

Technology Commercialization: Strategies for Success

PROCEEDINGS

Prepared by Stuart Adams

Keynote: Bringing People and Ideas Together
David Martin, Chairman & Co-CEO, Smart Technologies Inc.

Observations: (Also see "Creating Momentum in Technology-Company Development" PDF)

- **Private sector tends to be the engine of growth**
- **Company in existence for 18 years and original 22 investors were offered a share buy-back at 50 times original investment**
- **Tried to raise money from investors for four years without success**
- **Was able to fund cash flow from revenue during the tough early times**
- **Had to make personal sacrifices (e.g. deregistering RRSPs)**
- **Finally landed a major customer who invested in his company: Intel (but they said they'd only invest once and a moderate amount)**
- **Policies – need different policies for 'pre-revenue' companies**
 - **i.e. need to take cash flow into consideration that allows junior entrepreneurs to flourish and set policies that provide assistance**
- **Current Situation**
 - **Canada – numerous small companies, but few mid-size companies**
 - **Alberta – government attitude – not providing research leadership, i.e. such leadership resides in universities**
 - **Both U of A and U of C have doubled the size of the Engineering and Science departments, but need a destination for graduates**
- **Thesis – for commercialization, need 'receptor organizations**
 - **Essential to understand customers' needs**
- **Mid-sized companies have the following capabilities:**
 - **Can carry out 4-year projects**
 - **Able to weather financial problems**
 - **SMART – 90% of R&D is carried out in Alberta which allows for a control over corporate destiny**
 - **Mid-sized companies are the country's engine of growth and must be encourage and developed for future prosperity**
 - **Government is required to provide support**

Session #1 – Commercialization Overview: What Does Success Look Like?

Keith Jones, President & CEO, AVAC Ltd.

(Also see “Building the Commercialization Bridge” PDF)

What is AVAC Ltd.?

- **A not-for-profit, private corporation established in 1997 to grow agrivalue™ in Alberta to \$20 billion by 2010**
 - **Clients are entrepreneurs, new venture developers and researchers**
 - **Established and guided by an industry-based Board of Directors**
 - **Started with \$45 million in seed capital; \$35 million from Alberta, and \$10 million from Canada**
 - **Small, virtual corporation with Calgary HQ, 7 staff**
 - **Have committed \$31.3 million to 154 early stage projects from over 700 proposals reviewed using business due diligence**
 - **Projects extend across life sciences sectors (ag, forestry, health) and have attracted another \$120 million in risk capital**
 - **More info: www.avacltd.com**

AVAC Mission:

Building the economic viability of Alberta’s agrivalue and renewable resource ventures.

Key Observations and Definitions

What is Technology Commercialization?

- **Commercialization activities/programs help move an idea or opportunity from the discovery phase into the market**

“Commercialization has been described as “the art of successfully taking new or improved products, processes or services to the market”

Conference Board of Canada, May 2002

- **Commercialization Gap - the most common failure point occurs when a company reaches the hand-off point from government resources (such as NRC or AVAC) to industry capitalization (initially, venture capital and then debt financing)**
 - **The ‘Idea’ is the beginning point and from a resource perspective, the initial financial resources to take the Idea to market originates from a variety of government sources, however, the major form of ongoing financing comes from industry**

- **Simply put, the Gap occurs between the Start-Up and Revenue Stages**
- **Observation – “researchers say there are many ideas, but not enough financing, while investors say that there is lots of financing, but not enough well-developed ideas. Therefore, to bridge the Commercialization Gap, partnerships must be formed between:**
 - **Governments**
 - **Industry**
 - **Institutions**
- **A successful commercialization model must not only include a clear definition of what your company is trying to achieve, but must also contain integrated mechanisms to attract and strengthen all three forms of capital required to create that success:**
 1. **Financial – primary factor**
 2. **Managerial – ability to build, or connect to, a management team**
 3. **Intellectual – ability to develop intellectual capital or property with a competitive advantage that can be taken to market**
- **Pitfalls**

Who is the gap greatest for?
In AVAC’s experience, the financing gap is greatest for the following types of ventures:

 - **New startup or spin-off companies without a current revenue stream**
 - **Companies operating inside mature or commodity industries (those industries growing at <5% per year)**
 - **Companies with moderate revenue potential (revenue upside of <\$50 million)**
 - **Ventures which are unlikely to achieve “venture capital” rates of return (ROE > 40%)**
- **Potential Benefits**

Why help them?

