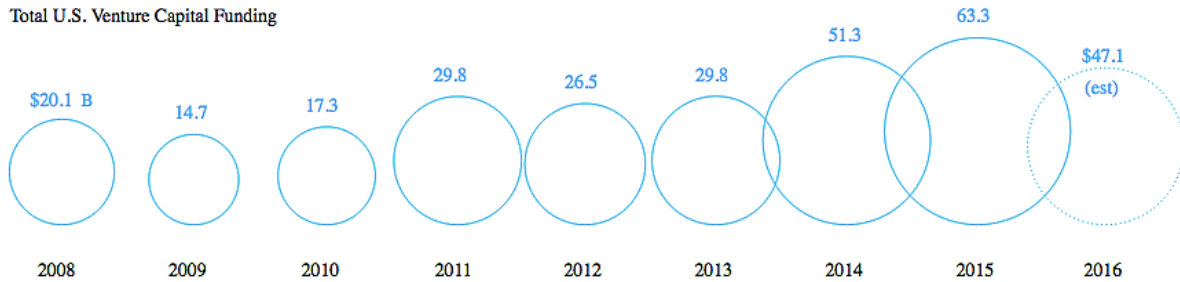


REDRAWING THE SYSTEM BOUNDARIES AROUND ACCESS

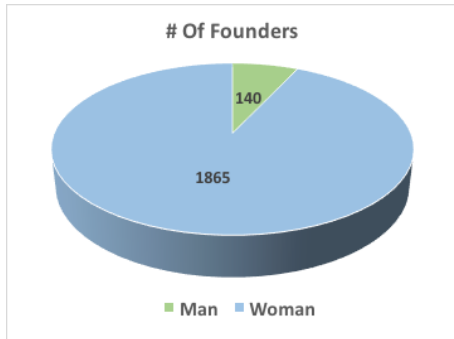
Let's begin with some sobering data, or as Bloomberg report put it, "For starters, it helps to be a man."¹

That seems like a pretty fair assessment after looking at this data which was based on a study of 890 U.S. startups, founded from 2009-2015, and which received at least \$20 million in venture capital and other equity funding.

Total U.S. Venture Capital Funding

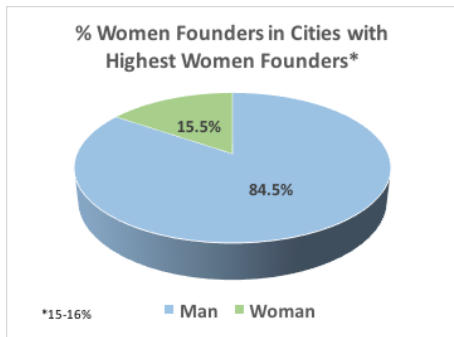
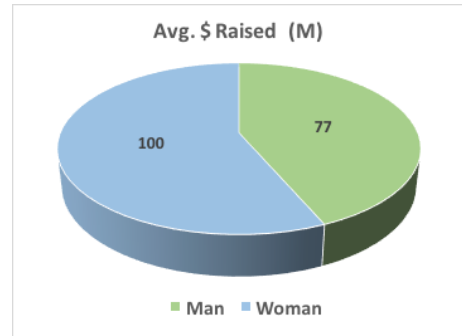


Source: Bloomberg Reporting



It also comes as no surprise that firms which start with higher levels of capital display significantly better performance. Women-owned firms typically start with less capital, use more of their own money, and less capital from outside investors than men do. According to a study, women raised an average of US\$58,142 from all sources compared with US\$90,259 raised by men.²

This funding gap, particularly in the early stages of a company's development, could lead to the company underperforming and hurting the ability of the women-owned firms to survive, generate earnings, having higher profitability, hire employees, and grow.³



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development, could lead to the company underperforming and hurting the ability of the women-owned firms to survive, generate earnings, having higher profitability, hire employees, and grow.³

Some things have changed and then again, some things like the wage gap have not: it was about €87:\$1 in the late 80's-early 90's when I volunteered on a 'gender parity committee' as an engineer at Hewlett-Packard and that is what it is today.

