

Consumer Behaviour in Cross-Border Educational Services: A Data and Scarcity Analysis

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Abstract

Cross-border educational services-spanning degree mobility and transnational delivery-have expanded rapidly over the past decade. This article analyzes consumer behaviour in this market through the twin lenses of data and scarcity. Drawing on recent international mobility statistics and sector analyses, we synthesize global trends, push-pull dynamics, affordability constraints, and information environments that shape high-stakes choices. We argue that multiple scarcities-quality seats at home, funding, time and attention, and post-study pathways-act as filters that narrow feasible choice sets and amplify signals of exclusivity, while institutional marketing and policy incentives (scholarships, flexible visas, work rights) countervail these constraints. We map how data-driven recruitment (CRM tracking, predictive modelling, segmentation) aligns offerings with segmented demand and accelerates conversion, and we highlight emerging strategies in alternative destinations and delivery modes. The paper distils managerial and policy implications across three fronts: capacity expansion (branch campuses, joint degrees, online delivery), access enablement (targeted funding and flexible finance), and data-enabled market engagement (personalized messaging and responsive admissions). By integrating scarcity economics with evidence on student mobility, we offer a structured framework for understanding and influencing consumer decisions in a persistently supply-constrained market, and outline priorities for more equitable and efficient growth in cross-border higher education.

Keywords

Cross-Border Education, International Student Mobility, Consumer Behaviour, Scarcity, Data-Driven Recruitment, Higher Education Marketing

1. Introduction

Cross-border educational services-broadly defined as academic programs and learning opportunities delivered across national borders-have expanded dramatically in recent decades. In 2021, the global population of internationally mobile tertiary-level students reached approximately 6.4 million, marking a 56% increase since 2012. By 2023, this figure had surpassed 6 million and is projected to climb toward 10 million by 2030 [1]. Not even the COVID-19 pandemic managed to reverse this trajectory; international student numbers in OECD countries still rose by 18% between 2018 and 2022 despite pandemic disruptions. This robust growth underscores the strong worldwide demand for cross-border education and the importance of understanding the consumer behavior driving students' decisions to study abroad.

Cross-border education encompasses students pursuing higher education outside their home country (often full-degree mobility), as well as transnational delivery of educational services such as international branch campuses and online programs. These activities carry significant economic and cultural implications [2]. For host institutions and countries, inbound international students contribute to campus diversity, talent pools, and financial sustainability (through tuition and living expenses), while origin countries may benefit through remittances and returning skilled graduates. Given this high-stakes context, examining consumer behavior in cross-border educational services is crucial. Prospective international students are essentially consumers making a complex, high-involvement service purchase under conditions of uncertainty and resource constraints. This paper analyzes the factors influencing their behavior through the dual lenses of data-drawing on recent statistics and analytics-and scarcity-considering how limited resources and opportunities shape decision-making. We begin by outlining key market trends and decision factors identified in the literature, then explore the role of scarcity (of educational opportunities, information, and financial resources) in driving consumer behavior, and finally examine how data analysis and evidence-based insights are being used to understand and influence cross-border education choices [3]. The goal is to provide a comprehensive view of how prospective students navigate the cross-border education market, and how institutions can respond to these consumer behaviors in an era of growing demand and constrained supply.

2. Market Landscape and Consumer Decision Factors in Cross-Border Education

2.1 Global Trends and Distribution

International student mobility has expanded markedly, with OECD tertiary-level enrolments rising from about 3 million in 2014 to over 4.6 million in 2022 [3]. The United States, United Kingdom, Australia, Canada, France, and Germany host roughly two-thirds of these students, while China and India supply about 30%, reflecting both population size and strong higher-education demand [4]. Economic growth in emerging economies has boosted middle-class capacity to invest in overseas study, further driven by the pursuit of prestigious degrees, world-class universities, and enhanced career prospects. Even during the pandemic, demand persisted as institutions shifted online and host countries offered flexible visas and work rights [5]. From a marketing perspective, understanding these geographic and economic trends enables institutions to prioritize high-growth source markets and design targeted campaigns that align with regional demand patterns.

2.2 Push-Pull Dynamics

The push-pull framework remains central to explaining study-abroad decisions. Push factors-such as insufficient or low-quality domestic provision, limited specialisations, restrictive academic environments, and social or economic pressures-stem from the scarcity of quality tertiary places in many home countries. These conditions, coupled with perceived higher returns on foreign qualifications and cultural norms favouring overseas study, prompt students to seek education abroad. Pull factors include scholarships, welcoming visa regimes, high-quality teaching and research, enriching campus life, and better career opportunities [6]. Top-ranked universities amplify their appeal through superior resources and global reputations, making the perceived benefits of study abroad outweigh costs and logistical challenges. Context matters: students from emerging economies often prioritise economic and academic gains, whereas those from wealthier countries may be more motivated by personal enrichment. For marketing practice, mapping push-pull factors to promotional messaging-such as highlighting program quality for academically driven segments or lifestyle benefits for enrichment-driven segments-can increase resonance with diverse student audiences.

