

International Students Who Started Billion-Dollar Companies

WHEN AMERICANS THINK OF INTERNATIONAL STUDENTS, they picture young men and women who study at a U.S. university and return to their home country. Americans also know that international students sometimes attract the attention of employers inside the United States. But how many Americans view international students as a prime source of starting valuable companies that create many jobs for U.S. workers?

In a recent study I discovered that 21 of the 87 privately held U.S. companies valued at \$1 billion or more had a founder who first came to the United States as an international student. These 87 “billion-dollar startups,” also known as “unicorns” due to their rarity, overall had at least one immigrant founder who was an immigrant in 44 of the 87 companies.¹ As Table 1 illustrates, the international students came from a variety of schools, with more than one attending Stanford, the Massachusetts Institute of Technology (MIT), and Harvard.

While the story of immigrant entrepreneurs has been told in some places, international students are generally overlooked as a source of business startups and job creation. Examining more closely these international students turned founders

of “billion-dollar startups” shows policymakers may be overlooking a great source of entrepreneurship.

The stories of some of these international students who became successful entrepreneurs in the United States are both inspiring and instructive, shedding light on a phenomenon that has received little attention.

Michelle Zatlyn and the Importance of Optional Practical Training

Michelle Zatlyn grew up in Saskatchewan and didn't expect to cofound a \$1 billion company in the United States. After completing an undergraduate degree in Canada, Michelle was faced with an important decision—where would she live?

“My older sister had moved to the U.S. and was successful and I decided I wanted to come to America as well,” said Michelle.² Although she found a prospective employer, Zatlyn could not start work since she was unable to obtain an employment visa. She returned to Canada.

Zatlyn did not give up on her goal to live in the United States. Harvard Business School accepted her application and she became an international student—a decision that changed her life. At Harvard, she met Matthew Prince, one of her future cofounders. Prince and a friend, Lee Holloway, who became the third cofounder of CloudFlare, had established an “open source initiative to track abuse, fraud, and other malicious behavior that occurs online.”³ Zatlyn thought the effort to enlist thousands of people to stop bad actors on the web was public-

TABLE 1

International Students Who Became Entrepreneurs of Billion-Dollar Companies

NAME	UNIVERSITY/DEGREE	COMPANY COFOUNDED/FOUNDED	EMPLOYEES	VALUE OF COMPANY
Noubar Afeyan	MIT, PhD Biochemical Engineering	Moderna Therapeutics	326	\$3.0 Billion
Ash Ashutosh	Penn State, MS Computer Science	Actifio	350	\$1.1 Billion
Mohit Aron	Rice, PhD Computer Science	Nutanix	864	\$2.0 Billion
Alexander Asseily	Stanford, BS/MS Electrical Engineering	Jawbone	395	\$3.3 Billion
Amr Awadallah	Stanford, P.D Electrical Engineering	Cloudera	1,100	\$4.1 Billion
Jay Caudhry	Univ. of Cincinnati, MBA, and MS Computer Engineering, Industrial Engineering	Zscaler	600	\$1.1 Billion
John Collison	Harvard	Stripe	380	\$5.0 Billion
Patrick Collison*	MIT	Stripe	(380)	(\$5.0 Billion)
Nicolas Desmarais	Amherst, BA Economics and Political Science	AppDirect	400	\$1.0 Billion
Borg Hald	Stanford, MBA, Ross School of Business (U. of Michigan), BBA	Medalia	850	\$1.3 Billion
David Hindawi	U.C.-Berkeley, PhD Operations Research	Tanium	300+	\$3.5 Billion
Tomer London	Stanford, MS Electrical Engineering	Gusto	300	\$1.1 Billion
Doron Kempel	Harvard, MBA	SimpliVity	750	\$1.0 Billion
Elon Musk	Univ. of Penn., BA, Economics and Physics, Wharton School (UPenn), BS Business	SpaceX	4,000	\$12 Billion
Dheeraj Pandey*	Univ. of Texas, Austin, MS Computer Science	Nutanix	(864)	(\$2.0 Billion)
Adam Neumann	CUNY Bernard M Baruch College	WeWork	1,200	\$10 Billion
Dhiraj Rajaram	Wayne State, MS Computer Engineering, University of Chicago, MBA	Mu Sigma	3,500	\$1.5 Billion
Daniel Saks*	Harvard, MA Finance and Accounting	AppDirect	(400)	(\$1.0 Billion)
Mario Schlosser	Harvard, MBA	Oscar Health Insurance	415	\$1.7 Billion
Eric Setton	Stanford, PhD and MS Electrical Engineering	Tango	260	\$1.0 Billion
K.R. Sridhar	University of Illinois at Urbana-Champaign, MS Nuclear Engineering, PhD Mechanical Engineering	Bloom Energy	1,200	\$2.9 Billion
Ragy Thomas	NYU, MBA	Sprinklr	325	\$1.2 Billion
Renaud Visage	Cornell, MS Engineering	Eventbrite	500	\$1.0 Billion
Michelle Zatlyn	Harvard, MBA	CloudFlare	225	\$1.0 Billion

