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BUSINESS STRATEGIES OF SMEs AND LARGE FIRMS IN CANADA

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Industry Canada

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

This research investigates the strategies for growth and competitiveness pursued by large firms and small and medium-sized enterprises (SMEs), to find out whether they differ and, if so, whether these differences can help identify problems specific to SMEs.

In this study, “business strategy” is defined as “all aspects of a firm’s behaviour,” including approaches to management, human resources, technology, investment, staff training, use of government programs, and sources of innovation.

The present study is based on a recent survey of SMEs and large firms conducted by Abt Associates of Canada for Industry Canada. The study increases understanding of large firms by using a larger sample than case studies do, thereby permitting generalization about the conduct of large firms. It also increases understanding of SMEs by permitting comparisons with large firms to find out whether the strategies SMEs follow are distinguishable from large firms’ strategies and whether they might be a cause for concern.

This study finds the following important similarities between SMEs and large firms:

- Both large firms and SMEs perceive the four most important influences on their competitive position to be product quality, customer service, flexibility, and range of products.

- For both SMEs and large firms, growth is most influenced by management, marketing, and employee morale. Other important influences on growth are: access to capital and markets, ability to adopt technology, and organizational culture. Government assistance is considered the least important influence on growth.

- SMEs and large firms differ little in business strategy. Market share and new products are considered important to the business strategy of both large firms and SMEs, as are technological change, efficient use of inputs, management practices, and human resources strategy.

- For both large firms and SMEs, customers and managers are the most important sources of product innovation. The R&D unit, the production unit, and suppliers are the next most important. Managers and the production unit, followed by customers and the R&D unit, are the most important sources of process innovation.

This study has identified the following important differences between large firms and SMEs:

- Large firms are much more likely than SMEs to pursue linkages with other firms through strategic partnerships, joint ventures, and strategic alliances.

- Proportionately more small firms than large firms use government programs, although the use of government programs is widespread among firms of all sizes. SMEs are more likely than large firms to consider R&D tax credits and government training programs to be very important. SMEs attach less significance to market information and export incentives supplied by government, although these services are important to them.

- Large firms are more likely than SMEs to perceive organizational culture and skilled labour as important growth factors. Large firms also consider innovative organizational structure to be more important to overall management practices.

- More employees in large firms than in SMEs receive formal training, except for professionals, who receive approximately equal training. Employees spend equal time in informal training in SMEs and large firms, approximately 10 percent of work time.

- Large firms perceive licensing of intellectual property as a more important source of both product and process innovation than SMEs do.

In conclusion, SMEs and large firms generally follow similar business strategies. Both SMEs and large firms perceive management, marketing, access to capital and markets, and ability to adopt technology as the most important growth factors, and government assistance as the least important growth factor.

The results highlighted in this paper indicate that government policies should focus on improving the business climate. Sound macro-economic policies and fair, efficient market-framework policies do much to help both large firms and SMEs to become more competitive and prosperous, and to create more jobs.

However, some important differences between SMEs and large firms’ business strategies indicate that some specific government interventions might be warranted. First, the overall business strategies of large firms focus more on the importance of employees than those of SMEs do. Large firms perceive skilled labour to be more important than SMEs do, and more large firms than SMEs offer their employees formal training. Government training programs could, therefore, be an important source of help to SMEs.

Second, large firms are more likely than SMEs to engage in strategic partnerships, joint ventures, and strategic alliances with other firms. SMEs could, therefore, benefit from exploring the potential for linkages with other firms. In this area, government can help by facilitating such linkages at both the national and international level.

Finally, the use of licensed intellectual property is more important as a source of innovation for large firms. SMEs could, therefore, benefit from further consideration of these potential sources of innovation, and government could facilitate that consideration.

The evidence presented in this paper indicates that government policy focus on SMEs is warranted. Although SMEs rank government assistance as their least important growth factor, they use government programs more than large firms do, and generally rate them as more important to their overall business strategy.

INTRODUCTION

From a policy perspective, knowledge of the behaviour of small and medium-sized enterprises (SMEs) is important. The small-firm sector creates most new jobs in Canada, although most job losses also occur in this sector. Also, small firms that are growing employ about the same proportion of personnel in R&D as the overall population of firms, and their R&D-to-sales ratio is higher than the national average.[1] Therefore, in terms of total employment and innovative activities, SMEs are important to the Canadian economy.

However, if jobs created by start-up ventures are excluded, employment growth is almost the same in SMEs and large firms. In addition, large firms seem to be less vulnerable than SMEs to financing problems, marketing difficulties, inflexibilities in adopting technology, and difficulty in hiring qualified employees.

Recognizing the important contribution of both types of firms to the Canadian economy, this study investigates the strategies for growth and competitiveness pursued by large firms and by SMEs to find out whether they differ.[2] Much recent research in this area has focused on the strategies of SMEs. The objective was to analyse their behaviour and isolate specific deficiencies that might explain some of their problems. Other research has focused on successful SMEs to identify the strategies that make them successful; the present research compares the strategies of SMEs and large firms to identify the problems that are specific to SMEs.

We recognize that the behaviour of firms cannot be represented by a unique dimension or variable. Rather, we have defined business strategies to cover all aspects of a firm's behaviour, including approaches to management, human resources, technology, investment, staff training, use of government programs, and sources of innovation.

The present study is based on a recent survey of SMEs and large firms conducted by Abt Associates of Canada for Industry Canada. The study increases understanding of large firms by using a larger sample than case studies do, thereby permitting generalization about the conduct of large firms. It also increases understanding of SMEs by permitting comparisons with large firms to find out whether the strategies SMEs follow are distinguishable from large firms' strategies, and whether they might be a cause for concern.

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[1] Baldwin, Chandler, Le and Papailiadas (1994), p. 32–33.

[2] SMEs are firms with fewer than 500 employees. We have grouped small and medium-sized firms together so a useful comparison can be made with other research results in the literature. The objective is also to compare the behaviour of SMEs with that of large firms. In doing so, differences between small and medium-sized firms will be lost. This could be important if medium-sized firms behave differently from small-sized firms in a significant way.

Section 1 summarizes a selection of the literature on SMEs and large firms in Canada that is relevant for comparison purposes, Section 2 outlines the research methodology of this study, Section 3 presents its findings, and Section 4 presents our conclusions.

1. BUSINESS STRATEGIES AND ACTIVITIES: SELECTED LITERATURE

Little is known about the differences between large firms and SMEs in what they perceive to be success factors and the public policy implications of those differences. The research is fragmented and thin. Comparisons of the behaviour of large and small firms first appeared indirectly, in the context of explaining the market structures amenable to innovative activity and economic growth. Schumpeter (1942) was the first study to examine the dynamics of market structures most favourable to success, measured in terms of innovation. The theme running through *Capitalism, Socialism, and Democracy* is now familiar to economists: economic growth results mainly from innovative activity, which depends on entrepreneurial activity. Schumpeter argued that innovation is more likely to occur under monopolistic conditions, where rents can be captured from innovative activity and where firms are in a better position to absorb the risks of creative activity.

Since Schumpeter, however, understanding of the role of market structures has advanced in theory as well as in terms of the statistical evidence brought to bear on the problem. This research challenges Schumpeter's theory. The theoretical work suggests complex relationships between market structure and economic growth. Technological change depends on a host of factors, and can occur in various market structures, from competition to oligopoly and monopoly. The empirical research, based mainly on U.S. firm-level and industry-level data, points to several important conclusions, such as: that large corporations are not the sole sources of innovative activity, and that a high degree of seller concentration does not necessarily favour innovation. Specifically, the empirical research finds that large firms are more likely to engage in formal R&D and receive more patents than very small firms. However, innovation also occurs in firms of modest size in the manufacturing sector. Acs and Audretsch (1990) find that small firms seem more efficient in R&D: they generate more innovations per thousand employees and per million dollars of R&D spending. Yet, the majority of small firms are not innovative to any significant degree. From these findings, it is possible to conclude that the weight of evidence does not suggest any concrete relationship between particular market structures and the extent to which innovative activity occurs at firm level.

In Canada, Baldwin and colleagues (1994) investigates both the strategies and the activities of successful SMEs, focusing on the tactics small firms use to become successful and on the activities they use to implement these strategies. Baldwin explores the broad areas of management, marketing, financing, human-resource development and innovation. The study is based on survey data supplemented with administrative data on sales and profitability. The survey focuses on three interrelated areas: the firm's strategies, which encompass the overall organizational plan adopted to meet the firm's goal; the firm's activities, such as financing, personnel, technology, and capital equipment investment; and characteristics of the firm, such as its governance structure, geographical diversification of sales, and the ethnic and educational background of the manager.

The sample for that survey was designed to produce a picture of growing Canadian SMEs in 1992. Firms eligible for the study had fewer than 500 employees and less than $100 million in assets in 1984. Eligible firms also had grown in employment, sales and assets between 1984 and 1998.

Baldwin finds that the three factors most significant to the success of growing SMEs are management, the skills of employees, and marketing. Financing strategy is also regarded as important.

