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CHALLENGES FOR WOMEN *Entrepreneurs*

Rebecca MacDonald

an entrepreneurial SUCCESS story

Start-up and Growth **Strategies**

Growth Strategies of Women Entrepreneurs in Technology-based Firms

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Abstract

This article summarizes key lessons learned from a study of ten growth oriented women business owners in the Canadian advanced technology sector. The profiles provide readers with insights about the strategies used by women to identify entrepreneurial opportunities and to leverage their skills and talents. Owners also shared advice for managing growth and careers in the advanced technology sectors. The profiles illustrate different aspects of technology, from the commercialization of basic science and 'first-in-class' technology, to the use of established technologies that enable commercial opportunity.

Résumé

Cet article résume les enseignements tirés d'une étude sur la croissance d'entreprises de dix femmes propriétaires/entrepreneures dans le secteur des technologies de pointe au Canada. Leurs différents profils fournissent aux lecteurs la diversité des stratégies utilisées par les femmes pour identifier les possibilités d'entrepreneuriat et mettre à profit leurs compétences et leurs talents. Les femmes propriétaires-dirigeantes ont également prodigué des conseils pour gérer la croissance et les carrières dans les secteurs des technologies de pointe. Leurs profils illustrent différents aspects de la technologie, allant de la commercialisation de la science fondamentale et de la technologie de première classe à l'utilisation de technologies bien établies qui génèrent des occasions d'affaires.

Introduction

This article summarizes key lessons learned from a study of Canadian women business owners in the advanced technology sector. The full report, *Showcasing Women Entrepreneurs in Canada's Advanced Technology Sector*[1], provides details about the strategies used to identify entrepreneurial opportunities and grow advanced technology-based firms. While the strategies described in the report are not unique to women, the profiles may encourage other women to consider a career in Canadian advanced technology. This is important for several reasons. Technology-oriented and knowledge-intensive enterprises are engines of Canadian economic growth. Yet, compared to men, women are significantly under-represented in most advanced technology sectors[2]. The proportion of women in certain technology-based professions is also dropping. Hence, the report and summary of lessons learned may motivate other women to capitalize on their technical, intellectual and entrepreneurial abilities. Here are several insights shared by the Presidents and CEOs of 10 innovative advanced technology-based firms.

Lesson 1: Customer relationships drive enterprise growth

Academic studies and media about the advanced technology sectors have focused primarily on the commercialization of innovation, intellectual property (IP) and technology. While these are all important organizational assets, several women CEOs spoke about the economic value of client and supplier relationships. According to Dale Gantous (InGenius Group of Companies) reputation is a more important asset in long-term growth than technology. Likewise, Angela O'Leary of Nisha Technologies identified the will to grow and ability to listen to customers as key drivers of growth. She also cited the instrumental role of clients in stimulating the growth of her firm's services portfolio. Isabelle Bettez (8D Technologies) spoke of the need to manage customers carefully and the benefits of transforming customers into strategic partners.

Firm growth is, therefore, an outcome of healthy customer relationships. These perspectives about the importance of customer relationships indicate a need to focus on market and customer outcomes, in addition to financial and technical performance.

[1] To obtain the report Showcasing Women Entrepreneurs in Canada's Advanced Technology Sector contact Joanne Stanley, Canadian Advanced Technology Association Women in Tech (CATAWIT) Forum at jstanley@cata.ca.

[2] Cukier, W. (2007). Developing Tomorrow's Workforce Today. Prepared on behalf of the Information and Communications Technology Council. Also see: Panteli, A., Stack, J., and Ramsay, H. (1999). 'Gender and professional ethics in the IT industry' Journal of Business Ethics, October, 22(1): 51–61.

Lesson 2: Access to capital does not limit growth for women in technology

There is no single or right formula to finance innovation. Canadian women use a variety of financing models and types of capital to start and grow advanced technology firms. For most of the women profiled, access to capital had not limited firm growth. Joanne Ball-Gautschi (Partner International Inc.) relied on retained earnings to grow her firm. Sharlyn Ayotte (T-Base Communications) and Tanya Shaw Weeks (Unique Solutions Design) secured external capital and spoke about the added-value external investors can bring (e.g., mentoring, networking, governance advice, and hands-on assistance). For some business owners, start-up entailed raising equity capital through angel syndicates and venture capitalists. Others relied on savings and 'love money' (investment by family, friends, and colleagues). Securing start-up capital is not easy, particularly if the product is in an early stage of development, according to Cynthia Goh (Axela Inc. and ViveTM Nano). Cindy Gordon (Helix Commerce International Inc.) observed that venture capitalists have little interest in services firms. All business owners had established relationships with commercial lending institutions to finance their firms' ongoing operations.

