



CATAWITforum
WOMEN IN TECHNOLOGY



**SHOWCASING WOMEN'S LEADERSHIP
IN CANADA'S ADVANCED TECHNOLOGY
SECTORS**

**STRATEGIES TO GROW
CANADIAN TECHNOLOGY-BASED FIRMS**

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BARBARA J. ORSER, M.B.A., PHD

ABOUT CATAWIT FORUM

The Canadian Advanced Technology Alliance Women in Tech (CATAWIT) Forum is a community network designed to boost women's participation and advancement in the high-growth technology sector. The CATA WIT Forum mission is to help women in technology advance in their careers and succeed as entrepreneurs through mentoring, networking, professional development and advocacy. Our vision is to be Canada's premier "go to" forum that is committed to the advancement of women in technology.

This report is part of a CATA WIT initiative to assess best practices, marketing strategy, and vehicles that will encourage Canadian women to enter careers in technology and to start technology-based companies. The target groups of the program include women currently employed in technology/knowledge-intensive firms, women working in technology jobs (i.e., managers, engineers, scientists, and programmers), women entrepreneurs starting and leading technology companies, and female students in post-secondary education programmes studying and planning a career in technology.

ABOUT THE AUTHOR

Dr. Barbara Orser is the Deloitte Professor in the Management of Growth Enterprises at the University of Ottawa Telfer School of Management. She is also the President of Canada Works Inc. and recipient of numerous academic awards. Barbara has written extensively about enterprise growth, internationalization of small- and medium-sized enterprises (SMEs), small business policy, and SME finance. She is co-author of two books on small business finance and the lead investigator of numerous large-scale studies. Her work has been published in many top-tier academic journals including: *Entrepreneurship: Theory & Practice*, *Journal of Small Business Management*, *Entrepreneurship & Regional Development*, *Journal of Small Business and Entrepreneurship*, *Canadian Journal of Administrative Sciences*, *Canadian Women's Studies Journal*, and *Women in Management Review*. Contact: orser@telfer.uottawa.ca

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207 Bank St., Suite 416
Ottawa, ON K2P 2N2
Tel: (613) 236-6550
info@cata.ca
<http://www.catawit.ca>



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FOREWORD

Technology-oriented and knowledge-intensive enterprises are engines of Canadian economic growth. Yet, numerous studies have suggested that the shortage of skilled and educated workers is a key obstacle to business development.¹ Women are an obvious source of talent, yet compared to men, women are significantly under-represented in the advanced technology sector.² The proportion of women in certain technology-based professions is also dropping.³ These observations ‘beg the question’ of why women remain relatively absent from Canada’s technology-orientated and knowledge-intensive sectors.

The proportion of women in certain technology-based professions is dropping.

The relative absence of women may, in part, be associated with widespread perceptions about gender-related career barriers. Research conducted by CATAWIT, in co-operation with the University of Ottawa Telfer School of Business, found that a high proportion of women professional perceived challenges that they attributed to gender.⁴ In response, the current report is a part of an industry response to understand the experiences and insights of women business owners in the technology space. *Showcasing Women’s Leadership in Canada’s Advanced Technology Sectors* profiles ten successful Canadian women business owners. The profiles provide readers with helpful insights about strategies to identify entrepreneurial opportunities, leverage skills and talents and manage enterprise growth.

In determining which business leaders to profile, the researcher sought to capture the spirit of women’s enterprise across a variety of circumstances and stages of firm development. 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. The ten women profiled are also role models. While the strategies described in this report are not unique to women, these ideas and accomplishments may encourage others to consider a career in advanced technology sectors. This report will, therefore, be of interest to women who are weighing the advantages and disadvantages of business ownership. It will aid business owners who seek to grow their firms. The cases also are appropriate for small business training programs and can serve as a starting point for discussions about enterprise growth.

Profile summaries and list of case themes follow. Key lessons learned are then discussed in the context of research about women and enterprise growth. The ten profiles of successful Canadian women business owners in advanced technology are then showcased. Finally, a compendium of relevant resources is listed in Appendix A.

On behalf of CATA WIT, I would like to acknowledge the important contributions of Sharlyn Ayotte, Joanne Ball-Gautschi, Isabelle Bettez, Dale Gantous, Cynthia Goh, Cindy Gordon, Joyce Groote, Angela O’Leary, Tanya Shaw Weeks, and Sue Van Der Hout. These remarkable women generously shared their experiences and wisdom. Their entrepreneurial passion, leadership, and interest in the vitality of other Canadian business owners are evidenced through their words and time contributed to help develop this report. I would also like to acknowledge Joanne Stanley, CATA Vice-President, Marketing and a founding member of CATA WIT, for her leadership in championing the interests of women in the advanced technology sectors. Financial support for this case project was provided, in part, by Status of Women Canada.

Barbara Orser, M.B.A., Ph.D.

Deloitte Professor in the Management of Growth Enterprise
University of Ottawa Telfer School of Management

¹ The Conference Board of Canada. (2007). *How Canada Performs. A Report Card on Canada, Ottawa*; Information Communication Technology Council. (2008). *Developing Tomorrow’s Workforce Today*, Ottawa.

² Cukier, W. (2007). *Developing Tomorrow’s Workforce Today*. Prepared on behalf of the Information and Communications Technology Council. See also the Information Technology Association of America. *Report of the ITAA Blue Ribbon Panel on IT Diversity* (2003) as well as ‘Gender and professional ethics in the IT industry’ in the 1999 issue of the *Journal of Business Ethics*, October, 22(1): 51–61 by A. Panteli, J. Stack, and H. Ramsay.

³ Information Communication Technology Council. (2008). *Developing Tomorrow’s Workforce Today*, Ottawa. See also the Software Human Resource Council’s (2005) report *Researching Careers in Information Technology for Women*, Ottawa: Canadian Career Development Foundation.

⁴ Orser, B., Riding, A., and Stanley, J. (2007). *Perceived Career Challenges and Response Strategies of Women in Advanced Technology Sector*. Women and Enterprise Working Paper Series. Ottawa: University of Ottawa Telfer School of Management.



PROFILE SUMMARIES AND THEMES

Profile 1: Mobilizing knowledge in commercial innovations

From the lab bench to commercial innovation, Profile 1 introduces Cynthia Goh, Professor of Chemistry and Medical Science and Associate Director of the Institute for Optical Sciences at the University of Toronto. Learn how Cindy Goh has mobilised academic knowledge and entrepreneurial energy to found Vive™ Nano and Axela Inc., two high-growth life science firms. *Case themes: Strategies to mobilise academic knowledge into technology innovation, including information management, licensing, due diligence, leadership, performance benchmarks, and mentoring.*

Profile 2: Using the Internet to spur cultural change

The Internet is increasingly a source of commercial opportunity. Profile 2 describes the strategies used by Sue Van Der Hout (a social entrepreneur and former Bay Street lawyer), to found an online magazine targeting women (see Girlphyte Inc. at <http://www.girlphyte.com/>). Learn about the magazine's start-up challenges and building business models. *Case themes: Building profitable online services firm, including revenue models, types, access to capital, creativity, time to market, milestones, managing investor expectations, and reciprocity.*

Profile 3: Customer-focused leadership

In 1993, former rocket scientist Dale Gantous joined the executive team of The InGenius Group of Companies. The company comprises InGenius People, a firm that provides IT professional services and InGenius Software, a firm that builds communications software for Voice over IP phone system customers. In Profile 3, learn how Dale Gantous is building a global, high-performance, advanced technology firm. *Case themes: Strategies to build high-performance advanced technology firms, including reputation, customer management, organizational culture, investing in R & D, and role modeling.*

Profile 4: Embracing government procurement opportunities

Aboriginal business owner Angela O’Leary is the President of Nisha Technologies. With a focus on IT professional services and products, she has built her firm by targeting the Canadian federal government. In Profile 4, Angela O’Leary shares her experiences and gives advice about doing business with the federal government. *Case themes: Strategies to sell to government clients, including monitoring contract opportunities, client stimulated growth, managing expectations, delegating, confidence, and finding qualified employees.*

Profile 5: Building collaborative capability in the information economy

Serial entrepreneur, Cindy Gordon is the founding President of Helix Commerce International Inc., a firm that specialises in collaboration commerce (c-commerce). Helix Commerce International Inc. operates three wholly-owned subsidiary operations: Helix Innovation Hive, Helix Talent, and Helix Virtual Worlds. In Profile 5, Cindy Gordon shares insights about her strategies to build a professional service enterprise. *Case themes: Strategies to build professional service enterprise, including service models grounded in theory, auxiliary profit centres, annuity revenue models, certification, and targeting Fortune 500 businesses.*

Profile 6: Revolutionizing shopping through mass customization

Unique Solutions Design founding President Tanya Shaw Weeks is creating three-dimensional technologies that measure and monitor consumers’ body mass, information used to order customer-made apparel and monitor health. Profile 6 provides an overview of Tanya Shaw Week’s export-oriented, technology-based operation and highlights the challenges of thinking globally. *Case themes: Strategies to build global enterprises, including thinking global, multiple product-use technology platforms, acquisition, brand alliances, equity capital, due diligence, mentors, and equity capital.*

Profile 7: Using social capital to build partnerships

Global entrepreneur and deal maker Joanne Ball-Gautschi is the President of Partner International Inc., a firm that develops business relationships in the life sciences, pharmaceutical, aerospace and defence sectors. Profile 7 describes how one women business owner has built a global operation and network of over 80 Associates through social capital and proprietary market intelligence. *Case themes: Strategies that build born global services firms, including social capital, performance-based compensation, cash flow, intellectual property and start-up costs.*

Profile 8: Creating solutions through technology

Founding owner of T-Base Communication Inc., Sharlyn Ayotte is building accessible information technologies for the blind, and the visually and hearing-impaired. Profile 8 outlines Sharyn Ayotte's journey from blind entrepreneur to a world leader in client solutions to transcribe printed information into braille, large print, audio and secure online formats. *Case themes: Strategies to create solutions through technological: business models, product/market development, learning from lead customers, tax incentives, legislation, and certification.*

Profile 9: Technology that enables rapid growth

Profile 9 presents biotechnologist Joyce Groote, owner of HoleyTM. Holey is a world leader in the use of injection foam moulding technology. Learn how Joyce Groote has managed exponential global expansion and the strategies she is now pursuing to sustain growth. *Case themes: Strategies to sustain growth, including innovation, brand recognition, establishing performance standards, strategic flexibility, corporate values, networking, love money, and hiring.*

Profile 10: Building sustainable green technologies

Profile 10 focuses on strategies to grow green technologies. 8D Technologies is a world leader in advanced and intelligent multi-function point of sale solutions. Co-founder, President and CEO Isabelle Bettez is creating innovative products and services such as 100% solar-powered municipal bike rentals and user-friendly parking pay stations. *Case themes: Strategies to grow green technology, including technology platforms, government as client and partner, export, intellectual property, local partners, expansion, and time management.*



STRATEGIES TO GROW CANADIAN ADVANCED TECHNOLOGY FIRMS

Lesson 1: Customer relationships drive enterprise growth

Studies and media about the advanced technology sectors have focused primarily on the commercialization of innovation, intellectual property (IP), and technology. While these are important organizational assets, several women also 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. Angela 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.

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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.

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

These profiles illustrate that there is no single or right formula to finance innovation and that Canadian women use a variety of financing models and types of capital to start and grow their 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 Vive™ 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. After allowing for these effects, compared to male businesses 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.⁵ 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.⁶ Many of the businesses profiled were 'born global' enterprises.

Many of the businesses profiled were 'born global' enterprises.

Joanne Ball-Gautschi (Partner International Inc.), Tanya Shaw Weeks (Unique Solutions Design), and Joyce Groote (Holeys™) 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.⁷ 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.⁸ 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 Vive™ Nano) points out, what is required is the ability to work with a diverse team of experts, including leadership and communication skills. Lawyer and social entrepreneur Sue Van Der Hout (Giriphyte Inc.) also suggests that creativity is required to attract and retain consumers.

What is required is the ability to work with a diverse team of experts.

These are important observations, for two reasons. First, compared to men, women are less likely to retain technical credentials⁹ or to bring technical experience to a business start-up.¹⁰ 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 also

cautioned ‘would-be’ entrepreneurs not to underestimate the cost and time required to commercialise 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 prioritise 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 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.

Most of the women profiled were actively building collaborative relationships with other small- and large-sized firms.

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 or deter 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 Vive™ 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 yet better job of creating timely, relevant, and practical support services for women-owned advanced technology firms. 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.

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. Finally, 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.

Governments must ensure that programs targeted to the advanced technology sector include women's participation.

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.¹¹

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 (Holeys™) 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.¹² 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.¹³ Second, it has been reported that women can face unique challenges in developing and maintaining effective mentoring relationships.¹⁴ 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.¹⁵ For example, career support versus psychosocial support was 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.

Women business owners are encouraged to proactively approach senior business owners and industry executives to establish mentoring relationships.

Lesson 10: 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 study found gender-related career challenges remain. Documented challenges included: perceived lack of credibility, credentials and confidence; misperceptions about ability; and lack of social capital and networking opportunities. The CATA WIT report suggests that men and women must take responsibility for the perceived gendering of occupational roles and organizational practices. Finally, some respondents to the CATA WIT study 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.¹⁶ 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 women¹⁷ and a significant increase in age and sexism complaints lodged with the US Equal Opportunity Employment Commission. Another typified the IT sector as: “masculine, white, and heterosexual, associated with hard programming, obsessive behaviour, and extensive working hours.”¹⁸

The Canadian profiles serve to illustrate that gender-related career challenges have not stopped talented women from creating successful businesses in the advanced technology sectors.

Lesson 11: 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.

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 Groot (Holeys™) 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 thoughts

Given the disproportionate economic contribution of the advanced technology firms in the Canadian economy, it is concerning to observe that credentialed and ambitious women continue to experience gender-related career barriers. To address such challenges, trade associations, employers, business owners, and government must all play a role in addressing this issue. An important step to stimulate change is for industry leaders to acknowledge evidence about misperceptions and gender stereotypes in the advanced technology sector.

To address such challenges, trade associations, employers, business owners, and government must all play a role in addressing this issue.

Media is encouraged to profile more women in the sector. As there are few resources about women’s enterprise in the advanced technology sector for instructors to draw upon, training agencies and universities are challenged to create gender-sensitive tools and materials (e.g., case studies, testimonials, profiles, videos).

