Key Factors Affecting the Performance of Canadian Software Companies in the United States

A Summary Report to Industry, Science and Technology Canada

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KEY FACTORS AFFECTING THE PERFORMANCE OF CANADIAN SOFTWARE COMPANIES DOING BUSINESS IN THE UNITED STATES: A SUMMARY REPORT TO INDUSTRY, SCIENCE AND TECHNOLOGY CANADA

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Executive Summary

The following recommendations are derived from a study of Canadian software companies conducted at the National Centre for Management Research and Development in 1991 and 1992. The study identified factors related to higher performance in the United States. It is recommended that:

- Companies develop a foreign direct investment (FDI) strategy for distributing products. FDI strategies include wholly owned American offices, acquisitions, or joint ventures with American companies.

- Companies transfer activities related to the sale, marketing and after-sale service of their products to a location within the United States. Companies may obtain the greatest performance gains by transferring all three of these sets of activities. Activities that have been transferred should be consistently maintained within the United States over time.

- Companies select and hire genuine American market experts and include their expertise in making decisions about the American market.

- Companies create a learning culture that allows them to develop from their experience in the United States. Companies with a learning culture coordinate their operations using a more cooperative team approach and shared responsibility for goal attainment.

- Companies collect, interpret and distribute as much information as possible about the United States market to both decision makers and product representatives.

- Companies develop increased sales and marketing strengths to compete, and also find additional capital for expansion and marketing.

This report identifies a number of strategic factors related to higher performance for Canadian software companies in the United States. The report is based on a study[1] of seventy-six Canadian software companies conducted at the National Centre of Management Research and Development of University of Western Ontario. This study identified the relationship between how companies structured and coordinated their American operations, and the performance they achieved in the United States.

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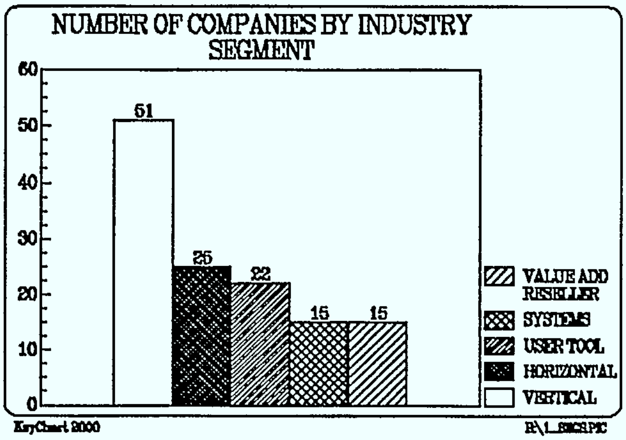
[1] See Abramson, Neil R. 1992. **Configuration, Coordination, Learning and Foreign Market Entry: A Study of Canadian Software Companies Entering the United States**. London, ON: University of Western Ontario School of Business Administration Doctoral Dissertation.

The study was based on a survey questionnaire mailed to the 176 largest Canadian software companies that did business in the United States in 1991. The questionnaires were mailed to the chief executive officers (CEOs) of these companies. Follow up interviews were conducted with the CEOs of eight companies that supported many of the findings of the questionnaire.

The purpose of the study was to determine whether company performance in the United States was affected by strategies used either to distribute products or to coordinate human resources. Performance of companies in the United States was compared using three measures. **Dollar performance** was defined as a measure of foreign market penetration based on the level of sales and the amount of capital investment required to develop and sustain that level of export. Dollar performance measured increases in actual sales levels and capital investment between 1988 and 1990. **Performance satisfaction** was defined as the level of satisfaction that companies had with their past performance in the United States. **Performance confidence** was defined as the level of confidence that companies had concerning their future performance in the United States.

Industry Portrait

The study provided a portrait of Canadian software companies that do business in the United States. Companies from each of five industry segments were represented. The number of responses from each of five industry segments are indicated in Graph 1. **Vertical segment** software is primarily used by a single industry or group of related industries. **Horizontal segment** software can be used across a wide range of industries. **User tools** software is used for the flexible development of software applications often from the code of older software. **Systems** software provide operating systems within which other software packages can be run. **Value added resale** (VAR) companies develop integrated packages of software and hardware for their customers.



