

Bench to Business: Women Entrepreneurs

By Vania Cao

Say you have an amazing idea for a service that you're sure people will buy into. Perhaps you pioneered an exciting technology in the laboratory. Or, maybe you just have an itch to be done with theoretical equations and basic science questions and to help push a real-life product to real-life consumers. How do you get there if all you seem to know is how to pipette, make presentation slides, and handle lab mice? How do women in STEM capitalize on their entrepreneurial ambitions?

Starting from STEM

Historically, women have always been in business. In America, early businesswomen were fur traders and seamstresses; today's women have expanded into basically every franchise and product imaginable¹. However, the rate of growth of women-owned entrepreneurial businesses, particularly in high-tech industries, still lags behind that of men. A 2011 amalgamation of recent statistics showed that women account for only 35% of all entrepreneurial activity, and the average revenue three years after their startup dates of men's firms was almost twice that of women's². From the academia-to-business standpoint, fewer women faculty patent their research, which is often a first step to starting a firm, and very few are Science Advisory Board members of high-tech firms (6.5% to 93.5%)².

On the other hand, there is more precedence and support for women entrepreneurs today than ever before, especially as more women obtain STEM and medical training, open a variety of companies including high-tech and biotechnology companies³, and become mentors to other entrepreneurial women. With the growth and emergence of programs and foundations dedicated to advancing women in business, women in STEM are making ever greater advances into the entrepreneurial world.

Self-Starting

Sometimes all it takes to initiate a business is one determined individual and a lot of research.

Michelle Mudge-Riley, D.O. moved from medical train-

ing into starting her own company as she realized medical practice was not going to be as personally satisfying as she had expected. She did not wake up one morning with a business idea in mind, but allowed herself to first explore her interests and options. "I didn't have any idea I would eventually be an entrepreneur," she said. "My first few jobs were with companies, but as I grew and spread my wings in doing things that made me happy, that's what was born. Now everything I do is entrepreneurial."⁴

Her company, Physicians Helping Physicians, is a career transition and health and wellness consulting company⁵, which organically expanded as she gathered information and ideas from a variety of people who were implementing careers that she found intriguing. This style of networking played a key role

in the successful development of her company that started as a side project. Three years later, it is increasingly profitable and growing.

Dr. Mudge-Riley attributes much of her success to following through on ideas without external pressure. Those entrepreneurs who will ulti-

BE MOTIVATED

"Follow your passion.

That's career advice for everybody.

If you are not being true to yourself in terms of what you're passionate about, then don't do that work.

It will end up not serving you in the long run."

Ilene Fischer, Executive Director of WEST

mately succeed are “driven and self-motivated,” she said. “Your time and your money are your own; you have to shape it and grow it. There’s no one telling you what you to, no company mandate for you to be productive. I could sit around and watch TV all day, but then nothing would happen.”

Physicians Helping Physicians has been a generally low-overhead, service-based operation, allowing Mudge-Riley to solicit advice, reach customers and manage finances mostly on her own. However, depending on the size, scope and focus of one’s business, she believes that taking classes or participating in programs that focus on building entrepreneurial skills can greatly help a budding CEO.

Developing Skill Sets and Networks

Actively participating in entrepreneurial programs and organizations can efficiently grow one’s start-up network and skill set. AWIS itself offers many useful career development programs and business networking events that serve budding women entrepreneurs across the country, and is a comprehensive resource for those looking for assistance.

Ilene Fischer, Executive Director of Women Entrepreneurs in Science and Technology (WEST) feels strongly that using these

NETWORK

“Talk to as many people as possible when you have an idea. Don’t only see the exciting parts of it; think about the realities that people keep bringing up and have a plan to address them. But also stay positive; continue to be confident about your idea.”

Dr. Mudge-Riley, President of Physicians Helping Physicians

programs and networks are vital to any entrepreneur’s success. Fischer has a background as a chemical engineer, and spent 22 years working with companies from Pfizer to

NASA in organizational change counseling and leadership development. Most of the people she has worked with have been scientists in business and industry, and she has seen first-hand many of the issues that women in business face.

“I’ve always had a passion for women in science,” she said, making her involvement with women entrepreneurs a natural extension of her lifelong interest in ‘advancing women in the business of science and technology.’^{6,7}

Some of her favorite programs that she has organized to help women include teaching how to influence “without authority,” how to ask for what is needed, and introducing a variety of career possibilities. Fischer feels that learning how to work collaboratively in diverse groups and mentoring others to develop well-rounded leadership skills are not directly acquired during training in STEM fields, and are among the transitional tools needed to bridge the academic and business worlds.⁸

“The skills it takes to produce results are critical to being successful in business,” Fischer said. “You need financial acumen, to know what things cost, to know if you’re making an impact in



Michelle Mudge-Riley,
President of Physicians
Helping Physicians.