 - **SMEs create 85% of new jobs (Source: Conf. Board of Canada)**
 - **SMEs create and train entrepreneurial management talent pool**

- **Key goal of Canada’s Innovation Agenda and Alberta’s Value-added Strategy**
- **Reference to previous learnings conference at Financing Technology Commercialization Symposium - Hosted by AVAC June 22, 2004 in Kananaskis:**
 - **45 industry, research and government leaders**
 - **Explore key issues constraining technology commercialization success**
 - **Keynote presentations by:**
 - **Dr. Michael Raymont, Acting President, NRC**
 - **Ms. Oryssia Lennie, Deputy Minister, WED**
 - **Dr. Murray McLaughlin, President, Foragen Technologies Management Inc.**
 - **FTC Symposium Key Learnings:**
 - **The gap exists**
 - **The gap is a resource gap which includes both money and management**
 - **The gap is perceived differently by different participants in the innovation continuum (by different partners/service providers, and by different SME types)**
 - **No one sector/player “owns” the gap, or the solutions to overcoming it**
 - **Government is making facilitative contributions (especially federally), but needs to do more**
 - **Partners generally support a bridge building approach**
 - **Three types of capital needed: financial, managerial and intellectual**
 - **What needs to happen next ...**
 - **Identify research needs, and capitalize on research with commercial potential using the right vehicle**
 - **Curiosity/basic research -- “disruptive/breakthrough technologies” -- start-up**
 - **Industry needs -- “industry driven, applied/mission oriented research -- “ licensed to existing receptors**
 - **Improved interface and collaboration between public sector, universities and industry (cooperative, shared agenda and responsibility)**

- **Greater access to seed and other funding**
- **Skills and mentoring in:**
 - **Commercialization**
 - **Technology transfer**
 - **Raising investment capital and**
 - **New venture formation**
- **Partnerships and alliances – international**
- ***Courtesy Dr. Michael Raymont, Acting President, NRC***

Session #2 – From Customers’ Needs to Commercial Success (panel)

David Demers, President & CEO, Westport Innovations Inc.

John Langstaff, President & CEO, Cangene Corporation

Ashif Mawji, CEO, Upside Software Inc.

Moderator: Shawn Gervais, Corporate Development Manager, Alberta Research Council

Background – Participants:

David Demers, President & CEO, Westport Innovations Inc.

- Spin-off company from UBC
- Raised \$220 million in capital and selling heavy equipment products in 19 countries
- Employ 150 engineers in Vancouver

John Langstaff, President & CEO, Cangene Corporation

- Formed from merger of two companies, the first which was formed from the University of Manitoba in 1940
- Have grown from sales of \$700,000 to \$180 million globally with a substantial amount in U.S. biodefense contracts

Ashif Mawji, CEO, Upside Software Inc.

- Four-year-old company with 80 staff in Edmonton
- 95% of business outside of Canada
- Product is contract management software – particularly applicable to customers with intellectual property
- “If Enron and WorldComm had had this software, they’d still be in business.”

Questions and Key Observations

Question #1: what advice would you give to start-up teams about to embark on a technological commercialization?

JL – more difficult to carry out in the West and have to establish strong relationships with funding groups such as WD and IRAP

- also have to be prepared to approach government, followed by venture capital sources

AM – “You have to have something that the market needs.”
the product is only 1/10 or 1/20 of the equation and has to:

- research the market and establish a need
- assemble an excellent team
- generate trust and support from a potential client

DD – agree with previous comments and add:

- “You absolutely have to obsess about financing.”
- need a solid business plan that allows for resiliency and flexibility through difficult times and challenges

Question #2: What challenges can you expect to face?

