EAB

Understanding the Fundamentals of Strategic Use of Aid

What Enrollment Staff Need to Know about Allocating Institutional Funds
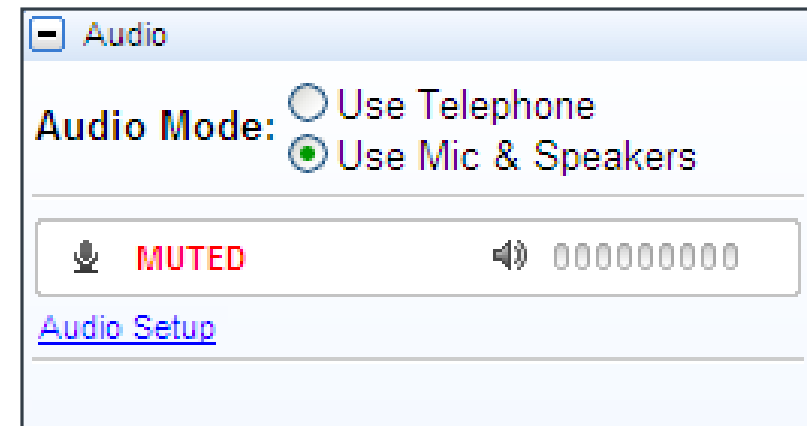
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Enrollment Management Forum

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1 Aid in the Spotlight

2 Teaching the Mechanics of Aid Optimization

Mainstream Press Hits on Affordability; Trade Press Hits on Sustainability

Mainstream News Focuses on Unaffordability of Private Colleges

HUFFPOST

"Are Private Colleges Too Expensive?"

CNBC

"Middle-Class Squeeze: Is an Elite Education Worth $170K in Debt?"

Money

"Why Attending a Private College Might Not Be Worth the High Cost"

The Washington Post

"Private Colleges Are a Waste of Money for White, Middle-Class Kids"

Trade Press Focuses on Financial Unsustainability of Private Colleges

THE CHRONICLE OF HIGHER EDUCATION

"Is Tuition Discounting Leading Some Colleges Off a Cliff?"

UB University Business

"Discounting the Price of College to Influence Student Enrollment is Risky Business"

INSIDE HIGHER ED

"One-Third of CBOs Believe Their Discount Rates are Unsustainable"

Source: Peter Schmidt, "Is Tuition Discounting Leading Some College Off a Cliff?", *Chronicle of Higher Education*, April 28, 2017; Robert Massa, "The Perils of Price Competition," *University Business*, June 1, 2005; Kellie Woodhouse, "When Shrinkage Is Good," *Inside Higher Ed*, October 21, 2015; Gary A. Olson, "Are Private Colleges Too Expensive?", *Huffington Post*, October 23, 2016; Nona Willis Aronowitz, "Middle-Class Squeeze: Is an Elite Education Worth $170,000 in Debt?", *CNBC*, October 3, 2014; Kim Clark, "Why Attending a Private College Might Not Be Worth the High Cost," *Money*, August 26, 2016; Max Ehrenfreund, "Private Colleges Are a Waste of Money for White, Middle-Class Kids," *The Washington Post*, December 18, 2014.

To Increase Revenue—But Stay Affordable—Differentiated Price Points Needed

Average List Price
(incl. room and board)

Average Net Price
(incl. room and board)

Students Receiving Institutional Grant Aid

Discount Rate

$20K

$15K

2006   2016

$14K

$11K

2006   2016

48%

32%

2004   2014

32%

16%

2004   2014

1) The metrics on this page are averages of all four-year public baccalaureate and above degree-granting institutions. They reflect data only for incoming first-time, full-time students.

Source: Trends in College Pricing, *College Board*, 2016; EAB Analysis of IPEDS Data.

Difficult to Channel Exec, Board, Policymaker, Faculty Input into Coherent Plan

Disconnects, Questions, and Concerns Bogging Down Formulation of Effective Aid Strategy

Enrollment Goals → Tactical Allocation of Aid to Achieve Goals

Informational

- Is institutional grant aid more like an expense or more like a discount?
- Is allocating more aid/raising the discount rate risky?

Philosophical

- Are some students subsidizing others, and is that fair?
- Are we prioritizing students according to our mission?

Tactical

- Where is our current allocation of aid working—and not working—relative to enrollment goals?
- For goals we are not achieving, how could we change allocation to improve?

Critical tactical questions not reaching top of the agenda—and often impossible to answer when they do

Source: EAB Interviews and Analysis.