Photo courtesy of Mudge-Riley.



Ilene Fischer,
Executive Director of WEST.

Photo courtesy of Fischer.



Pamela Contag,
CEO of Cygnit Biofuels and
Director of Springboard Enterprises.

Photo courtesy of Contag.



your organization from a results perspective.”

Other notable organizations, incubators and accelerators that provide support and forums for women entrepreneurs in other locales, include Astia, serving Silicon Valley, New York, Europe and India⁹; NewMe Accelerator and Women 2.0 in San Francisco,^{10,11} Catalyst, with offices around the world,¹² and Springboard Enterprises in Washington, DC¹³.

Growing from the Inside Out

Springboard Enterprises is a company that focuses specifically on accelerating and advising women-led companies and has helped the likes of Constant Contact and iRobot, the maker of the Roomba¹³.

Director Pamela Contag, Ph.D., was a post-doctoral fellow at Stanford University when she made her first foray into the commercial side of science after she and her research group invented a new imaging technology that she wanted to patent¹⁴. “The problem is that when you’re an inventor, you’re not necessarily a commercial person, or what I’d call an innovator,” she said. “Where does this technology fit best in the commercial world?”

After researching a market, pulling together a team and starting an imaging company with no commercial experience, Contag raised a substantial amount of external capital. For her, the most challenging aspect of the start-up life was not the technical problems, but rather the human resource and company culture aspects of business, something her academic life had not prepared her for. When she was approached by Springboard Enterprises, she joined because she wanted to understand how to innovate not just the start-up itself, but the people as well.

“It’s not about the company, it’s about the entrepreneur,” she said regarding Springboard’s focus. “[A business] can be successful without the specific entrepreneur, and an entrepreneur can be successful without the business. It’s not just about where we take the company; it’s about ‘where is this woman going?’ And that is a very critical issue for the growth of the company; support for the CEO and support for the company happen together.”

Dealing with Setbacks and Hurdles

When women CEOs and founders proactively learn the ins and outs of the business world, they are more prepared for the inevitable problems and conflicts they are sure to encounter on their path toward success. One major issue that appears to keep women (as a group) from succeeding on the same level as

BE VERSATILE

‘The beauty of the startup world is that you can start with your own idea, or you can apply your knowledge to bring someone else’s invention to the marketplace. You might not be the inventor, but if you know your science, you can reach forward to do other things.’

Dr. Pamela Contag,
CEO of Cygnet Biofuels and Director of Springboard Enterprises

men centers on funding access and strategy. A 2009 Kauffman Foundation study reported that in 2001, only 5% of venture capitalist investments went to women-owned firms¹⁵. They hypothesized that women, overall, may lack the needed managerial experience to obtain large amounts of external funding and also noted that women are operating with-

in a “relatively closed and male dominated network [with] comparatively few women equity investors.”

The Kauffman report also commented on what many women today still experience; “women typically are excluded from decision-making roles in venture capital firms,” making it especially difficult for women founders to obtain capital in an already challenging start-up environment.

“There is a phenotype for business,” Contag said. “I’m not saying it’s good or bad, but when you’re a woman in a group of men, you stick out. If you don’t fit in, you need some help. You need to know how that particular game is played.”

The constant struggle between women’s professional and family lives also factors into the divergent growth profiles of women and men-owned companies^{15,16}. Contag juggled motherhood and professional responsibilities from the end of graduate school throughout her journey into entrepreneurship. “When you’re raising a family and working, networking events may be difficult... You just have to be out there and get to all the events and talk to people. You need to build a network.”¹⁴

Fischer believes that organizations supporting women’s business growth and leadership development are key to changing the business culture. A positive financial impact of women working in senior positions within companies doesn’t hurt either: a series of independent studies has shown that companies with more women on their boards or executive committees do financially better than those with fewer or none.¹⁷

The End Game

Succeeding in the start-up world is a difficult endeavor regardless of one’s educational background or gender. Everyone needs motivation, knowledge, professional networks, perseverance, and most importantly, great colleagues and a solid support system.

Placing oneself in the right environment can also make a difference. “I would strongly recommend that you seek out an environment where you feel happy and successful,” said Contag. “If you are flourishing in what you do, people see that, and they want to be part of it.”

Women from STEM fields have unique advantages and challenges that they bring to the business table. While there is still a gender gap to close, armed with the right mix of technical and business knowledge, there is no reason why women won't continue to push boundaries and expand their influence in the entrepreneurial sector. Women in STEM are sure to make great economic and social impacts on business, far into the foreseeable future. ■

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