AM – must ensure that financing is in place – “I fly to the U.S. regularly to meet with investors

- Have to pursue available avenues to attract investors – unfortunately, Alberta doesn’t have R&D tax credit incentives, but if it did, there are angel investors who would be more amenable to investing

JL – observes that financing for pharmaceutical biotechnology isn’t available in Western Canada and must be pursued on Wall St. and Bay St. and eventually, the company must consider the prospect of moving closer to the investors in order to obtain large amounts of capital

DD – similar observation for technology business and that most of funding originated in Europe.

- start-up funding can come from self-investment and friends and family, but to compete in a global market, must pursue external funding sources.

Question #3: Financing challenges and experiences?

DD – observes that venture capitalists have difficult jobs and that they tend to invest in companies and industries that they understand.

- believes that few investors who are knowledgeable in technology and that probably will have to go outside Canada for financing

AM – believes that a sound business model is the best tool to obtain financing. “We didn’t even have to go out for financing.” – a customer told the largest venture capital company in the U.S. about Upside.

Locally, government assistance agencies, such as Deal Generator and if a team of executives is needed, then ‘Rent-A-CEO or CFO’ is a good option

Question #4: What are some of the other gaps in non-financial areas?

JL – two key problems for mid-sized companies in Winnipeg:

- advice
- experienced employees

DD – difficult for start-ups wanting to graduate to mid-size and therefore, they are often an acquisition target

- one government assistance area that would be beneficial is in procurement

- often difficult to get Canadians to buy a product before it is successful in other countries

AM – recruitment isn't a problem because of Upside's reputation

Question #5: What barriers are there to developing mid-sized companies?

DD – a number of factors impede the move from a start-up to a company with 200-500 employees:

- financial costs are usually in the order of \$50 to 100 million and as begin to pursue financing, pressure is brought to bear to move, merge or get bought out

JL – procurement policies are needed where a portion of government purchases go to local companies

pension funds must also be required to invest a portion of funds in local economy

Additional Observations and Summation Recommendations:

- Canadian employees are highly-educated and trainable
- Cash flow as quickly as possible is essential to success
- Canadians are risk averse in comparison to U.S.

AM – there are many good ideas in Canada and to compete in the global economy, Canadians have to take advantage of opportunities and strengths. Outsourcing to other countries and attracting educated immigrants to Canada with its land and infrastructure benefits are examples

JL – need to realize that funding universities will go a long ways towards establishing a resource-based culture in Western Canada

DD – need to develop more knowledge-based workers in Canada.

- also need to be more positive – Canada is well-respected as a country, as are its people and companies – and we tend to focus on the negative situations.

Session #3 – Investing in Technology Firms (panel)

Paul Cataford, CEO, University Technologies International Inc.

Michael Welsh, President, Almasa Capital Inc.

William Porter, Chief Technology Transfer Officer, UTEK Corporation

**Moderator: Warren Bergen, Executive Director, Deal Generator, TEC
Edmonton**

Question #1: What investment criteria are you looking for in early companies?

PC – looking for Return On Capital and risk-weighted returns

- approach is to diversify across the portfolio, whereby the winners carry the losers

WP – not a vencap company – work with companies to find new technologies in which to invest.

- “We get paid by taking equity in a public company.”
- The investment decision is based on three things:
 - o track record of the company and the ability to deliver to the customer
 - o are they fiscally good stewards of the money they have raised?
 - o use our University 2 Business model – looking for “home runs” – a cure for a major disease or a technology that speeds up Internet flow “Excitement is the thing we’re looking for.”

MW – invests across Alberta/Manitoba/Saskatchewan (Al-Ma-Sa) and uses 3 criteria:

1. the company must make money ethically and honestly with a reasonable 7-10 ROI horizon
2. strong management team that recognizes our money and experience and contacts will make them a larger company, and they’re willing to accept dilution
3. they have to have a unique product, not a copycat product

Question #2 – Recent U.S. management assessment survey ranks executive teams as: 25% A Class 55% B Class 20% C class. Therefore, what can the entrepreneur do to ensure good management?

MW – two main factors:

- ensure employee participation by stipulating 5% of company is set aside for employees
- good corporate governance -- we’re not micro-managers and if a takeover is the exit strategy – good governance makes that process easier.

PC – the management team is key – corporate governance is a waste of time

- have to ensure that the company can attract and retain good people from outside their immediate sphere of influence
- what drives a company is management culture and how they interact with one another.

