



CENTER FOR
INNOVATION



UNITED STATES PATENT AND TRADEMARK OFFICE
SUCCESS Act Hearing Testimony

June 3, 2019

Submitted by
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Director Cabeca, Director Clowes, Deputy Myers, and other distinguished members of the USPTO, I am honored to be here today to address an important issue: maximizing our nation's innovative potential by turning our attention to women founders and inventors.

I am Robin Feldman, the Arthur J. Goldberg Distinguished Professor of Law and Director of the Center for Innovation at the University of California Hastings Law. At the Center for Innovation, I am privileged to lead twelve, team members who engage in research on issues related to science and technology. We also engage in programming that provides on-the-ground support for innovators. Our flagship program, the Startup Legal Garage, provides free legal services to roughly 50 early-stage technology and life science companies a year, with a focus on women and minority entrepreneurs. The work is supervised entirely for free by outside lawyers. And I do mean entirely for free. We don't allow deferred compensation or other payment mechanisms.

In addition to Startup Legal Garage, the Center has now launched LexLab, which includes an accelerator for LegalTech startups. In short, our team at the Center for Innovation has the opportunity to see entrepreneurship both from an academic, research perspective and on the ground. Today, I would like to talk to you about both the successes and the challenges for women in technology, invention, and entrepreneurship

In recent years, women's involvement in entrepreneurial activities has skyrocketed, providing a significant increase in opportunity for female leaders. Women entrepreneurs not only diversify the innovation space; they also generate new ideas, inventions, and businesses that would not have existed otherwise. Between 2017 and 2018, women created more than 1,500 net new businesses every day.¹ Over the past decade, the number of women-owned firms increased by 58%, far outpacing the national percentage growth rate of 12%.² Furthermore, recent studies have even found that women-founded businesses bring in more revenue, are more innovative, and are more sustainable than those without women.³

Research suggests, however, that women inventors' potential remains highly underutilized. For example, even though women are catalyzing growth in entrepreneurial sectors, they are still underrepresented and underfunded in the startup and tech industries. In every year from 2012 to 2017, only 17% of venture-backed startups were women-

¹ 2018 STATE OF WOMEN-OWNED BUSINESSES REPORT, AMERICAN EXPRESS 4 (Aug. 21, 2018).

² *Id* at 3.

³ *See* Candida Brush et al., 2016 UNITED STATES REPORT: GLOBAL ENTREPRENEURSHIP MONITOR, BABSON COLLEGE 11 (2017); Katie Abouzahr et al., WHY WOMEN-OWNED STARTUPS ARE A BETTER BET, BOSTON CONSULTING GROUP 2 (2018); Arthur Kalnins & Michele Williams, *When Do Female-Owned Businesses Out-Survive Male Owned Businesses? A Disaggregated Approach by Industry and Geography*, 29 J. OF BUS. VENTURING 822, 829 (2013).

founded, stagnating over the five-year period.⁴ Consider technology leaders such as Google and Facebook. Despite considerable efforts to increase diversity at Google, women still make up less than a third of its employees and only around a quarter of its leaders.⁵ Moreover, the roles that women play in technology companies may leave them more on the periphery and less in the positions perceived as at the core of the company's power. At Facebook in 2018, for example, women occupied just 22% of technical roles and 30% of the senior leadership roles.⁶ Across several major tech companies, women occupy similarly low percentages of technology and leadership positions, often facing discrimination along the way.⁷

The patent system can be essential for changing this landscape. In our spectacular and valued patent system, the power of invention and inventorship confers strength, both in terms of signaling technological chops and in terms of conveying bargaining power. Ensuring that women have access to those avenues of strength is an important part of securing the science and technology pathway for women, along with the economic benefits for society as a whole. Thus, it is critical that women gain exposure and access to the patent system and that we eliminate the barriers along the way.

In the entrepreneurship space, the numbers are not encouraging. Women continue to struggle to obtain funding for their businesses, particularly in the startup environment. Last year, female-founded startups received \$1.9 billion dollars in venture capital (VC) funding out of a total of \$85 billion overall—a mere 2.2% of all VC dollars.⁸ In contrast, all-male teams secured roughly 79% of VC dollars.⁹ A study by the National Women's Business Council (NWBC) found that among the founders of the most successful companies, men were able to launch their startups using six times as much capital as women.¹⁰ Moreover, in 2017, women accounted for only 8% of the investing partners at

⁴ See Gené Teare, *In 2017, Only 17% of Startups Have a Female Founder*, TECHCRUNCH (April 19, 2017), <https://techcrunch.com/2017/04/19/in-2017-only-17-of-startups-have-a-female-founder/>.

⁵ 2018 GOOGLE DIVERSITY REPORT, GOOGLE (accessed January 24, 2019), available at: https://static.googleusercontent.com/media/diversity.google/en//static/pdf/Google_Diversity_annual_report_2018.pdf.