Skillful management is perceived to contribute the most to the competitiveness of individual firms; total quality management and innovative organizational structures receive the greatest emphasis. Skilled labour ranks just after management in explaining growth. The human resources strategy focuses on continuous staff training. Growing SMEs place considerable emphasis on the quality of their workforce; it is found that 53 percent of them spend, on average, 10 percent of their investment budget on staff training.

Marketing strategy ranks third in influence on success. This factor includes product quality, flexibility in responding to customer needs, and customer service. In the area of finance, growing SMEs report that gaining access to capital and solving the problem of capital cost are most important.

Baldwin finds that growing SMEs appear to be significantly innovative, with 16 percent of all investment allocated for R&D and R&D-to-sales ratios better that the average for Canadian businesses overall. Growing SMEs report that innovative activity can occur in the absence of formal R&D structures.

2. RESEARCH METHODOLOGY

2.1 Objective of the survey

The purpose of the survey done for this paper was to examine the business strategies of firms in Canada and to compare strategies used by SMEs with the strategies used by large firms. Specifically, we wanted to determine whether the combination of important elements in a business strategy is the same for all the firms in our sample and, more important, whether the combination favoured by SMEs differs from that of large firms in Canada. In this study, we used a broad definition of business strategies that covered approaches to management, human resources, technology, investment, staff training, use of government programs, and sources of innovation.

2.2 Survey instrument

The questionnaire had three main sections. The first section examined the general characteristics of firms, including ownership structure, country of control, involvement in strategic alliances and joint ventures, and sales.

The second section assessed the competitive position of firms, relative to competitors, in categories such as price, quality, and customer service, focusing on the factors contributing to growth over the previous five years and predicted for the next five years. These factors included management skills, R&D capability, and employee skills.

The third section queried firms' overall business strategy, including how each firm dealt with its markets and products, technology, inputs, employees, and its management practices. This section also included questions on sources of product and process innovation, such as management and the R&D and production units, and the importance of various government programs to growth. Human resources strategy was also examined in firms where the employment, earnings, and training of occupational groups was sampled. Finally, the proportion of total investment in market development, R&D, materials for production, buildings, machinery and equipment, and staff training was examined.

2.3 Conduct of the survey

The survey questionnaire was designed to examine how the characteristics, strategies, and activities of SMEs and large firms affect their competitiveness and growth. It included questions from the Statistics Canada *Survey of Growing SMEs* because of the objective to compare this survey's results with Statistics Canada's results on growing SMEs. The questionnaire was also adapted to the survey sample, which included large firms, and to obtain answers to questions specific to this research.

We tested a preliminary version of the questionnaire. The test consisted of 13 interviews with senior representatives (e.g., VP Human Resources, VP Finance, Comptroller, Director of Communications or Government Relations) of medium-sized and large Canadian companies. The respondents' views indicated what we should do to finalize the survey instrument (see Appendix B).

To select our survey sample of firms, we more than 1,200 of the largest firms from the CanCorp Canadian Corporations database maintained by Micromedia Ltd. This database covers major public corporations incorporated in Canada and trading on a Canadian exchange; major subsidiaries; privately held, federally registered corporations; and all companies listed on the Toronto Stock Exchange.

The survey was conducted between July 11, 1995 and September 30, 1995, by means of an initial general mailing, a telephone follow-up and a second mailing. It produced 254 valid responses, a response rate of about 21 percent.

Approximately 60 percent of the final sample is SMEs — that is, firms with fewer than 500 employees. The remaining 40 percent is large firms — that is, firms with 500 or more employees. This size distribution is very close to the distribution in our initial full sample of firms surveyed (see Table 1).

Table 1
Size distribution of sample (by size of firms, number, and percentage of sample)

	SMEs		Large firms		Total
Initial sample	703	(57%)	532	(43%)	1235
Final sample	146	(58%)	108	(42%)	254

The industrial distribution of our final sample (see Table 2) looks different from the distribution of the initial sample. The response rates in the manufacturing sector and trade sector (both wholesale and retail) were lower than average and, consequently, these sectors are under-represented. However, we chose not to correct for these differences because the initial sample contained an over-representation of these sectors in total GDP. The industrial composition of the final sample is, in fact, closer to reality.

Table 2
Industry distribution of sample (percentage of sample)

	Initial sample		Final sample	
Resources	7	(0.5%)	20	(7.9%)
Manufacturing	590	(47.8%)	95	(37.4%)
Construction	30	(2.4%)	4	(1.6%)
Transportation and communications	106	(8.6%)	33	(13.0%)
Wholesale trade	205	(16.6%)	22	(8.7%)
Retail trade	228	(18.5%)	14	(5.5%)
Finance, insurance and real estate	61	(4.9%)	40	(15.7%)
Services	8	(0.6%)	26	(10.2%)
Total	1235		254	

3. RESEARCH FINDINGS

3. 1 General characteristics

SMEs are more likely than large firms to be proprietorships, and smaller firms are probably more likely than large firms to be taken over. In the sample, more SMEs than large firms are controlled by a parent company (see Table 3).[3] On average, 49 percent of firms are controlled by a parent company. Among large firms, control by a parent company is less likely than the average for the whole sample. This is a reasonable finding — large firms are more likely to control than to be controlled.

Table 3
Control by a parent company (percentage by size of firm)

	SMEs	Large firms	Total
Controlled by a parent company	51.4	45.4	48.8

Table 4 shows the origin of the parent company by size of firm, for the firms controlled by a parent company. Of the total sample, 36 percent of parent companies originate in Canada and 36 percent in the United States. Of large firms, 41 percent are controlled by a parent company originating in the United States. Consequently, the likelihood of ownership by a U.S. firm generally increases with firm size. This is consistent with the branch-plant nature of the Canadian economy.

Table 4
Origin of parent company (by size of firms)

	SMEs	Large firms	Total
Canada	34.7	38.8	36.3
United States	32.0	40.8	35.5
Rest of world	22.7	20.4	21.6

Firms in the sample can grow because of external forces such as mergers or acquisitions. In the 1992–1995 period, 10 percent of firms in the sample had been acquired by other firms, and 30 percent had acquired other firms. Generally, SMEs are acquired more often than large firms, and large firms are more likely than SMEs to acquire other firms (see Table 5).

[3] Baldwin and colleagues (1994) found that most SMEs are independently owned (that is, owned and operated by executives or managers), and a few are owned by passive investors.

Table 5
Acquisition of firms (by size of firm)

	SMEs	Large firms	Total
Percentage of firms acquired	11.0	9.3	10.2
Percentage of firms that have acquired others	26.7	35.2	30.3

A firm's interests may be linked to those of other firms by joint ventures, strategic alliances, or strategic partnerships. Over the 1992–1995 period, 34 percent of all firms in the sample had been involved in a joint venture, 33 percent in a strategic alliance, and 29 percent in a strategic partnership. Forty-five percent of the firms in the sample had been involved in at least one of these linkages.

Large firms were much more likely than SMEs to enter into strategic partnerships, joint ventures, and strategic alliances (see Table 6). Thirty-nine percent of large firms were involved in a strategic partnership, 45 percent in a joint venture, and 44 percent in a strategic alliance but, at most, only 25 percent of the SMEs were involved in any kind of linkage with another firm.

Table 6
Type of alliance (by size of firm)

	SMEs	Large firms	Total
Strategic partnership	21.9	38.9	29.1
Joint venture	25.3	45.4	33.9
Strategic alliance	24.0	44.4	32.7

3.2 Intellectual property[4]

Firms have many reasons for entering into a strategic alliance, partnership, or joint venture. The survey asked firms whether the sale to or acquisition from other firms of intellectual property was important in the decision to enter into any linkage with another firm. The acquisition, sale, or licensing of intellectual property was a factor in the decision to form such an arrangement for 35 percent of firms in the sample, and more large firms (37 percent) than SMEs (33 percent) said it was a factor.

[4] To answer the qualitative questions, respondents were asked to rank their opinion on a five-point scale: 1 (not important); 2 (slightly important); 3 (important); 4 (very important); 5 (crucial). Results for qualitative questions are reported as an average of all responses.

Intellectual property can be acquired or licensed through patents, trademarks, copyrights, and trade secrets or know-how. In the sample, 29 percent of firms ranked the sale or licensing of patents as very important or crucial to the decision to form a joint or strategic arrangement; 45 percent ranked trademarks as very important or crucial; 24 percent ranked copyrights as very important or crucial; and 87 percent ranked trade secrets or know-how as very important or crucial. The significance of the sale or licensing of such intellectual property to other firms was ranked about the same.

Figure 1 shows the average score of each type of intellectual property acquired or licensed from other firms, and Figure 2 shows the average score of each type of intellectual property sold or licensed to other firms. Acquisition or sale of trade secrets or know-how is ranked as very important, although all types of intellectual property are considered important.