Source: National Foundation for American Policy, company information, CrunchBase. *Denotes second international student from same company. Values and employees as of January 1, 2016.

spirited, although at first she did not see any commercial applications. However, after she and Prince discussed it, she saw the possibility of a company that harnessed the power of the crowd to help the owners of websites.

After graduation, Zatlyn obtained 12 months of work authorization under Optional Practical Training (OPT). “The best

thing the U.S. government has done on immigration is OPT to allow international students a chance to stay and work for a time after graduation,” she said. “It allowed me to work with Matthew on the business plan that helped create the company.”⁴

Prince and Zatlyn graduated from Harvard, packed up a U-Haul, and headed to

Silicon Valley. Holloway joined with them to create CloudFlare and the three cofounders began raising money from venture capital firms. But all did not proceed smoothly for Zatlyn. Since there is no mechanism under immigration law for someone to stay in the United States because they founded a company, it meant the only way Zatlyn could

work in the United States long-term was if CloudFlare applied for an H-1B visa on her behalf.

At first her case was not approved and additional evidence was requested to support the application. CloudFlare submitted letters of recommendation, including from investors, and ultimately the H-1B visa was approved. “If I hadn’t obtained the visa I would have gone back to Canada and tried to work on CloudFlare from there,” she said. “If that had happened, CloudFlare would not be where it is today. It would have clearly affected our development.”⁵

Today Zatllyn is head of user experience at CloudFlare, which helps websites with traffic and security. Her job is defined as “translating the technical capabilities of the company into something customers understand.”⁶ In addition to employing more than 250 people, the company has developed a large customer base. There are 4 million websites now in the CloudFlare network, with an average of 7,000 new sites added each day.

CloudFlare is valued at \$1 billion. “Diversity is ideal when solving hard problems because people who are different look at problems in different ways, whether it’s their gender, where they’re from, or other characteristics,” said Zatllyn. “Combine that with trust and a shared vision and you’re likely to have success.”⁷

Elon Musk: Dreaming of America and Mars

Throughout his youth, Elon Musk decided, like many immigrants before him, that the United States would be the place to make his mark. At 17, Musk set off on his own from South Africa to the closest place to the United States he could find—Canada. In his teens, he learned that a change in the law gave him Canadian citizenship through his mother’s side of the family. To earn money he worked at a series of manual labor jobs. He attended Queens College in Canada but before completing his degree came to the United States as an international student. Elon earned a BA in physics and economics at the University of Pennsylvania and a BS in business at Penn’s Wharton School.

NAFSA RESOURCE

NAFSA’s latest analysis finds that the 974,926 international students studying at U.S. colleges and universities contributed \$30.5 billion and supported more than 373,000 jobs to the U.S. economy during the 2014–2015 academic year. Learn more with the NAFSA International Student Economic Value Tool at www.nafsa.org/economicvalue.

Musk made his way out to Silicon Valley, gained legal authorization to work in the United States (he has spoken of obtaining an H-1B visa) and, with his brother, soon started Zip2, which helped businesses gain a presence on the Internet. (Musk became a U.S. citizen in 2002.)⁸ Shortly after the success of Zip2, which was acquired by Compaq, Musk cofounded X.com, a company to facilitate online payments. That company merged with Confinity and later became PayPal.

After turning 30, having already started two successful companies, Elon Musk returned to the visions of his youth—rockets and space travel. He believed that to ensure humanity would persevere no matter what the future held, mankind should establish a sustainable settlement on Mars. He felt that the only way to accomplish that is to solve a host of technical problems, including, and perhaps most importantly, making rockets and space travel economically and commercially viable.

