A TECHNOLOGICAL PLAN for MANUFACTURERS

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The technological revolution in communications is continually making the world smaller and its economy is becoming globalized. This revolution has also spread to manufacturing, and the prime factors today are where the highest quality goods can be produced at the lowest price. The rapid technological advances over the past 20 to 30 years have made countries who implemented the new technology early very wealthy. These countries were able to produce high quality goods at lower costs and as a result gain a large share of the world market. In turn, the countries who were slow to implement the new technologies, saw their industrial base decline and unemployment rise. Today, technological advances are so rapid that manufacturing processes of as little as 5 or 10 years ago are made obsolete by more efficient processes. Any country that wishes to survive and compete in this technological world must use the most up-to-date technology; only the most progressive will survive.

Constant Change

It is important, especially for corporate management, to investigate the rapid and relentless change occurring in manufacturing technology throughout the world. As Dr. W. Edwards Deming, one of the people responsible for Japan's amazing manufacturing capabilities, states in his book "OUT OF THE CRISIS", 85 to 90% of the success or failure of a company or organization is the result of decisions made by senior management. If we think about it for a little while it is easy to understand his rationale, since management is the only one that can make the changes necessary to improve an operation. Far too many people resist any change, but the challenge should be how to use change to increase the productivity and as a result the profitability of a company. ***(Isn't that what manufacturing is all about?)***.

Updated Technology

Supply the workers in the organization with the best tools possible, whether it is information, machine (equipment), or process technology, and provide a comprehensive training program so they can get 100% of the benefits the technology offers. To ignore the importance of training in a new technology is sure to result in scrap work, low productivity, a waste of capital expended, and the inability to meet customer delivery dates. If a company has an application for a new technology, and it is operated by fully-trained personnel, the return on investment (ROI) is from 6 to 18 months regardless of the value of the investment.

> ***New technology does not cost money, it makes money when used on the proper application by trained personnel.***

Modern Day Manufacture

In order to convert from conventional manufacturing to technological manufacture, a ***Master Plan*** must be devised to achieve this goal. This ***Master Plan*** must be developed by the Canadian people (educators, industrialists, and govrenment) in consultation with experts who have the knowledge and contacts with the best schools and most progressive industries in the world.

The plan must be developed to involve educators at all levels, with major emphasis on science and technology. It must also include the administrators and managers of industries who must also develop a plan, hopefully in cooperation with educators, to update and re-train their workers in the new technological manufacturing processes. A major part of the plan must be educational programs for management on the philosophies of people such as Dr. W. Edwards Deming, whose work in the 1950's was responsible for transforming Japan's industries and making them a leading manufacturing nation of the world in about 20 years.

Canada's Goal

The ultimate goal must be to establish Canada as a manufacturing nation noted for the best quality products in the world. Nothing but the highest quality goods must ***be exported*** from Canada. Poor quality products will hurt a country's reputation and result in lost markets in a very short period of time.

Summary

A nation's intellectual property -- its research, industrial designs and processes -- is an essential part of its manufacturing base. Canada must develop a manufacturing base that makes products with better features, more reliable quality, and at the lowest possible cost. Technological knowledge and the skill to apply it, can create an advantage for both industry and the country. No country can ignore the technological innovations of other countries and survive.

Any country in the world that wishes a ***share of the world market,*** and in turn ***the world's wealth,*** must use the best technology in order to compete. Humans alone cannot compete with the accuracy and repeatability of the technology available today. Those countries who use the technological tools of today, assure themselves a share of tomorrow's prosperity.

The Canadian government must work with and support industries in developing long-term ***Research and Development Programs.*** The nation needs a conspicuous, sizable plan to encourage industries, universities, and science agencies, to join forces and increase their Research and Development efforts. Unless there is a strong Research and Development program, the technologies learned today will be outdated in 3 to 5 years, as new technology is developed.