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RAISING VENTURE CAPITAL ASPECTS OF TECHNOLOGICAL CHANGE – A CANADIAN PERSPECTIVE

Denzil Doyle*

This is a learned conference of lawyers, and I want you to know that these are very different than the learned conferences that we engineers put on. When we get together, we tend to tell lawyer jokes. I have not heard anyone tell any engineer jokes yet, so I will tell you one which is terribly old. I apologize to the ninety percent of you who have probably heard it.

The story goes that there was a lawyer, an accountant, and an engineer sentenced to death by the guillotine. The lawyer was to go first, and so they put the lawyer’s head under the guillotine. The guillotine operator pulled the blade way up to the top and let it come down. Lo and behold, it stuck about a foot above the lawyer’s head. So, the lawyer jumped up and said, “I know all about the laws in this jurisdiction, and according to those laws, you now have to let me go. You can’t take two shots at that.” And the executioner said, “Yeah, you’re right,” and let him go. Then, they brought the accountant up, the same thing happened, and the accountant was let go. When it was time for the engineer to come up, the engineer says to the guillotine operator, “If you give me a half an hour or so, I think I can fix that thing for you.”

I am not going to talk so much about the statistics of the Canadian high-tech industry, but about the total pool of capital in general, since Canada tends to measure things a little bit differently. The true venture capital pool is about forty-eight billion dollars in the United States, and the equivalent figure in Canada is about ten billion dollars Canadian or six billion dollars (U.S.). The actual deal flow, the amount of money that runs through the system every year, is approximately two billion dollars Canadian. There is also the issue of this new phenomenon called a “labor-sponsored venture capital fund.” I am chairman of one of those companies, Capital Alliance Ventures, which is an Ottawa-based venture capital fund that operates under the terms of that labor-sponsored legislation.

Why would a venture capital company be operating out of Ottawa? Well, as it turns out, Ottawa is kind of the Austin, Texas of Canada in that it is an emerging center for high-technology industries. Ottawa currently has ap-

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proximately 800 high-technology companies, which employ around 50,000 people. For example, I am on the board of Newbridge, a company started in 1986, and having sales of about two billion dollars this year.\(^1\) It has a market capitalization of approximately eight billion dollars, and it has been very successful. Nortel Research, whose main R&D facility is in Ottawa, employs about 12,000 research engineers, scientists, and technicians. We also have firms like Corel and Mitel.\(^2\) We have a telecommunications phenomenon in Ottawa.

Canadians seem to really excel at telecommunications, and I guess I have been around long enough to know how it came about. When the telephone and computer industries first started to merge in the late 1960s, Canada quickly realized that it had a unique problem on its hands. There is a long strip of geography that sits within 100 miles of the U.S. border, and Canadian banks are all located in Toronto. Those banks must be able to communicate with branch offices across the country. It is not just the banks, but the head offices also have to communicate efficiently across that wide geography. Thus Nortel Networks, which at that time was called Northern Telecom, was a captive instrument for Bell Canada. The banks were soliciting help from Bell Canada with the communications problem across this wide geography. Bell Canada then went to Nortel and requested a solution for this problem. As a result of that, Nortel and a number of other Canadian telecommunications companies pioneered such technologies as packet switching. The very first protocol to manage packet switching was developed at Nortel, and was called X-25. Now, of course, there are dozens of them.

Canada is still very much a leader in telecommunications. Nortel’s head office is located in Toronto. It was originally in Montreal, but then the company moved the head office to Toronto and brought their R&D facilities to Ottawa. It is, of course, a very successful company, and it is now buying up firms like Bay Networks because Nortel realizes that they have been a little bit too much of a telephone company and not enough of a data networks company.

So that is what is happening in Ottawa. Capital Alliance Ventures has put together a labor-sponsored venture capital fund. It is based on Canadian legislation that allows individuals to invest in venture capital companies. I think

\(^1\) Newbridge Networks is a world leader in designing, manufacturing, marketing, and servicing a variety of networking products and systems. For more information about Newbridge Networks, see their Home Page <http://www.newbridge.com/about> (visited July 19, 1999).

one of the reasons we did that is because the pension funds and the large pools of corporate capital have been very reluctant to get into the venture capital business.

