



Canada's Competitiveness

A Global Challenge

by Peter S. Janson
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Introduction

Business people, employers and community leaders are all concerned about Canada's future in our continually changing world marketplace.

This paper will provide - a brief overview of how my company, Asea Brown Boveri (ABB) is structuring itself to meet the challenges of tomorrow - our view of trends in world markets and their potential implications to Canadian businesses - comment on a number of initiatives which must be taken by business, unions and governments at all levels if Canada is to be an industrial force in the year 2010.

ABB is the world's largest electro-technical company with worldwide annual sales of 30 billion dollars. The company's origins date back to the 19th century, however the shape of the company today is primarily the result of the 1988 merger of ASEA AB of Sweden and BBC Brown Boveri Ltd of Switzerland. The recent addition of Westinghouse's transmission and distribution businesses and the acquisition of Combustion Engineering has given ABB a strong presence in North America.

ABB develops and produces a wide range of products all directly related to the production, transmission, distribution and efficient use of electrical energy and is the world's largest supplier in the \$60 billion electric power equipment industry surpassing household names such as Westinghouse, General Electric and Mitsubishi. We employ over 200,000 people worldwide in 1100 companies.

In 1990 ABB Canada generated sales exceeding \$1.0 billion dollars. At present we employ 4000 people across Canada.

We have 19 manufacturing locations, the principal ones being Sherbrooke, Varennes in Montréal, Québec City, London, Guelph and Burlington. ABB has played a leading role in the economic development of Canada in some of the most ambitious and demanding projects undertaken here. These include the world's first multi-terminal high voltage direct current



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transmission link from James Bay to Boston and the installation of Canada's largest steam turbine generators in the Darlington Nuclear Power Plant, near Toronto.

Operating In Canada

With operations in 140 countries, ABB is sensitive to changes in the global marketplace. As a Canadian company we share with you the problems and opportunities associated with operating in Canada.

As we take a closer look at current events in the global marketplace we perceive two principal trends which will continue into the 21st century and which will affect Canada's performance.

One is the successive opening of markets, as trade barriers are abolished and more countries join free trade areas. Consider for example the "United States of Europe" coming into effect with the 1992 Common Market Agreement, the emerging free trade area of USA, Canada and Mexico and the Far East triangle of Japan / Korea / Taiwan and the developing Asian countries including China.

The second trend is the emergence of a string of new players who will become industrial forces in the years to come. These include some of the former Eastern European countries and a number of Asian

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countries. Some would argue that it will be many years before any of the former Eastern European countries pose a real industrial threat to countries like Canada. I ask you to recall how far Japan had progressed by the early 1970's, only twenty five years after World War II.

Competition is going to get tougher and tougher in all areas. The Ukraine was one of the world's breadbaskets in the late 1800's. With their release from communism we can expect them to rapidly develop.

The frightening thing from a Canadian business viewpoint is that there has been a strong acceleration in these trends in recent years. We expect this acceleration to continue in the foreseeable future. Canada cannot afford to delay the introduction of a number of initiatives. We must build on our strengths if we are to remain an industrial force in the future and we must act now.

This rapid liberalisation of trade barriers and the emergence of new players will lead directly to intensified competition. As Europe today prepares for open markets we can see 15 - 20 % price reductions in many of the heavy capital goods ABB manufactures. As competition increases, lowering a company's cost structure will no longer be enough. Customization of products, reduced cycle times and improvements in quality and customer focus will become vital to the survival of every company. The issue of quality has already received a great deal of attention. I do not intend to elaborate further except to say that quality is increasingly becoming an assumed pre-condition of doing business. Customization of products and services and reductions in cycle time have not received much recognition even though they have been the basis of many of the success stories of the eighties.

Ten years ago, Xerox's market share was shrinking rapidly. The company's survival was at stake. After all the traditional complaints about dumping, unfair competition etc., they realized that they had not been listening to their customers. Xerox is today the benchmark in customer surveying and follow-up.

