

## From Zero to Zuckerberg: An Insider's Guide to Harvard Startups

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### THE HARVARD STARTUP EXPERIENCE

Upon hearing the word “startup,” you might imagine a cluster of Zuckerbergs donned in hoodies and ratty jeans, wired on enough coffee and adrenaline to code for days in front of a lighted screen, and cooped up in a dark basement working on the next Facebook, confident about one day changing the world.

Popular culture has glamorized this illustration of startups through TV shows like *Silicon Valley*, movies like *The Social Network*, and the immense hype surrounding the biggest success stories in tech. With the tremendous opportunities for impact and growth—coupled with the alluring possibility of fame and fortune—what was once considered an ostracizing pursuit has now become the hottest new trend in entrepreneurship. This has become especially apparent in today's blooming college startup industry.

Stanford is a well-known mecca of innovation on the West Coast, but another brilliant beacon is emerging in the East as the entrepreneurial community at Harvard begins to make a name for itself. As Harvard students are increasingly getting involved in startups during their college careers, the entrepreneurial scene at Harvard is becoming less homogenous than tech stereotypes might imply. Instead, the community is growing—and the culture is changing. Lean and self-selecting, well-funded and passionately diverse, the startup community is transitioning into a demanding, yet remarkably supportive ecosystem...one in which only the fittest survive.

### FROM THE GROUND UP

When Paul Bottino came to Harvard in 1996, he noticed that there wasn't a culture of acceptance of startups on campus. “I was looking around and I thought, ‘The whole world is doing this—why aren't we doing this?’” A former lawyer in startup law, Bottino proposed several promotional initiatives to the Dean of Engineering, who hired him immediately afterwards. To promote startup culture, Bottino created **TECH**, the Technology and Entrepreneurial Center at Harvard, founded the [Harvard College Innovation Challenge](#), and designed several startup classes.

Nearly twenty years later, a wealth of resources now exists at Harvard to help student founders with their ventures. The [Engineering](#) and [Computer Science](#) departments have recently received multi-million dollar donations, with well-funded classes like CS50 acting as a catalyst for emerging software startups by teaching students how to code. Incubators, competitions, and seed-level venture capital funds have made it easier for students not only to engage in entrepreneurship, but also to get funding for their ideas. Taken together, these resources are creating the start of a positive feedback loop for future innovations.

Bottino now describes the entrepreneurial community at Harvard as “robust,” citing the greater Cambridge and Boston area as positive influences. Although less established than similar communities on the West Coast, the startup scene at Harvard is quickly gaining traction.

According to student entrepreneur Erik Schluntz '15-'16, “There is a smaller scene here than at Stanford, but it’s more concentrated; people take it more seriously. When I was in California and at Stanford, everyone had an idea, but it doesn’t go much further than that. At Harvard [the students] are a lot more committed when they say that they have a startup idea.” Bottino echoed this sentiment. “It’s very hard to compare to Silicon Valley, where they have decades of head starts. As for its size, I think it’s very comparable—we’ve got a ton of young, entrepreneurial talent.”

## ENTREPRENEURSHIP 101

Currently Bottino teaches [ES95r](#), a start-up R&D class that helps student entrepreneurs develop their existing ventures and explore new opportunities in startup design. He works with student founders on every aspect of their startup, and many have credited his mentorship and his class as extremely influential to their success. Startups that have developed out of his class and have achieved critical acclaim include [Quorum](#), a Congressional data analytics platform, [GIFYT](#), a popular GIF-making site, and [Spray Cake](#), a sprayable aerosol cake batter.

Spray Cake co-founder John McCollum '16 described Harvard students as “well-equipped” to handle the challenges of a startup. “Harvard has all these resources at its disposal, we get classes that teach us how to develop our startup ideas—and where there are ups and downs and tougher points, we have a community of student entrepreneurs who are all going through the same issues.” Because community is a focal point for aspiring start-up founders, classes like ES95r with strong entrepreneurial subcultures often attract budding entrepreneurs looking to bond with friends, mentors, and potential co-founders while simultaneously developing their technical skills.

The most prominent among these classes, however, is “Introduction to Computer Science”—known colloquially as CS50. Despite its notoriously high Q-guide rankings in difficulty and workload, CS50 has in recent years experienced record-breaking course enrollments. This past semester alone it saw more than 800 students enroll, jumping from the relatively obscure class it was a decade ago to becoming [the most popular course at Harvard](#). Much of the credit for this has been given to Professor David Malan, who is well known for his magnetic onstage persona, [his cult-like following](#), and his overarching dedication to the course.

