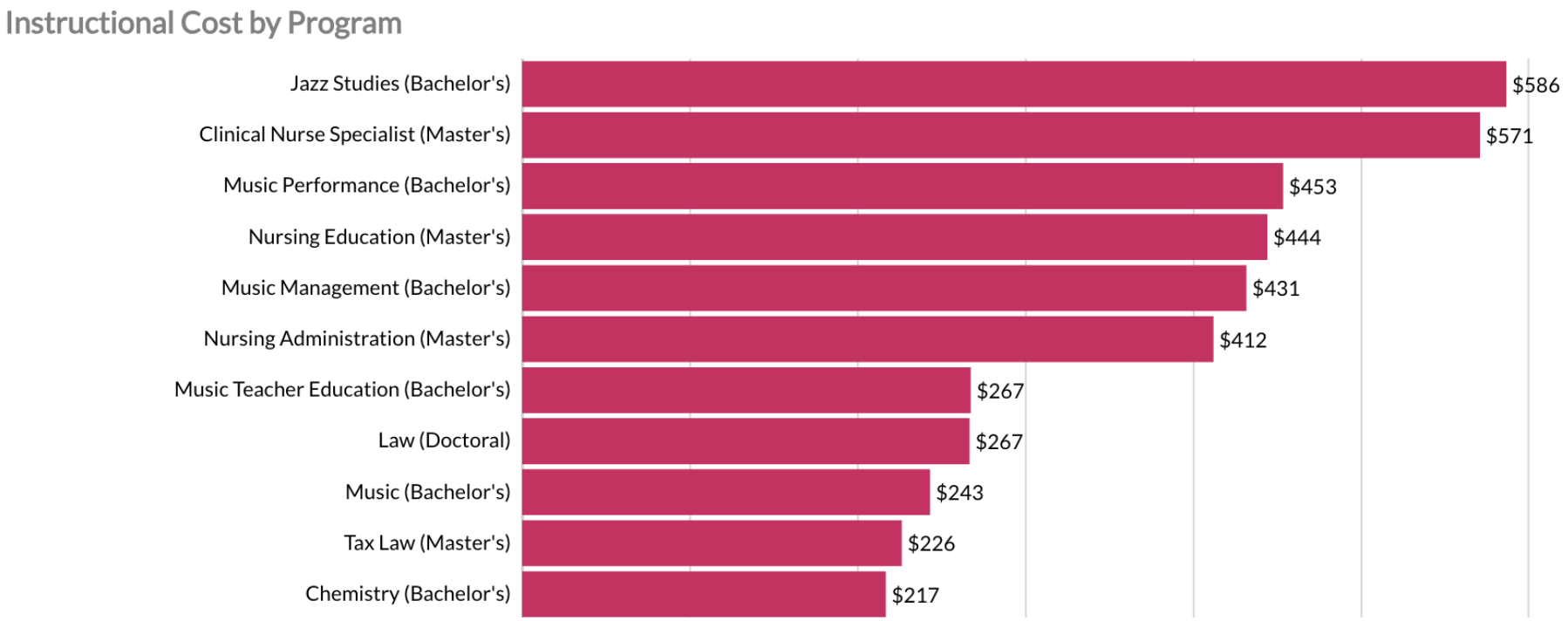


In PES Economics & Outcomes:

Rank-order programs by cost per SCH.