Question #3: What is U.S. situation, i.e. would you rather invest in an A Team with a B idea, or a B Team with an A idea?

WP - much the same issues in the U.S. where investing in the 'A Team' is the most popular approach

- more importantly, the main drivers in the innovation sector are the government involvement through legislation that mandates universities to make an effort to spin off their research into commercial ventures (under the Bayh-Dole law).
- universities and academic research amounted to \$31.6 Billion in U.S. and Canada in 2002.
- key challenge is to create a business pull from public companies to utilize that research
- the 'Chasm' exists between the research environment and the business environment
- barely 1/3 of research dollars get translated into utilizable products
- culture is part of the problem – researchers aren't marketers, and actually look down on marketers. However, the commercialization process is driven by people who have a completely different mindset from those who come up with the ideas.

MW – agrees and observes that it is difficult to find an academic who is prepared to step back from the marketing process. "A lot of times they have an ego where it's their toy and they want to take it to market."

PC – concurs – the biggest challenge is how to transition the researcher out of the CEO position (often by creating a new title or position)

Question #4: How to evaluate companies? Are there any rules of thumb?

MW – very difficult and often on gut-feel, with an emphasis on the management team

WP – assesses value with 3 criteria:

1. through negotiation
2. time-sensitivity of the idea, i.e. are other institutions in a situation where they could overtake the technology?
3. convert the value into an equivalent number of shares and into stock

PC – "You make your money through the relationship that you develop."

- you've got a prof with a little money, a university with a little money, and you've got \$250 million and therefore must rely on the relationship to create an equitable relationship
- you get paid down the road

Question #5: What about the propensity of the entrepreneur to try and maintain control?

PC – Canadian entrepreneurs typically want to hang on to the maximum amount possible, while American entrepreneurs are more content to have a smaller piece of a larger pie

- when pricing deals and coaching entrepreneurs, indicates that they can expect to wind up with about 5% of the project – “Would they want 5% of \$50 million, or 50% of \$1000?”

WP – E.g. the Red Porsche – a researcher developed a pathogen detection mechanism and said that “All I want is a red Porsche.”

- need to manage expectations with the entrepreneurs and make them realize that their invention will not “solve life’s economic problems or aspirations.”
- Investors do 15 deals a year, whereas, “If you’re dealing with an entrepreneur, there is an expectation that ‘my ship has come in’ and ‘I want a realistic compensation’ and that’s not usually the case.”

Question #5: What form does the deal structure take?

PC - use team-building approach whereby both parties work together towards mutual benefit

- typical deals made with preferred class of equity – largely because of flexibility at the close of the relationship
- the business is all about upside management. You want to “plough resources into winners and walk away from losers.” i.e. recognize winners early and be able to focus on them

MW – disagrees with use of special share classes, especially while using term ‘team-building’ approach

- “We use common shares so that we don’t come in and impose our will because we have deep pockets.”
- provide a list of 180 companies that we have dealt with and offer two or three contacts as references.
- Will take a minority interest if company is doing well – not control freaks.

WP – tech transfer in U.S. is supported through legislation which provides top-down push; creates value for all concerned.

MW – observes successive government throne speeches and promises of funding is important in conjunction with the need for universities to ramp up their commercialization efforts to 3:1; watch for upcoming paper by Dr. David Lynch, Dean of Engineering, University of Alberta.

**Lunch Speaker: Canada's Culture of Commerce – Our Weakness?
H. Douglas Barber, Distinguished Professor in Residence, McMaster
University, Founder, Director, former CEO, Genum Corporation**

(For full text of speech, see “Canada's Culture of Commerce – Our Weakness?” PDF)

Observations:

- **We all want change, but we all vigorously defend the status quo**
- **Values are important because they govern the commercial exchange relationship**
- **You can buy people's time and their bodies, but you can't buy their hearts**
- **Commerce is a value exchange between two parties that is governed by a value set**
 - o **However, force, manipulation and fraud are not considered legitimate means for commerce**
 - o **Commerce flourishes when confidence and goodwill exist between two parties**
 - o **Business has to meet needs, rather than create needs**
- **Need to balance beliefs against fallacies:**
 - o **Beware of the belief that good research will produce good products**
 - o **Commerce begins with good ideas, however, the most successful route is to understand the customers' needs**
- **Canada's position in world economy**
 - o **69% of world land mass**
 - o **0.5% of population**
 - o **2.5% of world economy**
 - o **Consider – Hamilton – for 130 years was Canada's fastest growing city**
 - **Now, 3 factors that drive economy:**
 - **Health**
 - **Education**
 - **Government**
 - o **Conclusion – have to develop realistic models and expectations based on resources**