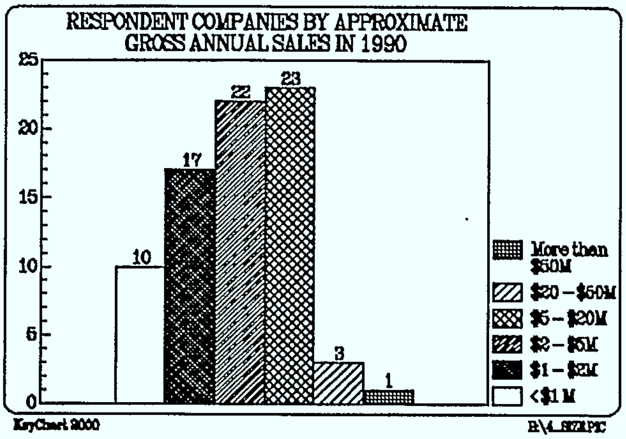
Graph 1

Many companies reported that their products belonged in more than one segment. Thirty-nine companies reported belonging to one segment while twenty-three were in two segments, thirteen were in three segments, and one was in four segments.

VAR companies had significantly higher dollar performance than non VAR companies. This suggested that the market penetration of VAR companies increased faster than that of companies in other industry segments. There were no significant performance differences between vertical, horizontal, user tool, or systems segment companies.

Graph 2 indicates the size of the companies as defined by their gross annual sales in 1990. The average size of the companies was between $2 million and $5 million. The companies were smaller than expected. Industry, Science and Technology Canada (ISTC) had indicated at the beginning of the research that most companies would have gross annual revenues of more than $2 million. Twenty-seven companies (35.5%) had gross annual sales less than $2 million.

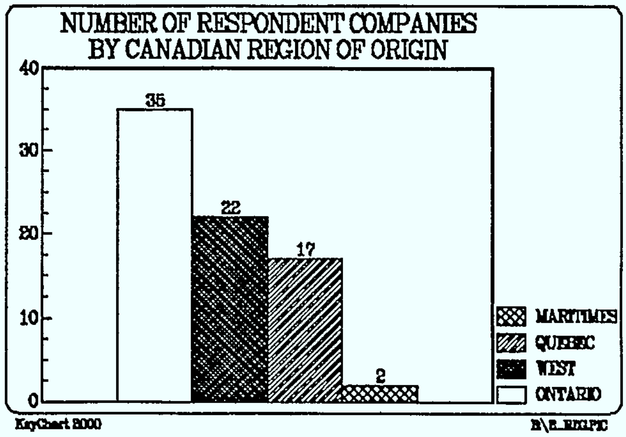
Larger companies had significantly higher performance (performance satisfaction) than smaller companies. The data did not indicate whether size resulted in higher performance or higher performance resulted in larger size. Larger companies were, however, more likely to hire American market experts, and to transfer activities related to the development, manufacture, marketing, sale and servicing of their products to an American location. These findings suggested that companies could improve their performance by selecting high growth strategies rather than remaining smaller specialized market niche companies.



Graph 2

Responses were received from companies located in Ontario, Western Canada, Quebec and the Maritimes. The number of responses from each region was proportional to the actual number of companies in each region. Graph 3 indicates the number of companies from each region.