CS50’s influence on the Harvard startup scene is largely by design. Over the years, a number of working startups have developed out of CS50 final projects. One is [CoffeeGo](#), a food service app that is currently a part of the Venture Incubation Program at the Harvard i-Lab. Another is [Posmetrics](#), an iPad-based customer feedback service that was co-founded by Schluntz and Merrill Lutsky '15, backed by Y-Combinator, and acquired in 2013.

## CLUBS, COLLABORATIONS, AND VENTURE CAPITAL

Students who are interested in startups often tap into existing entrepreneurial networks, both to meet like-minded individuals on campus and to establish relationships with industry professionals. Extracurricular organizations like [Harvard Ventures](#) and the [Harvard College Entrepreneurial Forum](#) regularly host events—ranging from student socials to panel discussions

with experts—to facilitate such connections, the student group [HackHarvard](#) sponsors a week-long startup incubation program over Wintersession, and the [Harvard Social Innovation Collaborative](#) provides a similar outlet for social entrepreneurship.

According to CoffeeGo co-founder Hugo Yen '18, “I would say that Harvard’s entrepreneurial community is still rather young, compared to other communities like Georgia Tech or Stanford. But the i-Lab and CS50 can definitely spur innovative ventures.” Adds his co-founder Jason Hermann '18, “I think the freshness of the new ideas is giving [the community] life. Having people try new risks and new approaches adds to the overall creative vibe of the community.”

As Yen mentioned, one of the most valuable resources for students is only a 15-minute shuttle ride away. A sleek picture of cut glass, painted wood, and polished steel, the [Harvard Innovation Lab](#) stands not only at the intersection of Harvard and the greater Boston community, but also at a collaborative crossroads between the graduate and undergraduate schools. Newly opened in 2011, the 30,000 square foot space strives to foster “cross-disciplinary, cross-university collaboration” by offering an abundance of resources: reserved space for incubated teams, office hours with legal and startup professionals, and a variety of startup-related programming.

In addition to the resources offered through Harvard, many small venture capital funds are eager to support student entrepreneurship as well. [The Experiment Fund \(or X-fund\)](#), [Dorm Room Fund](#), and [Rough Draft Ventures](#) all offer young entrepreneurs access to early-stage capital, providing guidance from VCs and a network of contacts from various industries and top-tier schools. “The idea is to give people small amounts of seed capital without forcing them to drop out of school,” said Schluntz, who had taken time off during his sophomore year to develop his startup Posmetrics. “That’s really cool, but all the people who end up doing it end up leaving Harvard and not coming back.”

For many student founders, however, funding from outside sources is critical to sustaining their idea during the early stages of growth. “[Funding] is what enabled us to hire our early employees,” explained Quorum co-founder and recent graduate Jonathan Marks '15. Starting in the spring of their junior year, he and his roommate and co-founder Alex Wirth '15 have been working ceaselessly on their political big data startup, which has grown into a thriving enterprise with almost 30 employees. Since graduation, “Quorum has become Alex and mine and several other students’ full-time jobs.”

## **MORE THAN A ZERO-SUM GAME**

While money is often necessary to ensure the viability and future success of a new enterprise, venture capital is not the only way to finance a startup. Prizes and grants can also be won through business innovation competitions, which abound on campus.

At Harvard, the largest and most publicized startup competition is the [Harvard College Innovation Challenge](#). Students compete for mentorship, workspace, and thousands of dollars in cash prizes while receiving feedback on their ventures. Other university-sponsored initiatives like the [President’s Challenge and the various Deans’ Challenges](#) offer similar awards, incentivizing students to create entrepreneurial solutions to pressing problems in the world.

Support for student ventures extends into the greater Boston area as well. Boston-based startup competitions include the [New Venture Competition](#), a Harvard Business School-sponsored student competition, the [MIT 100k Entrepreneurship Competition](#), a three-part startup contest, and [MassChallenge Boston](#), a four-month accelerator program.

Yet despite the abundance of high-stakes startup competitions, the startup culture at Harvard is far from cutthroat. University-sponsored contests encourage collaborative projects from all Harvard-affiliated schools, resulting in startups that are often as diverse as the student body itself. According to Bottino, “It’s a mistake to focus too squarely on the transactional value of entrepreneurial programs, by which I mean the number of jobs that gets created, the amount of equity that gets sold, the amount of money that gets raised.” While successful teams are undoubtedly driven and passionate about their goals, the overall atmosphere is one of innovation and accessibility, not competition and exclusivity.

With so many resources to sustain them, fledgling entrepreneurs are able to find their niche within a growing community—and student founders are no longer taking the road less travelled alone. “There’s an incredibly supportive entrepreneurial culture here,” remarked Herrmann. “There are so many different resources as long as you’re willing to reach out.” McCallum similarly described how “those resources encourage other students to step out there and try being founders...and that can be an incredibly enriching experience.”