Finally, for equity, and to realise the full contribution of women in the advanced technology sectors, a comprehensive and integrated industry and government response strategy is required. This is to ensure that the Canadian workplace is populated with qualified candidates and that more women are able to showcase their leadership abilities.

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- ⁵ Orser, B., Riding, A., Spence, M. and Carrington, C. (2009). Gender and export propensity. *Entrepreneurship, Theory & Practice*. Accepted for publication in a forthcoming edition.
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- ⁷ OECD, 2008.
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CANADIAN WOMEN ENTREPRENEURS IN ADVANCED TECHNOLOGY

Cynthia Goh: Mobilizing knowledge into commercial innovation



“People talk about [the] disconnect between technology push and the market pull. I think it has to be a technology push meets market pull. We have to create wonderful new technology, but we also have to understand where the market is. And if it is not there, then it is not there.”

Dr. Cynthia Goh: Scientist, scholar, and serial entrepreneur

Cynthia Goh is Professor of Chemistry and Medical Science, and Associate Director of the Institute for Optical Sciences at the University of Toronto. She believes that leveraging fundamental science and new technology can lead to wealth creation. Her scientific innovations have led to an innovative medical diagnostics and drug discoveries platform. Cindy Goh holds a B.Sc. in Chemistry from the University of the Philippines and Ph.D. from the University of California. She has also conducted postdoctoral research at Columbia University and the University of California, Berkeley. She is the co-founder of two Toronto-based firms, Axela

Incorporated and Vive™ Nano. Both firms leverage scientific knowledge in the development on innovative products to assist researchers and industry partners.

Axela Inc. (formerly Axela Biosensors) is recognised a leading Canadian life science company. The firm's mission is to provide a simple and effective approach to understanding protein-protein interactions. Cindy Goh served as Chief Scientific Officer of Axela Inc. until 2004.

Vive™ Nano: Founded in 2006, Vive™ Nano is a Toronto-based firm that develops novel nanoparticle-based materials for a variety of fields such as catalysis and agricultural applications.

Strategies to mobilise academic knowledge into technology innovation

Successful commercialization of academic knowledge reflects research excellence, intellectual curiosity, and the ability to build teams comprising students and other experts into commercially viable enterprises.

Share your knowledge

It was a chance conversation with another renowned Canadian scientist that sparked Goh's entrepreneurial spirit. After discussing their respective work, the scientist challenged her to find a better way to diagnose cystic fibrosis. "I realised that there was a market for the things that I did in my lab. I also knew there were several approaches to solving the problem," Goh comments. A chance conversation subsequently led to the creation of Axela Biosensors. Goh remarks that "While building instruments is part of scientific work, professors don't normally know if there is a market for that knowledge. The market may be there, but it's not something we typically think about. And there is also a misunderstanding by industry about how best to use our knowledge." Cindy Goh also knows that students are good people with whom to share an undertaking.

This thinking has resulted in student co-founded enterprises, Axela with three students and Vivo™ Nano with five. "It was understood," Goh observes, "that those who founded the firms were going to share in the workload, as well as in the potential rewards. Once the work is divided, it wasn't that much for each one." Sharing knowledge through conversation also led to key introduction to potential financial sponsors and other parties interested in technology transfer and commercialization of innovation.

Licensing agreements do not build companies

Cindy Goh understands that licensing agreements, while potentially financially rewarding to inventors, do not build new businesses. Building a successful advanced technology firm requires sector experience, management talent, and vision. This is one reason why Goh brought in Rocky Ganske to be Chief Executive Officer of Axela Biosensors:

"I initially thought, why would I want to hire a CEO and give away a percentage of the company? But when we interviewed Rocky, I remember turning to my students and saying, now I understand why. This guy as CEO can do things that I could not do, like run the company with a vision. I know that we could make an instrument, and I can even build an instrument company. But he had a vision of bigger things we can do, about pharmaceuticals, about the diagnostic world, and knowledge of all the stages required to make it there. He had sector expertise. He had all the know-how about how a company really gets built. This was a guy who could lead and I would follow."

Due diligence can bridge language gaps

Cindy Goh believes that too often scientists take the market as a given, while business people do likewise with technology:

"Scientists can get very excited about their work. It is beautiful and it works in the lab. But scientists do not necessarily understand that while it works in the lab, it may not work in the hands of the general public. The

Too often scientists take the market as a given, while business people do likewise with technology.

scientist is a specialist. You cannot take for granted that a technician can run the instrument in the hospital. This is a big step. Just because the technology may be good, it may not be commercializable." She is also aware that scientists and business managers often speak different languages. "Business people listen to the scientist who is very excited about his discovery. But the two sides often speak different languages. Frustration results when each side believes that the other side did not deliver, when in fact they just didn't communicate effectively with each other. And neither individually fully understands how best to translate knowledge into a market-ready product."

Goh suggests that one solution to facilitate communication is to bring due diligence from both sides of the relationship. Both parties must also be brutally honest about the commercial viability of the idea. "Even if it is a wonderful product, backed by great science, if something doesn't look right — move on to the next idea."

Building entrepreneurial scientists requires leadership

Co-founding a business brought Cindy Goh new learning and contacts. "As an educator, I thought it would be great if students could learn all that I had learned. In that way, they could

transfer the science that they had learned into products.” To do so, she launched an informal, non-credit entrepreneurship course.

“The first thing that we learned was that our students knew nothing about the business world. But a second thing about the students is that they are used to courses with a very high density of information. They did not know a lot of practical details, but they could assimilate a lot in one short period. We also learned that most science students have a barrier against risk taking. It is hard to make the first step to starting a business. The key is to get them to work in teams, something that is also not natural for science students. But in a team, there is usually one member who is more entrepreneurial than the others. They tend to lead the team in the process. At the end of the day, the goal is not to turn students into business people or to turn them away from being good scientists. They are still good scientists but they are also more informed. For many, they become much more enthusiastic actually knowing that what they are doing can be very useful.”

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Financing scientific ideas requires creative capital, invention disclosures, and performance benchmarks

Finding investors to support the commercialization of ideas is not easy. “In the case of Axela,” Goh recalls, “the invention was in my mind, but I needed money to prove it. I did not realise that one does not get funding based on an idea. I had approached the regular funding agencies and they had all turned me down. I spoke to one funding source and they told me that I had to show them first. Literally, I had an idea. I had no proof, but I knew that the physics was right. I was lucky enough to have been introduced to a very unusual venture capitalist who understood university researchers. She asked me “What would it take to prove it? I said “Funding for six months — in four months, we delivered proof of concept. After that I was given money every six months with clear deliverables. After two years, we decided that it was time to take it out of the university and form a company. The company now funds my lab. We have a good agreement. My lab gets to study basic science and the company has first rights to commercialise anything that we discover.”

Tips for facilitate career advancement

Here are five ideas that Cindy Goh believes help to facilitate women's careers in the advanced technology sectors.

Networking matters

Building relationships, networking, and managing social capital are part of business development. Goh comments:

"This was something that science students rarely understand. We were told 'You have to network.' But what does that mean?...In the years that we were building Axela, I met a lot of really smart people and this network is important. When something comes up, I may not be an expert, but I likely know who can help. Science students are also not used to marketing themselves. It is not easy for science students to go to a meeting and talk about themselves because in science meetings, people just do not do that. So getting students to understand the process is challenging. Just like I teach my students science research, I need to teach them about networking."

Understand what you want

Goh stresses the importance of prioritization:

"Think carefully about what you really want out and what you are willing to pay to get it. Sometimes the problem is that that people are not really clear in their mind, they want everything. And you can't do that. You have to learn to prioritise, and to share, unless you are willing to give up everything else in order to do it yourself."

There are no rules

Cindy Goh believes that developing technology is fun, challenging, creative, and rewarding. She also believes that there are no rules:

"You create the rules as you go along. There is not just one way to create a business. It should appeal to people who don't like rules. However, there are guidelines and best practices that an academic should be aware of. Most academics do not like to read contracts. And one must understand it can take up to a month of just reading and going back and forth before getting all of the information straight. Having partners to share the workload is important. Get to

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as you go along.**

know your students and who you can take in as a partner. Put the student out front if you want to develop them as leaders. Get to know the university tech transfer office and see what they can do for you and have a good working relationship with them. I never found the university hard to work with. I understand what they want, and they understand what I want.”

Get out of the lab

She encourages other scientists and students to get out of the lab and go meet others, including going to administrative meetings. That is how she met other people across the university.

Find a mentor

Many science students have well defined career paths as Goh notes:

“Unlike students in the Humanities who are used to marketing their skills to get a job, scientists do not have to do that. But building an entrepreneurial career requires not just selling ideas, but selling yourself, making connections, and building networks. I am starting with students who are really smart. Basically, I point them in some direction and they take that direction and come up with their own view about it. Mentoring is partly about facts and partly about psychosocial support. The third component is trying to introduce them to the right people.”

In managing potential gender-related issues, Cindy Goh suggests it is best to not notice them. “Probably I encountered gender issues, but not enough to be worth looking at. In many cases, I think if you ignore them, they do go away.”

For more information about strategies to mobilise academic knowledge into technology innovation, see Appendix A1: Resources to help commercialise scientific knowledge.



Susan Van Der Hout: Using the Internet to spur cultural change



“This is my passion. I’d like to be able to have an impact. I believe there is going to be a cultural shift. I think we are just dangling at the edge of a cultural shift in opportunities for women.”

***Susan Van Der Hout:
Lawyer, social engineer, and feminist entrepreneur***

Sue Van Der Hout describes herself as an over-achiever, skilled speaker, writer, and connector. She believes in serendipity, fate, risk taking, and above all, the pursuit of personal authenticity. Girlphyte Inc.’s Founder and President is also a former Bay Street tax litigator. Today, Sue Van Der Hout is leveraging her networks of women’s organizations, technologists, media experts, and financial backers to develop an “interactive online engagement tool and profiling engine,” initially targeted to women. This high-energy, social entrepreneur is convinced that women must utilise technology to help address gender differences in both the home and workplace. Her web-based technology is designed to facilitate an international dialogue among women about how they perceive, define, and achieve success. Van Der Hout states:

“The challenge for women is the personalization of success and the fact that for women, success, in the sense of meaning and balance, is not static. Lack of an individual prescription for success and recognition that women’s success was so changeable was what was holding women back. How can you drive for an end game when you don’t know what it is, or it is in flux, or circumstances prevent

you from clearly defining what your end game is? So the underlying concept of our project, using an interactive technology, is to facilitate a dialogue with the user about how each views her success and through interactive play create a visual for each woman about what her life, her individual success and sense of life balance looks like as it evolves or unfolds through her life stages. By aggregating that data we'd create a truer picture of women's values, goals, and beliefs. This non-linear, dynamic approach to female success needed to be addressed at the individual level. That was the catalyst for the technology."

Girlphyte Inc.

The service Van Der Hout's company provides demonstrates the importance of women's experience of themselves, technology, and business:

"Our focus is the Blooming Betty project. Blooming Betty is an online engagement tool and profiling engine, imbedded in third party web sites and networks, that helps women to better understand themselves, marketers to better understand women, and helps web sites keep women coming back and remain engaged longer. It is a needs-based online engagement tool and profiling engine, providing relevant personalised content and advertising to users while aggregating data to for marketers and site operators. The technology will be customizable and adaptable to other markets (moms, men, teenagers, kids). Revenue is from advertising, sponsorship, etc. Aggregated data will analyzed and made available for purchase as part of the revenue stream. This innovation has been informed by data derived from Girlphyte.com, an online web magazine we began in 2006 that explores success through the female lens."

Building profitable online services firms

A key lesson from the Girlphyte Inc. case is that the start-up process is arduous and often far more costly than anticipated. Even for a talented, connected, successful business owner like Sue Van Der Hout, building infrastructure, refining products, and securing capital are critical and demanding tasks, particularly in the current economic climate. Second, while there are milestones to mark progress, there is no path. You need a clear vision, committed team with diverse skills, an unshakeable belief in what you are doing, and willingness to continue to press forward when obstacles, both expected and unexpected, seem insurmountable.

Technology is gender-neutral, but online behaviour and information is not

Sue Van Der Hout believes that technology is gender neutral, however, the way we employ technology is not. Sue is striving to harness technology to capitalise on the exponential growth

in the number of women who participate in online chat groups and marketplaces. She observes that:

“The women’s online market is exploding and there is increasing recognition that the web can be used for research, social conversation, and engagement. It will provide a uniquely individual tool for engaging women.”

Profit models drive decision making

Early in the development process, Sue Van Der Hout was faced with the challenge of determining the firm’s revenue and ultimately, profit model. This process was not straightforward. How does an online service make money? Several models were considered, including membership, sponsorship, and advertising. Ultimately, the model that was most attractive to the firm and investors was one that combined two revenue streams: advertizing and aggregation of data. Data aggregation provides clients with unique information about the online female users. This information can also help women better understand themselves, and enable firms and brands better understand women and networks. It also helps web sites to attract women browsers and to retain them online for longer periods of time. Finding the process to be a learning experience Ven Der Hout notes:

“I realised the real value and revenue was the data itself. Girlphyte Inc. provides a profiling engine that gathers deep contextual data that enables us to understand women. This was value proposition that would translate into revenue, more than the traditional advertising model. This was reinforced when talking to venture capitalists. They were only interested in what the technology could do in terms of delivering revenue.”

Different types of capital are required at different stages of development

Another challenge for Sue Van Der Hout was to secure adequate financing for idea refinement, concept, and prototype development, testing, and launch. Capital was required to build the corporate infrastructure to support the web-based service. Without physical assets for collateral, online businesses are often not attractive to commercial lenders. Sue networked nationally and internationally to locate potential angel investors and venture capitalists. After numerous pitches and considerable time, Sue secured sufficient financing through friends and family. From these funds a basic demonstration model was built that would assist in explaining the concept and going after larger funding. She still requires capital to do the build. However, the current economic downturn is dampening the market for venture capital. As a result, it is not uncommon for web-based entrepreneurs to

Without physical assets for collateral, online businesses are often not attractive to commercial lenders.

spend more time and resources attracting capital than developing their web sites. Development of investment networks parallels the development and testing of concept. Investors can be a key source of advice, mentoring, contacts and even hands-on support.