Measure: Totals | **Per SCH**

Metric: Net Revenue | **Instr. Cost** | Contribution

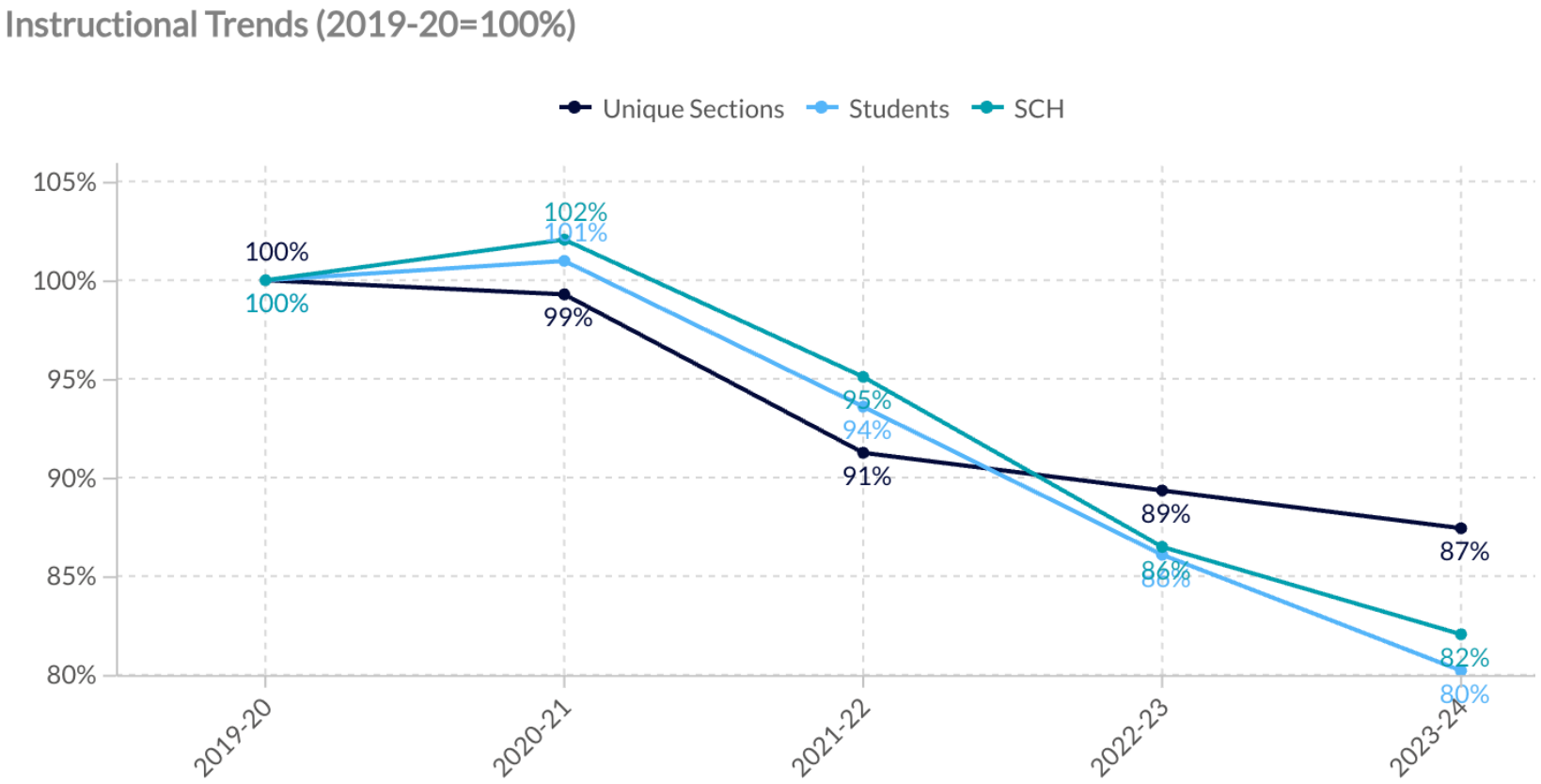


In PES Economics & Outcomes:

Compare program efficiencies.

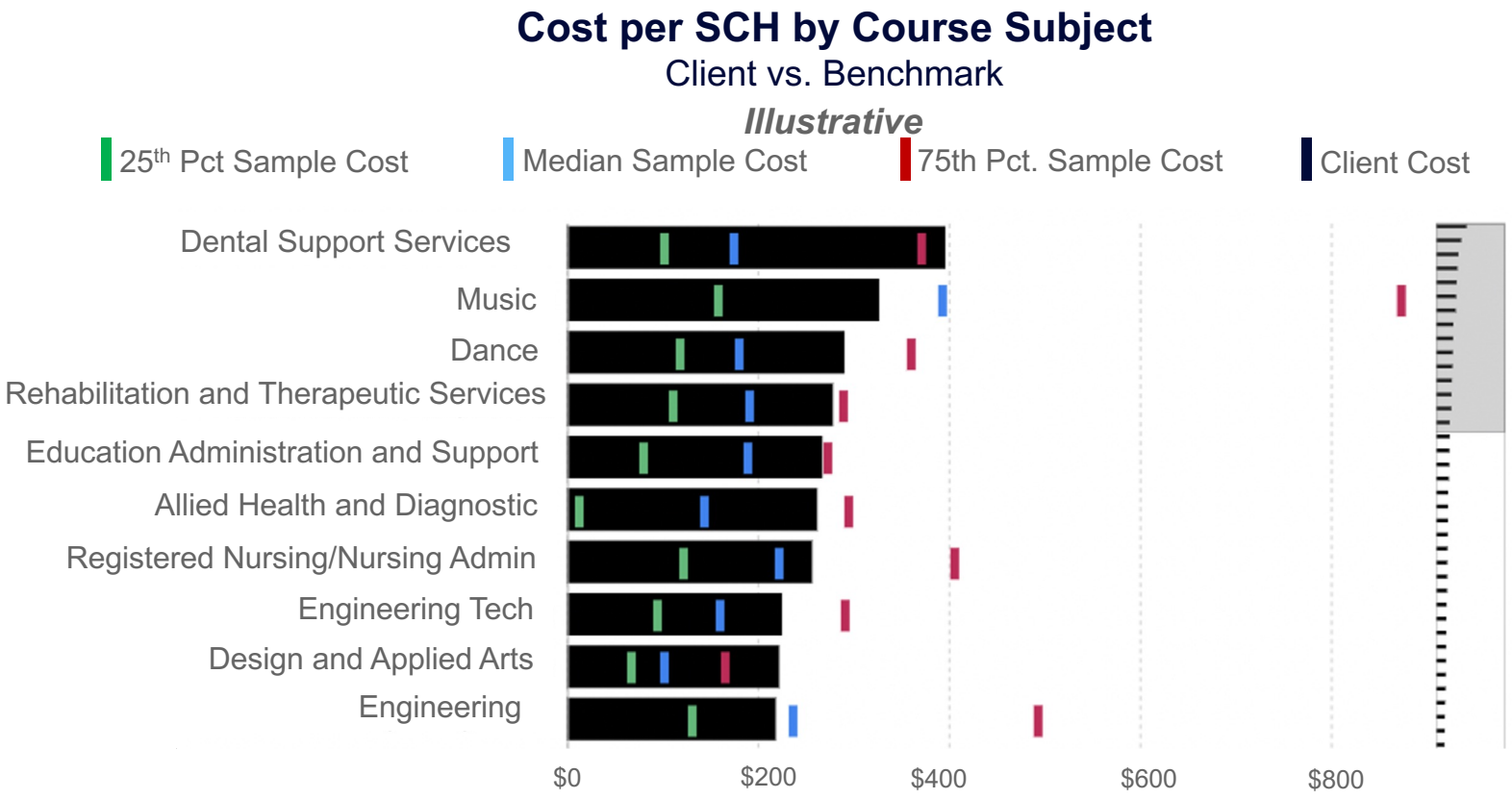
In PES Economics & Outcomes:

Understand if instructional loads are trending with enrollment.