I. CHANGE THE PARADIGM

Not Every Decision Has to Involve An Ethical Choice. There is something to be said about how Captain Kirk made it through the impossible Kobayashi Maru training simulation: a decision making and leadership test administered to the Starfleet Academy cadets in which they engage in a no-win scenario, forcing them to make very difficult choices, each choice with its own grave consequence and ethical compromise designed to force the cadets to recognize the limits of their power.⁴ It was revealed that Kirk, in his third attempt at the test, had hacked the system and secretly reprogrammed the simulator so that it was possible to have a winning outcome. His response to the criticism: How we deal with death is at least as important as how we deal with life. Kirk was awarded a commendation for "original thinking."



Hacking Is Not A Bad Word. A hacker, typically brings to mind the image of a sneaky sleuth. These days, however, we have hackathons for so many things, from innovation in breast pumps to securing smart cards. Nowadays hacking is thinking outside the box and it's about changing the nature of the problem if the solution is against the law of nature.

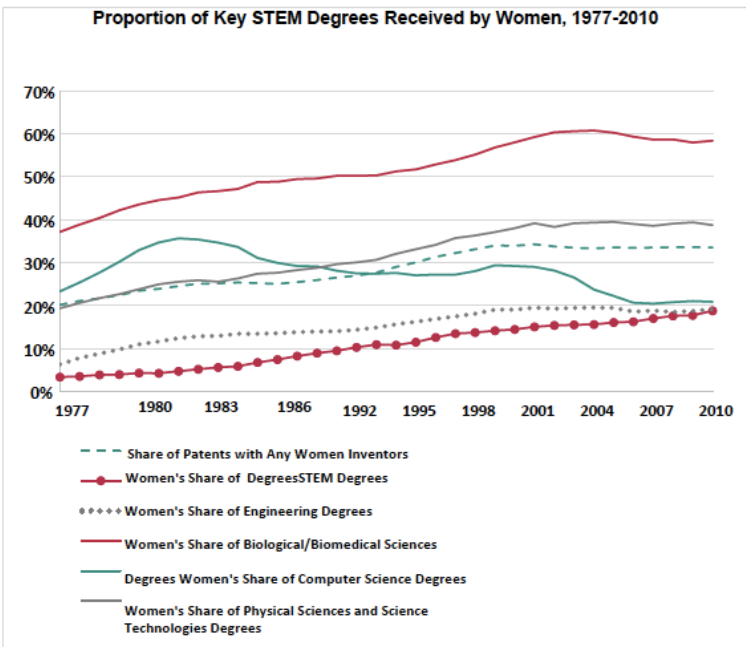
Visibility Brings Access. 70:20:10 Rule. Back when I started in the 80's it was not called STEM and tech didn't mean Apps. There was no *Lean In*⁵ and there was no *Lean Out*.⁶ What was true then, however, still holds true today: 70:30:10 rule.

Visibility drives performance evaluations, pay raises, future assignments, and promotions. And senior level is one place we do need more women in. So, it's not just about new entrants but also about retention of senior level women. There is one common factor affecting both recruitment and retention, however, and that is visibility. In a recent study, the top response when asked to name the most-critical factors for promotion to their level, 240 senior business leaders of in Silicon Valley said: visibility. More than technical competence, business results, or team leadership ability, visibility was the most important factor for advancement.⁷ And when you are in a technical field, it starts with assignments.

Scholars and management consultants contend that for visibility you need to follow the 70:20:10 Rule: that 70% of development happens on the job, 20% happens through critical relationships, and only 10% occurs through formal training programs. Which means identify and get on those mission-critical roles.⁸

Another natural byproduct of being in STEM and working on technical assignments is having the opportunity to publish and file for patents. While increases in women's patenting are associated with increases in the share of STEM degrees awarded to women, women continue to be grossly underrepresented in some patent-intensive STEM fields, such as engineering and computer science.

