The Engine+
Powering Innovation

2020 Innovation Report

THE CONVERGENCE OF INNOVATION, TECHNOLOGY & HIGHER EDUCATION

Mike Grandinetti, Program Development Fellow UC Berkeley Sutardja Center & Faculty, Engineering Leadership Professional Program & Faculty, Harvard University Management Division & Faculty, Brown University School of Professional Studies

I've spent the last 25+ years working at this extraordinary point of convergence as a Professor, faculty member & mentor at some of the world's most prestigious educational institutions, in addition to my simultaneous roles as a serial tech entrepreneur, innovation consultant, hackathon leader, startup mentor and board member. The changes that have occurred in the way in which innovation is taught, starting in 2007, has been profound. 2007 is an especially important year and inflection point for innovation based on two critical events. The launch of Apple's iPhone democratized technology, while the sub-prime mortgage and banking financial crisis spiraled us into the "great recession."

This created long-terms impacts on innovation as we know it.

An Infusion of Brainpower

For starters, many of the best and brightest, long drawn to the highly paid areas of investment banking and management consulting, started to shift their focus to high tech and innovation-related positions at this key historical inflection point. As a result, it unleashed a massive infusion of brainpower into these professions that continues to exist to this day.

Educational & Tech Accelerators

In addition, as the great recession caused significant layoffs from large corporations, a wave of tech startup accelerators, inspired by pioneers Y-Combinator & Techstars, began to democratize how best practices of innovation were taught, just as an increasing number of recently graduated students and corporate "expats" decided to take control of their own professional destiny. Shortly following, both public & private universities across the US began creating their own on-campus startup competitions, hackathons, accelerators, incubators and seed capital funds. UC Berkeley's SkyDeck accelerator is a noteworthy case in point. It's a joint venture between Berkeley's top-ranked College of Engineering, their Haas School of Business and the Vice Chancellor for Research's Office. SkyDeck is highly selective. For the lucky few teams that are admitted, they receive funding from a "Who's Who" of Silicon Valley venture capital firms, including Sequoia Capital, Mayfield & Sierra Ventures, among others.

The Berkeley Blockchain Xcelerator, offered by the Sutardja Center of Entrepreneurship & Technology, brings together the world's most promising Blockchain startups. The program, delivered twice per year, delivers six months of extraordinary value through world-class programming and expert mentorship, despite the fact that it is "equity free".

Harvard started its Innovation Lab in 2011. It's just one of several innovation accelerators on campus. It's stated mission is "to bring together students from Harvard's various schools to foster innovation across the university." Among its many offerings is a 12-week "Venture Incubation Program" offered three times per year. Approximately 1500 student teams have gone through this program thus far. The number of programs and resources that are now available to the Harvard community has exploded based on the success of the Innovation Lab.

MIT hosts hackathons on its campus at least once per week, and far more often in peak season. The MIT Media Lab has hosted the world's largest VR/AR hackathons, drawing 1,000+ participants from around the world. Pillpack, acquired by Amazon for nearly $1B USD, was born in MIT's "Hacking Medicine" hackathon in 2013.

Combining Research & Commercial Impact

In addition, many research universities began to institutionalize the commercialization of their engineering & scientific research through the formation of Tech Transfer Offices. This began the vitally important process of exposing principal investigators and researchers to the principles of innovation – not to be confused with invention – as the two have fundamentally different principles – and entrepreneurship. MIT led the way with its Deshpande Center, which for the first time brought together both scientific and commercially-focused students. These complementary teams are required to complete a course together in order to qualify for seed funding. Many teams then move into both on campus and off-campus accelerators to continue to mature their projects.

The Growing Importance of Entrepreneurship & Diversification of Graduate Programs

The study of entrepreneurship and innovation on university campuses has also shifted as more practitioners have taken over the role of classroom instructor, with a commensurate decrease in career academic tenure track PhDs, who lack any real-world innovation or entrepreneurship experience. As a result, innovation & entrepreneurship courses are far more hands-on, and many capstone projects from these courses lead to real company formation. There is such a high level of critical mass that the respected blog "Poets & Quants" now rates and ranks the Top

Global MBA programs for Entrepreneurship. Many campus-born startups, especially those from Stanford and Harvard, have raised hundreds of millions of dollars from top tier VCs even before the students have graduated.

Finally, as the general MBA becomes increasingly commoditized except at the most prestigious institutions, new fields of study, including an explosion in Masters in Data Science and Business Analytics degree and certificate programs. The Berkeley Data-X course offers hands-on experience to its students. This course, whose mantra is “Demo or Die”, is also offered by the Sutardja Center of Entrepreneurship & Technology. It brings together project teams of five undergraduate and graduate students with global corporates and federal agencies to solve jointly defined problems through the development of working models and algorithms.

I’ve had the privilege of being involved in each of the programs described above. As a result of these examples, which is literally the tip of the iceberg, thousands of startups have been born on university campuses. These range from Data Bricks , 4D Molecular Therapeutics, Corelight , GoGoVan and Next Insurance at Berkeley to Rent The Runway, Catalant and Tellus at Harvard to Segment (just acquired by Twilio) at MIT to BREX, Snap and Robin Hood at Stanford to leading Direct to Consumer models Warby Parker, Harrys and Lola at Wharton.

Suffice to say: Innovation around advanced technology is thriving on university campuses, and these initiatives will only help deliver a better, smarter future for business, technology and education itself.