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1 Background: The Student List Business

1.1 Situating Student Lists Vis-a-vis Recruiting

Student lists are a match-making intermediary connecting universities to prospective students. The U.S. higher education market can be conceived as a national voucher system, whereby tuition revenue – composed of household savings and grants and loans from federal, state, and private sources – follow students to whichever institution they enroll in. Students want to attend college but do not know all their options, where they would be admitted, and how much it will cost. Universities have a financial incentive to provide access to students. Additionally, universities pursue some mix mix of broad enrollment goals (e.g., academic profile, racial diversity), while also meeting the needs of various campus constituencies (e.g., College of Engineering needs majors, marching band needs players) (Stevens, 2007). Universities cannot realize these goals solely from prospects who contact the university on their own. They must find prospects who can be convinced to apply. However, universities don't know who they are, where they are, or how to contact them. Student lists overcome the problem faced by universities, providing the contact information of prospects who satisfy their criteria.

The “enrollment funnel” – depicted in in Figure 1 – is a conceptual model used in the enrollment management industry to describe stages in the process of recruiting students. The funnel begins with a large pool of “prospects” (i.e., prospective students) that the university would like to convert into enrolled students. “Leads” are prospects whose contact information (or “profiles”) has been purchased. “Inquiries” are prospects that contact your institution and consist of two types: first, inquiries who respond to an initial solicitation (e.g., email) from the university; and second, “student as first contact” inquiries who reach out to the university on their own (e.g., by sending ACT scores). Applicants consist of inquiries who apply plus “stealth applicants” who do not contact the university before applying.

The funnel narrows at each successive stage in order to convey the assumption of “melt” at each stage (e.g., a subset of “inquiries” will apply). Practically, the enrollment funnel informs interventions that increase the probability of “conversion” from one stage to another (Campbell, 2017). For example, financial aid packages are used to convert admits to enrolled students (e.g., McPherson & Schapiro, 1998).

At the top of the enrollment funnel, universities identify leads by buying student lists. The sum of purchased leads plus student-as-first-contact inquiries (e.g., taking a “[virtual tours](#)” that records IP address) constitutes the set of all prospects the university has contact information for, who can receive targeted recruiting interventions via mail, email, social media, etc. The majority of BA granting public and private non-profit institutions purchase student lists annually. Based on data provided by university clients, Ruffalo Noel Levitz (2020) reported that 28% of public universities purchased less than 50,000 names, 44% purchased 50,000-100,000 names, 13% purchased 100,000-150,000 names, and 15% purchased more than 150,000 names. 34% of private institutions purchased fewer than 50,000 names, 24% purchased 50,000-100,000 names, 23% purchased 100,000-150,000 names, and 18% purchased more than 150,000 names. Ruffalo Noel Levitz (2018) asked clients to rate different “first contact” interventions (e.g., off-campus recruiting visit) as sources of inquiries and enrolled students. For the median public university, student list purchases were the highest source of inquiries, accounting for 26% of inquiries, and accounted for 14% of enrolled students, which ranked fourth after “application as first contact” (19%), campus visit (17%), and off-campus visit (16%). For the median private non-profit university, student list purchases were the highest source of inquiries, accounting for 32% of inquiries and were tied with off-campus recruiting visits as the highest source of enrolled students, accounting for 18% of enrolled students.

1.2 Enrollment Management and the Digital Economy

Enrollment management industry. Although the student list business has historically been dominated by College Board and ACT, in the 21st century student lists have been central to a surprising level of dynamism in the enrollment management industry. Drawing from Jaquette, Salazar, & Martin (2022), this section summarizes key dynamics that have shaped the contemporary market for student list data.

The first dynamic is the centrality of enrollment management consulting firms to the student list business. Although universities are the paying customers of student list products, many universities outsource student list purchases to enrollment management consulting firms.

Furthermore, student lists are an essential input to the predictive models and recruiting interventions (e.g., emailing prospects) the consultancies provide.

The second dynamic is competition followed by concentration. In the 2000s, advances in technology yielded new sources of student list data, creating opportunities for new vendors. Start-up firms entered the student list market by creating college search engines, which asked students to submit information in order to receive recommendations about colleges and scholarships. Another new source of student list data comes from college planning software that is sold to high schools and used by high school students and guidance counselors. In the 2010s, the enrollment management industry experienced a surge in horizontal followed by vertical acquisitions. Horizontal acquisitions occurred when one enrollment management consulting firm acquired a competitor (e.g., e.g., RuffaloCODY acquired Noel-Levitz in 2014) [CITE]. Vertical transformations transformed the student list business. For example, the K-12 information system provider PowerSchool entered the student list business by acquiring the edtech/enrollment management firm Hobsons, which operated the Naviance college planning software and Intersect student recruiting software. EAB entered the market for student list data through acquisitions (e.g., Cappex college search engine) and by becoming the exclusive reseller of the Intersect recruiting platform.

Third, incumbents College Board and ACT attempted to retain their competitive advantage – through new products and features – amidst the test-optional movement. Both organizations conspicuously embraced data science by developing new search filters based on statistical models that promise to help universities make “efficient” name buys that target “right-fit” students. For example, ACT allows universities to filter prospects based on their predicted probability of enrolling, while College Board developed “geodemographic” search filters that target prospects based on the characteristics/behavior of their high school and their neighborhood. While EAB has become a supplier of names, both College Board and ACT leveraged their oligopoly position in the student list business to sell enrollment management consulting, offering clients information about prospects that is not included in purchased lists. However, the test-optional movement poses an existential threat to the college entrance exam. As fewer prospective students take College Board and ACT assessments, their competitive advantage in the coverage of college-going high school students will erode. Several for-profit firms are positioned to acquire market share ceded by College Board and ACT.