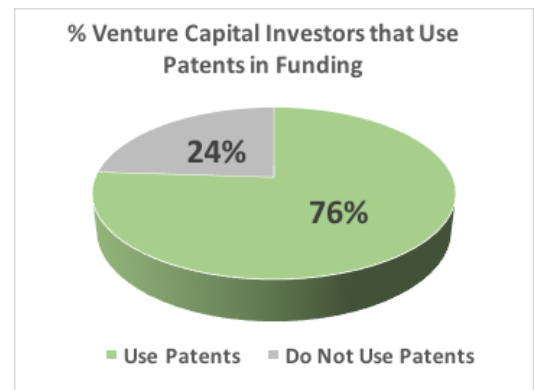




Source: IWPR analysis of Delixus, Inc. National Women's Business Council (2012); USPTO (2016a); and Snyder, Brey, and Dillow (2016).

Women entrepreneurs' access to venture capital funding, in particular in verticals which are deep science and technology driven, is likely to be affected by their low rates of patenting.

Surveys conducted among academics as well as corporate executives has found that men and women have different preferences when it comes to achieving high-level positions in the workplace.



At the current rate of progress (since 2000), women are not expected to reach parity in patenting until 2092. While it is reported that 76 percent⁹ of venture capital investors take patents into consideration when deciding on funding, can you afford not to do the same when it comes to filing for patents?¹⁰

This is equally important in academia since universities are placing more and more emphasis on commercialization and spin offs where STEM fields rely on protectable intellectual properties.

II. FUNDING RESOURCES (NOT IN ANY PARTICULAR ORDER)

Private or Quasi-Private. Funding is not the first thing an entrepreneur needs, but when the time comes, if you don't have it, even the mighty will fall. So while you should not give up on the venture and angel investor route, it's wise to investigate other alternatives so you are not waiting on the other side of the wall waiting for it to fall. There are also some entrepreneurship communities that can help you gain access to resources, although they often tend to be vertically focused: mobile-applications, STEM, hardware, etc.

And then there are those like TechLab Innovation Center¹¹, as a case of community with deep roots in the entrepreneurship ecosystem that go beyond any one vertical.

However, here is one thing that a savvy entrepreneur can never forget: Everybody knows everybody or knows someone who knows the person you know. So, opportunity spotting is key.

Below is a short exemplary list from the many available resources along with a brief description of few to provide some more context. Disclaimer: Inclusion or absence of a name or description is neither an endorsement nor lack thereof.

Community Development Financial Institutions. CDFI lend money to small businesses that banks consider too risky. The CDFI also offer training and technical assistance. Their funding comes from the federal government, foundations, faith-based organizations, and commercial banks. In 2012, they lent

\$343 million to small businesses and \$116 million to micro enterprises, according to Opportunity Finance Network (OFN), a national association for CDFIs.¹²

Women Investment Firms. The good news is there are more women getting involved in investing, whether as individuals, as part of angel groups, or as part of micro or venture firms. The question remains, is that going to make a difference in the access of women entrepreneurs to capital and if so, has it reached critical mass. One of the more comprehensive recent studies on women in venture capital and their impact on female founders by TechCrunch¹³ found that:

- 93% of investing partners at the top 100 venture and micro-venture firms are men;
- There is scant evidence yet to suggest that on an industry-wide basis firms with a female partner are more likely to invest in startups with a female founder; and
- There is clear evidence, however, that the small number of venture firms and seed investors with female founders and/or an unusually high percentage of female partners, invest at elevated levels in female entrepreneurs.

Women Angel Groups. Fortunately, number and influence of angel groups dedicated to funding women-led companies is on the rise. Examples include: Broadway Angels, PipeLine Angels, Female Funders, Pasadena Angels (not necessarily women but science and tech focused), Astia Angels, and Golden Seeds.

Investment Platforms. These platforms will do the matchmaking between the investors and startups. There will be some blind courting as you will not know who the investors are until introductions are requested and made. They are usually vertical specific. For example AngelList¹⁴ primarily focuses on tech, CircleUp¹⁵ on consumer product companies, and Propel(x)¹⁶ solely on science and technology startups.

Beyond the internet startups, there's a world where startups are developing new forms of clean energy, lifesaving drugs, and exciting new materials. They are also using data analytics, artificial intelligence, and other significant scientific and technological breakthroughs to change the world and build the next generation of great companies. **Propel(x)** connects its members with these exciting startups.