Figure 1

Role of Intellectual Property in Firm Linkages

Acquired or Licensed from Other Firms
(Average Score)

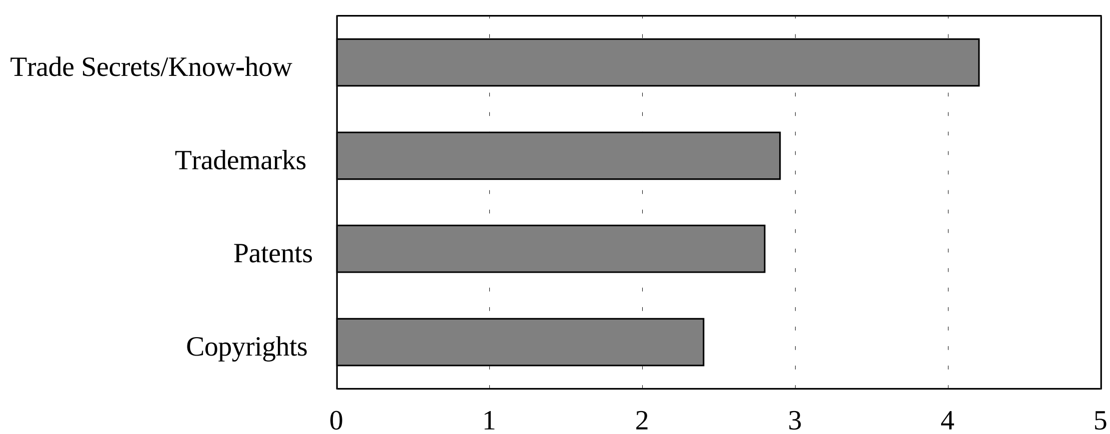
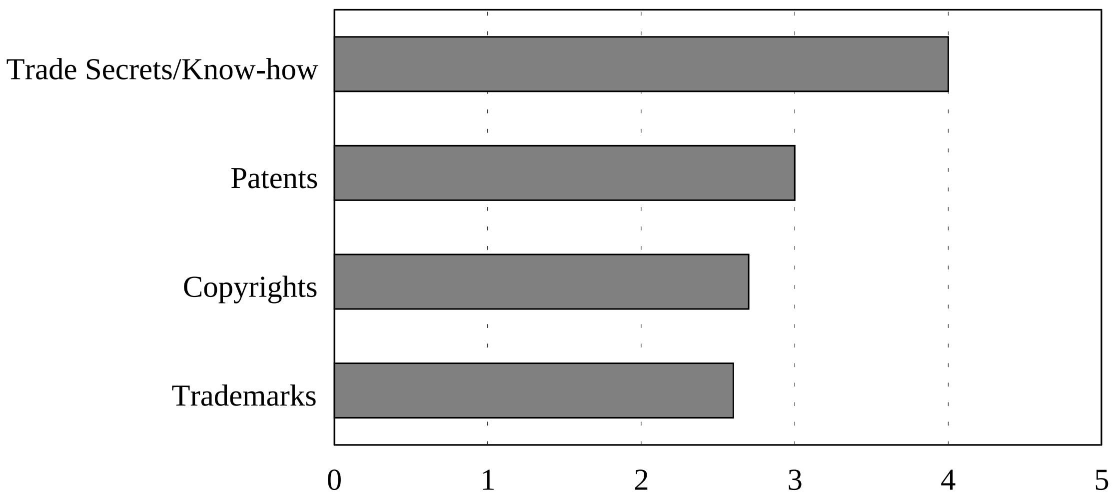


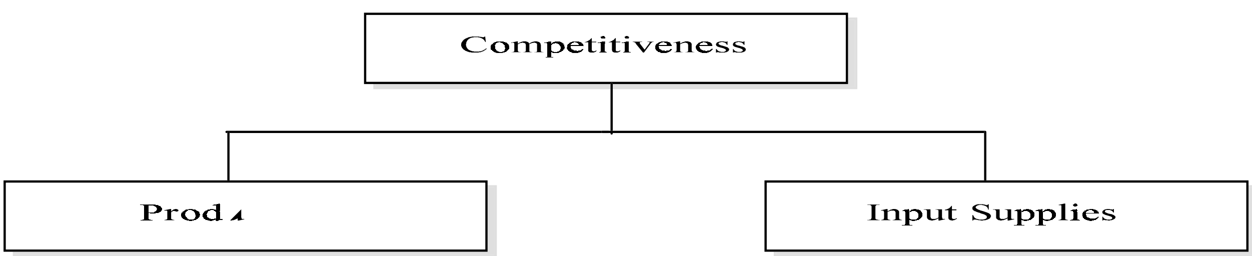
Table A1 and Table A2 show the average score given to the importance of each type of intellectual property in the decision to form a strategic or joint arrangement, by size of firm. Both SMEs and large firms rate trade secrets and know-how as the most important form of intellectual property, followed by other forms.

Figure 2Figure 3

Role of Intellectual Property in Firm Linkages

Sold or Licensed to Other Firms
(Average Score)



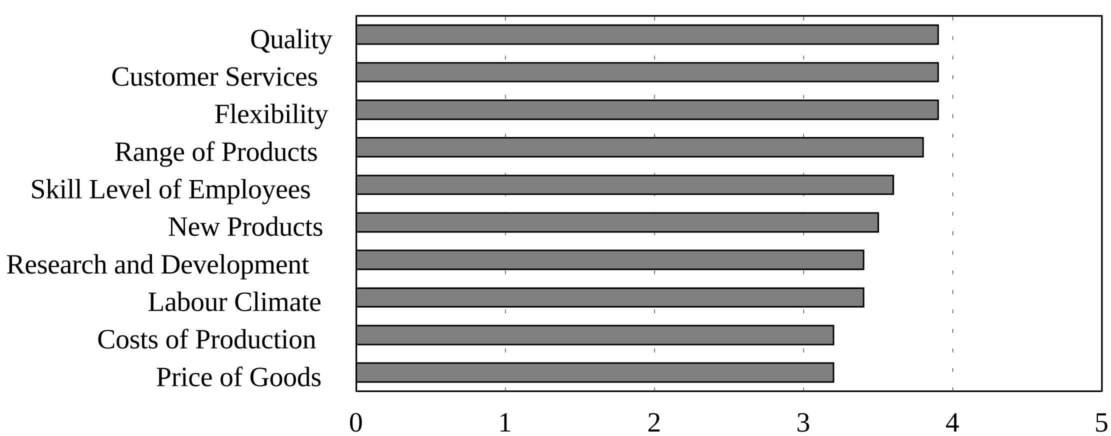


Firms were asked to rank their competitive position relative to their main competitors on the following 10 attributes:

- product price;
- customer service;
- product quality;
- range of products;
- frequency of introduction of new products;
- flexibility in responding to customers' needs;
- production costs;
- R&D spending;
- labour climate; and
- employee skills.

Firms were asked to assess their relative position on a five-point scale: 1 (much worse than the competition); 2 (somewhat worse); 3 (about the same); 4 (somewhat better); 5 (much better). The average scores for each category (excluding not applicable responses) are shown in Figure 4 and Figure 5.

Figure 4
Perceived Competitive Position
(Average Score for all Firms)



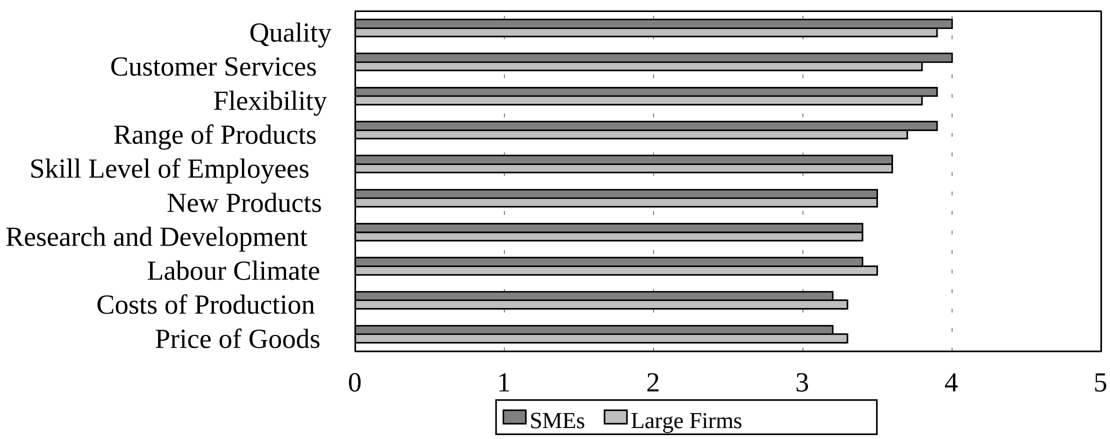
Although the firms in the sample clearly perceive that all the listed factors influence their relative competitive position, it is also clear that they believe that the most important are product quality, customer service, and flexibility in responding to customer needs, each with average scores of 3.9. Next in importance are range of products (3.8), employee skills (3.6), new products (3.5), labour climate (3.4), R&D (3.4), price of goods (3.2), and production costs (3.2).

Figure 5 and Table A3 show the average scores (standard error) for both large firms and SMEs. The four factors in which they perceive themselves most superior to their competitors are: product quality, customer service, flexibility, and range of products, with scores of 3.7 or more. SMEs perceive these factors to be more important than large firms do, however. The least important factors, for firms of all sizes, are product prices and production costs.