1   Aid in the Spotlight

2   **Teaching the Mechanics of Aid Optimization**

Case Study: J.C. Penney's 'Fair and Square' Price Strategy, 2011-2012

2011: Discounts Everywhere

Noisy High-Low Pricing Strategy

- J.C. Penney, Macy's, Kohl's all heavily entrenched in discount strategy

- J.C. Penney sending 'JCP Cash' coupons by mail and email, offering RedZone clearance aisles in stores, producing weekly circulars with additional deals

- Price tags feature 'relatively fictitious' MSRP together with sale price

- Consumers becoming savvier and more demanding about discounts. From 2001-2011, J.C. Penney's average discount at purchase increased from 33% to 60%

2012: Consistent Low Price

Straightforward 'Everyday Fair and Square' Prices

- Most items given single 'Everyday Fair and Square' price at average across-the-board discount of 40%

- Single price listed on tag

- High-low pricing minimized, made more predictable (e.g., monthly markdowns on seasonal items only; 'Best Price Fridays')

Source: Ofek, E. and Avery, J. "J.C. Penney's "Fair and Square" Pricing Strategy," Harvard Business School, January 4, 2013. Heller, Laura (2012) "Why J.C. Penney Will Be the Most Interesting Retailer of 2012," Forbes, January, 26, 2012,.

Turns Out Shoppers Like Discounts

J.C. Penney Posted Major Losses After Moving To Simpler Pricing

J.C. Penney Q2 2012 Results

	July 2011	**July 2012**
Revenue	$784.9M	$617.4M
Gross Margin	39.4%	35.4%
Average Customer Spend Per Visit	$47.80	$44.90

"The closest J.C. Penney is about a half hour away from me. If I don't get a special discount, it's not worth the trip."

Wendy Ruud, J.C. Penney Shopper

Private Colleges and Universities Have Benefitted Greatly From This Strategy

PRICING EFFICIENCY	SIGNAL VALUE

Prices Tailored To Each Segment

- In theory, groups of students are charged what they are willing/able to pay — no more and no less

- In theory, universities are uniquely well positioned to calibrate discounts because they have so much information about each applicant

Scholarships Resonate Among Students, Families

- Scholarships communicate to students/families that the prospect is highly valued by the organization

- High price may communicate high quality

- High discount may communicate that the family has managed to secure a favorable 'deal'

> "It barely matters that our net price is so much lower than theirs. Students and families see 'big scholarship' from our private competitors and think they are getting a higher-quality product at an affordable price. As tactics go, it's just really effective."
>
> *VPEM*
>
> *Regional Public, Northeast*

Source: EAB Interviews and Analysis.