## QUORUM

Jonathan Marks ’15 and Alexander Wirth ’15 were roommates in Mather House when they had their first conversation about using big data to affect change in the White House. Their startup came out of the unique intersection between politics and technology—two discrete but complementary areas that Marks and Wirth had done work with in the past.

Wirth had spent many summers interning at Capitol Hill, so he was familiar with the problems faced by politicians when trying to access information on fellow congressmen. Marks, on the other hand, came from a background in computer science. According to Marks, “the more I heard about the incredibly messy ways that people on the Hill try to navigate this process, the more I realized that there was a real need for a technological solution to these problems.”

The startup that resulted was [Quorum](#), an online legislative strategy platform that provides unique quantitative insights into the U.S. Congress. After scraping thousands of websites to pull in political information, Quorum processes over 800 million data points in order to calculate hundreds of different statistics about each member of Congress’ legislative history, including top issues, most frequent collaborators, ideology, voting history, and legislative effectiveness.

In the development phase, “Harvard was a huge help, and the resources were huge beyond simply the education and people and our early employees,” recounted Marks. “Alex and I took Paul Bottino’s startup R&D class in the spring of our junior year, [and] the support and mentorship from Paul was incredible. Access to [the Harvard] network and the media was also very useful.”

In order to raise capital, Marks and Wirth applied to around twenty different startup competitions. Their efforts paid off when they won the 2014 Harvard Innovation Challenge, the Harvard Ventures Pitch Competition, Harvard Hackfest, and a number of other accolades. Quorum received [national press attention](#) as a result, and with their accumulated prize money the co-founders were able to get their startup off the ground. “At the beginning, I said I would be ecstatic if we sold even one subscription,” said Marks. “We’ve already achieved beyond our wildest dreams.”

## SPRAY CAKE

John McCallum ‘16 and his girlfriend Brooke Nowakowski ‘16 are the co-founders of [Spray Cake](#), an aerosol-style spray can that dispenses ready-to-go cake batter right from the nozzle. It was a project that initially emerged out of McCallum’s freshman “Science of Cooking” class, originally invented “more as an excuse to eat cake during lab than anything else.”

According to [TIME Magazine](#), “The accelerant in the can releases air bubbles inside the batter, eliminating the need for baking soda and baking powder so the confection is ready to eat almost instantly. It takes 30 seconds to bake a cupcake in the microwave, and only one minute to bake a full cake.” McCallum and Nowakowski decided to pursue the idea seriously during the spring of their sophomore year. “A startup can be time consuming, especially as a student founder, so it’s ideal and beneficial that your co-founder is someone you’re already spending time with,” said McCallum.

With help from Paul Bottino’s startup class, the couple entered the Harvard College Innovation Competition and won a top award, which helped them crystallize their idea and transition into a feasible business. Since then, Spray Cake has been well-publicized, receiving national media coverage on outlets like [ABC News](#), [Business Insider](#), and [CNN.com](#). The duo has already created a working prototype and incorporated as an LLC, and they are now looking to market their product more widely in commercial stores. “I definitely think it’s been a fun process, but I don’t think you should start a startup without recounting the costs,” said McCallum. “It might give you a few gray hairs in the process.”

## GIFYT

Kieran and Rory O’Reilly (formerly class of ‘17 and ‘16, respectively) didn’t intend to drop out of school to make GIFs for a living, but that’s exactly what they did. Initially, they contacted the top 100 Youtubers to pitch an easy way to make animated GIFs from their videos, which they could then share widely with their fans. It was an easy sell, especially when the service was free.

“A lot of these YouTubers wanted to become famous,” said Kieran. “They were like, “Oh, my God, how can we make these GIFs?”

When the brothers launched <https://www.gifyoutube.com/> in July 2014, interest spiked within the Youtube community, sites like [Techcrunch](#) and [Reddit](#) publicized the startup to their extensive networks of followers, and [GIFYT](#) went viral almost overnight. Soon the O’Reilly brothers

realized that they had a viable business idea, and made the decision to leave Harvard to pursue their startup full-time.

One year and over two million user-created GIFs later, the brothers have been inaugurated in the latest class of [Thiel Fellows](#). Created by PayPal co-founder Peter Thiel, the Thiel Fellowship is a program that offers \$100,000 and mentorship from the Thiel Foundation in exchange for two years out of school. According to Kieran, it was a serendipitous designation. “Rory filled out a form a few months ago after someone told him about it, and I didn’t apply,” he said. “Next thing we know, we get this email telling us that we were finalists!”

Having secured funding from investors, GIFYT is now actively hiring. One of their first hires was Patrick Pan ’18, who took a semester off to work at GIFYT during the spring of his freshman year. After meeting the O’Reilly brothers at the CS50 fair, he was offered an internship over winter break—which then extended into the school year. “They won me over,” said Pan. “The opportunity to do a startup is something that I had imagined but never really had the chance to do.”