One example of cycle time reduction is provided by the Toyota Lexus which took 4 years from concept to showroom floor while the General Motors Saturn has taken at least 7 years.

In my own company, at our plant in Guelph we have implemented training, work simplification and process oriented manufacturing programs. This, together with new production standards and shop floor control systems, has led to a productivity increase of 34% in 18 months. We are looking for a further 10% improvement this year.

The companies which have been most successful in recent years are those which have managed to respond the fastest to

their customer's specific and ever developing needs. They have:

- innovated in rapid succession
- reduced the usual delays between the conception and production of new products
- decreased the time from order to delivery of the final product and,
- successfully tailored their products to their customers needs.

Harvard Professor Robert Reich has commented that the businesses that provide the highest earnings to the employees and the best returns to their shareholders are not those which are merely successful at compressing costs: they are those which are outstanding at providing timely solutions to their client's specific and often unique problems. Companies which find solutions to their customer's problems not only command higher prices for their products, they become industry leaders. In the process of finding the necessary solutions, they develop specialised knowledge which is used in their next venture. Knowledge accumulates as a result of earlier successes and acknowledged failures.

If a company does not learn through internal innovation it cannot hope to retain a leadership position in its industry. Routine operations, even when completed in the most cost efficient manner, are soon copied by competitors and profit margins compressed.

The rapid diffusion of technology, the worldwide availability of semi-skilled labour and the mobility of capital means that in the absence of continual learning and improving, routine manufacturing operations will be displaced from high wage countries to low wage countries. So how have we in Canada been doing in this increasingly competitive world?

In terms of productivity Canada is still ranked in the middle range of the G-7 members. What is more relevant is our performance relative to our main trading partner, the USA. (Our rate of productivity increase has fallen continually. During the 80's, the US recovered.)

Why has Canada's performance been less than impressive over recent years?

-Canada has traditionally been a commodity based economy. Commodity prices have been steadily falling since the

early 1970's. This is due to the discovery of new sources of supply in the developing world and a steady stream of innovation which has reduced the resource content of a unit of economic output.

-Canada has in general been slow to react to market trends and implement new, innovative production techniques.

-Governments at all levels have devoted too much time and resources to protecting inefficient industries which would not survive in a truly competitive environment. Governments have attempted to achieve too much of a balance between provinces in terms of investment in industry, technology parks etc. Our provincial approach to investment and development is not a sound basis for strong long term economic growth. We can no longer afford to dilute our efforts by spreading them around. We must be focused.

We can learn from the rationalisation currently taking place in the European Community as it moves towards a single market. For example during the 1980's there were 22 locomotive manufacturers in Europe. As the trade barriers come down it is anticipated this number will be reduced to 6. There will still be an oversupply even at this number.

The concern about Canada's performance during the 1980's and indeed our future prospects has found its way into the corporate boardroom, government and academia. Restoring our ability to compete has become the rallying cry of all policy-makers. Unfortunately the term "competitiveness" has acquired buzzword status. Competitiveness is the ability of a firm to expand its market share while increasing the remuneration of employees and shareholders. On a national level it is the ability of a nation to increase to real incomes of its citizens and the returns to capital over the medium to long term. How can we achieve this?

Education And Training

The increasing importance of continuous innovation has already been stressed here. A necessary condition for learning in the marketplace is a good education system which teaches everyone, not just the managers, how to approach and solve problems. Schooling not only provides basic skills essential in the workplace but

it also provides our children with an understanding of the world around them. Understanding the world they live in allows them to view it as a challenging rather than a threatening environment. It also equips children with the tools to continue to learn once they leave the confines of their schools.

As a percentage of GNP Canada spends more on education than the USA, Japan, France, Germany and the Netherlands. The number of Canadian adults registered in post-secondary courses is also impressive. However our performance up to that level is less than impressive. As an industrialised country Canada is near the bottom as far as the number of school days are concerned. The only major industrial economy which keeps us company in this regard is the USA.