The Fundamentals Are Straightforward

Discounting and Price Discrimination Boost Net Tuition Revenue

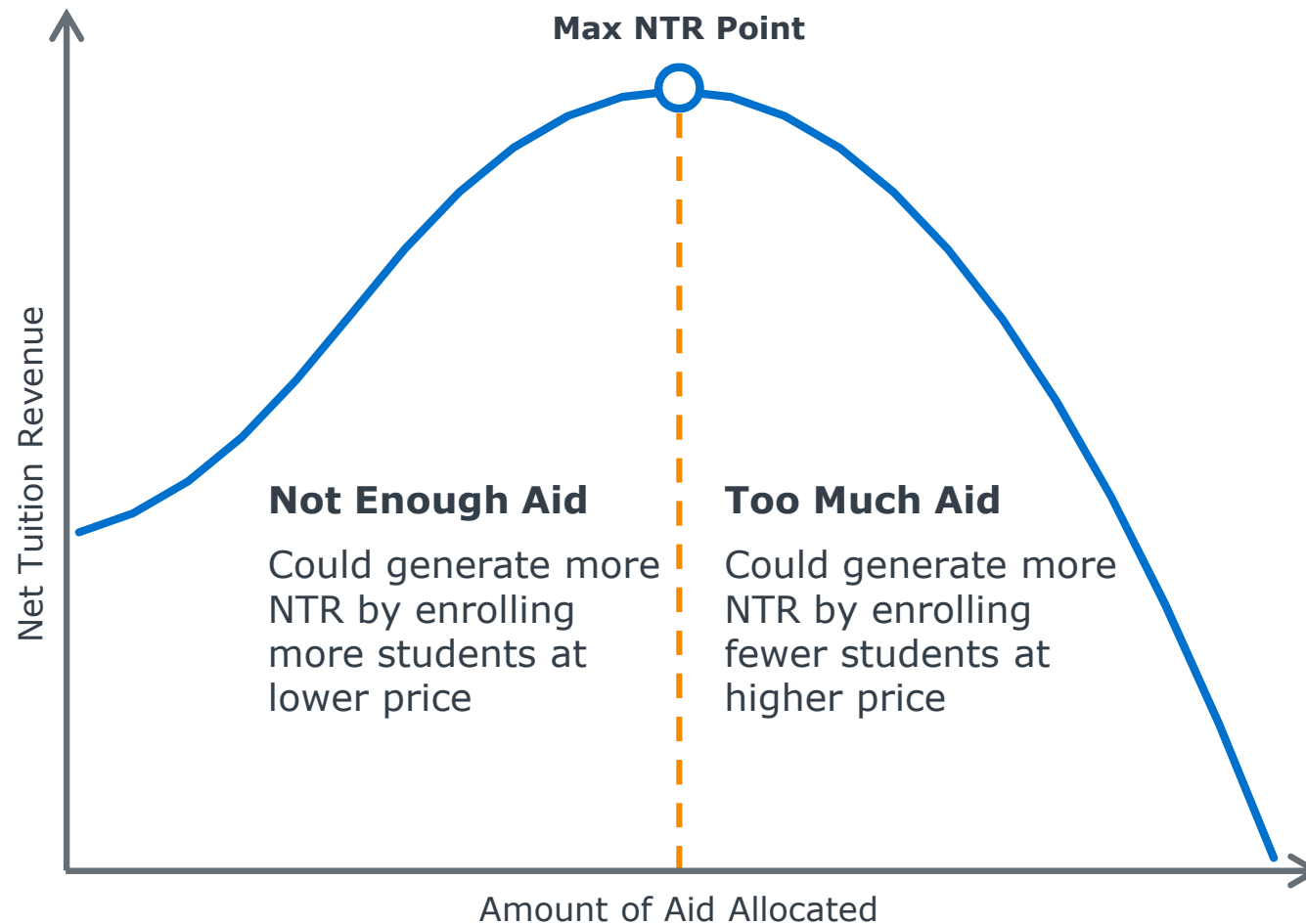|	College A	College B	College C
List Price	$10,000	$10,000	$10,000
Admitted Students	100	100	100
FA Awarded	$0/student	$2K/student	$5K/student
Enrolled Students	15	30	40
Total NTR	**$150,000**	**$240,000**	**$200,000**

> **Price Discrimination Is the Key to a High-Fixed-Cost Business**
>
> College tuition discount rates are increasing because many colleges have spent the last several decades getting better at price discrimination. Like airline seats, spots in traditional residential college classes are finite and expensive… Like airlines, colleges don't want to sell each student slot for the same market price. Instead, they want to find the rich student with her heart set on that college and charge her parents a lot of money, then find the next person on the demand curve, and the next. So they set tuition high and start discounting.
>
> *Kevin Carey, "The Upshot," The New York Times, May, 2017*

Difficult To Pinpoint 'What is Enough—But Not Too Much'

Max NTR Point

Not Enough Aid

Could generate more NTR by enrolling more students at lower price

Too Much Aid

Could generate more NTR by enrolling fewer students at higher price

Net Tuition Revenue

Amount of Aid Allocated

Key Features of the Revenue Curve

- **Difficult to Identify Max NTR Point.** It's hard to know where your university falls on the curve without a statistical model

- **It's Fractal.** Curve reflects reality for overall student population as well as individual sub-groups

- **Stakeholders misperceive location.** Many university leaders mistakenly assume the institution is to the left or right of the peak.

- **Max NTR Not the Only Goal.** An institution is not likely to be trying to maximize NTR for every population of students

Source: EAB Interviews and Analysis.

'Aid Optimization' Has Three Components

Goals Guide Priorities; Policy Specifies Allocations; Model Projects Results

Enrollment Goals

○ *"What enrollment (headcount, mix of students) are we aiming for?"*

○
- Commits to specific enrollment priorities
- Guides trade-offs in aid allocation
- Sets timeframes for realization of goals

Aid Policy

○ *"How much aid will each student receive, based on need and academic performance?"*