## POSMETRICS

Another notable Harvard “drop-out” is Erik Schluntz, who took time off school in 2012 to work on his startup, Posmetrics. During his freshman year in CS50, Schluntz co-founded Posmetrics (formerly PollVault) to help businesses collect customer feedback data using iPads at the point of sale. The project soon turned into an i-Lab sponsored startup—one that not only won awards from the Harvard College Innovation Challenge, but also garnered the support and patronage of several businesses around Harvard Square.

The next step was [Y Combinator](#)—a prestigious seed accelerator in Silicon Valley that provides mentorship and training to founders as well as access to investors for their early-stage ventures. Upon their acceptances to Y Combinator, Schluntz and his co-founder Merrill Lutsky both took a semester off from Harvard to work on Posmetrics full time. “We were waking up, working on the company, eating dinner, working on the company, sleeping, dreaming about it, and then waking up and working on it again,” he recounted, “and that was my life for three or four months.”

According to Schluntz, student founders should have a realistic view of the line of work they’re going into. “Going from idea stage to working on it to getting funding, the success rate for startups is under 10%. Even once you’ve raised money it’s tough to say what success is, but even then there’s another 10% chance that it won’t work.” Fortunately for Schluntz and Lutsky, their hard work paid off. Posmetrics attracted several investors, raised half a million dollars in seed funding, scaled quickly, and became acquired by a larger tech company in the summer of 2013. After the successful acquisition of their startup, the co-founders returned to Harvard. Lutsky graduated in 2015 with a Bachelor’s in Applied Mathematics and is now working as a Product Consultant at Square. Schluntz, a first semester senior, will graduate with a joint Bachelor’s and Master’s in Electrical Engineering at the end of 2015.

## DIFFICULTIES OF STARTUPS

While talent, exceptional work ethic, and unfaltering conviction in an idea seem to be prerequisites for success, juggling a startup on top of a full academic schedule is no easy task for any student founder. On top of the demands of classes, there is also the stress of managing a team, raising capital, and pushing an innovative product forward.

“The people I interact with are very passion-driven and earnest and doing something because they want to make a difference in the world,” said Bottino, adding, “You don’t last if your heart’s not in it.” “Because it’s such a time-intensive process, you have to be invested in it,” said McCallum. “But if you’re doing a startup just to do it, and you don’t have the drive, it would be very, very difficult to continue with it. The odds are already against you.”

Even for the passionate, project staleness is a major obstacle. “To keep an idea fresh and engaging while you’re working on it is very tough,” admitted Herrmann. “You have to be self-motivated to work on something you’ve been working on for ages. Being able to stick with it even if you don’t feel like you’re making progress is difficult.” Yen added, “We have to be really on schedule in order to get things done. School just kind of gets in the way.”

According to Marks, “Alex and I managed to run a startup while also being normal Harvard students. We both turned in our theses, we both graduated on time, we both were involved in other extracurriculars. We certainly got a lot less sleep...[but] in order to get everything out of it, it takes a lot of effort, a lot of dedication, a lot of hard work.” However, the founding team at Quorum seems to be the exception, not the norm. “For most people, startups take 100% of your effort,” said Schluntz. “It’s a ton of really hard work that you’re not necessarily going to see in popular depictions of a startup. If you really want to make an impact, you would really want to drop out. And the best thing that Harvard can do is encourage dropping out.”

However, despite the high-profile successes of Harvard-dropouts-turned-technology-scions Mark Zuckerberg and Bill Gates, dropping out of Harvard is not a guarantee of success. Pan described dropping out as “objectively more difficult, because you have to worry about every aspect of your life. You have to find a good balance between working too hard—because you don’t want to burn out—and finding what you really want to do.” Added Schluntz, “If it’s just a neat idea, it might not be worth it. For me the biggest downside was losing out on the social experience at Harvard. I’m very close with my blockmates, so being away from them for a semester was hard. There are costs of leaving school...you can manage it, but it is something to worry about.”

## **DEFINING SUCCESS**

There are many different definitions of success in the startup world, ranging from financial success to successful acquisitions to self-improvement and personal growth. Ultimately, however, satisfaction depends on what you’re looking for. According to Marks, “In the end, no one really knows what your dream and vision look like except you.” Bottino takes an optimistic standpoint; “I would say that startups can fail but entrepreneurs rarely do. It’s a bit of a self-serving definition, but entrepreneurs keep trying.” He encourages students to keep innovating, noting, “One idea may not work, but success is having the perseverance to push [yourself] to new learning curves—to create something that creates value for other people.”