These are important observations for several reasons. First, the media has suggested that lenders and investors discriminate against women. This assertion contradicts most systematic studies about gender and access to capital. What Canadian research has found is that borrowing experiences differ by size and sector of firm[3]. After allowing for these effects, compared to male business owners, women are significantly less likely to apply for capital (debt, leasing, supplier credit, and/or equity). For example, men are four times more likely to apply for equity (both angel and venture) capital compared to women. The primary reason women gave for not applying was that the 'money was not needed.' Second, the profiles suggest that it is the owners' assumptions and decision-making, rather than gender discrimination, which is associated with the capitalization of female-owned firms.

Lesson 3: Early exporting leads to growth

Research has reported that international SMEs are the most productive, R&D intensive, and growth-oriented of all small businesses. Many of the businesses profiled were 'born global' enterprises. Joanne Ball-Gautschi (Partner International Inc.), Tanya Shaw Weeks (Unique Solutions Design), and Joyce Groote (HoleysTM) demonstrate that Canadian women are launching global technology-based firms at or near inception. These women are taking advantage of new and inexpensive communication technologies, recognition of international market opportunities for small firms as well as Canadian trade agreements — all of which are helping to facilitate international business. Exporting is not, however, without challenges. Internal obstacles can include a lack of human and financial resources in addition to inadequate management knowledge and skill. Trade impediments and costs are reflected in: the challenges of finding local partners; obtaining foreign market intelligence; limited demand; time consuming and costly bureaucratic procedures and regulations; the added costs of operating abroad; the need to adapt products, packaging and services; and the risks associated with foreign exchange, legislation, and politics. Canadian and international research has also documented that, on average, women-owned businesses are less likely to export compared to male-owned firms, regardless of sector.

While researchers are still not certain why women business owners are relatively less likely to export, the business owners profiled demonstrate that firm age and gender are not necessarily deterrents to launching new, rapid-growth global firms.

Lesson 4: Growth reflects a diversity of skills

Technical expertise and credentials, such as engineering or computer science degrees, are not prerequisites to business ownership in the advanced technology sector. In some cases, women with management experience hired scientists and technicians to help create their firms' intellectual property. In other cases, women engineers and scientists hired professional managers to lead their firms. In almost every case study, success rested on evidence of both technical and management skills. As Cynthia Goh (Axela Inc. and ViveTM Nano) points out, what is required is the ability to work with a diverse team of experts, including

[3] Orser, B.J., Riding, A.L., Manley, K., (2006). "Women Entrepreneurs and Financial Capital", Entrepreneurship Theory and Practice, 30(5): 643-665.

leadership and communication skills. Lawyer and social entrepreneur Sue Van Der Hout (Girlphyte Inc.) also suggests that creativity is required to attract and retain consumers. These are important observations, for two reasons. First, compared to men, women are less likely to retain technical credentials or to bring technical experience to a business start-up. Yet, as the profiles demonstrate, women with different types of experience are nonetheless assuming leadership roles in the advanced technology sectors. Second, the ability to communicate with potential partners, employees, and clients is a prerequisite of entrepreneurial growth. In these ways, women business owners are attracting the management talent and scientific knowledge that is required to start and grow services and goods-producing businesses in the advanced technology sectors.

Lesson 5: Small is not always beautiful

Many of the business owners spoke about a sense of accomplishment and the personal rewards of starting and managing a technology-based firm. But small business ownership is not always beautiful. Several business owners also spoke about the demands of business ownership. Candid comments included the need to be available —wherever and whenever needed, lack of owner compensation during start-up and the time commitments for work and travel. Several of the CEOs also cautioned 'would-be' entrepreneurs not to underestimate the cost and time required to commercialize ideas (i.e., secure investment, build a market presence, and generate revenue).

To overcome the demands of business ownership, women business leaders encouraged others to prioritize work/life balance by staying fit, remembering to have fun, using humour to dissipate stress, creating supportive networks, not letting others slow them down, and surrounding themselves with like-minded people.