The digital economy and edtech. Shifts in the market for student list data are part of broader dynamics in the digital economy and the educational technology (edtech) industry. The digital economy refers to economic output “from digital technologies with a business

model based on digital goods or services” (Bukht & Heeks, 2017, p. 13). Digital platforms, the engines of the digital economy, are intermediaries that create markets and coordinate market transactions (Sadowski, 2020). The platform is also the “ground on which all the user activity happens, allowing the platform to record everything happening in it” (J. Komljenovic, 2021, p. 322). RN4816 (p. 9) describes three categories of digital platforms in the higher education sector: first, platforms that directly target individual students (e.g., apps for renting textbooks or taking notes); second, platforms that connect “service buyers (learners) and sellers (content providers)... that almost serve as educational “institutions” in their own right (e.g., apps that allow self-employed teachers to offer micro- and other courses directly to prospective students); and third, platforms that perform some function for the university, which often integrate “directly into the work of a university” and “universities pay a subscription or fees for the use of such platforms. Examples include learning management systems (e.g., Canvas), student success platforms, and recruiting platforms that target prospective students.

“Platform capitalism” refers to the business model of generating profit from digital platforms. Platform capitalism generates profit by charging customers “rent” – as in the rent a tenant pays a landlord – for the right to use the platform without transferring ownership rights to the customer (Sadowski, 2020). Monetary rent refers to money a customer pays to an organization for access to digital products, for example a university pays annual subscription fees to Elsevier for access to academic journals (J. Komljenovic, 2021). Data rent refers to “digital traces” that platform users create by interacting with the platform (e.g., personal information they submit, behavior and interactions on the platform) (J. Komljenovic, 2021). Digital platforms gain ownership over user data via terms-of-use agreements. These user data may be utilized to improve the platform, become the basis for new products, or may be sold to third-party entities.

Sadowski (2019) builds on *Capital* (Marx, 1978) to conceptualize data as capital. Marx (1978) describes the process of generating profit from money (M) and commodities (C) (e.g., raw inputs, machinery, labor). The formula $M - C - M'$ represents economic capital, whereby money M is invested to produce commodity C , which is sold for a larger amount of money M' . Sadowski (2019) states that data are incorporated into the flow of economic capital in two ways, first, as an input material for the production of commodities [e.g., software predicting hospital staff needs depends on data about patients]. Second, data are a product (commodity) produced by the labor of people using digital platforms. Marx (1978) states that the source of profit is not market exchanges – $M - C$ or $C - M'$ – but rather the exploitation of workers, who are paid less than the value they add to commodities. Similarly,

Sadowski (2019) argues that the extraction of data from users is a substantial source of profit for digital platforms. Sadowski (2019) (p. 5) quotes an artificial intelligence researcher, “‘At large companies, sometimes we launch products not for the revenue, but for the data. We actually do that quite often ... and we monetize the data through a different product.’”

We conceptualize student list data as capital. Student list data are a commodity valued by universities looking for customers. Student list data are derived from the user-data of students laboring on a platform. For example, student list data sold by College Board is created by the labor of students who fill out pre-test questionnaires about their college preferences and then complete the test. College Board extracts student list data from test-takers who complete a questionnaire about their college preferences. Similarly, “free” college search engines (e.g., Cappex) and college search software purchased by high schools (e.g., Naviance) extract student list data from the digital labor of students searching for college.

The process of profiting from student list data follows the formula of economic capital. An example of $M - C - M'$ is an organization (e.g., Cappex) invests money (M) to create a college search engine (C) that generates student list data, which is then sold to universities for more money (M'). Marx (1978) observes that platform capitalism is defined by ever longer sequences of money (M) and commodities (C) because, as Marx [CITE; 1990 p 254]) explains, the “aim of the capitalist” is not “profit on any single transaction. His aim is rather the unceasing movement of profit-making.” Thus, more lucrative approaches generate student list data as a by-product of another money-making product, following the formula $M - C - M' - C - M''$. College Board invests money (M) to tests (C), which are sold to households for M' and also yield student list data (C), which are sold to universities (M'') looking for students. The Naviance college planning platform – and sister product the Intersect recruiting platform – follow a similar cycle. Whereas vendors historically sold student list data to universities at a per-prospect price, organizations increasingly leverage market power in the supply of student list data to sell more expensive software and/or consulting services, leading to cycle $M - C - M' - C - M'' - C - M'''$. The most common approach – exemplified by the PowerSchool’s Intersect product and EAB’s Enroll360 product – is to wrap a large pool of proprietary prospects within a software-as-service product that serves recruiting interventions to these targets. Universities that want to recruit these prospects must purchase the software.

Recent scholarship on edtech builds on the data studies literature to describe how digital platforms make money in the higher education space (e.g., J. Komljenovic, 2021; Janja Komljenovic, 2022; Williamson, 2021, 2022). However, scholarship on edtech has not substantively engaged with recruiting or enrollment management more broadly, with the exception of on-

line program managers (OPMs) [CITE]. Furthermore, whereas scholarship from critical data studies shows how digital platforms reproduce structural racism (Benjamin, 2019; Noble, 2018), scholarship on edtech has not investigated how digital platforms reproduce racial inequality in college access. [TRANSITION TO SOCIOLOGY?]

Figure 1: The enrollment funnel



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