Creativity is key to consumer engagement

For Girlphyte Inc. “clients” (third party sites and networks), the application will provide sophisticated profiling data about women. For Girlphyte Inc. “users or viewers,” the application will offer relevant and useful information as well as content. Hence, the hook to capture and retain viewers, according to Sue Van Der Hout, is creating an interactive application that enables “learning through play.” The result is a unique resource for women of all ages as she comments:

“I believe that the next huge opportunity in marketing, is segmentation of the women’s market, not just painting everything pink and saying, “We now have a way to engage women.” That is the men’s view of how to engage women, but rather starting to drill down and understand the values, perspectives and the specific ways in which women want to engage and be engaged with.”

Tips for building an online services firm

Determine the revenue model early in the development process

The ‘burn rate’ of capital is a key challenge for all start-up entrepreneurs. Inadequate capital and demands on cash flow can slow the development process. Hence, it is critical that entrepreneurs in the online space understand the revenue and profit models early in the start-up process. Failure comes early to many online firms that fail to determine the firm’s revenue stream and estimate an adequate margin to support product development.

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Don’t underestimate cost and time to market

Like many other entrepreneurs, Susan Van Der Hout learned that the cost of start-up was higher and more arduous than anticipated. Her suggestion is to be as realistic as possible in estimating expenses. This demonstrates to potential investors an understanding about product development and business creation. One ‘rule of thumb’ is to triple the estimated time and capital required to develop product and build the firm. Van Der Hout remembers:

“I was told I could do it for \$50,000 and that was inaccurate. At that point I was well in over \$50,000 just in the concept development. My advisors said I had to raise additional funding through friends and family. The legal costs associated with that were in excess of \$15,000 ...I raised \$155,000 and at that point, I had spent \$105,000 on business advisors, technology advisors — in circumstances where most were not charging me or not charging their full rates. There were a lot of costs associated with that [the development] process.”

Milestones and expectations of investors are not static

In the case of Girlphyte Inc., while investors were initially excited about the product concept, then the online demonstration and finally, the full-scale web site, performance milestones or benchmarks paralleled product development. Van Der Hout found that each stage of development required re-establishing her investors’ confidence:

“At every step of the entrepreneurial path, you will be told that you must succeed to the next stage before you can be taken seriously. So, when you are at the idea stage, you need a ‘fleshed out’ concept. When you have the ‘fleshed out’ concept, people say to you that you need a demo. Once you have that, you are told you need an operating system. Then you have to prove that it works. If you do that, you then have to have enough profit to raise the appetite for it. ...It is like a fishing rod, where the worm is constantly moving forward.”

The road to success is littered with disappointments.

Be prepared for disappointments

Business ownership can be treacherous. The road to success is littered with disappointments. For Sue Van Der Hout, another lesson learned was that it is very difficult to predict who will be there to help:

“When I have spoken to women of wealth, there were no connections made. Others said, “This is something you really should discuss with my husband.” ...Maybe it is a lack of interest in the project or disinterest or lack of being impressed with me or the team. Whatever the reasons why people might choose not to get behind something, but that is areal hindrance.”

Reciprocate introductions

Networking was critical to meeting investors and technical experts who advised on and built the web site. Sue Van Der Hout’s experience is a good example of why networking is critical to start-

ups and why sharing contacts and reciprocating introductions are critical for others who seek to help women grow their firms.

“The number of women who stepped forward to help was and has been very few, a pretty disappointing factI have spoken to women in investment banking, they would all take meetings, but none of them introduced me to their contacts.”

For more information about building profitable online services firms see Appendix A2: Resources about online and electronic business.



Dale Gantous: Customer-focused leadership



“Running your own high-tech business is extremely fun. You have freedom to do things the way you want to do them. It is hard, but so is working for someone else. If you can rule your own destiny and make a living at the same time, it’s really worth it.”

Dale Gantous: Rocket scientist, communications expert, and turn-around entrepreneur

Dale Gantous is the Chief Executive Officer (CEO) of the InGenius Group of Companies. Based in Ottawa, InGenius People and InGenius Software provide software products and IT professional services to the federal government and to businesses worldwide.

After graduating from McGill University with a B.Sc. in Honours Math and a minor in Computer Science, Dale began her career, literally with a blast at Telesat Canada, where she planned rocket firings on Canada’s in-orbit communications satellites. In this role Dale planned and executed complex, real-time satellite, in-orbit, thruster-firing manoeuvres. She also ran in-orbit payload test systems for the satellite communications transponders. Dale was subsequently promoted to manage the network management and control systems for Telesat’s voice, data, and video networks and corporate wide area network. This position led Dale into marketing as head of Product Management for Telesat’s satellite ground station packet data network service.

Dale joined InGenius in 1993 as Chief Executive Officer where she has successfully led the company through the high tech boom, bust, and back up again. She continues to steer the

company profitably through the current economic conditions, with growing revenue streams from the federal government locally and from the private sector globally.

The InGenius Group of companies is comprised of two firms. InGenius People provides high quality IT professional services to the federal government. InGenius Software builds innovative, unified communications software for Voice over IP phone system customers around the globe.

The two businesses thrive together with common values that include pride in technical innovation, and belief that the only point of technical innovation is solving customers' problems, relieving their stress and thus making them happy. The following strategies have helped to build the company into a high performance global operation.

Strategies to build high-performance firms

The success of the InGenius Group of Companies revolves around understanding customer needs and delivering excellence. According to Dale Gantous, five key strategies have helped to build the firms.

Success revolves around understanding customer needs and delivering excellence.

Manage reputation capital

"Say what you're going to do, then do it." Sounds simple, but, according to Dale Gantous, maintaining a firm's reputation is a principle of firm growth. "Reputation is everything. Reputation is all about solving people's problems, being dependable, delivering on what you say you are going to do and putting your heart and soul into it." Her priority was to make the customer happy. Putting profit aside, InGenius works closely with the project manager to deliver results and build the firm's reputation. The investment has paid out many times. Today, InGenius has transformed its relationship with its closest customer from traditional vendor-client to a strategic Original Equipment Manufacturer relationship, whereby the customer distributes InGenius' software products worldwide under its own brand. The client is also one of the InGenius Group of Companies best testimonial customers. Through such achievements, the firm has been able to launch its own line of telephony software products and garner an international distribution channel for products, thereby securing new revenue streams and insulating InGenius from the economic downturn in North America.

Get close with customers

A challenge encountered by many young firms, including InGenius, was to determine the most attractive offering that will lead to revenue growth. The InGenius solution was to get close to

customers in order to understand their need and organizational culture. For example, in the firm's early phase of growth, all members of the executive team worked directly within key customer organizations. By doing so, they learned first hand how InGenius could best leverage talent to help customers. Working within client operations also enabled InGenius to make additional contacts that led to subsequent sales opportunities. According to Dale Gantous, recognizing opportunity is about using your brains to make the customer happy and solve client problems. "It is no use being clever and smart or being good at software development or IT, if you are not solving client problems."

Establish a culture of open communication

Dale Gantous is convinced that the best way to build a firm's operating culture is through open and honest communication. At Ingenious, "There is no room for 'corporate bull'. If there are issues that bother employees, they are asked to communicate them right away. No one is talking about it behind your back or stewing." Everything is out in the open. This is a sign of respect and the most productive way to work. It is also the best way to go home at the end of the day." With 'Freedom 55' out the window for many advanced technology workers, Dale Gantous is also not waiting for retirement to have fun. She knows that everyone else is thinking the same thing — "Having fun, being honest and delivering high quality work" is what drives excellence.

Having fun, being honest and delivering high quality work is what drives excellence.

Invest in R & D

Dale Gantous is aware that clients' research and development budgets are shrinking. Examining ways to make InGenius customers more competitive led the firm to invest in their own research and development. "The solution was to invest our own R & D dollars, develop our own intellectual property, and [to] have the client become our distribution partner." The investment in proprietary technology has led to a new suite of products and services. Continuous service and product improvements also helped the InGenius Group of Companies win federal procurement opportunities for task-based, professional informatics services. These strategies ultimately enhanced working relationships with key customers.

Technical and leadership skills do not equate

The skills needed to design and build advanced telephony software, engineering architecture, and innovative products are not the same skills required to build a rapid growth firm. This is one reason why InGenius Founder and Chief Technology Officer Rich Loen hired Dale Gantous. A self-described "reluctant entrepreneur," during the early 1990's Dale was responsible for transforming the technical talents of InGenius into a world-class software engineering and

professional services firm. “We had to figure out how to grow the company and that’s when we began the process of becoming a professional services firm. My whole job was to bring sales up to the millions.” Rich Loen continues to retain technical authority while Dale Gantous is responsible for ensuring that the InGenius Group of Companies “Give the customer a wonderful experience.” She is also involved in project management, team building, recruitment, financial management, and sales.

Career tips for women in advanced technology

When asked if being a woman influenced her career, Dale Gantous provides the following suggestions.

Don’t let others slow you down

Dale Gantous can recall how other people’ advice once slowed her down. One example she remembers is: “I was trying to decide what to study in university. ...In the late 70s I visited the head of engineering of a certain university. He told me not to go into engineering as I would find it too difficult and that there were no women. I knew very little of the working world. I knew I loved science, so I did go into science.” To ensure that outdated assumptions do not slow you down and to find out more about engineering career opportunities for women, see the following list of support agencies.

Get in front of your customers

Dale Gantous advises being strategic while working within your own company:

“Get into a job that gives you contact with the people who are paying your company money. That is the only way you can understand clearly what your company does of value for the customers and what is important in the marketplace. If the only people you are talking to at your job are other people in your company, it is very hard to have an objective understanding of the value you are delivering to your customers. ...Only when I started talking to customers and selling to them did I really understand what the business world was all about.”

Get into a job that gives you contact with the people who are paying your company money.

Be the role model you want others to be

Practice what you 'preach' Gantous counsels:

"Having fun with open and honest communications is critical. And being able to model that is very important. I try to model that everyday. My job is to make sure the team is doing the right things, at the right time, and they have what they need, customers are happy. I don't care what somebody looks like or what gender they are. Are they doing what they need to do to make our customers happy?"

Be prepared to live frugally

It has been said that entrepreneurs should pay themselves first. Dale Gantous disagrees:

"Realistically, if you want to start a company, you have to realise that there is not going to be a lot of money in the beginning. Start with a small nest egg and live frugally. In the beginning, I was living on very, very little money. But I loved every minute. It was like being a student again. I had to watch every penny. Sometimes you can't afford to pay yourself."

Work and home life can be integrated

Dale Gantous believes that people whose work lives and home lives are integrated have the most fun. Years after being hired to lead the InGenius Group of companies, she married the firm's founding entrepreneur. "We worked together for seven years and we then looked at each other and said "Hey you're cute." We are now married and have two boys." For Dale Gantous, a healthy work and home life balance is about mutual respect, tolerance, and complementing skill sets.

For more information about women's networking organizations see Appendix A3: Canadian organizations that support women entrepreneurs.



Angela O'Leary: Embracing government procurement opportunities



"In my business relationships and in making decisions, I am true to myself."

Angela O'Leary: Community leader and public sector entrepreneur

Angela O'Leary, President of Nisha Technologies Inc.'s Aboriginal business unit, manages a growing line of businesses while seeking out new partnerships, challenges, and opportunities. While working with Indian and Northern Affairs Canada, industry leaders and other stakeholders, Angela is also contributing her expertise to help determine how Aboriginal companies can benefit and move forward under the Procurement Strategy for Aboriginal Businesses program. She considers herself to be "entrepreneurial in nature" and is an avid believer in maintaining a balance between professional and personal life. Angela has over a decade of business development experience.

Nisha Technologies supplies professional services, PCs, notebooks, work stations, and enterprise products to the federal government. O'Leary believes that her success is rooted in the ongoing monitoring of the federal government's \$14 billion annual procurement spend, managing client and supplier expectations, keeping close to the customer as well as establishing strong partnerships.

Strategies to sell to government clients

Monitor contract opportunities

Canada has no legislated procurement framework to support small business or women-owned enterprise.¹⁹ However, in March 1996, the Canadian federal government enacted mandatory set-aside requirements for goods and services valued in excess of \$5,000 produced by Aboriginal-owned businesses and destined for Aboriginal populations. In addition, the federal government articulated voluntary set-asides for goods and services that are not destined to Aboriginal communities. As an Aboriginal-owned company, Nisha Technologies qualifies for federal set-aside contracts. Increased government outsourcing and the establishment of strong supplier networks have also helped to bolster Nisha Technologies' supplier opportunities. To monitor contract opportunities, Angela O'Leary uses a number of search engines such as MERX to access information about upcoming purchases and respond to federal requests for proposals and Linked-in to network and uncover opportunities with partner companies.

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Client stimulated growth

The evolution of Nisha Technologies from hardware supplier to multi-product and professional service operation was a response to customers' requests for additional products and services. By listening to the customers and building on working relationship with their suppliers, Nisha Technologies introduced a suite of information technology services, services that have contributed to the growth of Nisha Technologies.

Manage client expectations

Angela O'Leary has found that working with the federal government requires clear articulation of client and supplier needs. She makes a special point of reviewing all contracts with the client and articulating Nisha Technologies' operating terms and conditions within all contacts. O'Leary explains:

"The key is managing expectations on both sides: your own expectations and those of the client. At the beginning of a contract, sit down with the client and document their expectations as well as your own to ensure that there is a clear understanding and consensus on what it required of each stakeholder. If you are an Aboriginal business [owner], meet with Indian and Northern Affairs to fully understand the requirements and objectives of the policy."

Staying close to your customers

Angela O’Leary’s management team relied heavily on suppliers and partners for guidance during the launch phase of Nisha Technologies’ IT services. Through this experience, Angela learned three important lessons about successful partnerships. First, all partners must bear risk within the relationship. Second, while she remains open to opportunities and is trusting of others, she has found that it is important to stay close to the client, regardless of which partner directly services the customers. This helps to ensure you understand their service experience and that your firm remains in the driving seat should something go wrong. Third, if something does go wrong, be prepared to renegotiate directly with both the partner and the client.

Delegation and trust underlie growth

The transformation from a single product to multi-product service operation required Angela O’Leary to recognise her personal and operational limits. Effective delegation and the establishment of separate profit centres subsequently led to corporate expansion across several lines of business. Growth also necessitated a multitude of contract relationships, many of which are with other small businesses. The ability to trust within these relationships underscores their success:

Effective delegation and the establishment of separate profit centres subsequently led to corporate expansion.