Canadian children spend around 180 days in school. Their German and Japanese peers spend about one third more at 240 days per year. If the amount of homework is taken into account the disparity between the effort we require from our children and the work done by students in many industrialised competitor countries grows even wider. (It is interesting to note that when the Japanese Ministry of Education proposed eliminating Saturday classes, parents and the media reacted with such horror that the proposal was withdrawn).

Equally disconcerting is the fact that there is less demand today for science/technology based courses at the secondary and university levels in Canada relative to even the enrolment numbers in the early 1980's.

In fact it is estimated that Canada will have a shortage of at least 10,000 engineers by the year 2000. Furthermore just over half of graduating high school students have taken physics or chemistry courses. In international science contests our high school students' performance is below that of their peers in most industrialised countries.

Today we are already experiencing a shortage of skills in business. While Canada currently experiences high unemployment it has been noted that there are numerous positions which cannot be filled for lack of qualified personnel.

In spite of our relatively low education requirements 100,000 high school aged children drop out of school every year.

The severity of this situation becomes obvious in the light of studies predicting that two-thirds of the jobs that will be created by the year 2000 will require more than 12 years education with close to half of those requiring more than 17 years education!

Lower skilled workers have been the major losers to automation during the past two decades and with the transfer of manufacturing operations to low wage areas these trends will continue. Kids who just drop out don't stand a chance. Measures must be taken to remedy this situation and they must start now!

Even if our children were receiving an adequate education, learning would still be a vital part of their working life. According to a Hudson Institute report the pace of technological change today makes specialised knowledge obsolete in about 3-5 years. It is imperative that companies invest in continuous training and development of their workforce if they are to successfully compete in the business world of tomorrow.

Canadian industry spends less than 0.5% of GDP in the training of its workforce. US industry invests twice as much while the Japanese invest five times and Germans invest 8 times as much. This lack of training is particularly severe in the case of smaller enterprises. A survey reported by the Economic Council a few years ago revealed that employees in Canada average two hours of in-plant training per year. This is in stark contrast to the 200 hours of training received by Japanese workers annually. In our competitor industrialized countries there is a strong belief that the enterprise is not just a place where skills acquired in the classroom are put to good use but rather a setting where workers continually learn new skills.

Automation has long been put forth as a way of keeping the manufacture of goods in high wage countries such as Canada, however given the rapid pace of technological diffusion, mere automation can only be a transitory solution.

It is more the lack of sufficiently skilled personnel which will form a bottleneck to the introduction of the most modern manufacturing techniques.

Many of our larger organisations still display the multi-layered hierarchical

structure that performs well in terms of command and control. In a volatile competitive environment quick reaction times and intimate knowledge of customers are critical. The value to the organization of middle and upper echelons will diminish while the value of the input of those in direct contact with customers will increase. The hierarchical management structure of more traditional organisations will tend to become compressed leading to the abolishment of many middle management positions. This will in turn lead to a stronger emphasis on leadership rather than management.

Research And Development

We have been slow to adopt new technologies which have been developed as a solution to our productivity problems. As an example, our use of robots in Canada is about 20% less than in the USA, five times less than in Sweden and nine times less than in Japan. Countries which emphasize learning on the job and formal training also have high adoption rates for state-of-the-art technologies.

Some may question the future role of UNIONS when we talk of increasing levels of automation and technology, of responding rapidly to market trends etc.

Unions have a similar role to that of the employer in the marketplace of the future. Both must recognise that customers are demanding changes, innovation, quicker delivery time and specialised products.

It is essential that unions work closely with management to assist in the creation of new job opportunities for their members rather than trying to preserve positions which are destined to disappear as work practices are continually refined in response to market conditions and technology development.