Lesson 6: Alliances and certification can offset the liabilities of newness and size

Most of the women profiled were actively building collaborative relationships with other small- and large-sized firms. This strategy was used to offset the liabilities of newness and size such as limited market coverage, management 'band width', and reputation. For example, to increase brand awareness among consumers, Tanya Shaw Weeks (Unique Solutions Design) established a co-branding relationship with a brand name pattern design firm. To further enhance her firm's credibility, Cindy Gordon (Helix Communications) obtained industry certification with several global software providers. Joanne Ball (Partners International) spoke about the importance of well-designed, non-confidential marketing material and non-disclosure agreements prior to approaching prospective partners. This requires undertaking thorough due diligence, a learning process that helped the management team to better understand the market and to further clarify the firm's strategic position. Several of the women also spoke about the need to base relationships on mutual trust while remaining cautious about sharing intellectual property with clients and partners. Being clear early in negotiations about the firm's proprietary properties and differential advantages helps both parties understand the limits and opportunities of the relationship.

Lesson 7: Government can facilitate growth

For some women business owners such as Angela O'Leary (Nisha Technologies) and Dale Gantous (InGenius Group of Companies), government is a key source of business and development opportunities. However, most case participants had not sought government. Only one business owner, Cynthia Goh (Axela Inc. and ViveTM Nano), obtained funding to develop commercial applications of technology that was created in an Ontario university. Cindy Goh spoke favourably about her experiences with the Ontario Centres of Excellence Market Readiness program. Two business owners benefited from foreign tax incentives in locating operations abroad. Conversely, one business owner described a government policy that significantly undermined her commercial operation, a decision that was undertaken without private sector consultation. These observations suggest that governments, at all levels, can do a better job of creating timely, relevant, and practical support services for women-owned advanced technology firms. For example, a section of the Industry Canada Strategis website should include case studies and research about gender-related challenges of enterprise growth. Industry Canada might also provide financial support to create cases and awards that recognize and enhance the visibility of successful women in the advanced technology sectors.

The business owners displayed a low level of awareness about government programs and related, suggesting the need for better co-ordination of programs across federal departments, provincial ministries, and regional economic

development agencies. Program focus to support services providers in the advanced technology sector should be given additional consideration. Services are rarely the focus of technology support yet this sector is increasingly a source of Canadian economic prosperity and an area of economic activity in which women are disproportionately engaged. For example, Public Works and Government Services Canada (PWGSC) should be proactive in reaching out to women business owners through various SME training agencies and industry associations such as the Canadian Advanced Technology Alliance Women in Tech Forum. Members could then be alerted to pending requests for standing offers and supplier contract opportunities.

The profiles also suggest that initiatives that seek to stimulate investment in research and development must be linked to business start-up schemes and business registries. This will help to ensure that the owners of new firms are aware of available support services. As the profiles illustrate, governments must ensure that programs targeted to the advanced technology sector include women's participation, and that policy makers are alert and responsive to the evolving challenges of women business owners. Trade associations could also play a more active role in reporting to government about the experiences of women business owners in the advanced technology sectors. Several of these recommendations mirror Canadian studies that have reported on the need to better coordinate government programs to ensure that firms are more aware of programs that facilitate cross-border movement of personnel and goods. As such, federal, provincial and municipal governments should monitor and report on SME program participation and impacts using gender disaggregated data. Finally, the current government's focus on increasing productivity and innovation fails to consider gender influences that impact Canadian economic performance. This is a fundamental oversight and deterrent to enterprise growth.

Lesson 8: Attracting and developing talent is an obstacle to growth

A primary challenge for many women business leaders is to attract and retain talent. To ensure employees understand the nature and entrepreneurial culture of a firm, Joyce Groote (HoleysTM) has worked with employees to create corporate value statements that specify the firm's entrepreneurial vision, performance expectations as well as the need for a solutions-oriented workplace environment. The profiles endorse the need to create a larger pool of workers. One means is to ensure that engineering, computer science, physics and other technical degree programs include mandatory entrepreneurship courses. Similarly, entrepreneurship courses should include curricula about the advanced technology sectors.