In PES Economics & Outcomes:

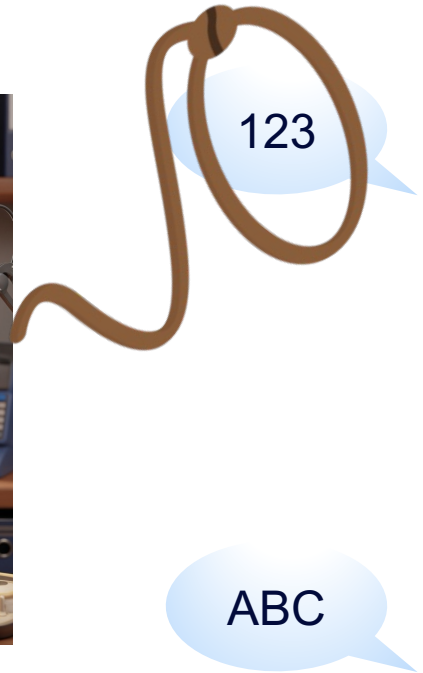
Understand how your cost per SCH compares to other institutions.



The Economics Agent is a conversational AI tool with a multi-agent architecture.

User

Economics Agent



Numerical Agent

Document Agent

How We Built the Economics Agent

Designed to answer numerical and contextual questions through grounding in:

- Gray DI's data model
- Gray DI's methodology
- Term glossary
- Sample queries

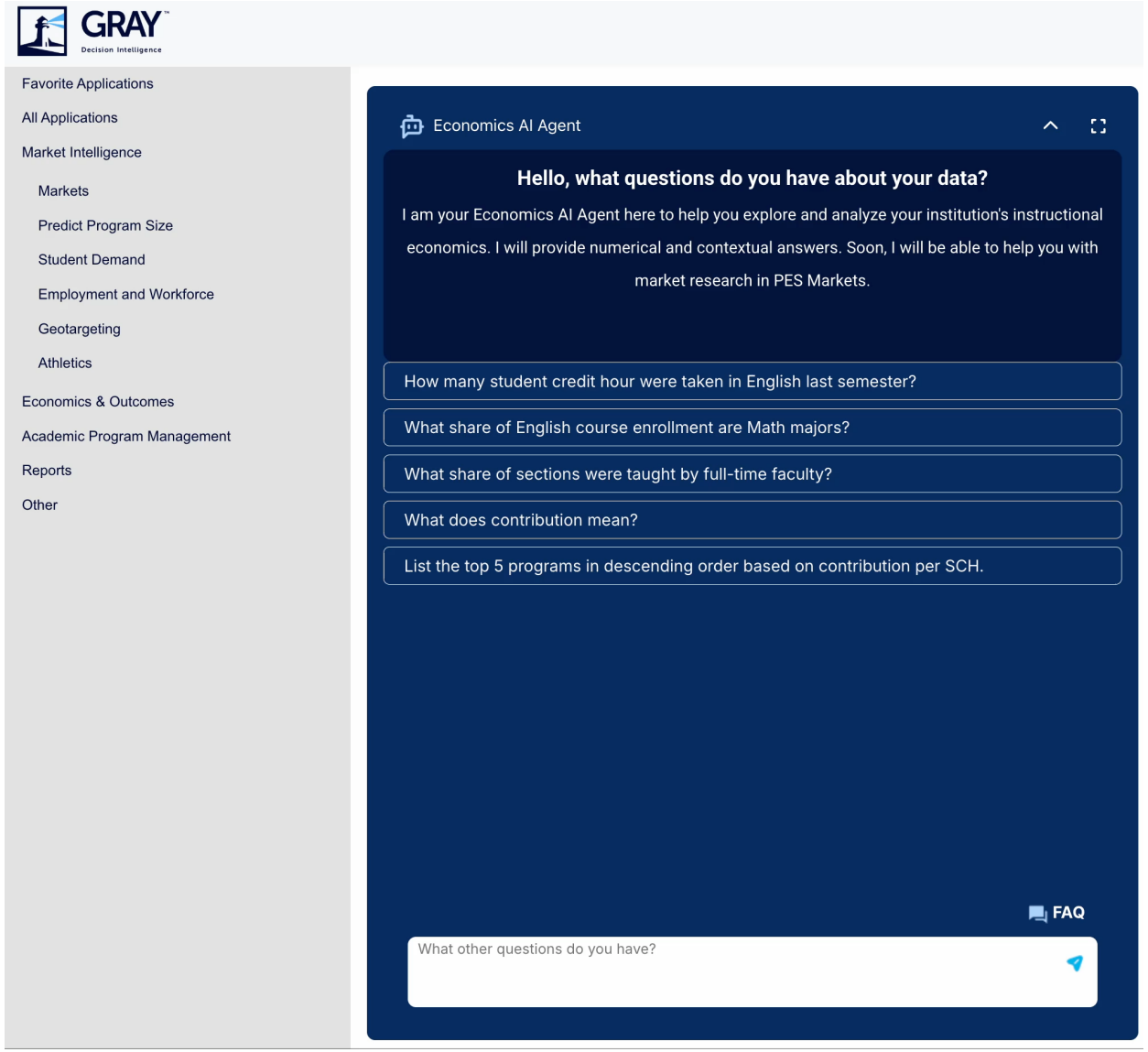
A Simple Interface for Complex Data

Trust the Economics Agent to extract the data needed to answer your question.