“I was managing a hardware portfolio and a services portfolio. I said, “We either have to bring someone in and manage the hardware portfolio or launch a separate line of business in order to be effective and to build credibility in the minds of our clients.”

Tips for supplying to government markets

Selling to governments is not without challenge

Supplier opportunities exist across at all levels of government, however, such opportunities are often not obvious. A recent Canadian Federation of Independent Business (CFIB) member survey reports that procurement challenges deemed ‘very important problems’ were (in descending order):²⁰

- difficulty getting on bid lists for local contracts
- paper burden when bidding
- not knowing what the government wants to buy
- suspicions that selection process favours insiders

- tendering/bidding is too complicated
- difficulty competing with large firms
- restrictive bonding or securing requirements.

Similarly, an American survey of women business owners whose firms supply to the federal government documents that a mere 12% of women business owners did not encounter significant problems when first entering the federal marketplace.²¹ The most difficult challenges reflected many of those identified by CFIB members such as: complex paperwork; understanding the buying process; complying with reporting requirements; not enough bonding; getting paid promptly/cash flow; finding information on bidding opportunities; and building credentials/proving I could do the job.

Angela O’Leary describes her experiences of dealing with governments. Her concerns mirror those cited above, concerns such as lack of flexibility, slow payment of receivables, and inconsistent interpretation of policy. O’Leary points out that:

“The main challenge is that the federal government is such a large organization and there are many tiers of administration. Sometimes there are disconnects, both vertically and horizontally. The result is inconsistencies in procurement policies. For example, with the set-aside procurement strategies for Aboriginal business, different ministries and departments interpret and apply the legislation in different ways.”

“Once you win the contract, the client’s expectation may not necessarily be in line with the requirements set out in the procurement document. Clients may want to change the terms of the contract, such as adding particular delivery instructions after the fact, which may have an impact of our bottom line. ...In the past, there was a lot of give and take between the client and the supplier. Both were working together toward a common goal. Today suppliers are expected to be flexible, yet this flexibility is not reciprocated by the Crown. ...This is a frustration. In the last four years, the situation has deteriorated. There is no mutual give and take.”

Don’t assume you are not ready

Angela O’Leary cautions others to not underestimate their ability to take on larger contracts and supplier opportunities. “Stretch contracts” force organizations to acquire additional resources that underlie sustained growth. She comments:

“If you are faced with an opportunity that you have never executed, never think that you are not ready for it. You are never 100% certain of anything. There

might be a really steep learning curve. Just have confidence that you can do it. As women in business, we tend to short change ourselves, whereas men are more able to take the risk. We tend to have to know that we can do the job 100% prior to engaging ourselves in a particular endeavour. We should trust our abilities, take risks, and not be afraid to grow. Just to take the step, make a plan, and determine what is required whether it be new partnerships or investments. It may be scary and there might be more responsibility, but the rewards and sense of accomplishment far outweigh being left behind in the industry.”

Consciously manage confidence

Angela O’Leary does not let self-doubt cloud her decision making. Rather, Angela is very conscious about the need to be confident in her management decisions. Noting the difference between men and women in business she notes:

“I do business differently because I am a woman. Because I execute business decisions differently than men, this doesn’t mean my methods and decisions are without merit. I think women tend to carry out business differently, from a different perspective. I am extra careful and conscious of having the confidence in my ability to make decisions. Although my decision making includes many checks and balances, I have to consciously affirm that my decision is the correct one.”

Find small niche players with which to partner

Angela O’Leary has also consciously built Nisha Technologies through close relationships with established small businesses. She suggests that partnering with smaller enterprises helps to maintain trust within the working partnership:

“We deal with many smaller companies because the partner companies have to be people that you trust. We don’t have a lot of relationships with large IT services companies. We have a few select, significant relationships with smaller companies, niche companies, who are managed or owned by people who have been in the business for a long time and who have gleaned industry knowledge by having worked for the larger companies. They have served as mentors as well.”

Partnering with smaller enterprises helps to maintain trust within the working partnership.

Finding qualified employees and contractors is not easy

When asked to describe the most significant challenge to sustained growth, Angela O’Leary suggests:

“Hiring competent employees with similar business ethics and mindsets as the company — finding employees that would fit into your company culture. These are all part of the growing pains. ...There are also issues surrounding payment terms such as the pay cycles, pay methods, amounts, and trying to keep 100 different consultants happy.”

For more information about selling to government see Appendix A4: Resources about government procurement.

¹⁹ *The Parliamentary Secretary’s Task Force for Government-wide Review of Procurement. (2005). Ottawa: Public Works and Government Services Canada. Accessed at: http://www.pwgsc.gc.ca/prf/text/final_report_summary-e.html*

²⁰ Canadian Federation of Independent Business. (2004). *Federal Government Review of Procurement. An SME Perspective*. Canadian Federation of Independent Business, Presentation to the Hon. Walt Lastewka, Parliamentary Secretary to the Minister of Public Works and Government Services, October 19, 2004.

²¹ Center for Women’s Business Research. (2000). *Women-owned Firms in Federal Procurement: A National Survey*. Prepared under contract for The National Women’s Business Council, Washington, DC.



Cindy Gordon: Building collaborative capability in the knowledge economy



helix

“The heart of collaboration and innovation growth is trust and sense making!”

*Dr. Cindy Gordon: Transformation change architect,
author, and serial entrepreneur*

Helix Commerce International Inc. specialises in collaboration commerce (c-commerce), next generation business models, and professional services that help clients build multi-dimensional relationships with customers, buyers, sellers, partners, and employees. Helix Commerce focuses on five core lines of business, leveraging knowledge from diverse disciplines that includes: customer capital, knowledge capital, human capital, digital capital and entrepreneurial capital all utilised to meet their clients’ growth needs.

Helix Commerce International Inc. (<http://www.helixcommerce.com>) operates three wholly-owned subsidiary operations: Helix Innovation Hive (<http://stores.lulu.com/helixcommerce>) specialises in publishing thought leadership and holding innovation conferences, Helix Talent (<http://www.helixtalent.com>) assists clients in attracting, retaining, and transitioning employees. Helix Virtual Worlds (www.helixvirtualworlds.com) advises on and develops virtual world experiences that enhance productivity through collaborative, socially stimulated digital 3D media and network marketing. Their clients are primarily Fortune 500 and mid-market firms in the advanced technology sectors.

Strategies to build professional service enterprises

Creating service models grounded in theory

In a marketplace that increasingly rewards collaborative knowledge, Helix Commerce International Inc. helps clients to understand how they can evolve their business models to innovate more rapidly using next generation practices, tools, technologies, and practices. Anchored in theory drawn from her doctoral research on innovation, collaboration growth, and intellectual asset management, Cindy Gordon has developed a suite of methodologies, practices, and tools to improve the quality of collaborative knowledge sharing. Client impact includes development of portals or shared spaces to facilitate diverse collaborative relationships, improve interactive commercial activity and better align communication networks and information distribution in complex global ecosystems. Understanding the technology as well as the culture of the clients' firms has been key to delivering a multi-dimensional, value-added service as Gordon notes:

Understanding the technology as well as the culture of the clients' firms has been key to delivering a multi-dimensional, value-added service.

"We are a company that specialises in innovation and growth using next generation collaboration technologies and approaches. A lot of people talk about collaboration strategy, but we have connected all the dots through our delivery solutions, research, and first hand experience in helping companies transform their business models. We go into a company and examine holistically their knowledge ecosystems, customers and channel relationships, operating culture, human capital, and technology enabling platforms. We have unique eCollaborative consulting IP to determine if they have achieved a mature collaborative business model. We examine the strategies, processes, organizational structures and technologies underlying the drive for collaboration capability. We undertake cultural diagnostics to improve eCollaborative health. Often, we build portals that allow firms to improve productivity in multiple communities and within a better infrastructure and collaboration infused design."

Seeding auxiliary profit centers

Helix Commerce International is growing through its accomplishments as it redefines the business model and creates new lines of business based on emerging technologies and opportunities identified through client engagement. To date, Helix Commerce International has seeded three spin-off operations that function as independent profit centres. According to Cindy

Gordon, the subsidiary structure facilitates creativity and helps us understand each operation's profit model market viability in a low cost model.

Creating "annuity" revenue models

To leverage the firm's intellectual property and create additional revenue that is distinct from client assignments, Helix Commerce International Inc. is developing the Helix Innovation Hive (a publishing and conference centre) to fuel its innovative research reports. With a professional service core and an ability to create client-specific complex technological software platforms, the research will allow Helix Commerce International to scale information and to migrate from a strategic consulting service into a services and product-based operation. Gordon explains:

"We are trying to move more into a utility model and repurpose knowledge into other products to drive the annuity stream and also extend our global reach as we currently see more innovative in collaborative models underway in Europe, Asia, the USA than we see in Canada currently. For growth and stretch, we have to look beyond Canada to effectively service our clients more effectively in the local market."

Industry certification to enhance credibility

Industry certification is serving to expand Helix Commerce International's technology portfolio and broaden service and price points. The strategy also serves to increase credibility and to ensure that Helix Commerce International is capable of servicing a broader market:

Industry certification serves to increase credibility.

"We are Microsoft Gold Certified with our Sister Company TerraForum, which I oversee as the President of North America. We have 130 FT employees based in Brazil, and we opened up our TerraForum Canada office in June of last year and have this integrated with Helix Commerce operations (www.terraforum.ca). We are also an IBM Lotus Connections Partner. A third partner that we have chosen is Igloo to provide a lower cost collaboration platform than an IBM or a Microsoft."

Targeting Fortune 500 businesses

Helix's sales team targets are primarily large enterprise and corporate prospects. Compared to working for smaller clients, larger clients lend to more return (or revenue) per sales call, help ensure repeat business and provide healthier margins. Gordon explains that:

“The small business market was not the target market for growth. I went back to my earlier career roots in Fortune 500 companies where instead of \$50,000, I can charge \$500,000 and spend the same amount of time on a sale in cycles to close — but drive a more secure future for Helix and our delivery teams.”

Management Tips for Services Firms

Service models do not attract investors

As a former venture capitalist, Cindy Gordon is aware that service models rarely attract external equity (angel or venture) capital. She, therefore, founded Helix Commerce International on personal capital. Helix Commerce International’s subsidiary operations are seeded with capital from the parent operation and a second co-founder. Gordon remarks on the preconceived ideas associated with her firm’s area of expertise:

“I think that any woman who is setting up a professional services firm must know the risk of going into this and that the returns are very different from a product driven company. Even though we are in a knowledge-based economy, the recognition of value is not translated from a product world into a pure services world. That reflects in the valuations of pure service models which is one of the primary reasons to diversify our business model and brand into some annuity streams for more predictive cash flow and synergistic revenue models with the core strategy offerings.”

Corporate practices do not easily transfer to small business

The transition from Fortune 500 Company to Founder/President of a small business required Cindy Gordon to focus, make decisions quickly and create an agile organizational culture. She knows that she is not alone in the experience of having to change mind-set and behaviour when transitioning from a large corporate to small business setting:

Change mind-set and behaviour when transitioning from a large corporate to small business setting.

“Senior people from corporations that lead early stage companies seldom succeed in their first job. They fail because they cannot write a plan or develop spreadsheets — they just are not as agile. They were always looking for assistance or people to help them execute. That’s not the ‘roots’ of entrepreneurial DNA. In small business, you need agility and ability to move from strategy to execution rapidly. You have to, to survive. Our team meetings are in and out fast. Everything is about focus, movement and results.”

Create multiple touch-points to source business

Cindy Gordon's team of consultants source new business in multiple ways, through cold calls, networking, and developing repeat business by building service agreements with existing clients. To maintain visibility, the firm hosts online events and encourages staff to blog. They also publish a number of books for profiling their brand. Gordon and her staff ensure awareness of their company is available through a variety of media, as she notes:

"In the early days, generating new business was all through networks and cold calling. When you get to a different stage of growth, you are working your master services agreements with companies. Certain firms have been with us since we were founded. We keep calling on them and building other relationships and other accounts to continue to grow our business, but through existing customers. The second strategy is a lot through lead generation. We do events and bring prospective clients together. Our staff blog now. The way we are going forward is through more touch points because people are going to get blasts on new products in the publishing centre. In the conference centre, we are planning to run a conference every three months, along with webinars. In many respects, people would be surprised at how many things we're getting out the door and how fast. It takes awhile to incubate, then once the engine goes it's a matter of adding more coal and keep harvesting and learning to grow."

A boutique firm requires employees that sell and execute

Cindy Gordon's biggest challenge is finding qualified talent. Furthermore, the need to move quickly between idea generation and execution does not allow time to develop employees. This has forced Cindy Gordon to be clear with prospective employees or partners about performance expectations and terms of employment or partnership:

"I think the challenge in any service model is finding good talent. That's number one. There is no end of delivery talent in this market in Canada. You can find people to service a job. It's not only an issue of delivery capacity. The issue is the ability to go in and be a senior partner that understands innovation, collaboration, and emerging technologies. I am looking for people that have a blend in operational experience, strategy depth, intellectual depth and execution. Those blended competencies are hard to find in the Canadian market."

Create services that mirror your breadth of expertise

Success has been underpinned by academic knowledge, Fortune 500 management and sales experience and knowledge drawn from previous consulting within a related small business.

Trust intuition, be realistic and knock on doors

Cindy Gordon believes that women bring unique talents to the marketplace, particularly with respect to hiring good talent. As a former venture capitalist, Cindy is also aware that women rarely knock on the doors of potential investors. When asked to share suggestions for others who might be considering creating a professional services firm, she suggests trusting your intuition, being realistic about what you can do, being clear about where you want to go and what you can achieve. Above all, have fun along the way. She also believes that ‘at the end of the day — and night — success is the outcome of hard work.’

Women bring unique talents to the marketplace, particularly with respect to hiring good talent.



Tanya Shaw Weeks: Revolutionizing shopping through mass customization



“Our goal is to scan millions around the world and help connect them with products and services that help enhance their life and fit their needs, bodies and lifestyle.”