2.3 Affordability and Financial Filters

Cost-encompassing tuition, living expenses, and exchange rates-is a critical determinant of destination choice. Affordable options, such as low-tuition European systems, contrast sharply with high-cost destinations like the US or UK, where annual expenses can exceed US\$70,000 [7]. For many, this financial barrier narrows the feasible choice set; for others, elite education functions as a Veblen good, with prestige and expected returns justifying premium prices. Wealthier families may willingly pay for Ivy League or Oxbridge degrees, while others target scholarships or lower-cost destinations offering better value. Governments and institutions increasingly use financial incentives-tuition waivers, work rights, and targeted aid-to attract talent deterred by cost. For marketing, clearly communicating financial aid options, return-on-investment narratives, and value-for-money propositions can directly address affordability barriers and expand the prospective applicant pool.

2.4 Information, Data, and Decision-Making

Today's prospective students are highly informed, drawing on rankings, institutional websites, virtual tours, social media, and personal networks. Rankings serve as proxy quality indicators, while testimonials and alumni networks influence perceptions of fit and safety [8]. Host institutions, in turn, employ data-driven recruitment: analysing market intelligence, tracking applicant behaviour in CRM systems, and using predictive models to identify high-yield prospects. These tools allow more precise targeting, personalised communication, and proactive "enrolment management" to optimise admission outcomes. In an increasingly competitive market, such analytics help institutions align offerings with student priorities and respond quickly to emerging demand. From a marketing strategy standpoint, leveraging CRM insights to deliver personalised, timely communications-such as highlighting relevant scholarships or program features-can improve conversion rates in a crowded recruitment environment.

3. Scarcity and Its Influence on Consumer Behavior in Education

Scarcity-the condition in which demand exceeds supply-shapes international education both structurally and psychologically. The scarcity principle holds that people value limited goods more highly, a dynamic evident across the global student market.

Scarcity of Domestic Opportunities (Push Factors). In many countries, there are far more qualified students than quality university seats. India illustrates the point: despite rapid higher education expansion, competition for elite spots remains intense. The IITs admit fewer than 10,000 students from roughly 450,000 applicants annually-an acceptance rate near 2%, lower than Ivy League levels-prompting talent to look abroad. Similar shortages occur in specialised fields (e.g., AI, biotechnology) or graduate research opportunities, pushing students toward destinations where such programs are more available. For example, Australian universities have successfully positioned their advanced biotechnology programs to capture demand from Indian and Southeast Asian students facing domestic program shortages, using targeted digital outreach and alumni success stories to illustrate the academic gap they can fill.

Scarcity as a Pull Factor-Exclusivity and Prestige. Elite universities deliberately maintain selectivity, reinforcing their appeal. Limited places at Ivy League or Oxbridge institutions act as status signals, triggering the scarcity heuristic:

exclusivity implies value. This encourages broad application strategies—agents report some students applying to dozens of institutions and multiple countries—to improve odds [9]. Such behaviours feed back into competition, keeping acceptance rates low and prestige high. A concrete case is Harvard’s use of early-action offers paired with highly selective acceptance rates; the institution’s marketing materials emphasize its low admit rate as a badge of prestige, indirectly encouraging high-caliber students worldwide to apply despite the long odds.

Resource Scarcity and Trade-offs. Beyond seats, students face financial limits. High tuition and living costs at leading destinations effectively ration access to those with sufficient means or funding, leaving lower-income students underrepresented. About two-thirds of international students in OECD countries come from high- or upper-middle-income origins [10]. Scholarships and assistantships, themselves scarce, become critical gateways; others choose more affordable destinations or financing models. For instance, Germany’s “tuition-free” policy for many international students, combined with low living costs in certain cities, has been marketed heavily in South America as an affordable alternative to the US and UK, resulting in measurable increases in student inflows from Brazil and Colombia.

Scarcity of Time and Attention. Application deadlines and abundant but fragmented information constrain decision-making bandwidth. Faced with time pressure, students often simplify criteria, relying on rankings or trusted contacts. FOMO—fear of missing out—drives quicker commitments, a tendency universities may leverage through early offers or scholarship deadlines. As an example, several Canadian universities run “admission week” campaigns, guaranteeing application review within 48 hours; these time-limited offers, promoted via social media and education agents, have boosted conversion rates among students juggling multiple applications.