There was an interesting phenomenon that happened accidentally, and it started with the province of Quebec. One thing you must understand about Canada is that it has a much more aggressive union environment than you have in the United States. It is largely due to the high level of foreign ownership, particularly in the resource industries. For instance, in Quebec, foreign owners would close down a sawmill in Témiscaming or someplace, and nine times out of ten, it would be because they got fed up with the unions driving them crazy. The unions would then ask to buy the sawmill. Their record in turning around those sawmills was fairly impressive. The strategy was not just limited to sawmills, but it also included smelters and all kinds of other industries. So, one of the large trade unions in the Province of Quebec, about twenty-five years ago, decided to get into the venture capital business. The Quebec government actually gave the union a vehicle whereby it could raise money not only from union members, but also from the taxpayers at large.

Then the federal government began offering the same sort of benefit about ten years ago with something called the Canadian Labor-Sponsored Venture Capital Program. I now find myself Chairman of one of those. However, I am not a union leader. My partner is a fellow by the name of Rick Charlebaugh, who had run a very successful venture capital company in Ottawa. He had been an early investor in Mitel Lumonics, and several other Ottawa high-tech companies, but then it was closed down because the ownership of Noranda changed. So, he was walking around with nothing to do.

I was frustrated about the fact that we have all of this technology centered in Ottawa. It is without a doubt the technology capital of Canada, for Canadian-owned high-technology companies. On the other hand, if you come to Toronto and go up into Markham and Mississauga, you will find a tremendous amount of what looks like high-technology activity. There are companies there such as Sun Microsystems, Apple, IBM, and Digital, which is now Compaq, but they are basically branch plants and do not create investment opportunities for venture capital companies.

A large proportion of venture capital activity in Canada is in the Ottawa area, with this groundswell of Canadian-owned high-tech companies. There are also pockets of it in Kitchener and Waterloo in southern Ontario. There is another pocket of Canadian-owned high technology in Vancouver, specifically in Richmond, British Columbia, which is a southern suburb of Vancouver, and there is even a little bit in Saskatoon, Saskatchewan. There is quite a biotechnology complex building there that deals with agricultural biotech. There is some fascinating work going on in multimedia. Montreal is a major
area for multimedia. Of course, there is quite an aerospace industry building up in Montreal as well. That is where Bombardier is located. They make regional jets and other planes.

If you want to get some of the statistics on the Canadian venture capital industry, there is a Canadian Venture Capital Association (CVCA). They print an annual book and do quarterly returns. They do well at tracking statistics. Some of the nomenclature, however, is a little bit different from that used in the United States.

Next, I would like to address the crucial role of angels. I thought it might make an interesting topic. Very few venture capital companies do idea-stage investments. The fact of the matter is that it is just too labor-intensive. The lifting is just too darn heavy down in that end. We at Capital Alliance have, however, done a couple of idea-stage investments with our forty million dollars. We have made seventeen investments. We got into the business about four years ago, and we have already lost three of our investee companies. We have had three IPOs, one of which is doing very well.

Probably the star in our portfolio is an interesting company called Cadabra started by a fellow out of Carleton University. He designs software for assisting people who design microchips. They are faced with a huge problem of cell library lookup. He has come up with the systems and software that can be applied to that. He has been doubling his sales every year, and he has turned out to be a superior manager. He must have been a terrible misfit as a university professor, because he has certainly done very well as a manager. My career started as a scientist, and I tell people I must have been the world's worst scientist because, when I opened up Digital's Canadian operation, I certainly enjoyed the peddling aspect of things, and I enjoyed building Digital.

I would like to discuss my version of the innovation chain or the investment spectrum. Every company or product goes from the idea stage to the R&D stage, then to product development, into production, distribution and, finally, hopefully, it becomes a public company. The cash flow does turn into a bell curve. Perhaps some of you have read Geoffrey Moore's books, *Inside the Tornado* or *Crossing the Chasm*. He talks about this bell curve. If you

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3 For anyone wishing to contact them, they can be reached at 1881 Young Street, Suite 706, Toronto, CANADA M4S 3C4.
4 Angels are private individuals who invest in a company in return for an equity stake in the venture. This is a high-risk, high-return investment. For more information, see Lisa Reilly Cullen, *On the Side of Angels*, MONEY, Dec. 1, 1998, at 130.
5 For more information about Cadabra, see their Home Page <http://www.cadabratech.com> (visited July 19, 1999).
do not have a product migration strategy that brings you on with new followon products, then you will go out of business after some period of time.