Lesson 9: Networking and mentors matter

Several business owners spoke about the importance of networks and mentors and how they proactively created opportunities to build social capital and support. Examples included establishing a syndicated network of angel investors, applying and 'winning' an opportunity to be mentored through a regional talent competition, hosting peer-to-peer mentoring groups, long-distance mentoring with a high profile female mentor, as well as attending trade association meetings. These are important observations, for several reasons. First, research has documented an association between mentoring and career advancement. The limited resources that typify small- to medium-sized firms imply that it is less likely that owners will be able to attend to mentoring issues. Second, it has been reported that women can face unique challenges in developing and maintaining effective mentoring relationships. Mentoring studies also report that the gender composition of the mentor/protégé dyad, type of mentoring (career versus psychosocial support), stage of the mentoring relationship, and the protégé's human capital are also relevant to career outcomes. For example, career support versus psychosocial support was

[4] Orser, B., Riding, A., Dathan, M., Stanley, J., (2008). "Women in Advanced Technology: Examining the Influence of Role Orientation and Firm Structure on Perceived Gender Challenges", Proceedings, 5th Australia Graduate School of Entrepreneurship (AGSE) International Entrepreneurship Research Exchange, Melbourne.

seen to help women advance more than it did for men and that career support for women, from female mentors, was reported to be most useful. Women business owners are encouraged to proactively approach senior business owners and industry executives to establish mentoring relationships. Both the profiles and related research point to a role for trade associations in facilitating mentoring for women in the advanced technology sectors and to help identify one-on-one professional development opportunities for women.

Lesson 10: Multiple-use applications sustain growth

Several women spoke about the importance of developing multiple-use technology platforms. This strategy served to insulate the firms from product failure and provided the means to beta test new technology applications and markets. In the services context, this lesson is described by Joanne Ball-Gautschi (Partner International) as having 'several eggs and several baskets.' Several women business owners spoke about the need to develop products and markets simultaneously. This is to ensure that emerging products are appropriate for new customers and that the firm secures new sources of revenue. The profiles also illustrate that Canadian women business owners are introducing ideas and affecting change with respect to the nature of advanced technology. Sharlyn Ayotte (T-Base Communications) has helped to transform the market for braille and related services from a volunteer-based service delivery approach, to a technology-based, commercial delivery model. Joyce Groote (HoleysTM) has introduced technology that is revolutionizing "the science of footwear." Cindy Gordon (Helix International Inc.) is building innovative 'collaboration tools', technologies, and practices, some that are founded on her own academic research. These are just a few examples of the multiple ways in which Canadian women business owners are changing the face of the advanced technology sectors.

Final observation: Technology may be gender neutral but the industry is not

Many, but not all, felt that the sector is not immune to gendered-related challenges. For example, Joanne Ball-Gautschi is one of the few Canadian women entrepreneurs in the global defence and aerospace industries. She suggests that one reason for the absence of females in the sector is a lack of media coverage about women role models and that, compared to Europeans, Canadians are less progressive in supporting women's enterprise. Such observations are consistent with Canadian and international studies about women in the technology sector. A 2006 CATA WIT/Telfer School of Management study found gender-related career challenges remain[4]. Documented challenges included: perceived lack of credibility, credentials and confidence; misperceptions about ability; and lack of social capital and networking opportunities. The study suggests that men and women must take responsibility for the perceived gendering of occupational roles and organizational practices. Finally, some respondents to the study also expressed concerns about inappropriate and dismissive comments with respect to their performance or ability. Similarly, a recent survey conducted in the United Kingdom of women business owners operating in science, engineering, construction, and technology found that 40% of respondents attributed difficulties in starting a business to gender[5]. Perceived challenges included limited access to networks, assumptions that women are not as technically competent, and perceptions about conflicts between motherhood and entrepreneurship. Several United States-based studies have also examined career barriers in the technology sector. One study described youth-oriented hiring practices (where experience is not a valued asset), disrespect for women and a significant increase in age and sexism complaints lodged with the US Equal Opportunity Employment Commission[6]. Another typified the IT sector as: "masculine, white, and heterosexual, associated with hard programming, obsessive behaviour, and extensive working hours[7]." However, as this article illustrates, gender-related challenges do not stop talented and entrepreneurial women from creating and growing successful businesses in the advanced technology sectors.

[5] Prowess. (2008). Under the Microscope. Female Entrepreneurs in SECT Science, Engineering, Construction and Technology. See: www.prowess.org.uk.

[6] Xia, A. & Kleiner, B. (2001). Discrimination in the computer industry. Equal Opportunities International. 20: 5–7.

[7] Simard, C., Henderson, A., Gilmartin, S., Schiebinger, L., & Whitney, T. 2008. Climbing the Technical Ladder: Obstacles and Solutions for Mid-level Women in Technology. National Center for Women and Information Technology. Boulder: University of Colorado.