**Session #4 – How Do Universities Fit into the Commercialization Mix?
(panel)**

Tom Brzustowski, President, NSERC

Elan Harper, Associate Director, Bell University Laboratories

**Angus Livingstone, Managing Director, University-Industry Liaison Office,
UBC**

**Moderator: Brant Popp, Director, Policy, Western Economic Diversification
Canada**

Tom Brzustowski, President, NSERC [only presentation given]

* (Also see slide presentation: “Remarks by Tom Brzustowski” PDF)

- introduction identifies focus on the erroneous assumption that the ‘silver bullet’ for universities is that they get better at commercialization.
 - need to recognize that universities are not in the business of creating wealth
 - that said, universities are natural adjuncts to industry because they create new knowledge, which also provides education for people who will utilize it
 - two types of research:
 - o Basic Research – only goal is to discover
 - o Project Research – shorter term innovations in response to market needs that can’t be fulfilled with existing knowledge (NSERC put about \$120 million into this research)
- * noted that most commercialization comes from private sector, but there is some that originates from university – which is the component he is addressing, i.e. Basic Research
- goals of the university’s commercialization office for Basic Research are two-fold:
 - o not merely to finance the office
 - o should also contribute on national level to goal of enhancing the Canadian economy.
 - Financial requirements:
 - o Market – private money is exposed to commercial risk
 - o University – public money is exposed to scientific risk, mitigated by peer review

Bottleneck occurs between Basic Research as process moves towards Commercialization which stems from communication disconnect between 3 groups, i.e. those who:

- know and understand science
 - know and understand market
 - know and understand financing
- Goals of university IP policies and practices:
- to encourage professors and students to do excellent research and commercialize any results that might have innovation potential.
 - to cover the costs of the Technology Transfer Office.
 - to add significantly to university operating funds.
 - to help Canadian industry to develop the \$200 billion annual new sales by 2010 that is required to meet the target of the Innovation Strategy.
- concludes – if the commercialization of university research is going to be as important as government expects it to be, then we have to move our goals and aspirations from very local ones, to national ones.

Elan Harper, Associate Director, Bell University Laboratories

- agrees with TB and much of what has been heard in other sessions and that everyone needs Basic Research and that can't direct such research.
- need to distinguish between Intellectual Property versus Intellectual Capital and recognize that just because some activities don't produce patents, doesn't mean that they're not valuable i.e. Intellectual Capital
- also concerned with previous mentions of attempts to develop standard models of commercialization
- Regarding goals of technology transfer: wealth isn't only product of research and industry benefits from such things as information sharing.

Question #1: What models facilitate technology commercialization?

AL – numerous models around world and UBC focuses on primary goal to serve the academics and make them successful in furthering their careers and attracting the best grad students – that's his primary goal – to help the academics.

- achieve that goal by facilitating deals between academics and vencaps, university and corporations
- model has 4 goals:
 1. provide service to the faculty
 2. make a social contribution

3. make an economic contribution
4. make a profit

Discussion Point – Preferred models

AL – no silver bullet and need to take a variety of approaches as determined by who dealing with, i.e. Bell Labs/vencap/etc.

EH – no standard models and need a range of modalities

TB – use different models for various situations, such as long term relationships between a university and an industry

- need government to take steps to promote sustainable prosperity for knowledge-based economy of 21st C.

Question #2: What should companies expect in the commercialization process and what should universities expect?

EH – Bell looks for resources that can be used to benefit Bell customers

AL – varies from sector to sector and stage of the process

- respectively – the university provides access to expertise within the faculty and grad students as potential employees, while industry provides resource needs and access to infrastructure
- concerned that too much emphasis is placed on intellectual property, which bogs down the process

TB – a win-win situation whereby long term relationships are fostered between universities and industry

- also identifies potential blind alleys which saves time and money

Question #3: What advice would you give to governments?