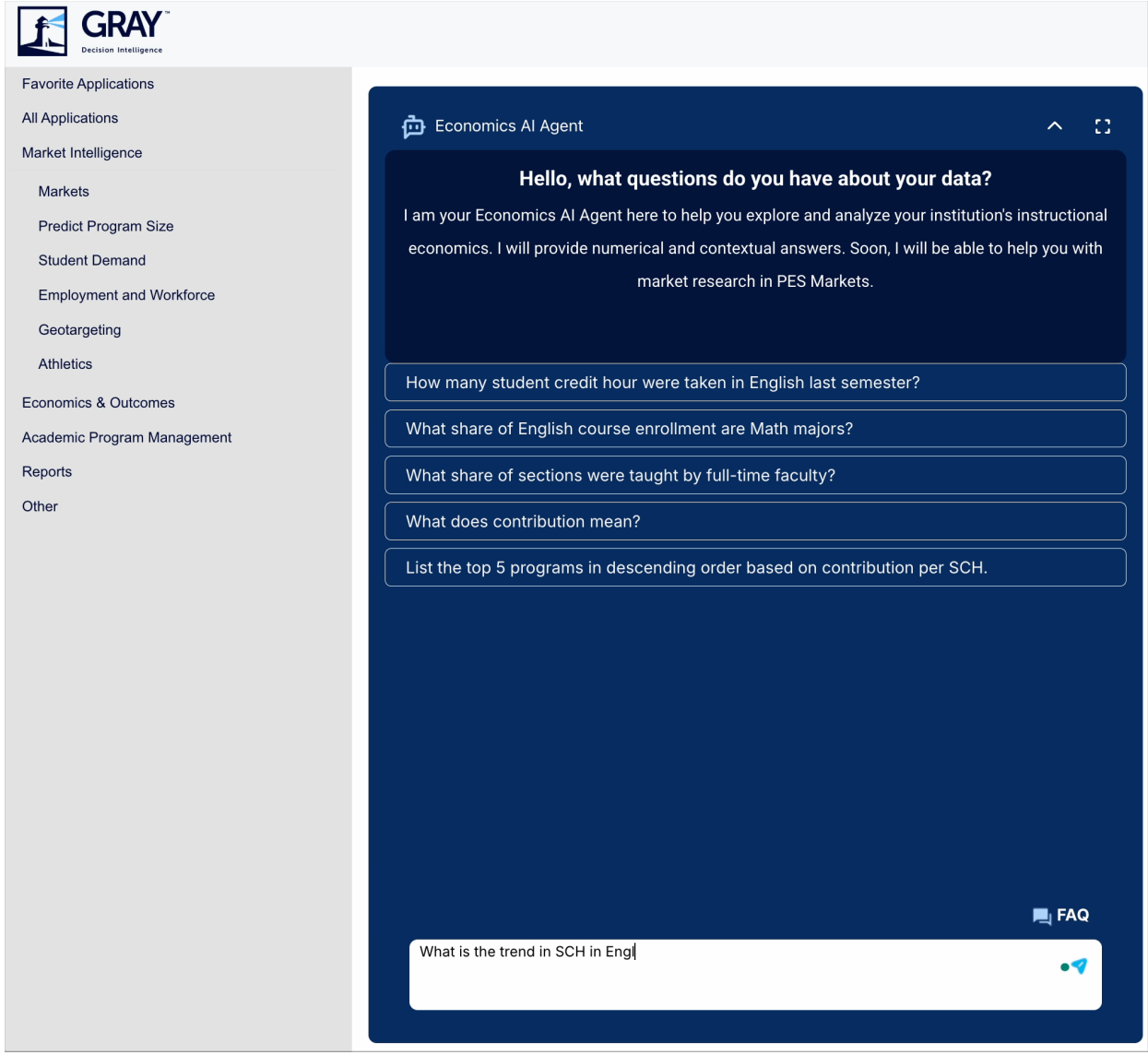
Generate a conceptual response to help new users understand the definition of contribution.

Remind yourself if summer courses are treated as part of workload expectations in your system.