Tanya Shaw Weeks: Inventor and born global entrepreneur

Founder and President Tanya Shaw Weeks positions Unique Solutions Design as the global connector of body measurement information. The firm’s 3D scanning and measurement technology enables consumers to monitor body mass and fitness, find out what clothing size will fit them best and to order custom-made apparel from a growing list of clothing retailers. With a workforce of 32 employees, alliances with brand name suppliers and an acquisition strategy to ensure best-in-class innovation, this Halifax-based firm anticipates continued global growth. Underlying the success of Unique Solutions Design is a founder who understands the consumer mindset and holds other insights learned from experience as the past owner of a design and wardrobe-planning firm:

“It was quite astounding to me how many women associated their self-esteem and body image to the size on the tag on the back of their clothing. I was very intrigued in looking for a way to eliminate sizing and focus more on the unique individual. At that time I saw a lot of technology coming out and thought there was an opportunity to create something that would allow people to not be a

standard size and just be themselves in their purchasing. ...We have technology that allows us to scan an individual's body with a body scanner. Within that, measurements are captured, for example, body weight and mass. This information is then used to help with purchasing decisions for products in the health and wellness field or apparel. Once you have your body scanned, you get a unique ID number. So, if you want to purchase a pair of jeans, we can then tell you which jean type is best suited for you. Or, if you wanted a custom fit, we could send your measurements to the factory."

Strategies to build global enterprises

Thinking global

While Unique Solutions Design houses its research and development operations in Canada, the firm's customer base and product partners are concentrated in the United States. Early expansion into the American market facilitated exposure to foreign investors and partners while allowing the firm to refine its technology in close proximity to the Eastern Canadian office. From key American cities, the firm expanded its retail distribution network into Europe, Asia, and other countries. The firm's growing global operation also reflects observations that knowledge-intensive and technology-based firms are especially likely to engage in export:

"We felt that initially for the customers we are targeting, it was easier to do so in the US. In Canada, we are too spread out. Also strategically, we felt some of the partnerships we were trying to make were more US-based. In terms of the rapid growth we were looking for, it was fine to have R & D in Canada, but we actually have our sales and marketing in the US to ensure that we were in the face of the people we needed to be."

Multiple product-use applications

Another success factor associated with Unique Solutions Design's rapid growth is multiple-use applications of the firm's scanning technologies. Originally launched to retain measurement information for customised apparel, the marketing team is creating ways to enhance consumer value. The multiple-use strategy extends to all aspects of the firm's operation, including the consumer website. Tanya Shaw Weeks comments:

"We focus in two areas, health and wellness and apparel. In apparel, it can be anything like recommending what type of finished goods to buy and in what size, or facilitating getting something custom-made. In health and wellness, the main application is to use the technology to track progress on a weight loss regime, or

workout to workout. Regardless of what you are using, the technology and unique ID number allows you access to both markets.”

Growth through acquisition

Unique Solutions Design has pursued a number of strategies to ensure continuous product innovation including internal research and development, contract software programming and the acquisition of competitive technology. These strategies are ensuring that Unique Solutions Design remains a leader in 3D scanning and measurement technology. She explains her company’s approach:

“The rationale behind acquisition is that we were looking at, “How can we make sure that we are, without question, the leader in this body measurement industry?” As well, “How could we protect ourselves from any future competitors?” The company that we acquired was the only company that had the technology where one did not have to get undressed in the body scanner. All others require the person to disrobe. So that was particularly appealing to us — one less barrier for the consumer. So we developed a bit of a dialogue with the CEO of that company. We had been looking to see if there was some sort of strategic relationship to be had. As I looked into it further, I approached them on the basis of either merging or acquiring them. Ultimately it was an acquisition.”

Brand name alliances

Organizational flexibility, product innovation, and market agility describe this small business. Not surprisingly, these characteristics are often attractive to large, established firms that seek value-added partnerships. In the case of Unique Solutions Design, an alliance with a brand name pattern design firm serves to bolster consumer awareness and usage by associating measurement information with ease-of-use applications. The alliance also offsets some of the liabilities of newness for the Canadian firm among investors and retailers. Tanya Shaw Weeks notes the advantages of being a small company and understanding your firm’s unique role in the marketplace:

An alliance with a brand name firm serves to bolster consumer awareness and usage.

“I understood early that, as a small company, it is very important to align yourself with brands that the consumer already recognises —both for giving us credibility, but also opening up different doors for growth. We always wanted to be the engine behind the machine. We did not want to be a pattern company, or a clothing company. We needed to make sure we formed relationships with

brands people were already comfortable with. That is not always easy. The key thing is trying to get to the right person. It is also important to understand as a small company that you are more nimble than some of these larger companies as they are such a large machine that is already moving in one direction. So, they definitely see some advantage in partnering with younger, more dynamic companies.”

Multiple rounds of equity capital

Unique Solutions Design product and market development have been financed through three main funding rounds of angel and venture capital. While most investors are Canadian, such as NSBI Venture Capital, some are currently located in the United States. This is not an unusual pattern. Business angels tend to be early investors, providing funding in the range of tens of thousands or hundreds of thousands of dollars. Angels also provide considerable non-financial, value-added benefits such as mentoring, networking, governance advice, and even hands-on assistance. The presence of angels can also serve as a way of making the firm more attractive for venture capital, which typically provides funding in the millions of dollars. In Canada, the average venture capital investment is in the \$3 million to \$4 million range. However, most Canadian venture capital funds are relatively small so as venture-funded firms grow and need even more funding, it is not unusual to see one or more American-based venture capital investors join the investor syndicate. Such firms allow the firm to take advantage of the American-based venture investors’ networks of clients and advisors. It is also not unusual for venture capital investors to install professional management in the firms in which they invest — including replacing the CEO. Many venture capitalists specialize in particular industries and technologies. Like angel investors, successful matches are usually initiated by referrals from other investors, bankers, accountants and lawyers.

Tips to building strategic alliances

Acquisitions require legal and accounting advice

Acquisitions enable firms to their leverage competitors’ customer, distribution and supplier networks, locations, employees, and technology. These assets can help reduce time to market for complementary technology. Reflecting on her experience in acquiring competitors, Tanya Shaw Weeks suggests a key factor in the acquisition of competitors is experienced legal and accounting support. This reflects the fact that acquisitions can take many forms, depending on the parties’ goals, the size of transaction, mutual capabilities, and market position. Professional assistance is required to navigate the

A key factor in the acquisition of competitors is experienced legal and accounting support.

negotiation process, anticipate pitfalls, and to have a clear understanding of the payback period and return on investment.

Undertake due diligence

Healthy strategic alliances are predicated on clear expectations among the parties. Mistakes can be costly, particularly for market incumbents. Tanya Shaw Weeks encourages business owners to undertake thorough due diligence before engaging in any partnership agreements. Due diligence is the process of reviewing a prospective business plan, customer lists, and related market information. This information is then used to specify the terms and conditions of the working relationship. This review process helps to ensure that you understand cost structures and margins and, ultimately, how the relationship benefits the firm as Tanya Shaw Weeks explains:

“The main lesson learnt was to understand our margins well enough to strike the right deal. We subsequently were able to renegotiate those things. But I think when you are first starting out and do not know all of the costs you are going to incur, your margins may not be as well understood as they could be — also, [understanding] what we really wanted out of the partnership. Yes, we wanted a big brand name but if they are really firm in their ways, then as a partner it is much more one-sided. You have to be as clear as you can in understanding, from the beginning, in knowing what one’s expectations are and communicating them effectively.”

Anticipating barriers to international trade

Non-tariff barriers reflect operational challenges associated with foreign clients and suppliers. Tanya Shaw Weeks found that in the advanced technology sector, challenges also include technical challenges, limited connectivity, legal specification about information flow and language differences in technology applications. She suggests that overcoming barriers is straight forward with the commitment by both parties:

“...barriers such as language and cultural differences, Internet connectivity challenges, different countries have much more stringent screening of what data flows back and forth between companies are certainly new experiences. You have a primarily English-speaking technology and customer service team dealing with a primarily French-speaking technical team at their end. And when dealing with technical terms and data, there is room for error... . It certainly is something relatively easy to overcome, but it means that both parties really need to be committed to the partnership.”

Success reflects personal challenges

Tanya Shaw Weeks has overcome personal challenges in building a global operation. These include securing personal financing, being available where and when she is needed and managing life on a schedule. When asked how being a woman might influence these experiences, she acknowledged that while some individuals might not like the fact she was a woman, she has received tremendous support from the business community as a whole. Her solution is to focus on the 'end game':

"I think the biggest challenge, particularly as a global company, is balance. You have to be available when business dictates that you need to be available. So, there are definitely sacrifices that need to be made to make sure that if you need to be in New York tomorrow, you are there. If you need to take a call at midnight because of time zone differences, you take it."

Mentors and advisors provide all types of support

Tanya Shaw Weeks continues to learn from an international network of experienced professionals, individuals who provide advice on all aspects of management. The first relationship was the outcome of a local business award. Canadian research finds that mentors often provide protégés with emotional and psychosocial support, act as role models, bolster confidence, provide referrals and sponsorship into industry networks and help owners anticipate adverse or competitive actions.



Joanne Ball-Gautschi: Using social capital to build partnerships



"We're making the world a smaller place."

Joanne Ball-Gautschi: Pioneer, connector, and dealmaker

Joanne Ball-Gautschi is the President of Partner International, a firm that develops business partnerships in the life sciences, pharmaceutical, aerospace, and defence sectors. Working directly with senior executives and embassies around the world, the firm deploys social capital to identify partners, facilitate introductions, negotiate deals and ultimately, build technology-based partnerships. Joanne started her career in radio, which was an experience that she believes provided valuable cross-sector learning and empathy for small business owners. Prior to launching Partner International, Joanne was Vice-president of an American bio-technology firm. In 1999, Joanne launched Partner International in Halifax and Bern, Switzerland. She is also a Board member of the Nova Scotia Aerospace and Defence Association. Today, Joanne sees the world as her marketplace:

"Partner International has strong roots in the biotechnology market, and has brokered multi-million dollar, international deals for some of the leading biotechnology companies in the world. Partner International has worked with major health care companies the world over in all therapeutic areas. Partner International has expertise in negotiating partnerships and financial deals for environmental and natural resource clients. This field includes markets such as

nutraceuticals, agricultural biotechnology, environmental, and therapeutics. ...An active member of the burgeoning aerospace and defence industry in North America, Partner International is involved with a number of confidential industry projects that could have a major impact on the Aerospace and Defence industry.”

Strategies that build 'born global' services firms

Leveraging social capital

Partner International is the outcome of Joanne Ball-Gautschi's international business development experience and her ability to make connections. The firm leverages her understanding of the importance of social capital and market intelligence with respect to creating and closing deals. Initially, the firm targeted founders of knowledge-intensive small enterprises and university-based technology transfer offices. Ten years later, the firm is working with a growing roster of small-, medium- and large-sized firms across North America and Europe.

Research about 'born global' service firms has documented that international ventures are often owned by individuals like Ball-Gautschi, i.e., people with considerable international management experience. Management teams with international knowledge and experience are more likely than average to engage foreign partners and experience fewer delays in generating foreign sales after start-up²² 'Born global' firms are also more common within manufacturing, technology, and knowledge-based sectors. However, while women business owners are represented across all Canadian industry sectors, they are significantly less likely to own export-oriented knowledge-based, manufacturing, and technology-based industries. Ball-Gautschi used her knowledge of business processes and her awareness of a need in the corporate marketplace into a niche business opportunity:

“I was the Vice-President for an international biotech company in the United States. What I realised is that many CEOs and senior VPs were running around like crazy trying to get their deals done. Partner International is an outsource, business development company filled with senior executives that are able to scout out deals. We save clients time and money. We work closely with embassies around the world, especially Canadian embassies. But embassies can only make introductions — they cannot complete a transaction for a Canadian company abroad. So, I gathered this germ of an idea. I began to do my market research and due diligence. I interviewed leading CEOs around the world and I was met with overwhelming support for the concept. Hence that's the idea, that's how the concept came about; from a sheer need that I saw could be met.”

Performance-based compensation

As a service-based firm operating in a number of knowledge-intensive industries, Partner International's most important assets are contacts and market intelligence: so the firm's structure has evolved with the growth of the firm's intelligence and communication networks. Contracting is predicated on an 'Associate' model, where consultants are retained and compensated based on a low-base management fee plus success fees. In return, associates have access to the firm's proprietary databases of 15,000 industry contacts and related market intelligence. As such, expansion has been based on securing talent versus traditional geographic or industry-specific strategies. Ball-Gautschi explains the process:

The most important assets are contacts and market intelligence.

"When [Associates] work on an account, they get paid part management fee, and when they work on the deal completion, part success fee. It's a two way, fair contract between Partner International and the Associate. They're all senior executives. A lot of them were doing consulting but didn't have the structure of a company behind them. ...Like a lot of businesses, you have to go with what your clients demand, where you need to be, and you don't quite know that until you start to acquire your customer base. So, once I found out that the more coverage we had the better, it made sense to do build an Associate group. ...From a human resource perspective, I also wanted a complementary resource-base with the best people who are expert in their fields."

Managing growth and cash flow

Partner International's growth has been predicated on sales, internal financing, managing the firm's reputation, and building an intelligence infrastructure. Growth has not been based on acquisition of external equity, debt or assistance from government or crown corporations. Joanne Ball-Gautschi believes that retaining ownership, avoiding debt, and focusing on revenue has helped to insulate her management from investor demands and, as a result, enabled her to concentrate on building the firm:

"I believe in growing a company through sales. ...A lot of research-based companies are spending too much time in the lab and not enough time getting sales of the product. I believe that sales will ensure that the company will remain healthy. And that's what we did. We worked hard at getting customers that would sustain our growth. We did it ourselves. And that's how we help technology-based companies to get out there too — to get the deal signed and create revenue."

Retaining a portfolio of opportunities

Partner International's success is also predicated on ensuring the firm has a growing and diverse portfolio of clients and opportunities. She encourages others business owners to do the same:

"Do not put all your eggs in one basket. Have several baskets and several eggs. Just when you think a deal's going to be done, it'll go away from you. I've seen so many company CEOs make this mistake. You have to talk to a certain number of people to have success. Whether they're in Asia or your backyard, you must be talking to a significant group of people and your message must be clear."

Exceeding client expectations

According to Joanne Ball-Gautschi, within the services sector, success is not about brick and mortar but rather is a product of 'exceeding clients' expectations" and "be willing to go the extra mile." To ensure that the firm's Associates are capable of delivering such outcomes, she "hand picks" all workers. While contract workers may have outstanding technical backgrounds (business or science) and management experience, they must also demonstrate entrepreneurial acumen:

Success is not about brick and mortar but rather is a product of 'exceeding clients' expectations" and "be willing to go the extra mile.