○
- Lays out qualifying criteria for need or merit aid and specifies amount to be given
- Based exclusively on EFC, academic ability, and residency[1]
- Once written, tested against the statistical model to see enrollment outcomes
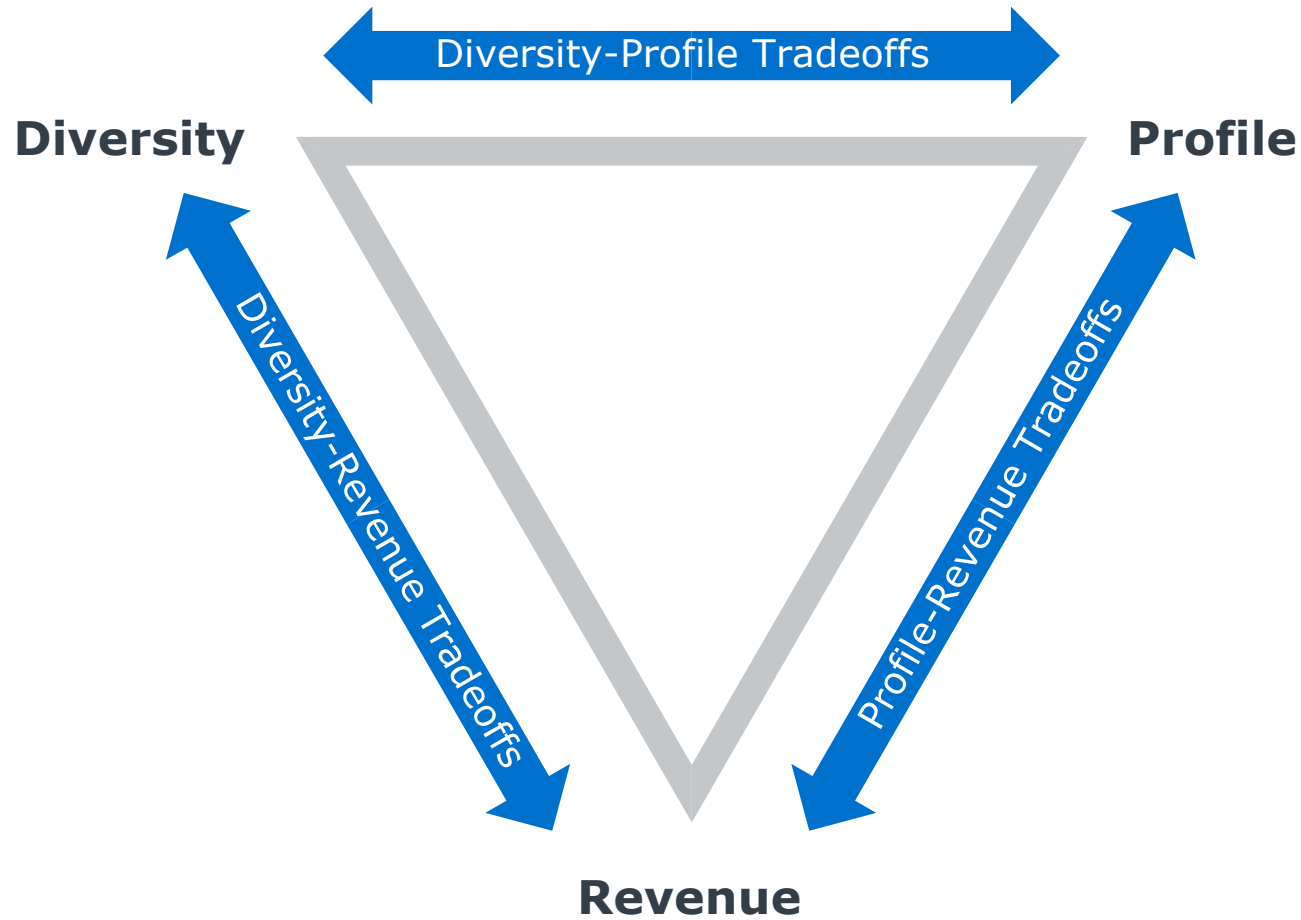
Statistical Model

○ *"How might our class look if we apply [any given] aid policy?"*

○
- Analysis of admitted student data to predict yield
- Based on historical yield data
- Includes not just EFC and preparedness, but up to 200 variables that impact yield
- Variables used exclusively to project outcomes of policy, not to package aid

1) Additional factors, such as academic interest area, geography, or other strategic opportunities may also impact aid.

The Iron Triangle of Enrollment Goal Setting

Diversity

Profile

Diversity-Profile Tradeoffs

Diversity-Revenue Tradeoffs

Profile-Revenue Tradeoffs

Revenue

Contradictory Objectives Underscore Importance of Prioritization, Weighting

Revenue

How essential is the revenue target?

If the university missed the revenue target but hit all its other targets, would this be acceptable?