For those of you who have not read Geoffrey Moore’s books, I think some of the concepts he put forward are just fascinating to me, especially after my experience with Digital. I joined Digital in 1963, and I left it in 1981. I can relate so well to what Geoffrey Moore says as it pertains to the growth of Digital. He talks about a chasm that occurs before you finally do get into the bell curve. There is a chasm between the early adopters and the so-called pragmatists, and the difficulty is crossing that chasm. Once you get across it, you get into the bowling alley, then you get into the tornado, and on and on it goes. It sounds crazy, but I strongly recommend that you read his books because they really are so truthful.

The venture capital industry refers to things such as seed, start-up, firststage financing, second-stage financing, and finally third-stage or mezzanine financing and leveraged buyouts (LBO). What are the sources of capital? Where does the money actually come from? First of all, very, very early stage companies that are at the idea stage can get government money both in Canada and in the United States. The United States has something called the Small Business Industrial Research program (SBIR), while Canada has the Industrial Research Assistance Program (IRAP), as well as a Technology Partnership Program. If you like filling out government forms and dealing with government bureaucrats, you can get government money to do your very early stage R&D, but that is all it pays for. It does not pay for the marketing and all of the other things that are needed to launch a company.

We have a critical problem on our hands in Canada in that we do not have terribly active angels. If you look at the U.S. situation, companies that are at the idea stage are generally financed by angels. In Canada, for reasons that I am going to talk about in a moment, angels are not very active down at that stage.

There are also venture capital companies. I make two distinctions among venture capital companies, at least those in Canada. Some truly are venture capital companies in that they finance some product development. Not

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8 The SBIR Program provides up to $850,000 in early-stage R&D capital to small high-technology companies or entrepreneurs who start high-tech businesses. See DOD SBIR/STTR Web Site, <http://aqu.osd.mil/adsbu/sbir/> (visited June 23, 1999).
9 The Industrial Research Assistance Program is a service of Canada’s National Research Council (NRC). For more than 50 years, IRAP has helped small and medium-sized Canadian firms create and adopt innovative technologies that yield new products, create high quality jobs, and make industry more competitive. See Network: NRC’s Industrial Research Assistance Program, (visited June 23, 1999) <http://pub.irap.nrc.ca/irap/web/irapcomm.nsf>.  

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enough of them finance R&D or the early stages of product development. In Canada, the angels are beginning to move up into that area, hoping they can make a profit there. Other venture capital companies are strictly mezzanine financiers. They will take a company public for you, but do not ask them to do any heavy lifting down at the front end of the investment spectrum.

Then, of course, there are the banks. Everybody loves to bash the banks in Canada. I guess it is done in the United States as well. The government does a wonderful job of bashing the banks in Canada, saying the banks should be financing these companies. That is about the craziest thing in the world. I put my money in the bank, and I do not want the banks going out and putting it into venture capital unless they tell me that is what they are going to do with it. Many of the banks in Canada do have venture capital subsidiaries, and I would say they have mixed performance records. Unfortunately, too many of them still operate like bankers, and they deal only in convertible debentures. They charge consulting fees, which is such a foreign concept to the venture capital industry.

Those are what I call venture capital companies of type B, and they are mostly concerned with taking companies public. Most of the banks in Canada are affiliated with an investment firm. The Royal Bank of Canada not only has its own venture capital company, but it is also affiliated with RBC Dominion Securities which trades public securities. Of course, once the company goes public, then the public itself gets involved and the pension funds get into it, and everybody is in the act by the time you are up at that end.