Figure 5

Perceived Competitive Position

(Average Score by Size of Firm)



The ranking of the results is similar to that for growing SMEs found in Baldwin and colleagues (1994). In both the present study and in Baldwin, the top three factors are product quality, customer service, and flexibility.

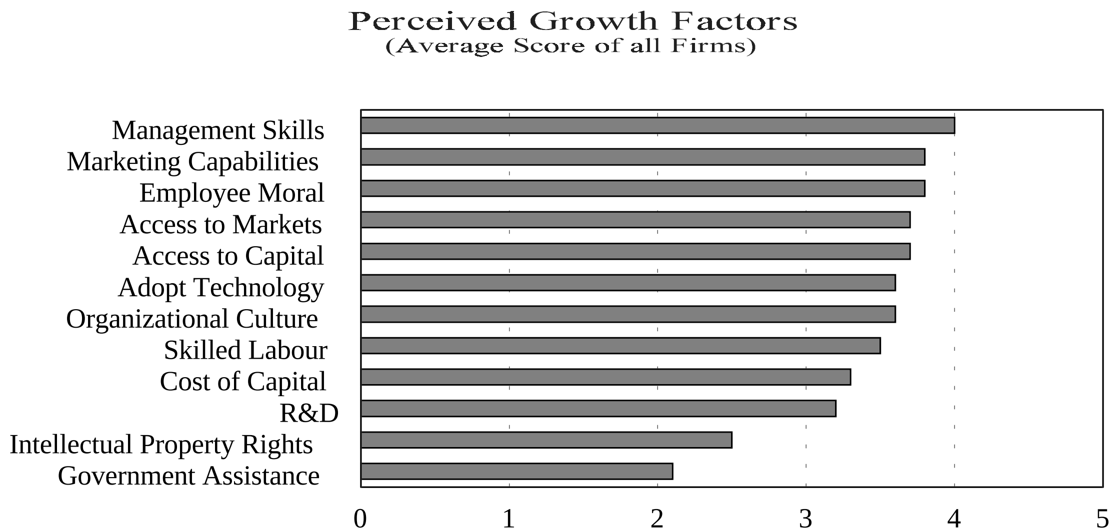
3.4 Growth

The factors perceived as contributing to the growth of firms include the various facets of production, including managerial, marketing, and employee capabilities, technological and innovational adaptability, and the overall business climate within the firm. Growth also depends on availability of inputs, especially the supply of capital, the price of capital, markets, technology, and government assistance. Figure 6 illustrates the factors influencing growth.

[redacted]*5* **Figure 6** Firms

[redacted]

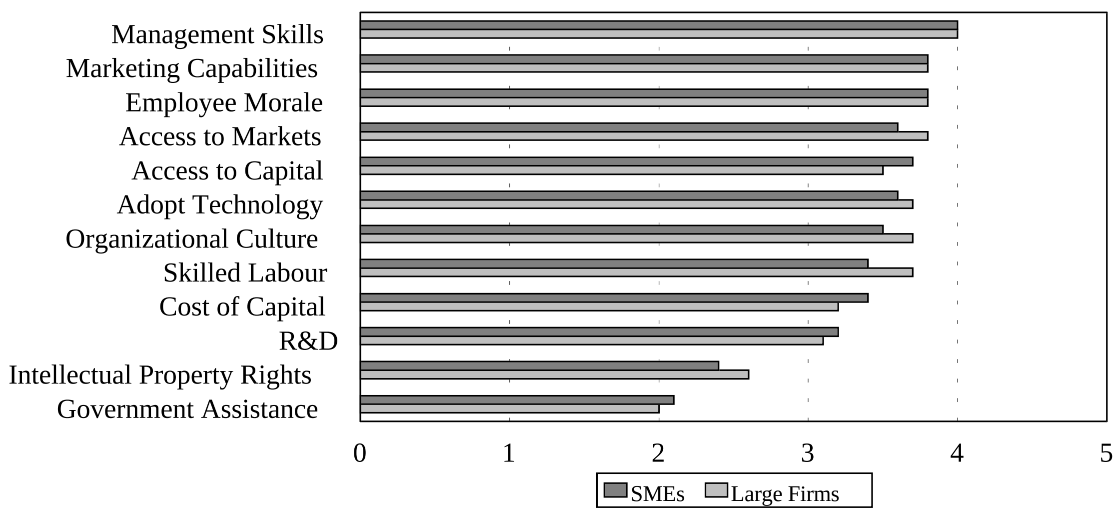
Figure 7



Like the study of growing SMEs (Baldwin *et al.* 1994), the present study found that management skills, marketing capability, access to markets, and access to capital are among the top five factors. The results differ in that, although employee morale is among the top five factors for large and small firms, skilled labour is not, although it is for growing SMEs. Like growing SMEs in Baldwin's study, the firms surveyed for this study reported government assistance as the last important contributor to growth.

Figure 8 and Table A4 show the responses of SMEs and large firms. For both, the top three factors perceived to affect growth in the previous five years are management skills, 4(na)nt (owing)1c0(e)4(ap4(v)4(ab4(v)abilidy)30(ma)d 10(e)4(t) empl y)30(e)3(e)4e m7(a)erms.6Fr b of SME

Figure 8
Perceived Growth Factors
(Average Score by Size of Firms)



3.5 Business strategy

Firms have strategies that permit them to work toward their goals. Firms need a strategy for dealing with market changes, and coordinated plans for the types of products and markets they supply. On the production side, firms must be able to innovate and to be flexible in adopting appropriate production technologies, training employees, using new materials, reducing costs, and managing their operations.

Firms were asked to rate the following five categories for importance to their overall business strategy:

- markets and products;
- technology;
- use of production inputs;
- management practices; and
- human resources strategy.

A five-point scale was used to assess the importance of various factors in each category: 1 (not important); 2 (slightly important); 3 (important); 4 (very important); 5 (crucial). All categories of strategies were reported as important or crucial. Human resources and the markets and products were first and second in the overall ranking, followed by management practices, technology, and use of production inputs, in a tight group. The patterns for SMEs and large firms were the same, except that human resources strategy came first in importance for large firms, and markets and products came first for SMEs.

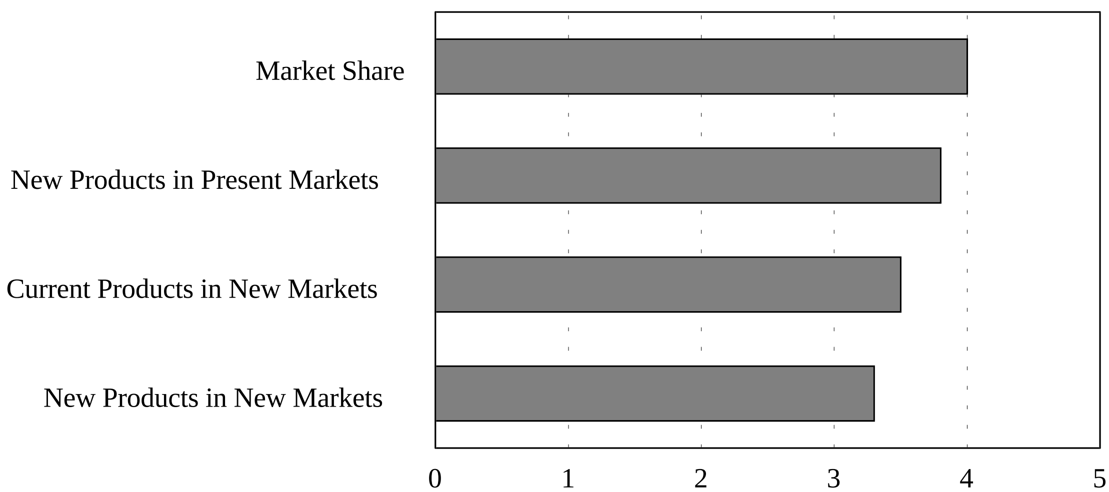
Markets and products

Firms were asked about the importance of maintaining market share, introducing new products to current markets and new markets, and introducing current products to new markets.

Figure 9 shows that maintaining market share is the most important factor, with a score of 4, followed by introducing new products to current markets (3.8), current products to new markets (3.5), and new products to new markets (3.3). All factors are considered important.

Figure 9

Importance of Markets and Products
(Average Score for all Firms)



Therefore, the sampled firms value the least aggressive marketing strategy, maintaining market share, the most, and the most aggressive strategy, that of entering new markets with new products, the least. Still, all marketing strategies rank above 3 (important), which shows that firms of all sizes emphasize their original markets, but also value aggressive entry into new markets with new products.