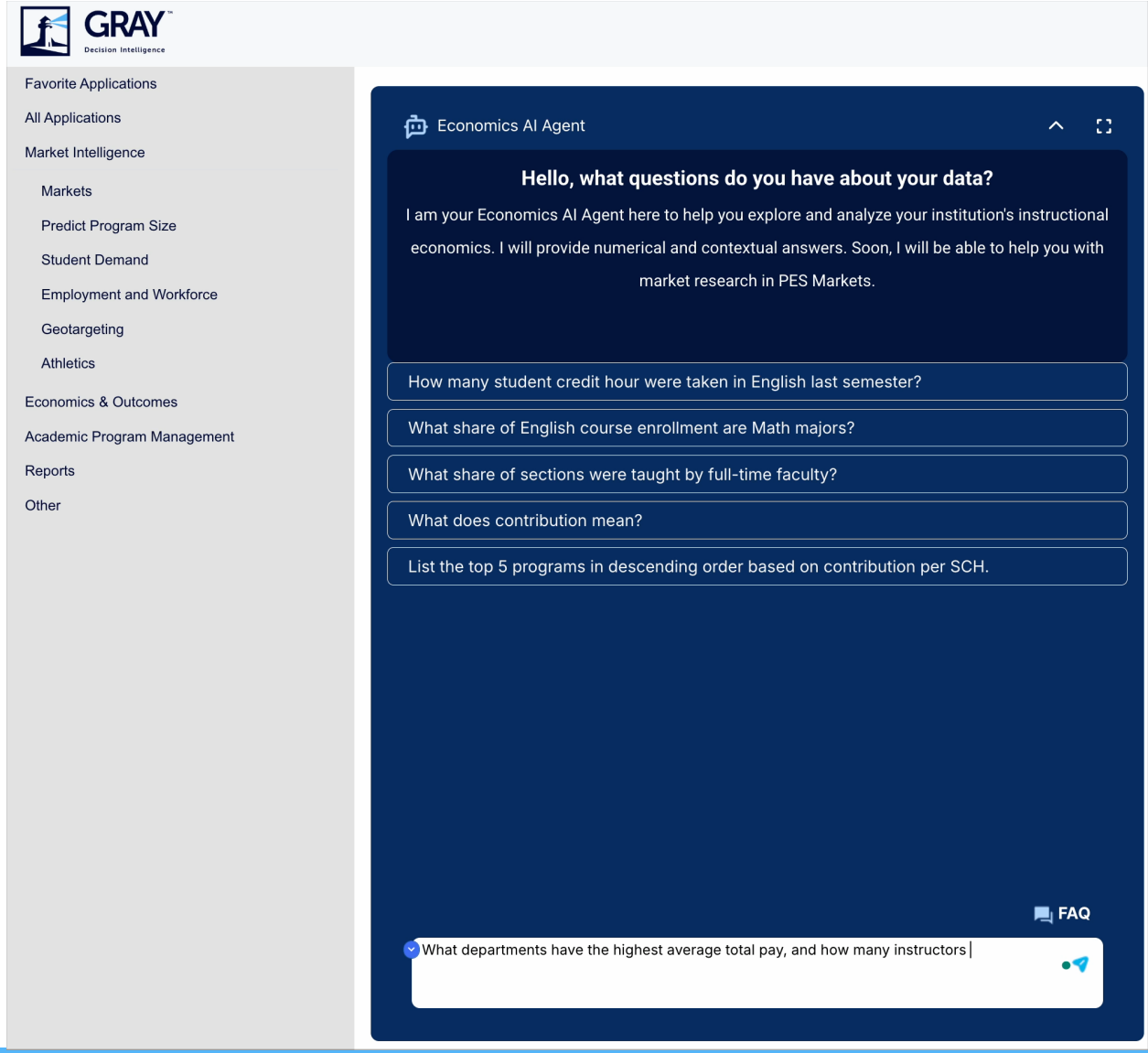
What does contribution mean?



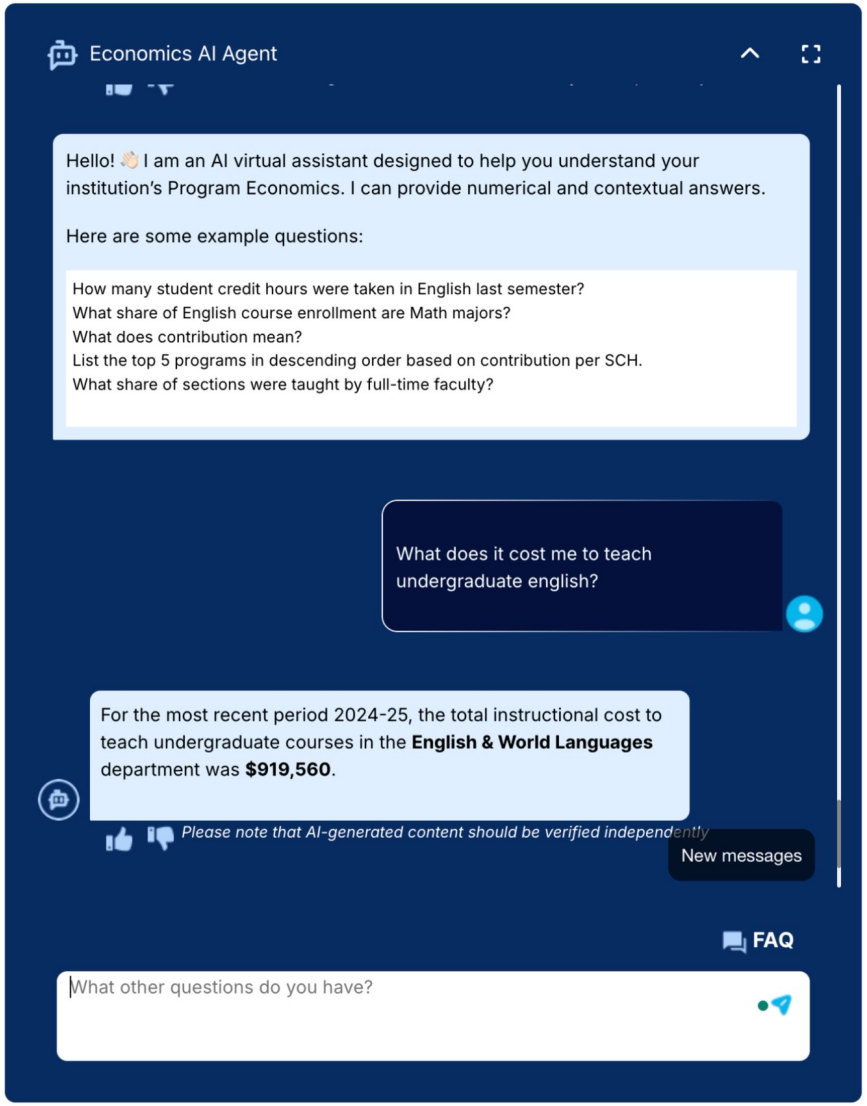
What is the trend in SCH in English courses?