In 2002 he founded SpaceX and attracted top-flight aerospace talent. SpaceX reached an important landmark on December 22, 2015, when the company “successfully landed an unmanned rocket upright, after sending 11 satellites into orbit.” The successful mission led many media broadcasts around the world.⁹

SpaceX is valued at \$12 billion, employs 4,000 people, and is credited with reviving manufacturing in aerospace in California. Because Elon Musk is also the founder and CEO of electric car company Tesla, many have compared him to Steve Jobs. Musk biographer Ashlee Vance argues that Musk is even more intricately involved in the day-to-day operations of SpaceX and Tesla than Jobs was at both Apple and Pixar.¹⁰

When Elon Musk was a boy in South Africa, he enjoyed reading science fic-

tion, building rockets, and programming computers. The companies he formed in America are fulfilling some of that vision from his youth by developing new ways to power cars and to travel elsewhere in our solar system.

Amr Awadallah and the Influence of Stanford

Before Amr Awadallah flew to the United States to enter Stanford’s PhD program in electrical engineering, he expected to return to Egypt and teach at a university. However, life has a way of interfering with one’s plans.

“Coming in from the airport, I saw the headquarters for HP [Hewlett-Packard] and Oracle, and just seeing them excited me about the possibilities of business,” said Amr. “And Stanford inspires you with the culture of entrepreneurship, the courses, the speakers, and how to start a company and raise money. It changed me.”¹¹

Before he completed his PhD, Amr became eligible for a J-1 visa, which allowed him to work for two years and found a company called VivaSmart, which was acquired by Yahoo! He worked for Yahoo! for 8 years and was able to finish his PhD.

In 2008 Amr started Cloudera with three cofounders and today serves as chief technology officer. “The company sells software that allows organizations to profit from their data,” according to Amr. Cloudera helps organizations use software to manage and analyze data productively, including to guard against cyberattacks, increase crop yields, and detect disease patterns.¹²

Amr is proud of the 900 employees working for Cloudera in California. “When I look out on the company I see it’s not just the employees and our customers who benefit from Cloudera but all the families of those employees. That’s what makes me the most proud about what we’ve created.”¹³

Noubar Afeyan and His 38 Companies

Noubar Afeyan is a product of many countries but it is the United States where he has made his mark. His parents were born in Armenia, and he grew up in Lebanon. When he was a teenager, Noubar's family immigrated to Canada, where he attended college. The choice of graduate programs was not difficult for Noubar since he wanted to study biochemical engineering and MIT (at the time) had the only PhD program.

At age 24, PhD in hand, he started his first company, PerSeptive Biosystems, which became a leader in the bioinstrumentation field. While CEO of PerSeptive Biosystems he founded or cofounded five more companies.¹⁴

In 1999 he evaluated the way his startups were formed and founded Flagship Ventures, which invests in startups and develops new companies through its in-house division VentureLabs. Noubar oversees VentureLabs as senior managing partner and CEO of Flagship Ventures. "We spend a lot of time at Flagship Ventures identifying problems and coming up with solutions that produce intellectual property that can be used to create innovations and ultimately new approaches and new companies," he said.¹⁵ In his career, Noubar has founded or cofounded 38 companies and has over 100 patents to his name.

Moderna Therapeutics, which Noubar cofounded and helps lead as chairman, is valued at \$3 billion and employs more than 300 people. Breakthroughs in using messenger RNA or mRNA to fight disease have fueled growth and raised expectations for Moderna. Noubar Afeyan illustrates the benefits of messenger RNA by comparing it to DNA. Changes to DNA, he notes, can be essentially permanent, like hardware. In contrast, messenger RNA is like software in that it can perform a task and then can be programmed to disappear.¹⁶

Noubar enjoyed the merit-based atmosphere he experienced at MIT as an international student. "Nobody felt they had an advantage over you just because they were born in the United States and you weren't," he said. "It was a very good environment and remains so." He believes being an

immigrant and an entrepreneur are complementary. "What keeps you from innovating is being comfortable," he said. "If you're an immigrant, then you're used to being out of your comfort zone."¹⁷ Moderna Therapeutics is a company with the potential to benefit the health of millions of people. It may never have been created if MIT had not accepted Noubar Afeyan to its PhD program.

Good Things Can Happen

When the United States began admitting international students nobody expected one of the benefits would be the founding of exciting companies that create jobs and innovations for Americans. Michelle Zatlyn, Elon Musk, Amr Awadallah, and Noubar Afeyan are just four of the many successful entrepreneurs who first came to the United States as international students. The lesson is clear: If we allow international students into the United States, good things can happen. **IE**

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ENDNOTES

- Parts of this article were adapted from Stuart Anderson, *Immigrants and Billion Dollar Startups*, NFAP Policy Brief, National Foundation for American Policy, March 2016. Funding from the Ewing Marion Kauffman Foundation supported the research. Company valuations and employment as of January 1, 2016.
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a² international education fairs

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