Markets and products by size of firm

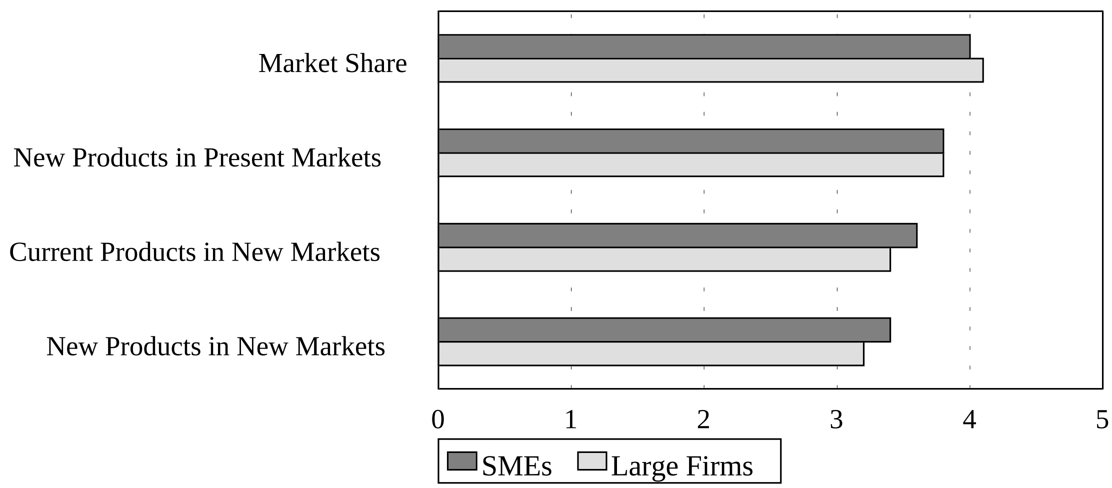
Figure 10 and Table A5 show that SMEs and large firms differ little in their perception of the importance of maintaining market share (crucial) and of introducing new products in current markets (important). Market share is considered crucial, with a mean score of 4.0 for SMEs and

4.1 for large firms. Introducing new products in current markets receives a mean score of 3.8 for both SMEs and large firms. Smaller firms, however, place more importance on introducing current products in new markets, with a score of 3.6, compared with large firms, which score market strategy at 3.4. The most aggressive strategy, introducing new products in new markets, is ranked the lowest by both SMEs and large firms, although the SMEs rate it higher than larger firms do.

Figure 10

Importance of Markets and Products

(Average Score by size of firm)

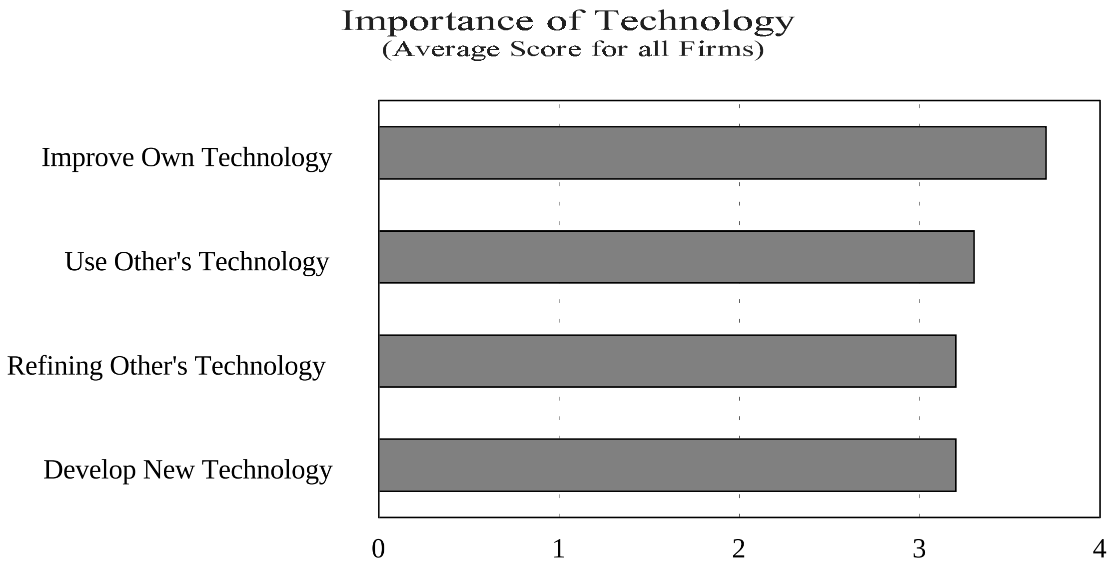


In conclusion, firms of all sizes primarily base their marketing strategy on maintaining market share, the least aggressive approach of the possibilities offered in the survey.

Technology

In the knowledge-based economy, technology plays a leading role in fostering growth in the economy as a whole and at firm level. Therefore, it is important to inquire about the technology strategy of firms. At firm level, technological change occurs through the development of new technology, refinement of technology developed by others, use of technology developed by others, or improvement on current technology. The importance of each kind of technological change to firms of all sizes is shown in Figure 11.

Figure 11

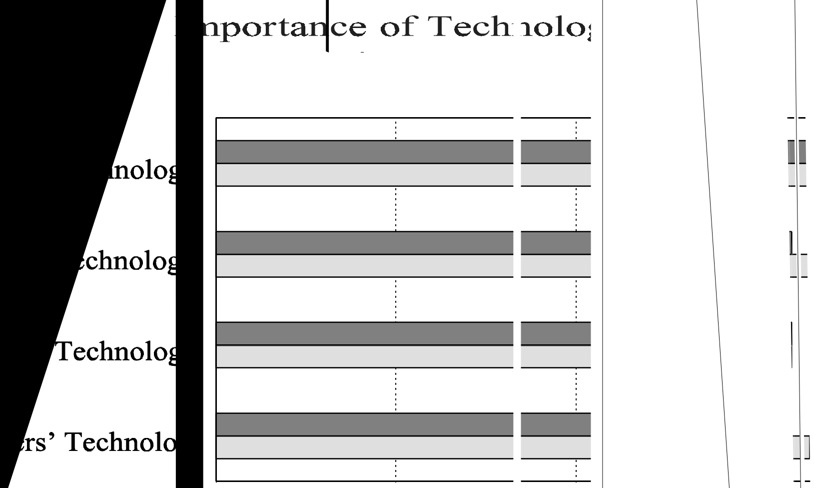


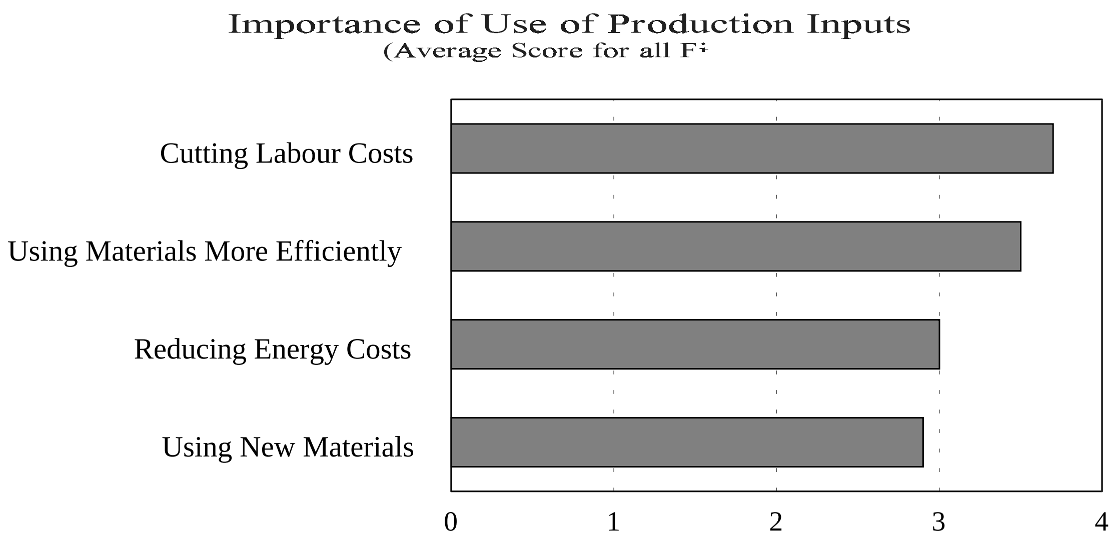
The most important of the categories of technological change is improving a firm's own technology with a score of 3.7 followed by almost equal weight being given to the other forms of technological change with scores of 3.3 for using others' technology, and 3.2 for each of refining others' technology and developing new technology. By following a less aggressive, and therefore less risky strategy, firms find it easier and less costly to innovate. Still, all strategies are given a score greater than 3 (important) so that both aggressive strategies and building on existing strengths are important.

Importance of technology to overall business strategy

Figure 12 and Table A6 show how SMEs and large firms perceive the importance of each type of technological change to overall business strategy. Both large firms and SMEs rate improving current technology as the type of technological change most important to their business strategy, with scores of 3.8 and 3.6 respectively. Large firms rate using others' technology as next in importance (3.5). Both these factors are rated higher by large firms than by SMEs. Developing new technology and refining others' technology are viewed as important by both large firms and SMEs, but less so than improving current technology.

It is possible to compare these results with the results of Baldwin and colleagues (1994) for growing SMEs from a similar question. Growing SMEs also favour improving current technology above other strategies. In order of importance, firms prefer using technology developed by others, developing new technology, and refining the technology of others.




Importance of Use of Production Inputs
(Average Score for all F
Cutting Labour Costs
Using Materials More Efficiently
Reducing Energy Costs
Using New Materials
0
1
2
3
4

management strategies, organizational structure and management incentives came second and third, and just-in-time inventory and process control came last.