Policy Responses. Origin countries like India are investing in capacity expansion to ease domestic shortages, while destination countries compete by addressing other scarcities, notably post-study opportunities. Canada’s Post-Graduation Work Permit, allowing up to three years of work, exemplifies a policy that increases the value of study abroad by reducing scarcity in work visas—an advantage over more restrictive regimes [11]. Similarly, New Zealand’s recent extension of post-study work rights for graduates in critical skill areas has been marketed directly to engineering and healthcare students in Southeast Asia, leading to a surge in applications from targeted regions.

In all cases—whether the constraint is seats, funding, time, or career pathways—scarcity both motivates and channels student flows, influencing where, when, and how they pursue education abroad.

4. Data-Driven Insights and Implications

Understanding consumer behavior in cross-border educational services through the lens of data and scarcity offers several insights for stakeholders—universities, students, and policymakers alike. Firstly, the data clearly demonstrate that demand for international education will likely continue to grow, fueled by factors such as rising middle-class aspirations, persistent gaps in domestic education capacity in many countries, and the global reputation economy of higher education. With forecasts of globally mobile students potentially reaching 8–10 million within this decade, the pressure on existing educational infrastructure will intensify. Absent significant increases in the supply of quality higher education (either at home or via cross-border provision), we can expect *scarcity conditions* to persist—meaning admission into top programs will remain highly competitive and costly, and students will keep strategizing to maximize their chances [12]. One implication is that institutions in traditional destination countries may become even more selective, while emerging host countries and alternative modes (e.g. online programs) could absorb some excess demand by offering new capacity. For example, Ireland has capitalized on this trend by promoting its one-year master’s programs as a faster, more affordable alternative to multi-year degrees in the UK and US, successfully attracting students from India and Nigeria seeking quicker returns on investment.

For universities and educational service providers, leveraging data analytics will be key to navigating this landscape. Institutions are increasingly turning to data to identify which markets to target and how to differentiate themselves. For example, an analysis of international recruitment trends noted the rise of “alternative destinations” beyond the Big Four (US, UK, Australia, Canada) as students diversify their choices for reasons of affordability and cultural proximity [13]. Providers armed with data on student preferences can adapt their recruitment strategies—highlighting certain features (cost advantages, work opportunities, safety, etc.) that map to current student concerns. Data can also inform capacity planning: universities might use predictive models to anticipate yield from different countries and decide whether to expand programs or open new international partnerships to meet demand. On the marketing side, employing data-driven personalization can improve engagement with prospective students. Rather than one-size-fits-all brochures, institutions now use CRM data to segment communications—for instance, emphasizing scholarship opportunities and financial aid options when reaching out to students from regions known to have financial constraints (thereby addressing the scarcity of funding), or fast-tracking responses to inquiries, knowing that quick service can be a deciding factor when students have many choices. In fact, surveys of education agents have consistently found that universities’ *responsiveness* (e.g. speed in offering letters and answering questions) is a critical factor in conversion, given students often apply to multiple institutions [14]. This suggests that even in a high-demand scenario, *service quality* can be a differentiator—an important reminder that even scarce products must satisfy consumers’ expectations in the recruitment phase. A notable case is the University of Toronto’s “48-hour offer” pilot in select markets, where applications meeting preset criteria receive rapid conditional offers; internal tracking showed a significant rise in acceptance rates among students also holding competing offers.

From the student perspective, greater transparency of data is a double-edged sword. On one hand, it empowers students to make more informed choices—they can compare rankings, employment outcomes, costs, and even satisfaction scores (when available) of different programs. On the other hand, information overload can be daunting, and not all students have equal access to timely and accurate information. Here, intermediaries like education agents, online platforms, and international offices play a significant role. These entities often serve as data filters and decision support systems for students, albeit not always unbiased ones. Ensuring that students base their choices on realistic expectations and reliable data is important for their eventual satisfaction. One positive development is the increasing availability of data on outcomes—for example, data on graduate employability and earnings, or student feedback—which can help students gauge the true value of a program. Governments and international bodies have started to compile and publish such indicators (e.g. OECD and UNESCO reports), contributing to a more data-informed market. For instance, the Australian government’s “Quality Indicators for Learning and Teaching” (QILT) platform aggregates student satisfaction and employment outcomes, and universities actively reference these metrics in their marketing to signal transparency and value to prospective applicants.

