

integrated data processing services, while expanding the use and benefits of technology throughout the domestic economy.

2. STRENGTHS AND WEAKNESSES

a) Structural

In 1982, 96% of firms operating in the computer services sector were more than 51% Canadian controlled. This high level of Canadian control was partly influenced by special investment regulations which have since been relaxed. There has not appeared to be a large increase in the number of foreign entrants to the Canadian market since the changes were enacted.

The computer services industry is knowledge and labour intensive and benefits from Canada's highly skilled labour force. The software and professional services sectors are characterized by ease of entry due to low capital requirements, and are primarily composed of small yet highly innovative firms. This innovative quality has led to the development of internationally competitive products and services including specialized software and value-added processing and communications services. The small firm size results in certain disadvantages such as lack of management expertise and reduced access to financing, which impede both product development and marketing initiatives.

Processing services firms tend to be larger, with high fixed and capital costs restricting entry. The higher cost structure, coupled with low sub-sector profit margins, reduces processing firms' flexibility and ability to react to changing market needs.

The relatively small Canadian market requires firms to enter the highly competitive export market. Canadian firms wishing to export look first to the United States as the closest market. However, unless they can identify a clear market niche, Canadian firms have difficulty competing with large and well established U.S. firms. Further, some segments of the U.S. industry have benefited from funding provided by NASA and the Department of Defence for product research and development. While this funding is targeted at larger defense-oriented firms, the technological spin-offs filter throughout the entire U.S. computer service industry.

b) International Trade Related

The computer services industry has been domestically oriented, particularly the processing services sub-sector. While overseas market penetration has been increasing, exports were only about \$75 M in 1982 out of total sales of \$1.65 B. Because the U.S. represents a large but very competitive market, some Canadian firms have gained a market share in areas such as Southeast Asia, Australia and the Middle East, which have relatively underdeveloped computer services industries. To maintain and expand this market share, Canadian firms must be highly innovative while at the same time continuing to market their products and services in an aggressive manner.

Export levels are expected to increase for the software and professional services sector as firms attempt to overcome constraints imposed by the small Canadian market. To date, the export of software products has proved to be very difficult for a high percentage of software firms due to their characteristic lack of marketing and management skills. Also, the cost of adapting Canadian software to the business or language requirements of another country can prove prohibitive. Canadian software firms have however achieved international competitiveness in educational software and specialized software for the earth sciences, engineering and transportation