"We want to exceed clients' expectations. If you see our testimonials, there is the thread of this theme. So with that in mind, you have to hire people with that extra oomph and [who are] not clock watchers. ...Since we are an out-source business development company, we need skill sets to go along with that. I am looking for people that go the extra mile and do everything for the client because I really want to establish a company of excellence. We over-achieve expectations."

Tips to build 'born global' services firms

Strong IP is the foundation of successful partnerships

Joanne Ball-Gautschi has learned that strong IP and well-structured communications tools, including non-confidential information tools and non-disclosure agreements, are critical to initiating technology-based partnerships. Creating these instruments requires rigorous due diligence, a process that provides clients with an objective understanding of the market and information with which to better position the firm's offer as she explains:

“What the technical world wants right now is as much information as possible, information that does not require parties to sign off on legal agreements. Non-confidential brochures are the first source of information and help to ensure that discussions move along. When both parties are ready, they then sign confidentiality agreements and begin to exchange intelligence. ...We present clients with a white paper to all the prospective customers and partners, no more than one page when we go out to market for them. It has to be clear about what they have in IP. It has to be clear about ‘the ask.’ It has to be clear about the market. The communication must be clear. The effort must be focused.”

Don't underestimate start-up costs

Like most start-up business owners, Joanne learned that “You don't make money when you start.” Cash flows and executive remuneration should be projected carefully to ensure that the founder could withstand an extended period before the investment pays dividends.

Think global

Ball-Gautschi encourages business owners to expand their horizons:

“There is no reason that anybody has to steer away from getting their deal done internationally. It's sometimes very much easier to get a deal done internationally than in your own backyard.”

There is no reason that anybody has to steer away from getting their deal done internationally.

Base relationships on mutual respect

To help address cultural differences within the firm's global operations, Joanne Ball-Gautschi's operating principle is to respect clients and not assume you are going to change cultures. She has also learned that cultural differences are imbedded not only across nations but also across industries and within countries:

“A California pharmaceutical company wanted to hire us. They said, “Have you got a lot of experience working with California companies? Because we want you to understand how we work out here.” I just thought it was funny because this wasn't somebody from Malaysia talking to me. This was an American company saying you'd better understand California mentality. Basically our

relationships are based on understanding of clients and what their communication needs are.”

Gender is an issue, particularly in Canada

Joanne Ball-Gautschi is one of a very few Canadian women entrepreneurs in the global defence and aerospace industries. She suggests that one reason for the lack of female entrepreneurs is that successful business owners are not adequately profiled in the media. Ball-Gautschi also believes that compared to Europeans, Canadians are less progressive in supporting women’s enterprise.

“I don’t think we’ve evolved, sadly, as fast as we should have. The old boys’ club is very strong, alive and well. I don’t think we celebrate women entrepreneurs in this country. I was more accepted on a high-end business level in Europe than I am in my own country, especially in Atlantic Canada. I’m so disillusioned. Newspapers focus on the same 10 or 20 entrepreneurs all the time, every week. There is no new blood in the media or enough [emphasis] on female entrepreneur[s]. ...We’re not being featured. It gets boring to read our Canadian media. It’s the same people all the time reviewed in different magazines for the same reasons. I think Europe is a little more advanced than that. But yes, the old boys’ club is still alive and well and you have to work with them. Some of them are great and encouraging, and some of them you can’t trust. And that’s not just true of men. It’s women too, but I mean, I’m just sad to think there are not more women right now.”

For more information about support for women in the defence and aerospace sectors see Appendix A5: Resources for women in the defence and aerospace.

²² Reuber, A., and Fischer, E. (1997). The influence of the management team’s international experience on the internationalization behaviour of SMEs. *Journal of International Business Studies*. 28(4): 807–825.



Sharlyn Ayotte: Creating solutions through technology



“We are changing the story from dependence to independence.”

Sharlyn Ayotte: Builder of accessible information technologies for the blind, visually- and hearing-impaired, and a Sara Kirke Award Recipient.*

T-Base Communications Inc. Success reflects Sharlyn Ayotte’s tenacity, her desire to help others and her ability to create opportunities from misfortune. In 1976, Sharlyn was working within an information security firm when she lost her sight. Through this experience, she became convinced that all Canadians have the right to access information. When the federal government announced access-to-information legislation, she shifted focus from information security technology to creating accessible information. Today, T-Base Communications is a world leader in client solutions to transcribe printed information into braille, large print, audio, and secure online formats.

T-Base Communications estimates that approximately one-third of Canadian adults face challenges in accessing information due to visual or hearing impairment, print literacy or

* The CATA WIT Sara Kirke Award recognises outstanding technological innovation and corporate leadership — leadership that has significantly expanded the frontiers of Canada’s advanced technology industry.

language. The firm currently employs 50 people. Located in Ottawa, the firm also operates a wholly-owned subsidiary in Ogdensburg, New York.

Strategies to create solutions through technological convergence

Creating service solutions

T-Base Communications' first contract was to facilitate consultations among consumer groups (e.g., Canadian Council of the Blind, National Federation of Advocates for Equality, Canadian Hearing Society, Canadian National Institute for the Blind) and to develop service delivery guidelines. This work positioned the firm as an industry leader taking into consideration both consumer and client needs. Consultations also provided the firm with insight into delivery for clients' technical capabilities, on-demand data format specifications, and access to related government initiatives (e.g., government and banks). Currently, T-Base Communications is using convergent technologies to create platforms that facilitate personalised (one-to-one) information sharing.

Moving from a charity to business model

T-Base Communications is changing the nature of the market, which has traditionally been a volunteer-based service delivery approach, to a technology-based, commercial delivery model. In doing so, they are assisting banks, telecommunication firms, and government in delivering products to an underserved market, both privately and securely.

Simultaneous product and market development

Market consultations helped T-Base Communications develop and perfect its standards for delivery of alternate format documents. Having created a standardised information platform, the next phase of product evolution was the development of proprietary technology that enabled the firm to deliver other accessible products and information privately and securely (e.g., bank statements and accessible online banking capabilities for the financial industry).

Staying ahead of the competition

In 2000, having adopted standards and guidelines developed by T-Base, the federal government entered into a voluntary sector accord to deliver accessible information services. While Sharlyn believes that this provides a wider availability of service delivery, her strategy continues to position T-Base Communications as a pioneer on product development, convergence of technology, exporting into Australia and the United States as well as diversifying into other market segments.

Learning from lead customers and building consensus

T-Base Communications partners with leading organizations to help them refine their technology and service delivery. For example, during the 1990s, in a strategic alliance T-Base Communications helped the Royal Bank of Canada (RBC) develop an accessible interface. RBC was the world's first commercial lending institution to deploy accessible banking solutions. By building consensus, Sharlyn brings a consumer perspective, which influences the development of technology to better serve clients and end users.

Tips for servicing new markets

Don't assume legislation translates to action

In order to reconcile federal policies, Sharlyn Ayotte's first needed to acquire intimate knowledge of relevant legislation. Upon a detailed market analysis, she discovered that while legislation exists to improve access, ironically, it is estimated that only 3% of printed material is available in alternative formats. She cautions other business owners not to assume that legislation translates into short-term opportunities, and to budget appropriate resources and time.

Keeping IP close to home

Sharlyn intends to stay ahead of the competition by working with converging Internet technologies to deliver

Reluctant to outsource transcription to offshore suppliers given concerns about the security of intellectual property and the availability of qualified Canadian talent

alternative information formats through new distribution channels. She is also reluctant to outsource transcription to offshore suppliers given concerns about the security of intellectual property and the availability of qualified Canadian talent. Sharlyn maintains transparent relations with American-based service delivery providers, who have the capability of providing "across the board" data transfer solutions to key clients, but also cautions others to protect their intellectual property in the process.

Handle challenges one at a time

State regulations, security and reporting requirements are cumbersome, particularly for resource-constrained Canadian small businesses. In the case of T-Base Communications, the firm is required to register in all states in which the client's head office is located. To resolve this administrative burden, Sharlyn hired a Chief Financial Officer to manage tax filing. This is an example of the way that she handles export challenges — one at a time.

New markets spark new certification standards

Consumers are increasingly concerned about data security and the protection of private information. Similarly, clients have integrated enhanced security measures to protect customers' data. State legislation requires different solutions to meet data protection standards on an industry-by-industry basis. With the current change in market conditions, T-Base Communications has instituted various security standards and practices on a voluntary basis to accommodate the evolution of these requirements.

Consider love money to finance prototype development

As a three-person operation, Sharlyn Ayotte believed her firm was too small to be of interest to an angel or informal investor. To finance her business, she turned to family and friends. Financing raised from family and friends is critical to many early-stage firms. Business angel financing, typically of the order of \$100,000, is usually for firms that are a little further along in their development. Business angels, however, bring knowledge, expertise, contacts, and mentoring — assets that family and friends do not necessarily bring. Sharlyn Ayotte eventually sought venture capital to help the business to develop an appropriate infrastructure.

Focus on customers and service in return fosters loyalty and retention.

Customer first

Sharlyn Ayotte encourages other business owners to focus on customers and service. In return, it fosters loyalty and retention. She also suggests being resilient in the face of any challenge or obstacle.



Joyce Groote: Technology that enables rapid growth



“Decide what you want to do in life and then act as if it is impossible to fail.”

*Joyce Groote: Biotechnologist, footwear scientist,
and owner of a rapid-growth enterprise*

Holeys™ is a world leader in the use of injection foam molding technology. Holeys' first product was a popular coloured foam clog. Today, Holeys™ designs and contract-manufactures lifestyle wear targeted at children, do-it-yourselfers, and duty professionals. With 6000% growth in 2006, Holeys ranked first on *Profit Magazine's* Profit Hot 50 in 2007. Sustained growth entails new products, refined production processes, and investment in R & D focused on innovative and branded products.

Joyce Groote's journey from biotechnologist to global businesswoman was unintentional. In 2004, opportunity came by way of a neighbour seeking advice about her home-based business that sold foam clogs. Within the year, a 'shot-gun' agreement between the original owner and Joyce resulted in her purchasing Holeys™. Now President and CEO she manages a multi-million dollar enterprise that operates in over 40 countries. Prior to acquiring Holeys, Joyce's leadership skills were honed through 20 years of biotech experience, government regulatory and policy work, not-for-profit management and the establishment of *BIOTECanada*, helping start-up companies to 'get up and running' operationally, and an investment network.

Strategies to sustain growth

Ongoing innovation

Part art, part science, Holey's™ footprint in the shoe, clothing, and accessory markets is predicated on advanced “closed cell polymer foam” injection technology. The executive team is working with suppliers in China and other nations to incorporate the technology in the design and manufacture of an array of new products:

“There is no question that this is an interesting technology. ...It is somewhat complicated as we require proper explosion rates, correct temperature for heating and cooling processes; humidity is a factor, mould size is a factor and of course, the material itself plays a factor. There is almost an artistic aspect in regards to how one puts the wood last into the shoe (a ‘last’ is the form on which a shoe’s shape is constructed on), it plays a part in how the shoe shrinks. If it is not put in correctly the foam does not take the proper shape of a shoe. It’s almost akin to making pottery; it’s a more sophisticated way of making pottery.”

Creating brand recognition

Global competition within the shoe industry is fierce. One strategy used by larger firms to detract an incumbent’s attention and organizational resources is instigating legal proceedings. Early in the life of the firm, the Holey's' management team was plagued by legal suits that challenged the firm’s rights to sell product in certain jurisdictions. While Holey's™ has won virtually all of the protracted legal battles (Note: there are few battles lingering at the date of this publication), the experience has made the executive team acutely aware about the need to differentiate market position. To do so, Holey's™ has invested heavily in R & D to create new production processes, product features and brand. Enhancements are reflected in Holey's' *SmartCel* memory foam technology and, patent-pending, slip-resistant *Sole-tek*. A ‘Critters’ icon identifies the line of children’s apparel. These brands help build customer loyalty by clearly identifying product innovations and hence enhancing consumer value. Brands also communicate emotion such as linking the children’s line with fun and adventure. Groote observes:

Brands help build customer loyalty by clearly identifying product innovations and hence enhancing consumer value.

“You earn your right to be considered a brand. In my mind you either, have a lot of funds to throw at marketing and advertising or you look for other ways. And I think the use of social networking is becoming one of the most useful tools for global outreach to consumers. Critters — they are characters that come from

the environment and we emboss them into the shoes. All of our shoes will also use the Treva process to fuse Sole-tek and SmartCel as part of our distinctiveness.”

Establishing performance standards

In a global business, quality control is essential when suppliers and clients are located around the world. Securing quality suppliers required Holey's™ executive to establish performance standards. To monitor product quality, all North American products are inspected and shipped to retailers from the Richmond, British Columbia operation or in the United States from a Virginia warehouse. At times, meeting these standards also required the executive team to terminate supplier relationships. Groote comments:

“We were the first to source and manufacture in China using this technology. It took some work to get the manufacturer up to the point that they were working in the kind of environment that we found acceptable. When we visited the first factory we had ever used, we discovered that they had dirt floors. It was very dark and gloomy. We had issues with the quality. We then moved to another manufacturer. It again took some time to get them up to standards we could accept and to get them used to the technology. They produced and we continue to use them to this day.”

Being prepared to change direction

Holey's™ has evolved from a distributor of foam clogs to a world leader in shoe science. In doing so, the executive team was not only quick to seize demand for the foam clog, they were equally responsive to softening market demand. To capitalise on the foam for footwear opportunities, Joyce Groote has repositioned the firm and redefined the target markets. Sales alignment has also evolved from order taking to professional selling:

Sales alignment has also evolved from order taking to professional selling.

“We have moved away from the [clog] markets. We have decided to go after functionality versus style. We looked at who our customers were. We were surprised to see that Home and Garden, kids, and duty professionals were our three main market verticals. Those are the areas we decided to expand into. ...In the duty professionals market it is a doctor or a nurse that is looking for something that can be sterilised, something that they can stand in all day. Do-it-yourself lawn and garden customers need something with which they can work in soil and wet grass. ...It is not about foam footwear. It is developing footwear that is functional, leak proof, washable, easy to put on, and affordable.”