What departments have the highest average total pay, and how many instructors do they have?

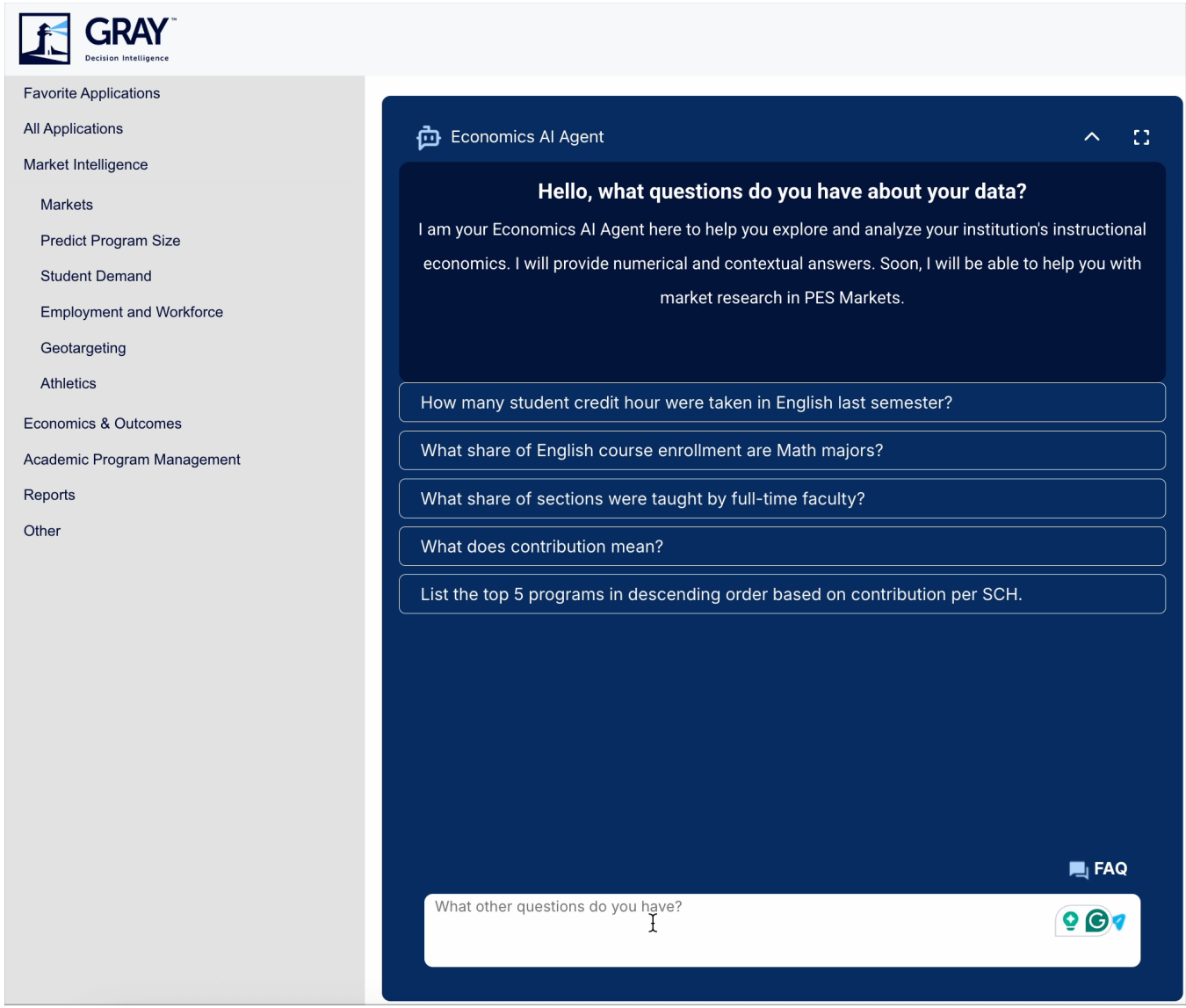


What is my cost of instruction, and how does that compare to others?