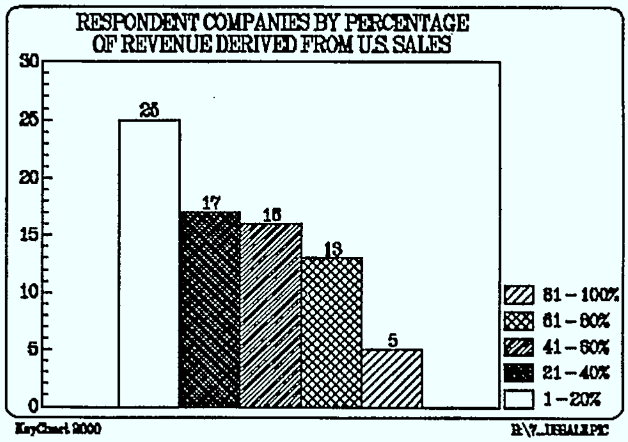
Significant performance differences were found between companies located in Ontario, Western Canada and Quebec. Ontario companies had higher performance satisfaction and performance confidence than Quebec companies. Ontario companies had higher performance satisfaction than Western Canadian companies. Ontario companies, therefore, perceived their past performance and future prospects as higher than companies from Quebec and Western Canada. There were no differences in levels of market penetration (dollar performance).



Graph 3

Companies located in Ontario and Quebec also were larger than companies located in Western Canada.

Most companies relied extensively on the sales of software for their total revenue. The average revenue derived from software sales was between sixty-one and eighty per cent. Thirty-eight companies (50.0%) derived eighty-one to one hundred per cent of their revenue from software sales.



Graph 4

Some companies relied extensively on American software sales while others did not. Graph 4 indicates the percentage of total revenue that companies derived from sales in the United States. Half the companies relied on the United States for approximately half their total sales, but twenty-five companies did not rely on American sales for more than twenty per cent. Companies that relied on American sales for a greater percentage of total revenue had higher performance satisfaction indicated that they perceived their past performance to be significantly higher. This finding may indicate that companies that valued the United States as an important source of revenue learned more about how to effectively export their products there.

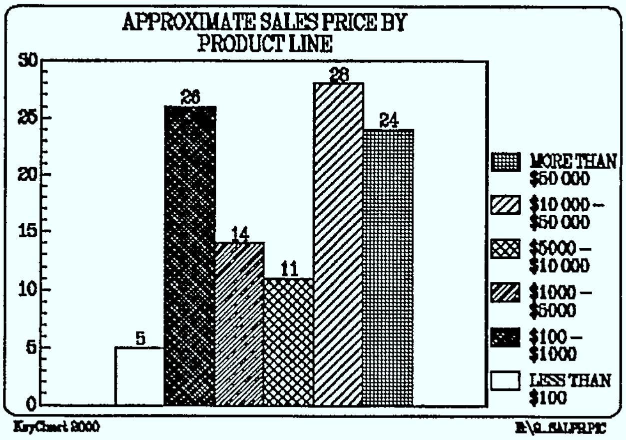
Fifty-eight companies distributed their products throughout the United States. Eighteen companies did business in selected regions. Companies were more likely to do business in the northeastern (New England, New York, New Jersey, Pennsylvania) United States (93.4 per cent of companies) and less likely to do business in the northcentral United States (78.9 per cent of companies).

The average number of products sold in the United States was two. Twenty-five companies sold a single product and fifteen sold more than four.

The ISTC Software Advisory Panel suggested that the length of time required between initial customer contact and final sale of a product might affect sales performance. The average selling time for products was between six and twelve months. Eleven products required between one and two months. Twenty-two products required twelve to twenty-four months. There was no relationship between selling time and performance.

The ISTC panel also suggested that product sales price might affect sales performance. Graph 5 indicates the approximate sales price of software products. Products with higher sales prices (more than $5 thousand) had higher market penetration (dollar performance) than products with lower sales prices (less than $5 thousand. This finding suggested that a high price specialized niche strategy might be more effective than a low price strategy. Products with higher prices more than compensated for their lower volume.

There was a relationship between sales price and selling time. Products with higher prices required more selling time between initial customer contact and sale.



Graph 5

Recommendation 1: Best Product Entry Strategy

Companies that used a foreign direct investment entry strategy to distribute software products had higher product market penetration (dollar performance) than companies that used other product entry strategies. Products that relied on either export or contract entry strategies had lower market penetration.

An entry strategy was defined as the institutional arrangement that makes possible the entry of a company's products, technology, human skills, management, or other resources into a foreign country. Three kinds of entry strategies were identified that had different levels of associated risk. Risk was defined in terms of the amount of company resources transferred into the United States.