AL – 3 key messages:

1. think in terms of innovation ecosystem and that they are all interrelated modalities, which means that can't expect to develop a 'silver bullet'
2. don't necessarily need new programs, so much as need to increase the attention given to existing programs
3. need more efforts to co-operate and work together at all levels and between all agencies, etc.

EH – need to work towards developing measurement criteria

- need a stable, predictable regulatory and political environment

TB – government needs to become aware of companies' needs

**Session #5 – What Can Governments do to Enhance Commercial Success?
(panel)**

**Oryssia Lennie, Deputy Minister, Western Economic Diversification Canada
Allan Scott, President & CEO, Edmonton Economic Development
Corporation**

**Debbie Wilkie, Assistant Deputy Minister, Industry Development,
Saskatchewan Industry and Resources**

**Moderator: Wendy Lam, Director, Grants and Awards, Alberta Ingenuity
Fund**

Question #1: Is the government strategy for infrastructure working?

OL – there are number of opportunities that can promote Canada as a global leader in a variety of fields. The government does get involved in direct and indirect financing.

Key Concerns and Areas for government investment:

1. Are investments sustainable? – facilities and maintenance are expensive, so, do taxpayers get a reasonable ROI?
 - Are investments made with global activities in mind?
 - There are some limits to the creation of clusters.
2. Encouragement of private sector investment, i.e. what gaps can the private sector fill with appropriate structuring?
 - a. Co-investment
 - b. Partnership
 - c. Tax incentives
3. Are governments placing too much emphasis on creating large infrastructures in universities at the expense of smaller systems for research, i.e. ‘if you build large facilities, then the industries will come’?
4. Exploring procurement policies to create market and support
5. Enhanced Representation Initiative – increase U.S. presence by collaborating nationally across variety of agencies.

Sidebar Question to DW – “If you build it, they will come – impact of creation of large-scale facility such as Light Source

DW – importantly, have involved business community at board level in direction of the facility.

Sidebar Question to AS: Regarding human resources – are current government skills adequate to ensure success?

AS - success is predicated on the need for the product and the quantity and quality of deal flow and access to risk capital.

- EEDC has worked to enhance local climate by creating business plan competition; forming Deal Generator; coordinating activities in the region

Sidebar Question to OS: From federal program perspective – what is the government role for training and attracting highly-skilled workers?

OL – a key goal is to attract and train those workers, such as is being done at TRILabs and Westlink

- additional considerations are recognition of foreign credentials
- tapping into the large aboriginal population

Sidebar Question to DW: Are governments doing enough work in the area of procurement?

DW – small, pilot projects are good opportunities, as are large purchases – especially in areas such as healthcare

- however, taxpayers aren't especially forgiving about using government procurement to drive new product development – particularly if the product doesn't succeed
 - sole-sourcing isn't popular because government is accused of 'picking winners and losers'
 - government procurement works best on smaller projects (as opposed to large IT purchases), especially when government goes into partnership on purchases with the project, rather than by participating with direct procurement

Sidebar Question to AS: Are there any impediments for smaller companies trying to promote procurement?

AS - municipal governments have difficulty, but they have to take some risks

OL – most viable from the federal government when used as pilot demonstrations, as well as with strategic purchasing.

Conclusions:

DW – although the Innovation Strategy has been criticized, there have been a number of successes which raises the following concerns:

- a. more partnerships should be considered
- b. should reconsider whether or not straight financing is the best strategy

OL – Western Canada has growing resource capabilities and the key issue is how to prioritize the government's role and level of involvement with main considerations being:

1. financial
2. human resource

AS – key consideration is setting priorities at the municipal level – particularly when competing with other demands for other services, such as police and infrastructure requirements

Session 6 – Wrap-up (panel)

Roger Pederson, President & CEO TRILabs

David Shindler, CEO, Milestone Medica Corporation

Rob Slinger, Chief Business Development Officer, Canadian Light Source

Moderator: Ian Thomas, Director, Policy and Planning, Alberta Innovation and Science

DS – substantial gathering of expertise

- observed optimism in all three areas of activity – university, business and government
- there is the recognition that Canada is a small economy that is competing on global basis which is experiencing large-scale economic changes
- main theme of personal interest was the study of growth trajectory of companies and how to grow small companies and whether we have the mechanisms to develop them into mid-size companies that are competitive on a global scale
- have observed a number of gaps and can repair them, but others will arise. Therefore, need to work towards studying and learning how to identify the various sectors and opportunities within those sectors – what will work and what won't?