Headcount

Is the headcount target more important than the revenue target?

If the university could enroll more students but generate less revenue, would that be desirable?

Diversity

Does the institution have diversity targets?

Is the institution willing to trade off on academic profile or revenue to enroll a more diverse class?

Academic Profile

How much revenue is the university willing to sacrifice to enroll more high-ability students?

Is it more important to enroll more high-ability students or improve diversity?

A+

Source: EAB Interviews and Analysis.

Aid Policy Lays Out Discount by Student Type

Example Formula for Determining How Much Aid Each Student Receives

Academic Rank calculated using index of GPA, test score, and class rank. Policies have variable numbers of AR tiers

In each bucket, students receive a merit scholarship and have a percentage of need met

In many cases, *all* students receive substantial merit aid

Academic Rank \ EFC	No FAFSA		$0 Need		$1-$10K of Need		$10K-$25K of Need		$25K + of Need	
1 (Lower Ability)	$10K	0%	$10K	0%	$10K	55%	$10K	55%	$10K	55%
2	$12K	0%	$12K	0%	$12K	55%	$12K	55%	$12K	55%
3	$15K	0%	$15K	0%	$15K	60%	$15K	60%	$15K	60%
4	$17K	0%	$17K	0%	$17K	65%	$17K	65%	$17K	70%
5 (Higher Ability)	$20K	0%	$20K	0%	$20K	70%	$20K	75%	$20K	75%

Non-FAFSA filers may be treated differently than no-need students because they yield at much lower rates (and many actually have need)

Often, merit aid remains flat across need bands

Many private universities meet more need for higher-ability students; some place a special focus on the highest-ability low-income students

Source: EAB Interviews and Analysis.

Two Methods for Differentiating Aid by Population
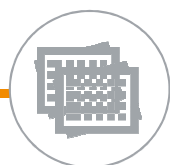
Make Adjustments to Academic Rank Calculation

Merit awards are typically made based on academic performance, but it's possible to add academic rank points based on student criteria (e.g., first-gen. status)

Design a Second Matrix for Specific Students

1. Package aid for student segment using alternative matrix

2. Allocate more or less merit aid according to institutional priorities

Example: 1st–Gen Students Receive 2 Bonus Points

AR Points	ACT	GPA	Class Rank	1st–Gen
1	<20	<2.5	Top 50%	
2	21-23	2.5-2.8	Top 25%	X
3	24-25	2.8-3.1	Top 15%	
4	26-27	3.1-3.4	Top 10%	
5	>28	>3.4	Top 5%	

University awards bonus points to first-gen students to encourage them to enroll

Example: Engineers Receive Less Aid

Applies to Engineering

Applies to Liberal Arts

Engineering is a higher-demand program and has a higher cost to instruct, so students receive less aid

Source: EAB Interviews and Analysis.

Discounts Must Be Based on Historical Data

Answers to These Questions Provide Fact Base for Discount Sizing

1 **What is the yield rate for every type of award—for each targeted group?**
Without knowing the yield rate for each type of award (merit, scholarship, and need), it is nearly impossible to answer any questions about whether the policy is working overall and where it may be stronger or weaker at delivering on goals.

2 **How do our scholarship yield rates compare to last year's?**
It is important to know where yield rates are falling – these are areas where the aid policy is failing to keep pace with competitors. The more competitive the market, the more critical the answer to this question is.

3 **How will small changes in scholarship size impact yield?**
The ability to project the effect of small changes in scholarship size is the core feature of any predictive model. It must be able to do this or the university will not be able to assess whether proposed changes to the aid policy will increase or decrease the chances of hitting enrollment goals.

4 **How will the admitted student pool change next year?**
Any model (bought or built) will be based on static assumptions about the pool of admitted students. If you are predicting changes to the admitted student pool—for example, due to competitive or demographic shifts in the market—you must be able to adjust the model to reflect those shifts in advance.

Source: EAB Interviews and Analysis.

Major Changes to Recruitment Pose Challenge for Statistical Model

New Markets

The behavior of applicants from a new recruitment market is difficult for the model to project.

New Profiles

If the university changes the profile of students it recruits rapidly, the model may struggle to keep up.

New Price

The model will struggle to project how a new price and aid policy will impact enrollment decisions.