Environment

Concern about the environment is no longer limited to fringe groups. Protection of the environment is not a "fad" soon to be replaced by a new cause. The membership of associations concerned with environmental issues has grown dramatically and continues to do so.

The movement is destined to gather further strength as environmental educa-

tion enters our school curricula. The story is told that on the day (some 15 years ago) the U.S. government announced that it would strive for mandatory emission standards for automobiles, two meetings were called. The Japanese manufacturers convened their engineers, automobile companies in Detroit called up their lawyers. In California, legislation has been passed requiring 2% of all cars sold in that state during 1998 to have zero emission. This percentage increases to 10% or 180,000 vehicles by the year 2003.

Could this be a new growth market?

As business people we must be increasingly concerned by not only how our products are perceived by our customers but also by third parties.

A recent example of the influence of third parties is the disruption to the contract between Hydro-Quebec and the New York Power Authority.

Delay tactics with respect to environmental matters in the hope that the requirements will be weakened once the "fad" passes could be a very costly business decision. Furthermore seeking relief through lobbying tactics may produce a temporary reprieve but it will only be temporary. Often these tactics buy relief only at a greater expense later.

The companies of today which will succeed in tomorrow's market are those which view the tougher environmental standards as a challenge rather than a threat. By meeting that challenge such firms are likely to acquire competencies that can be exploited on a worldwide scale. Failure to recognise this aspect now will spell the long term demise of a firm as there is no doubt in my mind that the more stringent environmental standards currently applied in other countries will be adopted in this country in the near future.

Infrastructure

Countries with considerable investment in education and training are also investing in major infrastructure projects. The Japanese pioneered high speed rail transportation systems with the Shinkansen and together with the Europeans are continually improving and ex-

panding their high speed rail network. France is also making rapid progress in the development of a national information network. At the same time air transport in the European Community is undergoing revolutionary changes as preferential treatment of national carriers is being abandoned. The cumulative impact of these endeavours on European growth and competitiveness may yet surprise us.

David Anschauer - an American economist - has noted that the decline in spending on infrastructure in the United States from 4% of GNP in the 1960's to 2% in the 1970's coincided with a decline in productivity growth from 2.8% to an average of 1.4% in the past two decades. He calculated that one dollar spent on infrastructure adds as much to the productivity of American workers as four dollars of private business investment.

Interestingly enough improving the infrastructure increases the return to private capital and in doing so it stimulates business investment which gives an additional boost to the rate of growth of the economy provided that these infrastructure investment decisions are soundly based.

Canada's transportation system for example cannot be viewed as job creation exercise but rather must be focused on the efficient movement of goods and people. Unfortunately infrastructure appears to be a cherished target of budgetary cutbacks. As the share of expenditure required to service the national debt has risen the Federal Government has found less room to manoeuvre.

In our struggle to bring order to our public finances we should look at more than just the global deficit figures. As business people we know that even when cash is tight and cutbacks are the order of the day we risk the future of our companies when we forego critical investments. If necessary we borrow to finance essential investments and the same strategy should be applied to the public sector.

Improving our infrastructure is necessary to ensure the long term competitiveness of many of our industries and it is equally important in making Canada a more attractive place to establish new businesses. Prudent investment in infrastructure will pay for itself as increased earnings from higher productivity gener-

ate higher tax revenues.

Conclusions

The way forward for Canada involves a number of key initiatives being taken starting today. Whilst resolution of the constitutional debate is very important to Canada's future the state of the economy and the country's industrial future are equally important. It is therefore essential that sufficient time and resources also be directed to implementing crucial changes, some of which were discussed here.

We cannot afford to wait for more studies, Government changes or a booming economy. We must act now on critical issues like Education and Training, Innovation, Infrastructure, the Environment and Quality. We must identify and develop our strengths, put aside our inter-provincial differences and work together to successfully compete in future markets.

This article is based on a speech to the 62nd Annual meeting of the Canadian Chamber of Commerce in Halifax, Nova Scotia, September 23rd, 1991.