RP – from an industry perspective “You don't have a business until you satisfy customer needs.”

- in meeting customers' needs, you don't always use technology at the beginning – you need to understand the market segment and what the customer needs to achieve cash flow towards sustaining the business
- we need to shift our focus to the global stage – learn from people who have travelled here from elsewhere to do the very thing we should be doing: learning about our potential customer's culture and needs
- in building on a customer-driven organization, need to recognize that technology didn't necessarily come from universities, but from interaction with customers and recognizing and meeting their needs
- people are important – and relationships – between the researchers and the business people
- need to broaden skills and learn how to develop and appreciate entrepreneur skills and business acumen

RS – one of the unique components of team-building on the Prairies is access to all components, i.e. Government, universities, and technology

- much discussion about linking incentives and emphasize importance to R&D business plans
- money as related to business plans and the importance of a management team that can link the R&D stage to growth

- culture and the culture of commerce must be understood and the various incentives that stimulate the respective groups

Discussion Point: Alberta and Western innovative atmosphere is part of the current situation – but what components are missing at this time?

DS - what needs to be added is the ability to form large-scale industry-led teams that can tackle industrial problems and maximize resource utilization

- also, government needs to work on industrial policy – by analyzing sectors and developing direction

RP – emphasize the need to understand market segments – partly taking into consideration that Canada is a small economic country, and especially as entering knowledge-based economy

- therefore, focus will be important – identifying strengths and building upon them
- the challenge will be determining what sectors have the greatest potential
- culture needs to be revisited to alter perceptions:
 - a. failure is expected
 - b. respect for CEOs is lacking
 - c. need to foster a ‘financial literacy’, which is the root of building an entrepreneurial culture “If we want business-builders, these business builders need to gain an understanding of cash flow and other terms” – hopefully at an early age in the school systems

RS – recognizing efforts of WC, need to examine how provincial organizations work together to fill the management gap in order to link vencap with the R&D opportunities that have commercialization potential.

- Also need to address the need to increase the cultural understanding of the importance of customers and that ‘customer pull’ is more effective than ‘technology push’
- Recognizing the grave consequences of failure of large, government-funded facilities i.e. ‘if you build it, they will come’ – customers’ concerns and issues need to be addressed. For example, in the research world at facilities such as Light Source, hand-picked scientific staff are used to liaise with industry to work with industry in different sectors to understand issues – with the additional recognition of the implications of failure for corporations.

Question: How can the provincial and federal governments promote development of technology?

RS- need government incentives, i.e. Tax-free status, etc.

RP – procurement and the role of government as a model customer can kick start companies

DS – need to enhance Canada’s innovative capacities to create mid-size companies and to develop small companies – need to use levers to promote innovation and not just development

- need to look at immigration policy that attracts the kinds of human resources to help development
- governance and fiduciary practices need to be communicated to companies.
- the relationships between business and government need to be promoted and the communication from CEOs to government (and their input) needs to be developed

Question: As first regional conference in Western Canada, are there any elements that are unique to Western Canada?

RS – because of smaller size, Western Canada can’t focus on as many issues as Ontario, therefore it’s difficult to set priorities and objectives.

RP – Western Canada has conflicting views of the availability of vencap i.e. that money needs to be close to the source, as opposed to money finds good projects

- final point – Western Canada has a ‘can do’ attitude, which differentiates from the rest of the country

DS - self-reliant spirit is strong in the West and easier to mobilize resources and people than in the East

- West also has top flight centres of excellence

Observation: Ian Thomas comparing East vs West – various agencies communication more in the West and a greater degree of cooperation

RP - agree with the statement and underscore the need to build long term relationships as well as collaborations

RS – need to create and foster greater media and public awareness