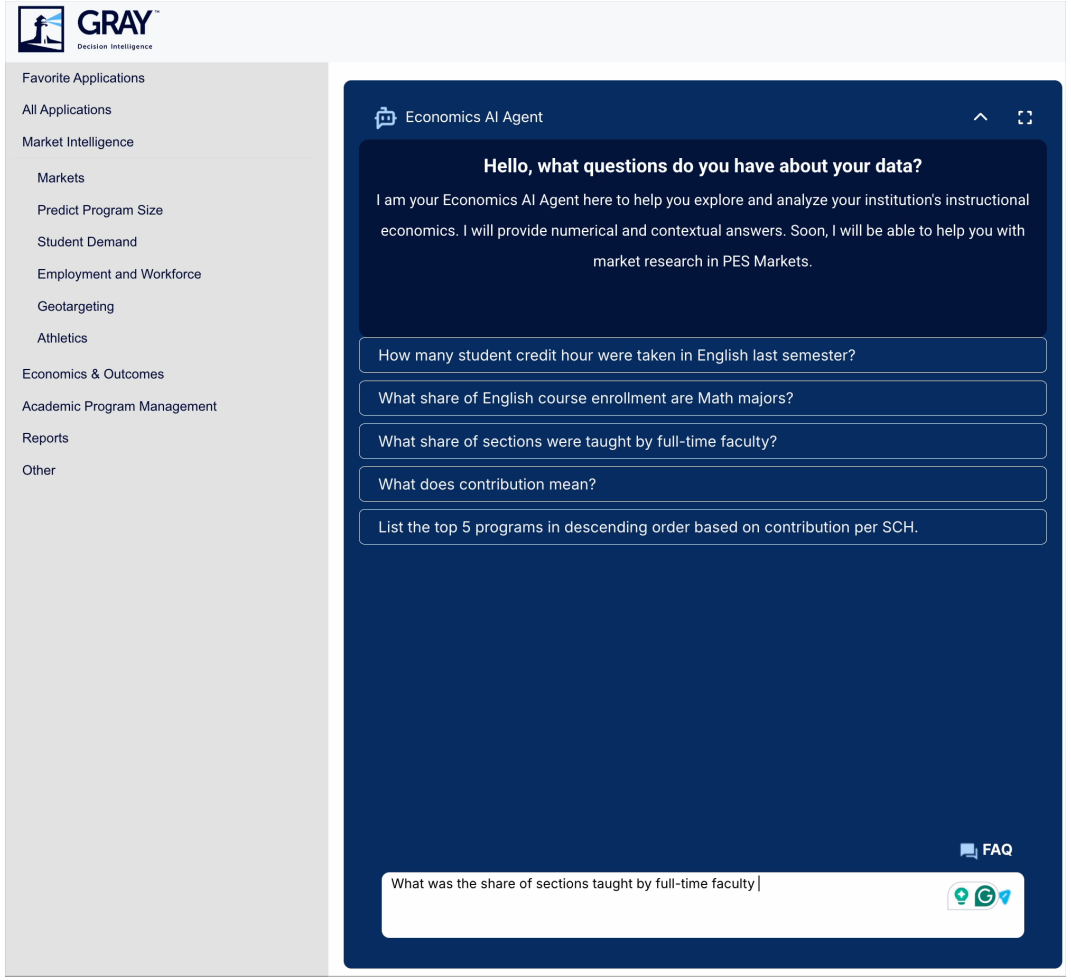


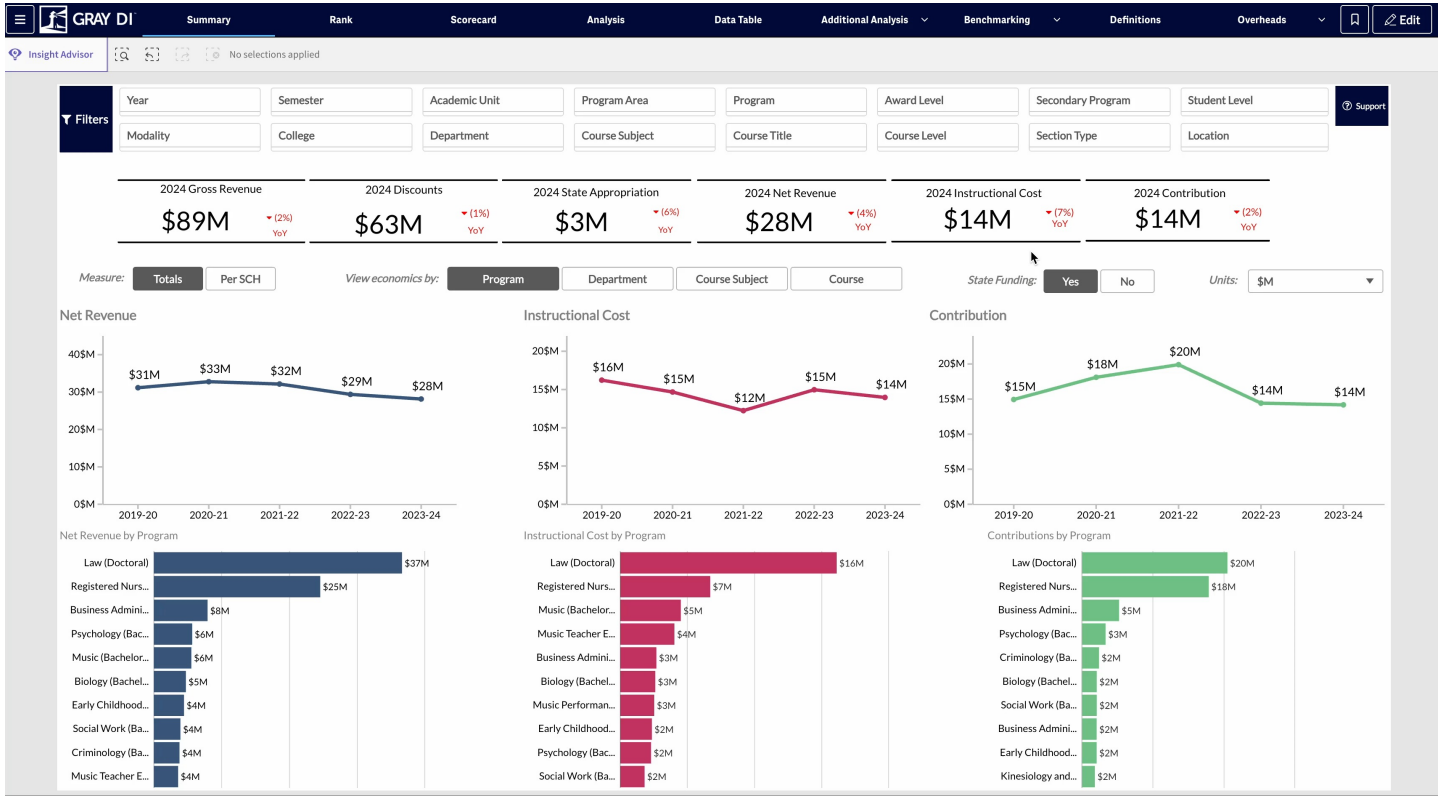
Gray DI's Benchmarking Consortium

Feature: Create and Export Tables



Race: Agent vs. Elizabeth





Our Clients in Action: A Real User Experience

Andy Cutright participated in our Beta testing and helped us improve the Agent's responses.