- **Export strategies** export a product into the United States that has been developed and produced in Canada. These strategies are less risky because only limited numbers of products, samples and advertising are risked in the United States. It was found that software products that used export entry strategies had consistently lower market penetration (dollar performance).

- **Contract strategies** license or franchise either software products or the technology to produce these products to an American company. These strategies are more risky because control of the product or technology may be lost over time. It was found that software products that used contract strategies had performance comparable to products that used export entry strategies.

- **Foreign direct investment (FDI) strategies** transfer capital and/or staff into the United States so that product may be developed, manufactured, marketed, sold or serviced from inside the United States. These strategies are the most risky because of the amount of company resources committed to a foreign market. It was found that products that used FDI strategies had market penetration (dollar performance) significantly higher than achieved by products using export or contract strategies.

The questionnaire identified four export strategies:

- **Direct Mail**: products were advertised directly to customers by direct mail. Products were shipped from Canada upon receipt of customer orders.

- **Use of Canadian distributors**: products were distributed through the American sales networks of Canadian distributors.

- **Use of American distributors**: products were distributed through the sales networks of American distributors.

- **Canadian-based salespersons**: products were sold by Canadian salespersons based in the Canadian offices of a software company. These salespersons sold in the United States using telemarketing and customer site visits.

The questionnaire identified one contract strategy:

- **Contract**: products were licensed or franchised to an American company that manufactured or distributed these products in the United States.

The questionnaire identified two FDI strategies:

- **Wholly owned American subsidiary**: products were developed, manufactured, marketed, sold or serviced from a wholly owned subsidiary opened in the United States;

- **Joint Venture/Acquisition**: products were developed, manufactured, marketed, sold or serviced through a joint venture with an American company or through an American company acquired for that purpose. Only one software company actually acquired an American company.

Table 1 indicates the number of companies that used each strategy.

Many companies seemed to learn new product entry strategies over time. The seventy-six companies reported on entry strategies used with 106 products. All 106 products used an initial entry strategy that was called **entry 1**. Sixty-three of these products received a new and altered entry strategy and this change was called **entry 2**. Thirty of these sixty-three products received an additional new and altered entry strategy and this change was called **entry 3**. Table 2 indicates changes in entry strategy preferences from entry 1 to entry 3.

Table 1			
ENTRY STRATEGY		DID USE[2]	DID NOT USE
EXPORT	DIRECT MAIL	50	56
	CANADIAN DISTRIBUTOR	4	102
	AMERICAN DISTRIBUTOR	51	55
	CANADIAN BASED SALESPERSONS	72	34
CONTRACT	CONTRACT	18	88
FDI	WHOLLY OWNED AMERICAN OFFICES	46	60
	ACQUISITION OR JOINT VENTURE	9	97

A significant number of companies learned to use an FDI strategy with their products over time. The number of products using an FDI strategy increased from twenty to forty-three between entry 1 and entry 3. These products had significantly higher performance than other products.

Table 2				
ENTRY STRATEGY		ENTRY 1: 106 PRODUCTS	ENTRY 2: 63 PRODUCTS	ENTRY 3: 30 PRODUCTS
EXPORT	DIRECT MAIL	24%	11%	9%
	CANADIAN DISTRIBUTOR	3	0	0
	AMERICAN DISTRIBUTOR	18	46	9
	CANADIAN BASED SALESPERSONS	34	15	27
CONTRACT	CONTRACT	7	8	3
FDI	WHOLLY OWNED AMERICAN OFFICES	13	18	33
	ACQUISITION OR JOINT VENTURE	1	2	18

[2] Two hundred and fifty entry strategies were reported. Companies often used a combination of two or more strategies for a single product and one time. For example, two or more export strategies might be used. A product might be sold by direct mail and also by salespersons based in Canada.

A significant number of products discontinued their export strategies over time. The number of products using export strategies declined from seventy-eight to fifty-five between entry 1 and entry 3. The number of products using a contract strategy remained constant at eight between entry 1 and entry 3. This meant that fifty-nine per cent of all products continued to use an entry strategy that resulted in lower performance.