Management practices by size of firm

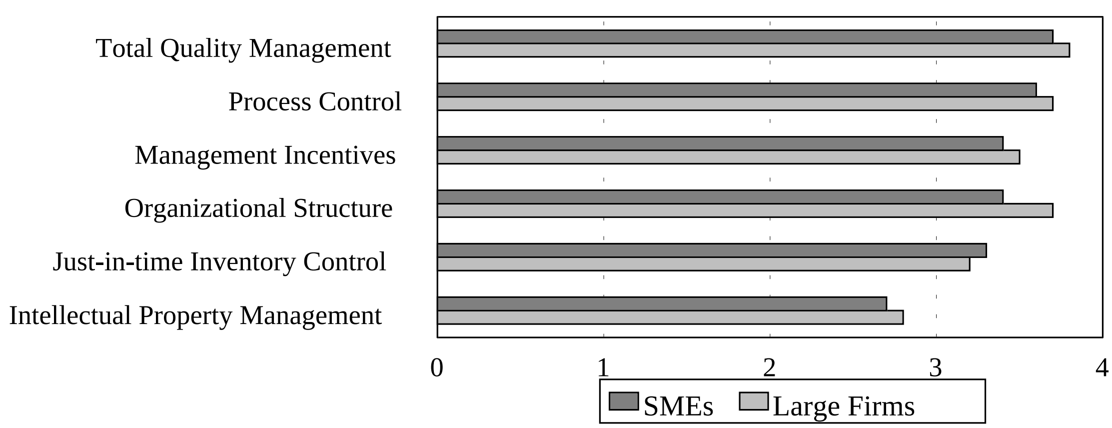
The ranking of management practices in order of importance is almost the same for the whole sample of firms, for large firms, and for SMEs (see Figure 16 and Table A8). However, large firms rank innovative organization structure higher than management incentives.

Both large firms and SMEs value total quality management over all other management practices, with scores of 3.8 and 3.7, respectively. Large firms rank process control and innovative organizational structure equally (3.7), followed by management incentives (3.5), just-in-time inventory control (3.2), and intellectual property management (2.8). In contrast, SMEs score process control at 3.6, both innovative organizational structure and management incentives at 3.4, just-in-time inventory control at 3.3, and intellectual property management at 2.7. In conclusion, both large firms and SMEs rank total quality management the highest of management practices, but consider other management practices almost as important. Large firms consider innovative organizational structure more important than SMEs do.

Figure 16

Importance of Management Practices

(Average Score by size of firms)



5 10

Workforce composition by occupational gr
of executives and management, professional and te
employees. For all firms in the sample, almost 35 p
workers, and the next largest category is "other em
employees. Professional and technical employees c
and management employees are last. The survey als
employees, there is one part-time employee.

Figure 18 shows that the pattern of occupati
approximately the same for large firms and SMEs.
proportionately more professional employees and f
marginally larger proportion of part-time to full-tim

Training: All firms in the sample, on averag
professional and technical employees, 44.1 percent
and 33.9 percent of production employees. Of full-
training, and both full- and part-time employees sp
training.

Figure 18

Workforce Breakdown

(Percent of Total Employment, by Size of Firm)

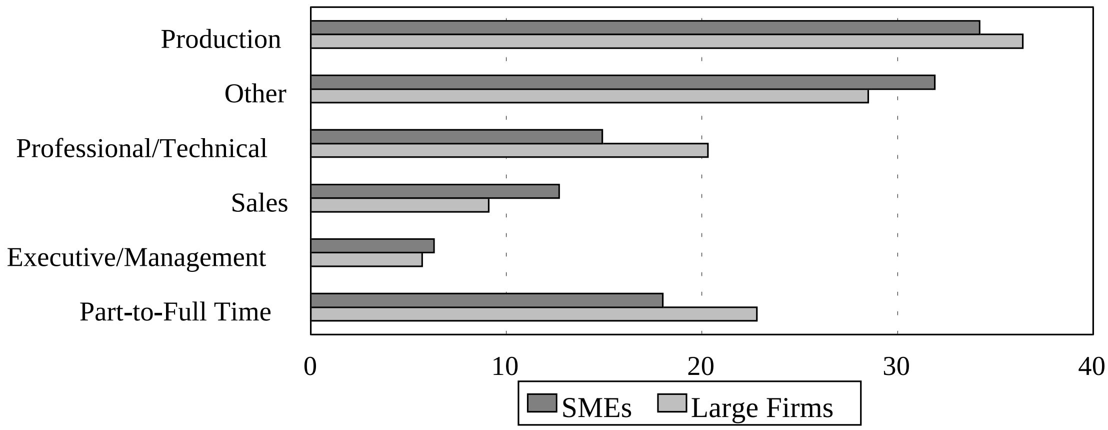
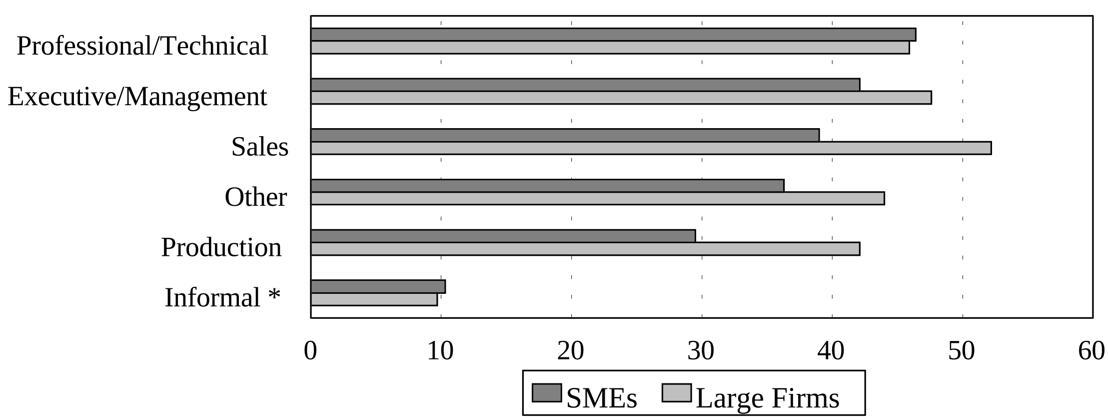


Figure 19 shows the percentage of employees receiving training in SMEs and large firms. In large firms, all categories of employees except professionals received more training than they would in SMEs. The differences are substantial: 29.5 percent and 42.1 percent of production employees, in SMEs and large firms respectively, received training. The remaining statistics, for SMEs and large firms, are: professional and technical employees, 46.4 percent and 45.9 percent; sales employees, 39 percent and 52.2 percent; executives and management employees, 42.1 percent and 47.6 percent; and other employees, 36.3 percent and 44 percent. The amount of time

Figure 19

Employee Receiving Training, 1993

(% of employees, by Occupational Groups and Size of Firms)



* Percent of work time spent in informal training

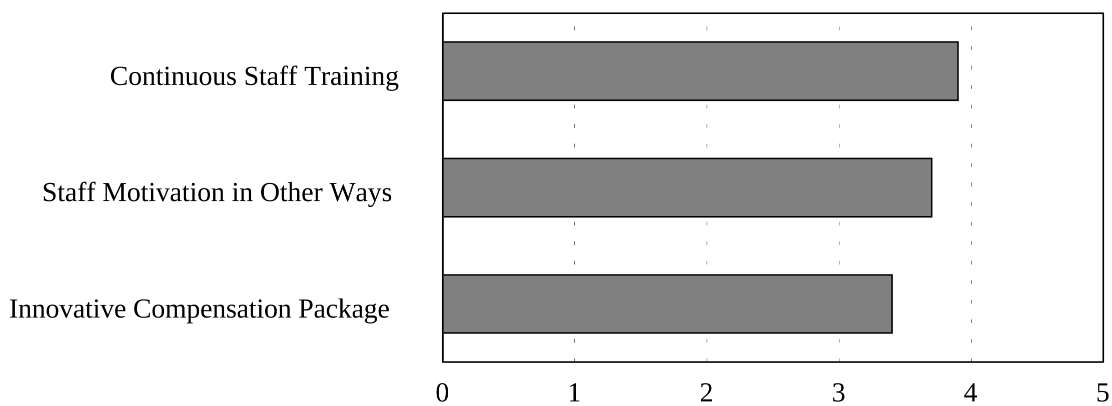
spent in informal training is approximately the same in SMEs and large firms, at 10.3 percent and 9.7 percent respectively.

In conclusion, SMEs generally offer their employees less formal training than large firms do, but approximately the same amount of informal training.

Human resources strategy: Firms were asked to rate the importance of continuous staff training, innovative compensation packages, and other forms of staff motivation. Figure 20 shows that, for firms of all sizes, continuous staff training is the most important human resources strategy, with a score of 3.9, followed closely by other forms of staff motivation (3.7), and innovative compensation packages (3.4).