- Fort Hays will include program economics data in their upcoming program review.

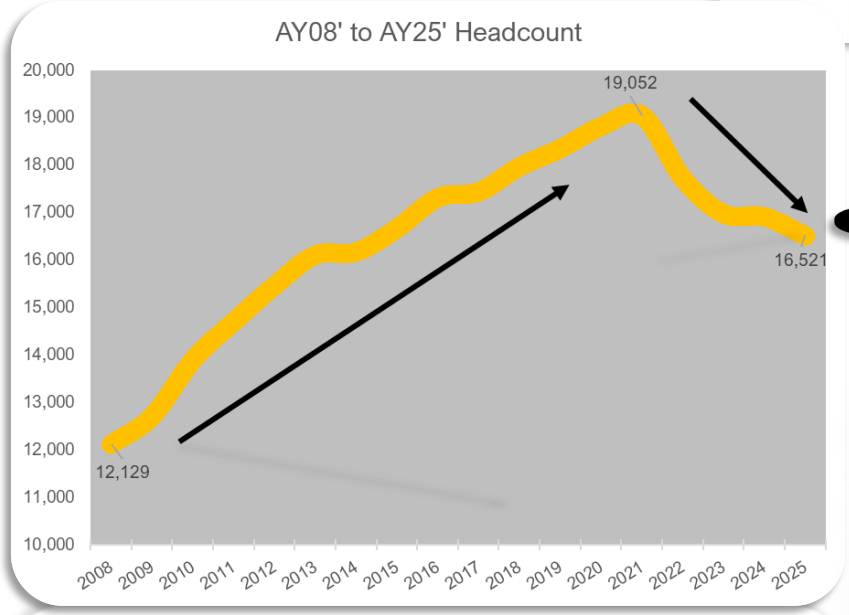
Context: Why Gray Economics tool?

Regular Academic Program Review Policies and Procedures for AY 25-28

i. Each university shall establish and publish clearly defined policies and procedures to review all its academic degree programs.

ii. At minimum, university academic program review policies and procedures must analyze and assess:

(1) Market demand for the program;
(2) Student demand, student accessibility, and student return on investment;
(3) Centrality of the program to fulfilling the mission and the role of the institution;
(4) The quality of the program as assessed by its curriculum and impact on students;
(5) The service the program provides to the discipline, the university, and beyond; and
(6) The program's cost-effectiveness.



Academic Affairs Priorities

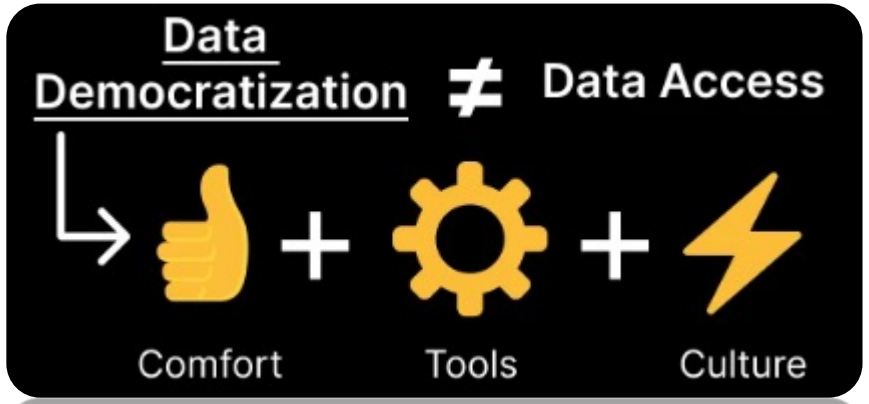
Priority Four - Leverage existing data resources to drive academic affairs strategic decisions

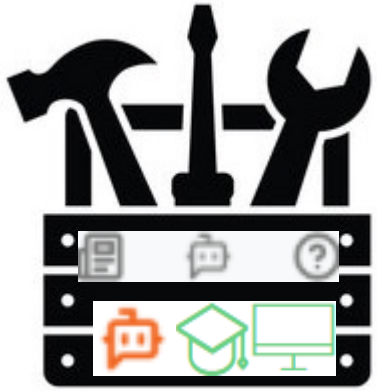
Primary focus: Converting institutional data into actionable academic strategies

- Harness program-level analytics to guide curriculum decisions
- Use enrollment trends and employer data to inform planning
- Track student success indicators to inform interventions
- Make faculty resource allocations based on evidence rather than tradition
- Monitor market demand signals when considering program development

How does the Economics AI Agent Fit In?

- Democratization of Data
- It's another "tool" in the toolbox for engaging with the data
- Not everyone has 20 years of data analytics experience, but now they can "get their beak wet"





What can the agent do for you?

- Save time.
- Ask *questions*. Get answers. No digging!
- Expand usage.
- Make *faster* data-informed decisions.