Recommendation 2: Best Company Configuration

Companies that attempted to create more product value for their customers by transferring activities related to the development, marketing, sale and servicing of their products into the United States had significantly higher performance. The development of a marketing, sales, and after-sale service presence in the United States seemed to have the greatest effects on increasing performance. The transfer of such activities results in a company foreign direct investment strategy because the activities have to be located in the United States in either a wholly owned or joint venture site.

Companies perform a number of activities to create products seen as valuable by their customers. The following activities can all result in product value:

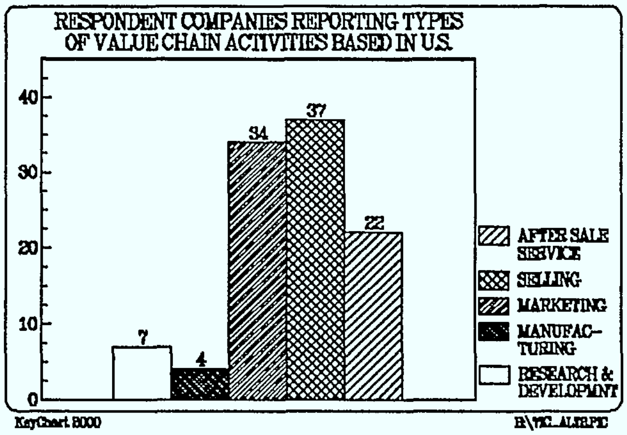
- research and development;
- manufacturing;
- marketing;
- sales;
- after-sale service.

Transferring an activity into the United States may result in a product that is more responsive to local market conditions. For example, if sales activities are transferred from Canada to an American location then salespersons may obtain closer access to American customers and learn what expectations these customers have about the products they buy. If marketing activities are transferred to an American location then a company may be seen as American rather than foreign. If service activities are transferred, then customers may believe that they have greater access to service.

Companies that transferred activities from Canada to American locations had significantly higher performance than companies that did not. Dollar performance, performance satisfaction and performance confidence were all higher. The transfer of some activities, however, resulted in significant performance gains while the transfer of other activities resulted in marginal or no gains.

Graph 6 indicates the number of companies that transferred each of five activities. The most commonly transferred activities were sales, marketing, and after-sale service. Manufacturing and research and development were transferred to an American location much less frequently.

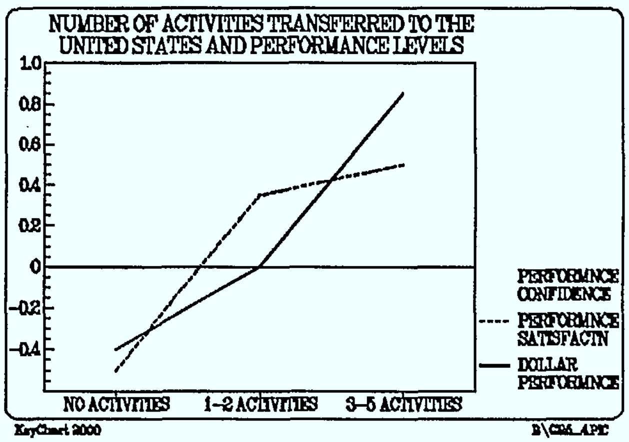
Companies that transferred sales or marketing activities to an American location had significantly higher performance. Dollar performance, performance satisfaction and performance confidence were all much higher than for companies that did not transfer either activity. Companies that transferred after-sale service to an American location had significantly higher dollar performance than companies that did not, but these companies did not have higher performance satisfaction or performance confidence. Companies that transferred research and development or manufacturing activities did not seem to have higher performance.



Graph 6

Recommendation 3: Transfer More Activities Rather than Fewer

Companies that transferred three or more activities to an American location had significantly higher performance than companies that transferred fewer than three activities. Companies that transferred one or two activities had higher performance than companies that transferred no activities.