Figure 20

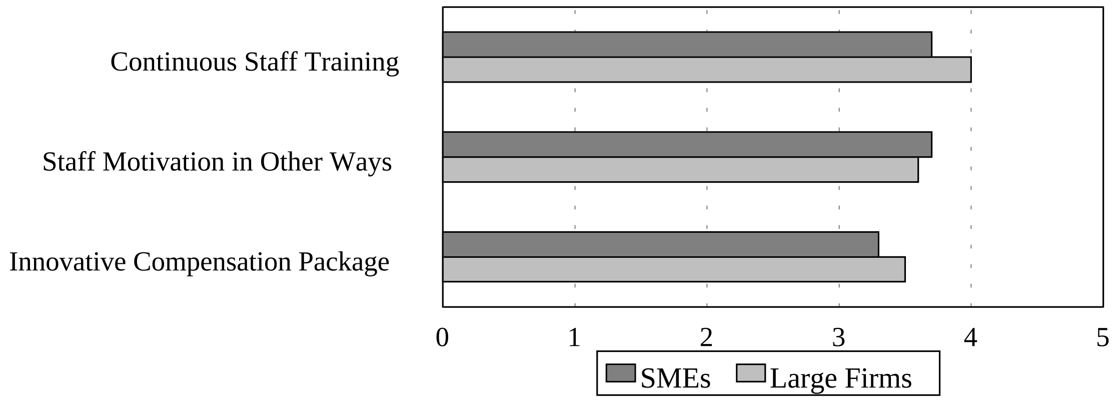
Human Resource Strategy
(Average Score for all Firms)



In Baldwin's 1994 study of growing SMEs, other forms of staff motivation received the highest score, followed by staff training and innovative compensation packages.

Human resources strategy by size of firm: Large firms and SMEs are about the same in the priority they give to staff training, innovative compensation packages, and other forms of staff motivation. Large firms consider continuous staff training crucial (score of 4.0); SMEs scored this category at 3.7. Large firms and SMEs give staff motivation almost the same score (3.6 and 3.7 respectively). Innovative compensation packages are scored at 3.5 by large firms and 3.3 by SMEs (see Figure 21).

Figure 21
Human Resource Strategy
(Average Score by Size of Firms)

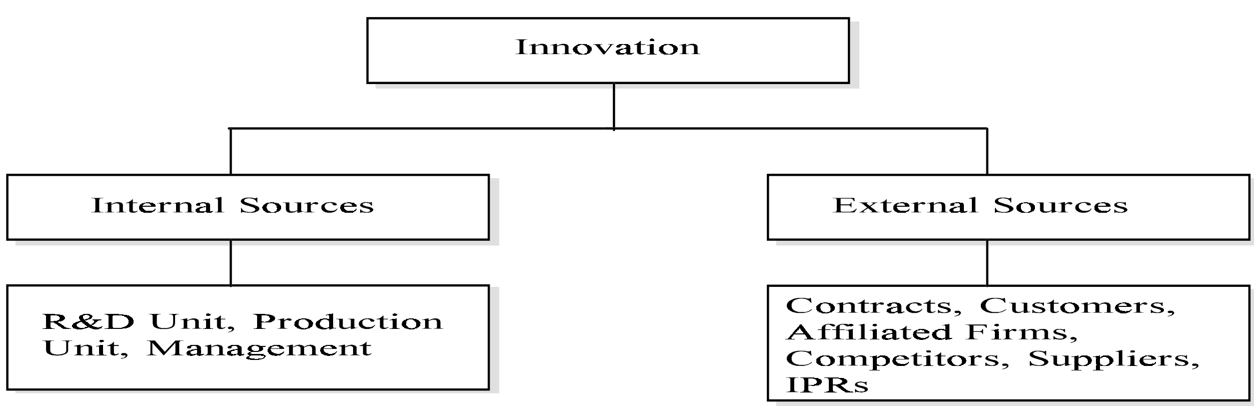


In conclusion, large firms and SMEs both emphasize continuous staff training, but large firms rate it higher than staff motivation and SMEs rate it equal to staff motivation.

3.6 Innovation capability

Innovation is a key element in the growth and competitiveness of a firm. Yet the capacity to innovate — that is, create new products and production processes — comes from sources both inside and outside the firm. Internal sources include the R&D unit, the production unit and management. The external sources include affiliated firms, competitors, suppliers, and customers (see Figure 22).

Figure 22
Sources of Innovation



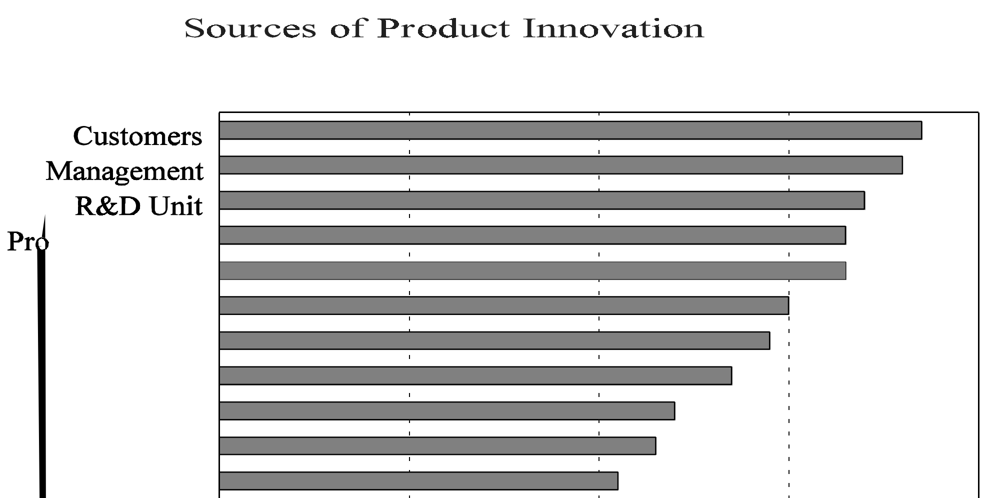
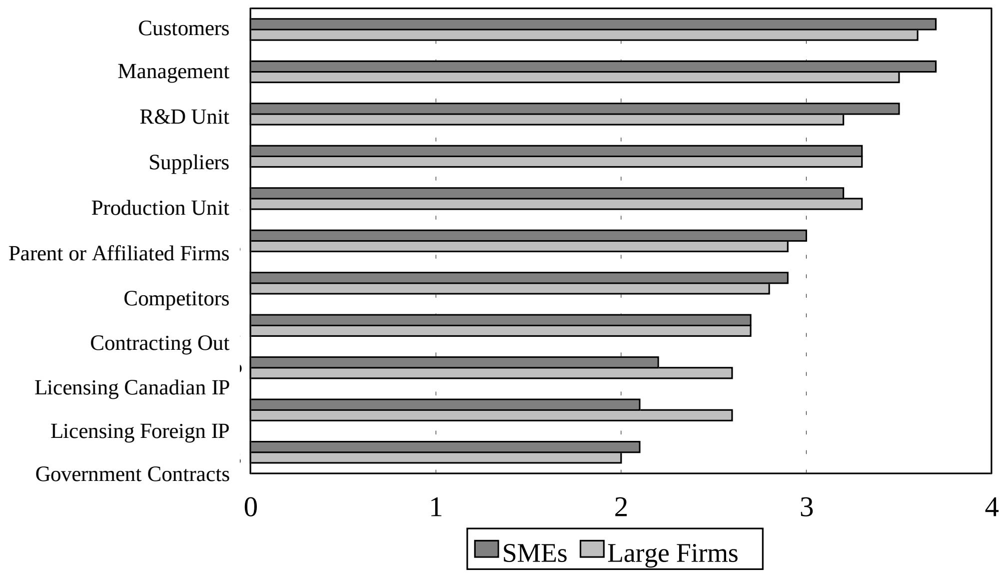

Sources of Product Innovation
Customers
Management
R&D Unit
Pro

Figure 24

Sources of Product Innovation

(Average Score by Size of Firms)

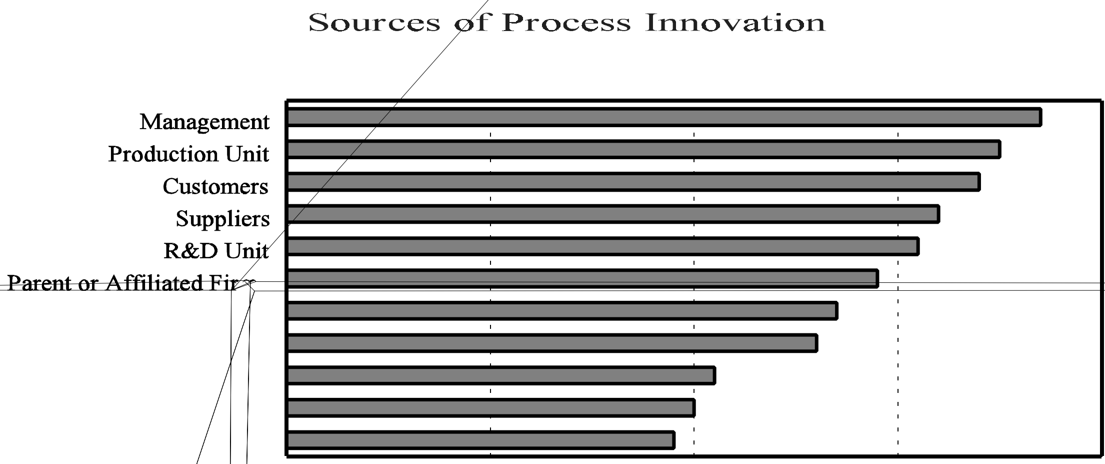


The study by Baldwin and colleagues (1994) of growing SMEs found a similar pattern for the sources of product innovation: customers and management come first, followed by suppliers. However, growing SMEs rated the R&D unit toward the bottom of the scale, along with parent or affiliated firms and licensed intellectual property. More successful growing SMEs placed more emphasis on the production and R&D units, parent or affiliated firms, and licensed Canadian and foreign intellectual property as sources of product innovation.