“Our technology has revolutionised the science of footwear. You can have footwear that is light, you can have footwear that doesn’t have to have discoloration and foot odours — footwear with color. It is a whole new platform that footwear can be developed around now.”

Multiple sales and distribution agreements

Rapid international growth required the executive team to negotiate products, distribution and sales agreements with a multitude of suppliers, distributors, and commissioned agents. In some jurisdictions, the firm has negotiated agreements with sales representatives. In others, HoleyTM works directly with distributors. Having a dedicated sales manager and ongoing attendance at international tradeshows helped to increase visibility and provides a point of contact for agents interested in carrying HoleyTM product. HoleyTM has not accessed government agencies as public trade support services are seen to be bureaucratic, slow in responding, and demanding with respect to time and paperwork.

“We hired an international sales manager and started attending the large international events for shoes and outdoor shows. What we found was the distributors that were interested in carrying our product approached us. We never spent much time finding distributors at the tradeshows, they found us. Then it was a question of selection and which one was the best.”

“...Independent sales reps will very often carry multiple lines. How well they represent your line is dependent on what kind of commissions they get, how many sales they think they will get on that product, and the strengths of their relationships with their retail base. From a company perspective, we think since we are paying 10% they should be representing us better than they do. From their perspective, they are saying they only get 10% they are not employees and we should be thankful to get anything. So, it’s always a bit of a challenging relationship.”

Monitor key performance indicators, including customer service

When forced to choose, Joyce Groote prefers fewer but happier customers versus many unhappy customers. To maintain customer satisfaction, she invested early in customer service processes and established performance benchmarks. Attention to customer service has helped to retain customers over the life of the firm as she observes:

“I’d rather have fewer customers that I can service very well rather than have so many customers so that I can no longer supply. It is always a balancing act. I firmly believe that as some of those customers are still with us today. The other

thing I did was invest in customer service right from the onset. Not only saying we give it, but actually quantifying what customer service means. For example if you place your order today we guarantee your order will be processed in five days. ...For anyone that is dealing with the type of high growth that we did, it is easy for the growth to be so aggressive and for you not to know what your numbers are going to be. Chances are you have under-estimated them. Things can get out of control easily. I would strongly suggest that anyone in that situation decide on what their key performance indicators are, and monitor them regularly. We have seven key performance indicators that we monitor on a regular basis. It is visible to everyone and we keep a scoreboard. So we show people where we have been and where we are going.”

Manage corporate values

Joyce Groote believes that key assets of Holey's™ are the firm's operating values and corporate culture. Corporate culture is managed like all other assets of the business. This helps to ensure that all employees are aware of the importance of customer service and a pleasant and productive environment. Created by a diverse team of employees, Holey's™ value statement articulates the firm's vision, performance expectations, importance of teamwork, need for respect and diversity to create solution-orientated environments, commitment to fun as well as a healthy workplace environment, competency linked to mentoring and training, superior quality and control, and community involvement through charitable endeavours:

Ensure that all employees are aware of the importance of customer service.

“We have developed a culture with very strong corporate values — everything from respect and honesty, to trust and, sense of community. Those were values that were set up by our corporate culture committee. These are things that we said we embodied as a company and endorsed as employees. ...What I did was pull employees from the lower levels, and informed them that I was looking at them to develop this. I let them know it was also their company and they need to be sure that this is a place they want to work in, and it has values that they agree with. I wanted them as a committee to agree on what it should look like. They defined a strong set of value statements.”

Tips to managing rapid growth

Create your own network

Upon arriving in Vancouver, Joyce observed the absence of an informal capital network. Her solution was to create a syndicated network of angel investors populated with “high net worth individuals.” Angels are high-net-worth individuals who invest in high-potential, rapid growth firms. Angel investors also provide founders with valuable advice, contacts and mentoring. Often, informal investors retain an ownership position in the firm and active roles on the Board or Advisory Committee.

Nothing replaces friends, family and angel financing

Joyce Groote encourages business owners to approach the bank when they don't need the money and to maintain a “rainy day” fund. And while the vast majority of first-time entrepreneurs turn to commercial lenders such as banks or credit unions for start-up and expansion capital, Joyce Groote also encourages founders of rapid-growth firms to secure informal equity from business angels. Angels are prototypically, cashed-out entrepreneurs with high levels of education, considerable experience, and sophisticated investors. They have much to offer besides money as many take active roles in the firm development. For example, they may provide coaching and networking. Typically, they have been through the process of building a successful business so can anticipate what to expect and how to manage growth. The very presence of one or more angel investors lends credibility to banks and other lenders, credibility that facilitates additional financing:

Approach the bank when they don't need the money and to maintain a “rainy day” fund.

“Some banks, like credit unions, are much more amenable to providing support at the beginning when you are looking for something like \$25,000 to \$50,000 worth of credit, and if you are working domestically. As soon as you are working internationally, it becomes more of a stretch for the credit unions because it is simply not in their mandate. Banks are great if you do not need money. They want you when you do not need money. And these are tougher times. Banks simply are not taking on new customers and they are questioning the customers that they have. One has to prove that they are worthy of them these days.”

“If you have the opportunity to get angel financing, and that comes with smart money, people who know what they are doing and can help you in the start up that would be my strong recommendation for anyone starting up. ...We made a conscious decision to work with friends and family, and to use our own monies.

We used the profits from the company and just kept reinvesting them to build the company.”

Run your business as if you mean to sell it tomorrow

A preferred exit strategy for many founders is to sell the firm in order to realise the value of their intellectual and capital investment. Joyce Groote operates Holey's™ under the assumption that the business should be ready for sale every day. She encourages others to “Look in the mirror and ask, would you buy this firm?” This implies keeping your eye on the ball, knowing your cash flow and being up to date on financial reporting and business planning.

***Look in the mirror and ask,
would you buy this firm?***

Don't hang onto to the wrong people

To ensure that the firm retains only the best employees, Joyce Groote encourages business owners to “Hire slowly — fire quickly.” And while this is often a difficult aspect of ownership, such decisions ensure that the firm has the right talent at various times in the firm's evolution.

Watch the competition

Joyce Groote has learned the importance of monitoring competitors' strategy. Market information can be gleaned from web sites, product catalogues, public and industry statements, advertising, and customers. Ongoing competitive market research also informs the firm about changing market positioning and anticipated new product developments.

For more information about exporting see Appendix A6: Resource about exporting.



Isabelle Bettez: Building sustainable green technologies

“Changing the world using technology is really a way to help achieve goals.”

Isabelle Bettez: Visionary, co-founder, and eco-friendly entrepreneur

Isabelle Bettez’s vision to build a global enterprise was the outcome of trial and error. Founded in 1996, 8D Technologies Inc. is a world leader in the development of advanced, intelligent wireless, Machine-to-Machine (M2M), multi-function point of sale (POS) solutions. Its unique award-winning city parking system features 100% solar-powered, wireless terminals that manage street parking and emerging municipal bike rental services, from a single network of user-friendly pay stations. The system can easily interconnect with public transit systems, answering the need for green, integrated solutions to control traffic congestion and pollution. POS terminals combine online payment with capacities for point of sale marketing (show tickets, rebate coupons, advertising, etc.) and information providing, in a totally autonomous solar device. With a growing workforce of 35 employees, 8D Technologies continues to develop and market innovative green technologies targeted at municipalities around the world.

The founding of 8D Technologies evolved from Bettez’s account management and marketing experience in several large high-tech firms. Through these experiences, Isabelle realised that she did not fit the stereotypical profile of a corporate account manager or consultant. Isabelle was also not prepared to work with those who put limits on opportunity. Now Isabelle works under her own limitations:

“I was always told that things couldn’t be done. If you ‘shoot for the sky,’ like wanting to sell to large companies, there was always the feeling of “no we can’t do it.” I was always wondering, why? What do you mean we can’t? Let’s try. I got fed up of hearing that. One of the things that is great about having your own company, is that no one can tell you that something is impossible. You work under your own limitations.”

Today, Isabelle's vision and passion have been recognised through Canadian and international awards. In 2004, Isabelle and the 8D Technologies team were celebrated by the Board of Trade of Metropolitan Montreal and Sun Microsystems' Duke's Choice Award. In 2005, she was honoured with the CATA WIT Sara Kirke Award. In 2008, 8D Technologies partner BPS was awarded Time Magazine's 50 Best Inventions. In 2009, 8D Technologies was bestowed the prestigious Gold Edison Award in the Energy & Sustainability category. Isabelle is also the mother of seven-year-old twins.

Strategies to grow green technology

The success of 8D Technologies reflects development of innovative green technologies that enhance client efficiencies. Isabelle Bettez also attributes export success to 'win-win' partnerships that enhanced firm credibility and opened doors to foreign contract opportunities.

Building a technology platform that provides clients with multiple solutions

The executive team of 8D Technologies recognise that, around the world, municipal leaders share common challenges. Two such challenges are congestion and pollution. In response, 8D Technologies has developed an innovative IT platform that provides municipalities and support agencies with opportunities to increase revenue and improve efficiency. The firm's innovative point-of-sale meter (or what Isabelle refers to as "furniture") enables municipalities to use the meter in multiple ways, including managing parking spaces and bike rentals. Powered by solar energy, there is no need for electricity or wires. Data communication is also remote. Government agencies are, therefore, able to remotely monitor parking spaces and bike rentals.

"The meter is what you see, but behind this you have the monitoring solution that is managed on a day-to-day basis. You have enforcement, remote management, and real time payment solutions. So there are a number of solutions provided for that one thing the citizen sees on the street. Traditionally, enforcement takes place as agents walk the street using personal hand held devices that show when a parking space time has expired. If there is still a car in that spot, that car will get a ticket. Using 8D Technologies' services agents do not have to be by the car or looking at that meter. They can be in their office or in a car. They see remotely what is going on with all the spaces in the city. It is pretty efficient."

Working with local government to test and build solutions

8D Technologies' first municipal client was The City of Montreal, through the Stationnement de Montreal (SCMS). Since then, the relationship with the City of Montreal has grown as have the number of municipalities that employ the firm's technologies. It was also the City of Montreal,

through SCMS, that suggested the idea of a bike rental solution and worked with 8D Technologies and other partners to launch the system. Implementations and pilot testing of the bike rental system is now taking place in Canada, the United States, and Europe. From an innovative idea and strong working relationships with the local parking authority, 8D Technologies' alliances now span the public, for-profit, and not-for-profit sectors.

“Stationnement de Montreal was sensitive to the fact that we are a Montreal, Quebec-based company. They have been very proactive in terms of the innovation. They value the fact that the innovation comes from here. With the parking project, they were one of the only cities with a “pay by space” as opposed to “pay and display.” This was very innovative when we started in 2003 because there is no need to return to your car. You just pay and go. Everything is computerised. We then worked with a European firm that had the meter and we had the technology. With the biking, it was their (City of Montreal) idea to start that project, and they asked us because they knew about the platform. They knew we had the technology to do it, and most of it was already done. So they have been very proactive in bringing innovation to the city and working with local people to have solutions that come from here. Even with the biking, it was people from Quebec that they hired to design and manufacture it. ...It’s been a great partnership. Not only have we developed this solution with Montréal, we teamed up with Public Bike System, a not for profit company, and we are now marketing this solution world wide with them.”

In foreign markets, local and corporate partners also open doors

8D Technologies is another ‘born global’ enterprise. The executive team was determined to grow through export. Recognizing there are challenges associated with selling to foreign governments, from the outset 8D Technologies sought to establish strategic alliances with local and large corporate partners such as Sun Microsystems. These relationships enhance 8D Technologies’ credibility and speed up foreign market entry, particularly when selling to foreign governments.

Establish strategic alliances with local and large corporate partners.

Expansion strategies must reflect discipline, opportunity and location

Isabelle Bettez has learned that opening new markets requires discipline. Successful geographic expansion also reflects opportunity, timing and proximity. During rapid expansion, this may imply deselecting clients and buying back business. Bettez explains that:

“The US is a natural market for us to go after. With that being said, it is also an opportunity because there are cities world-wide that are interested in this system. So we are looking everywhere. People are contacting us. We have said no to some opportunities, for different reasons. Some were in Africa. The opportunity was great, but the timing was not good. We look at our game plan, and we try to deploy in a way that makes sense. You can win a lot of opportunities, and die with them. So we try to focus and deliver first close to us. It is tough to say no, but we do that with great discipline. We are growing, but not because we are going after every opportunity, we are very selective. We decided we needed to focus, and at one point, we even deselected some of the clients we had. We bought back our business and figured out that we couldn’t do it all. We decided we couldn’t grow the way we wanted to grow if we kept being so diversified.”

Success reflects an ability to merge need and skill

Isabelle Bettez demonstrates that technology leaders do not always need technical backgrounds. Armed with an international management degree from Montreal’s Hautes Études Commerciales, the President and CEO of 8D Technologies has an ability to define markets and understand the environmental context. Brother, business partner and Chief Technology Officer, Jean-Sebastien brings to the 8D Technologies team technological vision, expertise and skill. Both sets of competencies are required to build a global, high-tech green solution firm. The need for complementary competencies is also demonstrated in choosing key external partners, partners that have clearly defined and reciprocal needs.

Technology leaders do not always need technical backgrounds.

Tips for building green enterprises

Focusing on ‘mission critical’ versus ‘nice’

While there is considerable media attention about green solutions, Isabelle Bettez understands that long-term success is sustained through well-defined, customer-focused value. Suppliers must demonstrate to clients the return-on-investment of innovative, green technology solutions.

“I hear the comment often that when you deal with the governments, “sales cycle take forever.” It helps when what you have to sell is mission critical as opposed to nice to have. It also helps when it is close to the Mayor’s interests. I say that as I can see it on the bike side, that is something that is very trendy, it’s

solar, it's green, it's good for the citizens. If it is something, nice to have, it can be easily rejected. This is true for every client, but especially with government. Align your value ad to show them good ROI (return on investment). Technology is good, but these companies need to make money and cut costs. You need to have a solution that brings value when you say you are solar, or green.

Manage the firm's intellectual property (IP)

According to Isabelle Bettez, "IP for a high tech company is everything." In developing 8D Technologies partnerships, the negotiating team clearly understands the value of the firm's technology and patents. This helps to set boundaries and maintain a strong negotiating position but, Bettez cautions:

"You have to be careful. You always need to remain very strong in what you are doing and your own value and your own IP and put boundaries. So with us, 8D, IT for a high tech firm is everything, so you need to make sure in development you make very clear the patent you have and your IP."