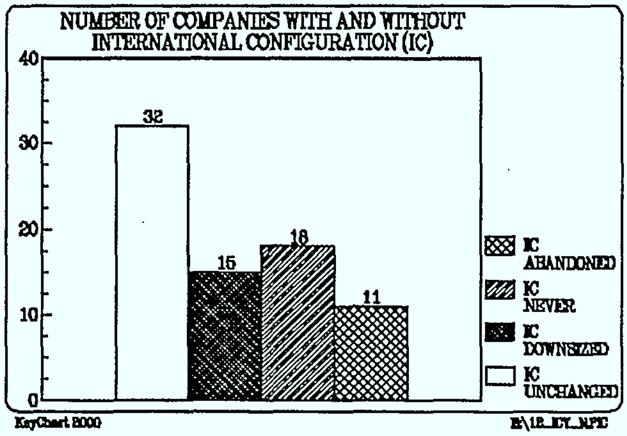


Graph 7

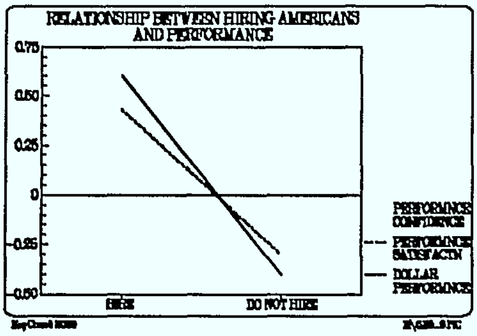
Graph 7 indicates the performance differences between companies that transferred three to five activities, one to two activities, or no activities. The greatest dollar performance gains were achieved by companies that transferred three or more activities to an American location. The dollar performance of companies that transferred one or two activities was higher than that of

Recommendation 5: Hire American Market Experts

Companies that hired American market experts had significantly higher performance than companies that did not hire Americans. Follow up interviews indicated that some lower performing companies that hired Americans did not seem to include them in decision making about the American market and/or did not value their expertise.



Graph 8



Graph 9

Graph 9 indicates the differences in performance for companies that hired, or did not hire Americans. Companies that hired Americans had significantly higher dollar performance, performance satisfaction and performance confidence.

Not all companies that hired Americans were able to find market experts whose performance was satisfactory. Some companies reported that their American salespersons were unable to sell or behaved unethically by representing the competing products of other companies. Two companies in follow up interviews indicated that American salespersons were less able to sell in the United States than were Canadian salespersons.

Higher performing companies continued to search for qualified American market exerts and eventually seemed to find them. Americans were particularly valued for their marketing and sales expertise. Lower performing companies seemed to develop negative attitudes about Americans and their competence. These companies either stopped attempting to hire Americans or disregarded their expertise.

The hiring of genuine American market experts may have reduced the perceived riskiness of entering American markets. Companies that regarded the United States as very culturally different from Canada believed that they could not anticipate market events in the United States. These companies were significantly less confident of their future performance (performance confidence). Hiring American experts may have reduced concerns about cultural differences because American experts would be better able to predict future changes in American markets.

Recommendation 6: Learning Culture

Companies that created a learning culture based on cooperative working relationships between managers and their American product representatives had higher performance than companies that did not. A learning culture seemed to include the use of a team approach that integrated employees from different levels of authority, management functions and geographical locations. A learning culture included shared performance goals, systems that reinforced the shared nature of goals, an interaction pattern that facilitated the development of trust and commitment, and a conflict resolution pattern that led to compromise. Product representatives could include company employees working in a wholly owned American subsidiary, or members of another company such as a joint venture partner or a software distributor.

Companies with learning cultures had significantly higher performance satisfaction and performance confidence. There were higher levels of trust and commitment to relationships. Conflict was more likely to be resolved by rational discussion and integration of minority perspectives in final decisions. The follow up interviews suggested that these companies had developed team structures that integrated employees from a variety of functional (marketing, sales, research and development, manufacturing, management) and cultural (American, Canadian) backgrounds. These teams were usually responsible for goals that could not be achieved without cooperation and employed a consultative decision making process. Trust and the value of cooperative relationships were emphasized in the interviews.