Your Results Will Vary

Adjusting Potential for Improvement by Institution-Specific Factors

Criteria for Evaluating ROI of Optimization	Notes about How Each Criteria Impacts Opportunity for ROI[1]	Opportunity Rating ⬇ ⬌ ⬆
1 **Extra Capacity**	Universities can allocate more aid and generate more revenue by growing headcount.	
2 **Low Yield Rate**	Universities with high yield rates have little room to make gains with more discounting—they're already enrolling many of their admitted students.	
3 **High List Price**	A high list price gives universities the opportunity to use aid to create more different price points.	
4 **Natural OOS Magnet**	The more OOS students a university can enroll, the greater the opportunity for price differentiation.	
5 **Latitude**	Universities with more latitude to set price and allocate aid without interference from the state have greater opportunity for ROI from optimization.	
6 **New to Optimization**	The less sophisticated the university is already with aid allocation, the more room there is to improve.	

High frequency of up arrows suggests greater opportunity for aid optimization improvement

1) Less opportunity doesn't mean *no* opportunity. It just means that the gains a university could expect from optimizing financial aid would be less.
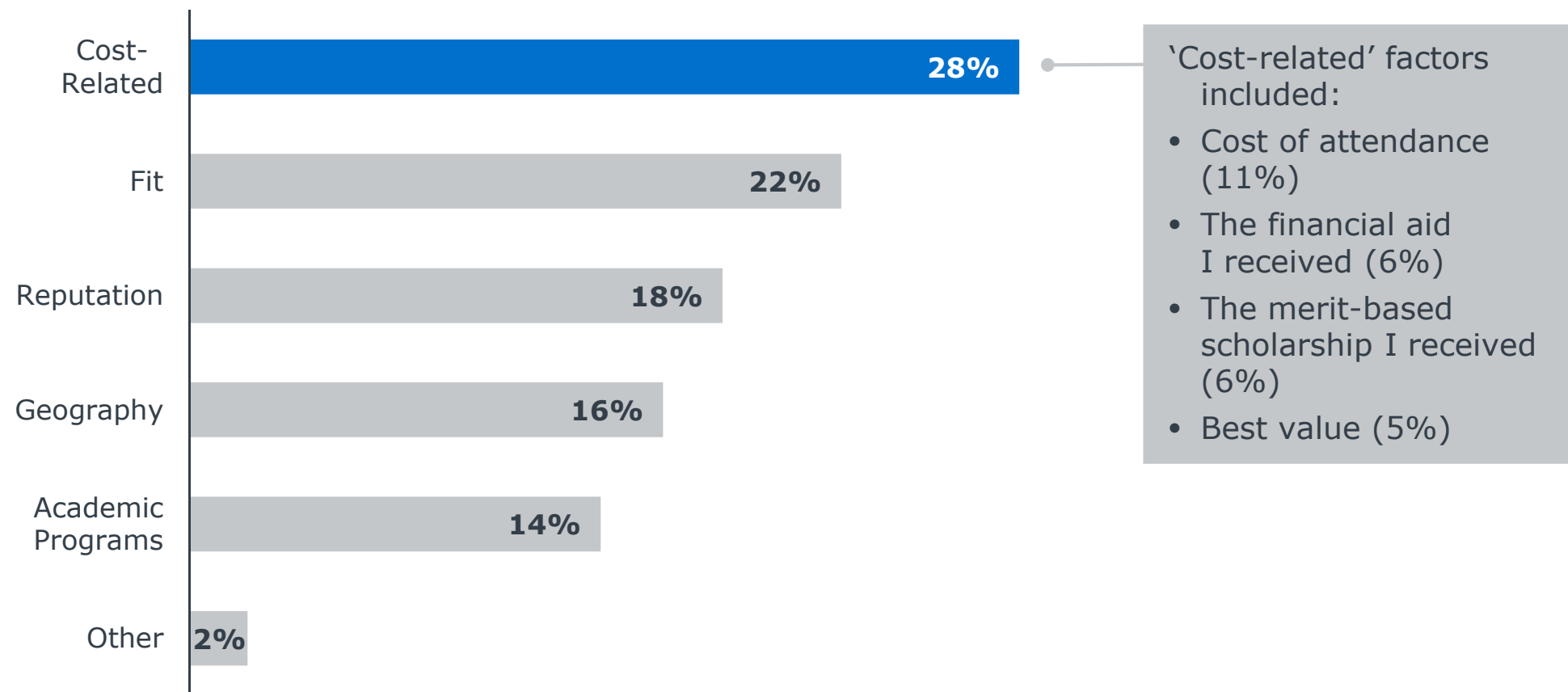
Source: EAB Interviews and Analysis.

Thank You for Your Attention

Please Contact Me with Questions

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