However, data alone cannot resolve the fundamental scarcity challenge. If there are five qualified applicants for every one seat in a top program, four will face rejection regardless of how well they strategize or how much information they have. This raises the question: *how can the global education ecosystem address the supply-demand imbalance?* One approach is cross-border capacity building: prestigious universities from high-demand countries might establish more branch campuses or franchised programs abroad, effectively exporting educational services to meet students where they are. This has been happening to some extent (e.g., Western universities opening campuses in Asia or the Middle East), and while not a panacea, it does create additional seats under the umbrella of sought-after brands. Another approach is international academic collaboration to boost capacity in origin countries—for instance, joint degree programs or twinning arrangements that allow students to start education locally and finish abroad, thereby partially alleviating local capacity constraints. From a policy angle, scholarships and funding schemes targeting students from underrepresented regions can help mitigate financial scarcity and broaden access. Notably, some countries and organizations offer generous scholarship programs (such as Erasmus+, Fulbright, Chevening, etc.) which, although limited in number, have enabled thousands of students to study abroad who otherwise might not have been able to afford it. Expanding such programs or creating new funding models (like income-share agreements for international study) could be considered to address the resource scarcity that many students face [15]. A case in point is the Saudi Arabian “King Abdullah Scholarship Program,” which funds tens of thousands of students annually for study abroad; universities in Canada and New Zealand have built dedicated recruitment pipelines to align with the program’s funding cycles and field priorities.

Finally, it is important to consider the broader social implications of consumer behavior in cross-border education. The fact that millions of students are willing to cross oceans for education speaks to the perceived value of the service, but it also reflects disparities—educational quality is unevenly distributed globally, and students act as consumers seeking the best product. This “*brain circulation*” can have both positive and negative effects. On one hand, it fosters global knowledge exchange and can build human capital for all sides (especially if graduates return home with new skills or if they fill skilled labor gaps abroad). On the other hand, if primarily the wealthy or elite manage to obtain these international credentials (because they are the ones who can navigate the scarce and costly process), it may reinforce inequalities. Thus, a deep understanding of the demand dynamics—who gets to study abroad and why—is necessary for crafting policies that ensure cross-border educational services benefit a broad spectrum of society [16]. Data can aid in this understanding by highlighting trends in student demographics, fields of study, and post-graduation outcomes, enabling evidence-based interventions to promote equity (such as outreach to underrepresented groups or incentives for institutions to admit diverse international cohorts). For example, the University of Cape Town’s partnership with UK institutions under the “Commonwealth Scholarship and Fellowship Plan” explicitly targets students from underrepresented African regions, combining financial aid with mentorship to ensure equitable participation in global education networks.

5. Conclusion

Consumer behavior in cross-border educational services is shaped by a complex interplay of motivational factors, resource constraints, and information signals. Students act as discerning consumers, motivated by push factors such as scarce domestic opportunities or subpar local provision, and pull factors such as academic quality, career prospects, and cultural appeal abroad. Underlying these decisions is the persistent reality of scarcity—limited seats in coveted programs, limited financial resources to fund education, and limited time to act on opportunities. For institutions, this means positioning offerings not just on quality, but on how they address these specific scarcities—for example, by expanding capacity in high-demand programs, offering targeted scholarships, and streamlining admissions timelines to reduce time-based decision friction.

Data plays a dual role in this environment: it informs students’ choices through rankings, testimonials, and outcome statistics, and equips institutions to strategically recruit and manage enrolments via analytics and predictive modeling. Providers that integrate real-time market intelligence into recruitment planning—identifying emerging source markets, personalizing outreach, and rapidly adapting to application trends—will have a competitive edge in both attracting and converting high-quality applicants. Policymakers, in turn, can leverage aggregated data to anticipate talent flows and design incentive structures that balance inbound and outbound mobility with national workforce priorities.

The cross-border education market is, in essence, a microcosm of global supply-demand imbalances: talent searches for opportunities, and opportunities compete for talent. Students respond rationally to this environment by seeking the best education their means can access, applying broadly to mitigate risk, and actively comparing options. Educational providers operate in a competitive marketplace, sometimes using scarcity to enhance prestige but increasingly required to deliver tangible value to differentiate themselves. In practice, this calls for a dual strategy: preserving the aspirational appeal of programs while ensuring a strong value proposition through employability outcomes, student support services, and transparent ROI metrics.

To ensure healthy and inclusive growth of cross-border educational services, stakeholders should act on three strategic fronts: (1) Capacity Expansion-invest in joint programs, branch campuses, and online delivery to relieve structural bottlenecks; (2) Access Enablement-deploy targeted funding schemes and flexible financing models to broaden participation beyond high-income cohorts; and (3) Data-Driven Market Engagement-use analytics not only to identify demand but to align program design, pricing, and messaging with specific market needs.

At its best, cross-border education is a mutually beneficial exchange: students gain knowledge and global experience, and societies gain skills and cross-cultural capital. Sustaining this exchange requires a deliberate shift from reactive recruitment to proactive market shaping-anticipating future demand patterns, building the infrastructure to meet them, and ensuring that the pathways created are both accessible and equitable. As the analysis in this paper has shown, when faced with the twin drivers of aspiration and scarcity, students will continue to cross borders in pursuit of empowering education; the most successful institutions and systems will be those that respond with targeted, data-informed, and equity-conscious strategies.

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