⁶ FACEBOOK DIVERSITY UPDATE, FACEBOOK (accessed May 29, 2019), available at: <https://newsroom.fb.com/news/2018/07/diversity-report/>

⁷ See Rani Molla & Renee Lightner, *Diversity in Tech*, WALL ST. JOURNAL (Dec. 30, 2014), <http://graphics.wsj.com/diversity-in-tech-companies/> (updated April 10, 2016); Laura Colby, *Women and Tech*, BLOOMBERG NEWS (Aug. 8, 2017) <https://www.bloomberg.com/news/articles/2019-01-28/u-s-planning-to-announce-criminal-charges-related-to-huawei-jrgrda0q>.

⁸ Valentina Zarya, *Female Founders Got 2% of Venture Capital Dollars in 2017*, FORTUNE (Jan. 31, 2018), <http://fortune.com/2018/01/31/female-founders-venture-capital-2017/>.

⁹ *Id.*

¹⁰ See Susan Coleman & Alicia Robb, ACCESS TO CAPITAL BY HIGH-GROWTH WOMEN-OWNED BUSINESSES, NAT'L WOMEN'S BUS. COUNCIL 27 (2014),

the top 100 venture firms.¹¹ These early struggles and funding discrepancies pose long-term challenges for the economic stability of female founders and their ventures. Consequently, any legislative policy that seeks to remedy these inequities must be crafted with a thorough understanding of women founders and business leaders, their funding and revenue streams, and, quite frankly, their networks.

As the USPTO profile of women inventors, *Progress and Potential*, notes, women accounted for only 12% of all inventors who secured patents granted in 2016.¹² Questions surrounding women and inventorship, per se, are understudied. Nevertheless, there are tantalizing hints of leakage in the pipeline—that is, ways in which women we would expect to see in the invention space seem to be left out or left behind.

On the simplest level, how can women inventors build and lead teams to support their innovations, if they are faced with significant challenges in securing patents for those inventions in the first place? Beyond that, if we want women to have the opportunity to climb the soaring heights of Silicon Valley, the foundation must be strong. And the patent system is a key part of that foundation.

The SUCCESS Act acknowledges the extraordinary potential of women inventors, and the processes it has set into motion, hopefully, will be instrumental in encouraging women to apply for patents and in fostering their entrepreneurial growth. In particular, what I find so hopeful about the SUCCESS Act is that it provides an opportunity to not only highlight key factors that help women entrepreneurs succeed; it can also allow us to shine a light on the roadblocks that currently hinder their creative efforts.

I want to take a moment to be completely candid with you. I have been troubled, of late, by what I perceive as fatigue on the topic of women in technology and entrepreneurship. The sense I get is the following: We all know there is a problem; it's not clear anything will make a difference; why should we keep looking at this?

Well, as an academic, I continue to believe that if we haven't found a solution, perhaps we don't understand the problem as fully as we think we do, and perhaps we haven't looked in all the right places.

So let me share with you a study we are attempting to undertake along these lines. The University of California Hastings Center for Innovation has access to a data set of

<http://www.gbaforwomen.org/download/access-to-capital-by-high-growth-women-owned-businesses/>.

¹¹ Gené Teare & Ned Desmond, *Announcing the 2017 Update to the Crunchbase Women in Venture Report*, TECHCRUNCH (Oct. 4, 2017), <https://techcrunch.com/2017/10/04/announcing-the-2017-update-to-the-crunchbase-women-in-venture-report/>.

¹² PROGRESS AND POTENTIAL: A PROFILE OF WOMEN INVENTORS ON U.S. PATENTS, U.S. PATENT & TRADEMARK OFFICE 3 (2019).

more than 750 startups. The data set consists of startups founded by those who are university affiliates—including graduate students, post-docs, faculty, and others—who have licensed technologies from their home campuses. We are fortunate that it is a wonderfully robust data set, with information including industry, revenue, venture funding, status, and numerous other characteristics. The data set also has the advantage of coming from campuses that vary in size, resource levels, and location, and we have already sorted for gender information.

Universities are a particularly important part of the innovation pipeline. It is there that future science and technology innovators find their training, develop mentorship and, more importantly, begin to create the networks that will support them down the road.

Our hope is to use this extraordinarily rich data set, not just to look at where women are not adequately represented along the way, but to see what has worked well for women. And although we can learn much from mining the data itself, we also hope to look in depth at the experiences of the women in the sample, including their experiences with patenting and invention.

My own experience in looking for support for this endeavor reflects what I described before as fatigue on the topic of women in technology and entrepreneurship. Having been privileged to receive tremendously generous research support for projects in a wide range of areas—from privacy to patent licensing to health care innovation—it is striking to me that while Silicon Valley speaks about issues related to women in technology and entrepreneurship, it can be remarkably challenging to inspire their support. I am hopeful that the SUCCESS Act will help re-energize this area, encouraging Silicon Valley to keep looking—and keep striving—for answers and solutions.