Tips for managing sustainable careers

Technology is a means to an end

The advanced technology sectors offer many opportunities for those without an engineering or technical degree. Early in her career, Isabelle assumed that she would never join a technology firm. She also assumed IT was boring. Once in the sector, she realised that technology is merely a means to an end:

"If you come into IT world with a management degree, you can do many things for instance, build a company. Make sure your partners know something about technology. You can work in sales, finance or accounting. There are a lot of different things that you can also do in a traditional firm. I would be open to opportunities. The contacts in IT companies are interesting. It's flexible, easy going and cool. It can be so inspiring."

Take time to give back

The opportunities that working in technology has afforded Bettez allows her to give back to her community:

"Simply try to give back. When you help develop some knowledge that is helpful, like it was for the Lung Association, it helped them to expand and get more people onboard, marketing, etc. If I can help I am all for it. I think our companies

in general need as much help as possible to become successful. We are great innovators and creators but not that great in selling them. So I am involved in a program with MIT to have CEO join and help make companies bigger. I managed to get Techno Montreal to become a sponsor for this program so more CEO's can join. So try to give back and be successful as a community. It's about winning because everyone in the team is strong. So the more winners you have, the easier it is for the others. So I am trying to add that as I can on my small scale."

Taking care of self and family is mandatory

Travel and work demands require Isabelle to create support systems to maintain health and family life. This means taking time to find quality help in the home and to keep fit. Having the right support systems in place allow her to focus, be clear-headed and feel good as Bettez notes:

"Make sure you have the right people with you, at every level, even on personal side. Especially as a woman, have need a support group that is really there for you — people you can trust — so you can do what you need to do. When I know that the children are fine, I am OK. I have to travel and that is hard, but it has to be done. If I am worrying or feeling guilty, it can't be managed. It cannot be done. Also on the personal side, to make it happen, you need to be in shape physically, you need to consider it is mandatory. I think it is very important to take care of your body. It helps in working with a clear head. If you don't, who will? It starts with you. If I am healthy, I can do it all. It's a level of comfort for me."

For more information about building partnerships see Appendix A7: Resources for facilitating partnerships.



APPENDIX A: RESOURCES FOR WOMEN IN THE ADVANCED TECHNOLOGY SECTORS

Appendix A1: Resources to help commercialise scientific knowledge

Industry Canada's Technology Roadmaps assist industry sectors to identify, prioritise and develop the technologies and skills necessary for competing successfully in future markets.

See: <http://www.ic.gc.ca/eic/site/trm-crt.nsf/eng/home>

The Canadian Institutes of Health Research provides funding opportunities for four themes of health research: Biomedical; Clinical Health systems services: Social, cultural, environmental, and population health. To apply for CIHR funding, you must be affiliated with an eligible Canadian institution or organization by the time the funding begins, not be employed by Canadian federal government departments or agencies or for-profit organizations unless affiliated with a university, and not have a financial interest holding of more than 5% in a company proposed as an industry partner for research funding.

See: <http://www.cihr-irsc.gc.ca>.

MaRS is a non-profit innovation centre connecting science, technology, and social entrepreneurs with business skills, networks and capital to stimulate innovation and accelerate the creation and growth of successful Canadian enterprises.

See: <http://www.marsdd.com/MaRS-Home.html>.

Ontario's Centres for Excellence Market Readiness Program is designed to support the development of commercial applications for technology created within Ontario's universities, colleges, and research hospitals. The goal of the initiative is to further develop technology for the next stage of commercialization — the transfer to an existing company or the creation of a new enterprise. The Market Readiness program' support can be applied to a range of activities including technology and market assessment, I.P. protection, prototype development, material characterization, demonstration and business plan development, and new company start-up. Typical investments range from \$25,000 to \$150,000.

See: <http://www.oce-ontario.org/Pages/Home.aspx>.

The Investment Accelerator Fund (IAF) helps high-potential Ontario technology companies by providing early stage investment of up to \$500,000 through the Ontario Centre's of Excellence Investment Accelerator Fund.

See: http://www.oce-ontario.org/documents/eoi/OCE08004_IAF_SellSheet_Sep27.pdf

Appendix A2: Resources to support online and electronic business

Industry Canada's Intellectual Property (IP) Toolkit provides answers to the top questions that entrepreneurs ask about IP including patents, trademarks, copyrights, and industrial designs. The toolkit provides a "how to" section, glossary and annotated bibliography. In addition, there are links to other IP sites, business portals, and related organizations that offer further sources of information and assistance. The toolkit will be enhanced based on client needs, with new tools and resources being developed in the coming years.

See:

http://orion.ic.gc.ca/cs/ContentServer?cid=1106654753275&lang=en&pagename=CBSC_FE%2Fdisplay&c=Services

The e-Business Trade Roadmap provides an overview of the international trade challenges posed by operating an global electronic business, including case studies about how Canadian SMEs have met international challenges of e-business and steps to protect a SME from international e-business pitfalls.

See: http://www.ic.gc.ca/eic/site/dir-ect.nsf/eng/h_uw00225.html

The Business Development Bank of Canada Consulting provides resources and information to SMEs in order to assess their export potential and readiness. Going Global offers a step-by-step approach to exporting, including information to help evaluate export potential and readiness. Group seminars explore the fundamentals of exporting, covering everything from international trade financing to cultural differences in marketing. Individual counselling with an export advisor is provided to SMEs to help them adapt these concepts to each firm's needs and to better position a company's for maximum success.

See: http://www.bdc.ca/en/my_project/Projects/articles/bdc_perspectives_going_global.htm?iNoC=1

Appendix A3: Canadian women business owner associations and support agencies

- Alberta Women Entrepreneurs (AWE)
- Association of Canadian Business Women's Organizations (ACBO)
- Canadian Aboriginal and Minority Suppliers Council (CAMSC)
- CATA Women in Technology Forum (CATA WIT)
- Center for Women in Business, Halifax, NS
- Manitoba Women's Enterprise Centre (MWECC)
- New Brunswick Association of CBDCs, Bathurst, NB
- Newfoundland and Labrador Organization of Women Entrepreneurs,
- St. John's, NF (NLOWE)
- PEI Business Women's Association, Charlottetown, PE
- The Canadian Foundation for the Americas (FOCAL)
- The International Alliance for Women (TIAW)
- Women Entrepreneurial Center of Quebec
- Women Entrepreneurs of Canada (WEC)
- Women's Entrepreneurs of Saskatchewan Inc. (WESK)
- Women Entrepreneurs of Saskatchewan Inc. (W.E.)
- Women's Enterprise Centre (WEC-BC)
- Women in International Trade

Appendix A4: Resources to government procurement information

To help facilitate SME engagement in public procurement, governments are increasingly embracing online resources and tools. These web-based portals link businesses with contract opportunities, specify standards and regulatory requirements and, more recently, build consortia within targeted industries.

Industry associations that support procurement opportunities:

Canadian Aboriginal and Minority Supplier Council (CAMSC) operates as a private sector-led, non-profit membership organization governed by a board of Directors. It is composed of major multinational corporations operating in Canada. The organization aims to boost economic development efforts and employment. See: <http://www.camsc.ca/index.php>.

WEConnect Canada is a Canadian non-profit organization that is opening doors to new supply chains. Led by corporate members, it qualifies firms that are at least 51% owned, managed, and

controlled by women and connects them with the growing global demand from corporations and the public sector for diverse and innovative suppliers. The organization partners with corporations, associations, governments, women entrepreneurs and their supporters. It is also affiliated with a global certification network for women-owned enterprises. See: <http://www.weconnectcanada.org/home.html>

Canadian government SME procurement resources:

MERX: This is the official Canadian public tender website. Procurement opportunities are listed daily from all levels of government including municipal, academic, school boards, and hospitals. See: <http://www.merx.com/>

Business Access Canada (BAC): This web site was established to improve supplier and buyer awareness of federal business opportunities and procurement system. See: <http://www.contractscanada.gc.ca/en/index.html>

BizPaL: An online service to simplify business permit and licence processes for entrepreneurs, governments, and third-party business service providers. See: <http://www.bizpal.ca/government.shtml>

MARCAN: The web site publishes tender notices for public sector procurement opportunities. MARCAN also provides information on rules for public sector procurement, complaint procedures, and contact information. See: <http://www.marcan.net/english/index2.htm>

International SME procurement resources:

American Procurement Technical Assistance Centers (PTACs) and Offices of Small and Disadvantaged Business Utilization (OSDBUs): These web sites link suppliers into a nationwide network of American SME procurement professionals, (<http://www.aptac-us.org>) and offices within every federal agency that assist small business owners in accessing procurement opportunities (<http://www.osdbu.gov>).

Supply2.gov.uk: The official United Kingdom government, lower-value, contract opportunity portal. It was created specifically to provide small businesses with visibility of public sector contract opportunities typically below £100,000. See: http://www.supply2.gov.uk/about_supply2gov.shtml

VEN: A United Kingdom regional initiative that brings small businesses together to provide access to commercial opportunities. VEN identifies core business competencies, and matches buyers and sellers. Once the contract is fulfilled the supply network disbands. VEN also collects and maintains information on the capability and technical assets of SME members to ensure the requirements of each contract are met. VEN operates in the following sectors: healthcare,

chemicals, and digital advanced engineering and manufacturing. More sector groups are anticipated. See: <https://www.vengroup.com>

Appendix A5: Resources for women in the defence and aerospace

Canadian resources:

Women in Defence and Security Canada (WiDS) promotes the advancement of women leaders in defence and security professions across Canada. It provides its members with a forum and activities for professional development, a forum for the exchange of ideas and experiences and to expand networks. It supports women pursuing careers in defence and security through mentoring and scholarships. See: <http://www.wids.ca/>

Canadian Women in Aviation (CWA) represents the Canadian members of 'Women in Aviation International.' The focus of CWA is to encourage more women to become involved in the aviation industry. See: <http://www.cwia.ca/>

Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) is a national coalition of groups that aims to promote women in science, engineering, trades and technology, and to celebrate their contribution and apply new vision to these fields. See: <http://www.cwestt.org>

The Hypatia Association is a not-for-profit women's organization in Nova Scotia with a mandate to promote the full participation of in women in science, trades, and technology. See: www.hypatiaassociation.ca

International resources:

Women in Aviation, International is a non-profit organization dedicated to providing networking, education, mentoring, and scholarship opportunities for women (and men) who are striving for challenging and fulfilling careers in the aviation and aerospace industries. See: <http://www.wai.org/>

The International Aviation Women's Association (IAWA) is an international organization for women who hold executive positions across the entire spectrum of the aviation and aerospace industry. See: <http://www.iawa.org/>

Appendix A6: Export-related resources

Going Global Innovation (GGI) promotes Canada's international innovation by supporting Canadian companies and/or researchers in pursuing international R & D collaborative opportunities through the development of partnerships with key players in other countries/economies. See: http://www.tradecommissioner.gc.ca/eng/science/going_global.jsp

International Business Opportunities Centre (IBOC) facilitates business connections between foreign buyers and Canadian companies. See: <http://www.infoexport.gc.ca/eng>

Exporters to the United States (EXTUS) serves Canadian companies already exporting to the United States and want to expand their export business. EXTUS organises sessions with industry experts, facilitates entry to a major national and regional trade shows, and opens networking opportunities with distributors, representatives, and buyers. EXTUS also focuses on expanding the markets of successful exporters to other regions of the United States. See: <http://www.infoexport.gc.ca/eng/document.jsp?did=5272>

ExportUSA: For Canadian companies that are not yet exporting to the United States, the Reverse NEBS program provides seminars in Canada covering the essentials of exporting. See: <http://www.infoexport.gc.ca/eng/document.jsp?did=5272>

Western Diversification (WD) provides SMEs located in Manitoba, Alberta, Saskatchewan, and British Columbia with a comprehensive listing of the information sources, programs, and services available to Canadian business. To help SMEs maximise their potential, WD also provides a comprehensive listing of the information, programs, and services that are available to them. See: Resources for Small Business Owners and Aspiring Entrepreneurs at: <http://www.wd.gc.ca/eng/97.asp>

Appendix A7: Resources to facilitate partnerships

International Business Opportunities Centre (IBOC) provides a matching service to connect foreign buyers with Canadian companies. The Centre works in partnership with Canada's trade officers who are located around the world in Canada's embassies and consulates. When Canadian trade officers identify a business opportunity, they turn to the International Business Opportunities Centre for help. The team of specialists at the Centre immediately goes to work to search out and contact potential Canadian exporters. See: <http://www.infoexport.gc.ca/eng/document.jsp?did=5333>

The International Science and Technology Partnerships Program (ISTPP) promotes international collaborative research and development activities. The five-year, \$20-million program will increase the international competitiveness and prosperity of Canada by building stronger science and technology relationships with Israel, India, China, and Brazil. It will also stimulate bilateral science and technology networking and matchmaking activities to further new partnerships and accelerate the commercialization of research and development. The ISTPP is a “seed fund,” meaning that various other public and private sector participants are also encouraged to bring S & T expertise and funds of their own to the bilateral relationship. See: <http://www.tradecommissioner.gc.ca/eng/science/istpp.jsp>

The Virtual Trade Commissioner is a gateway to the Trade Commissioner Service. Registered Canadian businesses receive free access to the following: market and sector specific information, business leads and news, online service delivery, and information about your company is made available to Trade Commissioners abroad. See: <http://www.infoexport.gc.ca/eng/virtual-trade-commissioner.jsp>

Industrial Research and Assistance Program (IRAP) plays a critical role in bringing together the key players in the Canadian Innovation System for the benefit of SMEs. This extensive network links entrepreneurs, research and development (R & D) institutions, technology brokers and technology transfer centres to those with knowledge and information about local sources of financing. See: http://irap-pari.nrc-cnrc.gc.ca/aboutirap_e.html

Canada Economic Development for Quebec Regions is aimed at supporting SMEs in the development and implementation of export strategies, most notably for the United States, by helping them acquire the marketing skills and resources they need to plan and implement export activities. The objectives of this program are to: increase the number of SMEs planning and engaging in export activity; increase the total value of SME exports; and maintain or increase the share of exporting SMEs in international markets. See: <http://www.dec-ced.gc.ca/eng/programs/export/export.htm>