Companies without learning cultures did not share goals and competed with each other to achieve conflicting goals. These companies had low levels of trust and commitment to the relationships, and were more likely to resolve conflict by disregarding an unpopular or minority perspective. The follow up interviews suggested that these companies were racked with goal conflicts between partners or senior managers, between management and employees, or between the companies and their American representatives. The CEOs seemed to set rigid corporate goals that were not open for discussion even among the senior management team. Highly formalized control systems were used to enforce compliance.

Recommendation 7: Collect and Interpret Relevant Information

Companies that collected more information about the United States and used more resources to understand and interpret that information achieved significantly more market penetration including higher sales (dollar performance). Companies that used a greater frequency of committees, single issue problem solving groups, policies, procedures, work plans, schedules, staff meetings and computerized information systems had higher performance.

Companies should use as many methods as possible to collect and interpret information. Companies cannot initially predict which information about an unfamiliar market will be relevant or irrelevant.

Companies must collect information from diverse sources using standing committees or single issue problem solving groups dedicated to the problem of American entry. Involving more managers in the collection and interpretation of information is likely to result in higher quality information and better understanding.

Companies must use the information to develop policies, procedures, work plans and schedules to put relevant information into practice. It is tempting for managers to apply their Canadian experience to problems encountered in the United States. Differing American conditions, however, may require differing solutions.

Companies must disseminate relevant information as widely as possible among employees. Staff meetings and computerized information systems may help inform employees how to be more effective in the United States.

Recommendation 8: Obtain Greater Marketing and Sales Expertise

Companies identified lack of internal marketing and sales expertise as the problem that most affected their performance in the United States. Financial problems related to capital availability were identified as the second most serious problem. A number of other problems were identified as affecting performance in the United States.

Companies were asked to identify the three problems that caused them the most difficulty in entering the United States market. They were also asked to list problems in order of priority. The following tables indicate the number of times that specific problems were mentioned and the relative seriousness of the problems. If a questionnaire identified a problem as a first priority it was assigned three points. If a problem was identified as second most important it was assigned two points and if it was identified as third most important it was assigned one point. Relative importance was determined by adding the number of points assigned for all mentions of a problem.

Table 3 indicates the three most commonly mentioned problems related to the need for internal marketing and sales expertise.

Table 3: Expertise		
SPECIFIC PROBLEMS	NUMBER OF MENTIONS	TOTAL POINTS
FINDING PERSONNEL WITH MARKETING & SALES EXPERIENCE	22	52
FINDING PERSONNEL WITH EXPERIENCE IN THE UNITED STATES	13	29
FINDING QUALIFIED AMERICAN PRODUCT REPRESENTATIVES	11	25

Table 4 indicates the two most commonly mentioned problems related to the need for additional finances.

Table 4: Financial		
SPECIFIC PROBLEMS	NUMBER OF MENTIONS	TOTAL POINTS
CAPITAL AVAILABILITY FOR EXPANSION AND PRODUCT DEVELOPMENT	22	49
CAPITAL AVAILABILITY FOR MARKETING IN THE UNITED STATES	9	26

Table 5 indicates seven additional problems that were commonly mentioned as affecting entry into the United States.

Table 5: Additional Problems		
SPECIFIC PROBLEMS	NUMBER OF MENTIONS	TOTAL POINTS
CUSTOMER SOPHISTICATION AND THE NEED TO IMPROVE PRODUCTS	12	21
CHANNEL DEVELOPMENT: CONTROLLING OFFICES LOCATED IN UNITED STATES	8	20
UNITED STATES REGULATIONS THAT INHIBITED PRODUCT ENTRY	10	18
AMERICAN PROTECTIONISM AND THE PREFERENCE TO 'BUY AMERICAN'	7	17
LACK OF CONFIDENCE DOING BUSINESS IN THE UNITED STATES	10	15
DISTANCE: THE COST OF ACCESSING A DISTANT MARKET	9	15
DISTANCE: THE COST OF PRODUCT SUPPORT IN A DISTANT MARKET	7	14