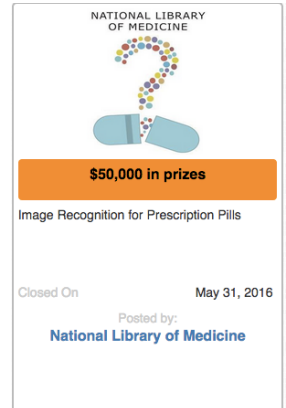
Golden Seeds, one of the largest angel networks in the US, is dedicated to pursuing market returns through the empowerment of women entrepreneurs and the people who invest in them. It is headquartered in New York City, with active chapters in New York, Boston, Silicon Valley, Southern California and Texas.

In addition to the investments of individual investors, Golden Seeds manages three venture funds with Since 2004, over 3000 companies have applied for funding to Golden Seed. In total, Golden Seeds has invested over \$92 million in 87 companies.

Other Sources. Count Me in for Women's Economic Independence, Make Mine a Million \$ Business. The program challenges women business owners to hit revenue targets of US\$250,000, US\$500,000 or US\$1 million. Ernst & Young's Entrepreneurial Winning Women program, which aims to help successful women business owners realize the full potential of their companies through a customized program designed to build and foster critical relationships, enhance leadership skills and expand business know-how. Intel Capital Diversity Fund, aiming to diversify the tech industry with a record setting \$125 million venture fund to invest in businesses led by women and underrepresented minorities. More and more resources are being shared online by other women including this list of women angel and early-stage tech investors.¹⁷

Government Resources. From services to funds, there are many types of resources available to startups from the federal, state, and local governments.

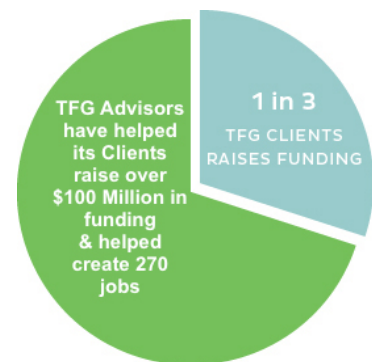
Challenge.Gov.¹⁸ It is run by the U.S. General Services Administration and works when you tell people you care about an issue or participate in a challenge. The government or a citizen posts challenges. You and others like you submit solutions. An agency pays only for those solutions that meet the criteria and are chosen as winners.



Advisory/Mentorship Services. There are government funded accelerator which will provide a lot of the advising and mentorship services, at no cost, by seasoned professionals, that for-profit accelerators/incubators boast about.



An example is, Tech Futures Group (TFG)¹⁹, a Small Business Development Center (SBDC) program focusing exclusively on advising qualified technology and science-based clients located in the NorCal SBDC network coverage area. TFG provides free advisory services, including: Entrepreneurs in Residence, Specialists Industry Expert Advisors, market launch, funding



strategies, IP strategy, SBDC programs, SBDC seminars, and SBIR/STTR.

SBIR/STTR through SBA.²⁰ SBA’s Office of Investment and Innovation leads programs that provide the high-growth, small business community with access to financial capital and R&D funds to develop commercially viable innovations. The key words to remember are: Small Business, R/R&D, and potential for commercialization. The Innovation grants are divided into few parts, with SBIR and STTR being the most important to small businesses. Although some of the criteria for each differ, including the requirement for partnership with a research institution (STTR), in both cases, the key ingredient is the Small Business – and that is “You.”

III. RELEVANT SKILLS AND TOOLS

Diversity training programs have, to certain extent, positively influenced the work and investment environments but while they focus on what others should do, here is what we can do.

Some Other Tools Other Than \$\$

Entrepreneurial skills.²¹ These are the skills that are not part of a STEM curriculum but are much needed whether one works inside an organization or starting a new one:

Practical Skills	Critical and creativethinking skills	Interpersonal skills	Personal characteristics
<ul style="list-style-type: none"> •decision making •venture specific knowledge 	<ul style="list-style-type: none"> •design thinking •opportunity recognition 	<ul style="list-style-type: none"> •communication •negotiation 	<ul style="list-style-type: none"> •persistence •resilience

Targeted Networking.²² Networking is a great tool but it comes at a cost – mainly time – which most of us are short on. So, here are some thoughts on how to make the most of them:

Nurture Your Professional Women Network

with tangible, objective, and measurable commitments

EXAMPLES

Solicit, invite, introduce, refer and include women as subject matter experts on professional panels.