As I mentioned earlier, we have a very serious problem in Canada in that angels are scarce. Any similarly alleged shortage in the United States is nothing like the present situation in Canada. There is data on the subject which suggests that, in the United States, angel activity makes up about five times the normal venture capital activity. In Canada, it is about half as much. As I mentioned earlier, the total pool of venture capital in Canada is about ten billion dollars right now, and about two billion of that gets re-circulated—about two billion comes into the pool every year and also gets invested every year. That is the way venture capital is working at the moment.

If two billion dollars of venture capital is flowing from the formal venture capital companies, that would suggest that there should be probably between five and ten billion dollars coming from the angels. There have been some studies done in Canada on this, and they suggest that the angel activity is absolutely pathetic. The problem we have is the capital gains tax rate. In Canada, seventy-five percent of any capital gain is included with your income. The problem comes for a person, like myself, who is in the fifty-percent tax bracket. That is a marginal tax bracket of fifty percent. If I make
$100,000 by selling some Newbridge shares with the adjusted cost base at zero, if they were founder shares, then I will have $100,000 in capital gains, and $75,000 of that is included with my income. With an income tax rate of fifty percent, the effective capital gains tax rate in Canada is about forty percent, which is very harmful to angel activity.

Most angels do not have money sitting in the bank making three to four to five percent interest waiting for a deal to come around. Their money is already working very well for them in places like Newbridge or JDS or some already existing high-tech company. So, if an entrepreneur comes along looking for $100,000, the angel has to sell about $166,000 and pay $66,000 to the federal government before they even get into business. Now, if that is not a show-stopper, I do not know what is.

People in the United States have a much better program. First of all, the capital gains tax rate is much lower in the United States than in Canada. You have a different way of calculating it. As near as I can tell, somebody like myself would probably pay somewhere around twenty-five to twenty-eight percent capital gains tax in the United States, and if I invested in certain types of companies, then the rate is effectively half that. In 1997, the United States came up with a roll-over provision whereby an investor could roll over shares in a company, sell them, and, if he or she invested in the XYZ company within sixty days, he or she could postpone the capital gains altogether. I do not know what makes you people so damned smart, but you really do have a knack for doing the right thing, and I think that is really what is making your economy fly down here at this point in time.

Our problem with angel activity is a by-product of our high capital gains tax rate. The irony is that capital gains taxes in Canada do not really generate that much revenue overall relative to other sources of capital for the Canadian government. It is down in the noise level. But it certainly is killing the angel activity. It also has another problem in the upper end of the spectrum. Even when a company goes public in Canada, typically there is so much competition for IPOs that most Canadian high-technology companies are taken public at way too high a rate. It becomes a beauty parade, and whoever can offer the best IPO price gets the business.

Typically, a Canadian company might go public at ten dollars a share. It probably should go public at five dollars a share, but that end of the investment spectrum is overheated. If an underwriter can take it public at ten dollars a share, they get the business and they hype it up. First, it goes from ten dollars up to fifteen dollars. Then, within three or four months, the stock goes back to five dollars a share. The pension funds and the retail market and everybody else jumps into it at or after the IPO. They figure this is the latest “dot com,” and they expect to make a fortune out of it. Then, of course, the stock
drops back down to five dollars and the thing is as dead as a doornail for the next two or three years.

This all occurs mainly due to two things. First is the fact that there is too much heat up in that end of the spectrum. But, even if you do make a profit and you are faced with paying that very high capital gains tax rate, you say to yourself, well, it is November, all I have to do is wait until the end of December and push the capital gain into next year. That way, you do not have to declare it in this year's income tax. Essentially, the capital gains tax rate acts like a brake in the whole system, not only at the front end of the spectrum, but also at the back end. Right now, there is a lot of wringing of hands about the high level of foreign takeover of our high-technology companies in Canada, even public companies. I can think of at least three public companies that had been nurtured along by, and in many cases received favored treatment by, the Canadian government, only to find that they get bought out by some foreign company later when the company goes public.

I was reading an article a couple of months back on the Israeli venture capital market, and it was really fascinating. The deal flow in Israel last year was $3.7 billion dollars (U.S.) for a country of six million people. Their total deal flow is about twice that of Canada with a population of thirty million people, and so that is a system to look at and to compare to the ones in Canada and the United States. 10