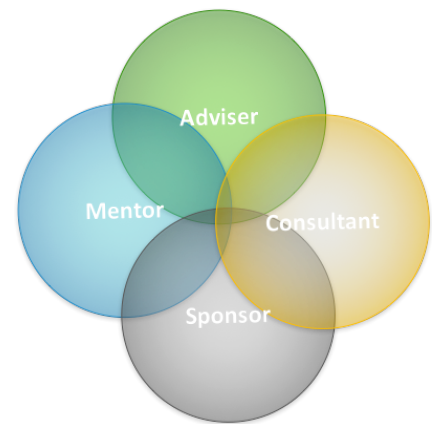
Refer X business leads to women in your professional network.

- Be intentional in defining your network; build it, nurture it, sustain it.
- Not all relationships just form or evolve naturally. Most need work.
- Networking “is not insincere” or “manipulative”. Networking is about reciprocity and giving back as much as one gets. Giving back does not have to quid pro quo or instant, but learn to spot those always take and drop them like a bad clue.
- Don’t forget to network with those who are not like you. You need diversity among your network.
- And most of all be open to possibilities and don’t be impatient. Sometimes it takes time for the karma to come back, whether directly or indirectly through another connection which may have been a couple of degrees of freedom away from you.

Mentoring: Necessary But Insufficient for Advancement.²³ Mentoring is the rave. Anywhere you look from accelerators to companies, you will hear the word and see the programs associated with it. Either way, here is a very important point most forget: Sponsors.

Mentors are supposed to give you feedback, insight and resources. Sponsors, on the other hand, actively pursue opportunities on behalf of an individual. They are professional champions and they take a role that is less passive than traditional mentorship, advocate for you behind closed doors, and help you get the job you seek.²⁴

Adviser, mentor, sponsor, consultant: these are terms that are often incorrectly used interchangeably, leading to unmet expectations, but that is a subject for another time.



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Founder & CEO Presque, Inc.

<http://stlgip.com/about/team/soody-tronson/>

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- ² Women Owned Businesses in the 21st Century, Prepared by the U.S. Department of Commerce, Economics and Statistics Administration, for the White House Council on Women and Girls, Oct. 2010.
- ³ Ewing Marion Kauffman Foundation, The Kauffman Firm. Survey, Characteristics of New Firms: A Comparison by Gender, January 2009.
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- ⁵ Sandberg, Sheryl, and Nell Scovell. Lean In: Women, Work, and the Will to Lead. New York: Alfred A. Knopf, 2013. Print.
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- ¹¹ TechLab Innovation Center. <http://techlabcenter.com/>
- ¹² <http://www.forbes.com/sites/geristengel/2014/03/05/moneys-there-if-small-businesses-know-where-to-look/#49034b334cc8>
- ¹³ The first comprehensive study on women in venture capital and their impact on female founders. <https://techcrunch.com/2016/04/19/the-first-comprehensive-study-on-women-in-venture-capital/>
- ¹⁴ <https://angel.co/>
- ¹⁵ <https://circleup.com/>
- ¹⁶ Propel(x). <https://www.propelx.com>
- ¹⁷ Mackenzie Burnett. List of Female Angel and Early-Stage. <https://medium.com/ladies-storm-hackathons/finding-female-angel-and-early-stage-investors-in-tech-a67c998e2e9f>
- ¹⁸ <https://www.challenge.gov/list/>
- ¹⁹ TechFutures Group <http://www.techfuturesgroup.org/>
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- ²¹ <https://www.mindtools.com/>
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- ²³ The Promise of Future Leadership: A Research Program on Highly Talented Employees in the Pipeline. Catalyst. Oct 2012.
- ²⁴ Mentoring: Necessary But Insufficient for Advancement. Catalyst's longitudinal project, The Promise of Future Leadership: Highly Talented Employees in the Pipeline, develops timely reports on the retention and advancement of high potential women and men. <http://www.catalyst.org/knowledge/mentoring-necessary-insufficient-advancement>