Sources of process innovation

The relative importance of various sources of process innovation differs slightly from that of product innovation. Management is the most important source, with a score of 3.7, followed by the production unit (3.5), customers (3.4), suppliers (3.2), the R&D unit (3.1), parent or affiliated firms (2.9), competitors (2.7), and contracting out (2.6). The least important sources of process innovation are licensed Canadian and foreign intellectual property, and government contracts (see Figure 25).

Figure 25



Sources of process innovation by size of firm

Approximately the same relative importance is attached to each source of process innovation by size of firm as for the sample as a whole (see Figure 26 and Table A11). Large firms score managers and the production unit each at 3.6, followed by customers (3.4), suppliers (3.2), and the R&D unit (3.1). For SMEs, the mean scores are: managers (3.7), the production unit (3.5), customers (3.4), the R&D unit (3.2), and suppliers (3.1). Large firms, however, rate licensed Canadian and foreign intellectual property and contracting out higher than SMEs do.

Figure 26

Management
Production Unit
Customers
Suppliers
R&D Unit
Parent or Affiliated Firms
Competitors
Contracting Out
Licensing Canadian IP
Licensing Foreign IP
Government Contracts

01234

SMEs Large Firms

In conclusion, SMEs and large firms both look to managers, customers, the production unit, the R&D unit, and suppliers for process information, although large firms put more emphasis on licensed Canadian and foreign intellectual property.

The study by Baldwin and colleagues (1994) of growing SMEs showed a similar ranking for sources of process innovation, with customers, management, and suppliers on top. As with product innovation, more successful growing SMEs put more emphasis on the production and R&D units, and licensed Canadian and foreign intellectual property.

3.7 Government programs

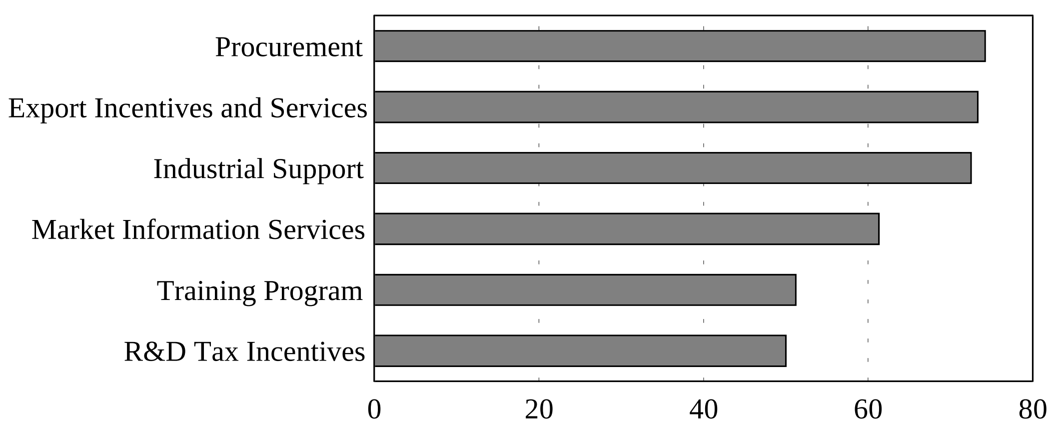
From a policy perspective, it is important how much firms use government programs and how important government programs are to them.

Use of government programs

Figure 27 shows the percentage of all firms in the sample that use different types of government programs. Seventy-four percent are involved in government procurement, 73 percent use government export incentives and services, 73 percent use government industrial support (which includes regional, technology, and development programs), 61 percent use government market information services, 51 percent use government training programs, and 50 percent use government R&D tax incentives.

Figure 27

Use of Government Programs
(Percent of all firms)

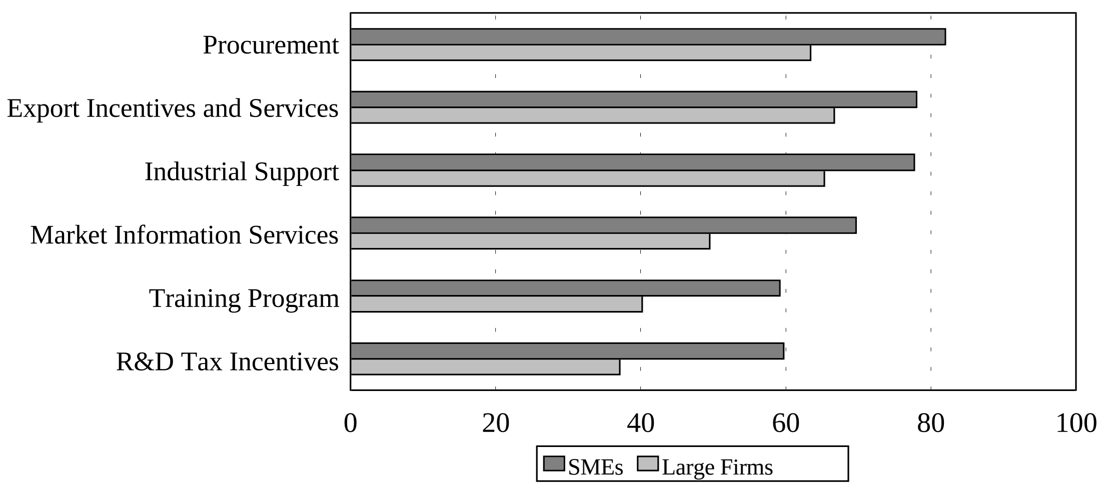


As Figure 28 shows, SMEs differ substantially from large firms in use of government programs. In all categories, SMEs are more likely to use government programs. Procurement is the program SMEs use most — 82 percent report using procurement, whereas 63.4 percent of large firms report using it. Seventy-eight percent of SMEs report using export incentives, but substantially fewer large firms (66.7%) use them. Next in importance are industrial programs, which are used by 77.7% of SMEs and 65.3% of large firms. Market information is used by 69.7% of SMEs and 49.5% of large firms. Almost 60% of SMEs make use of R&D tax credits and training programs. Fewer large firms (37.1%) in the sample use R&D tax credits and 40.2% use government training programs compared with 59.2% of SMEs.

Figure 28

Use of Government Programs

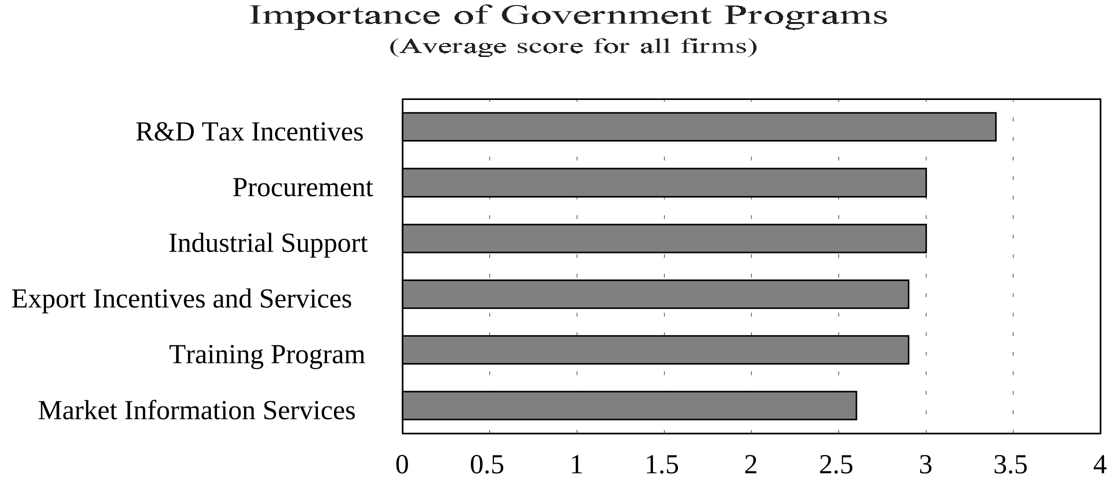
(Percent by Size of Firm)



Importance of government programs

Firms score R&D tax incentives the highest (3.4), although many were less likely to use tax credits than other programs. This is followed by government procurement (3.0), industrial support (3.0), export incentives (2.9), training (2.8) and, lastly, market information services (2.6) (see Figure 29).

Figure 29



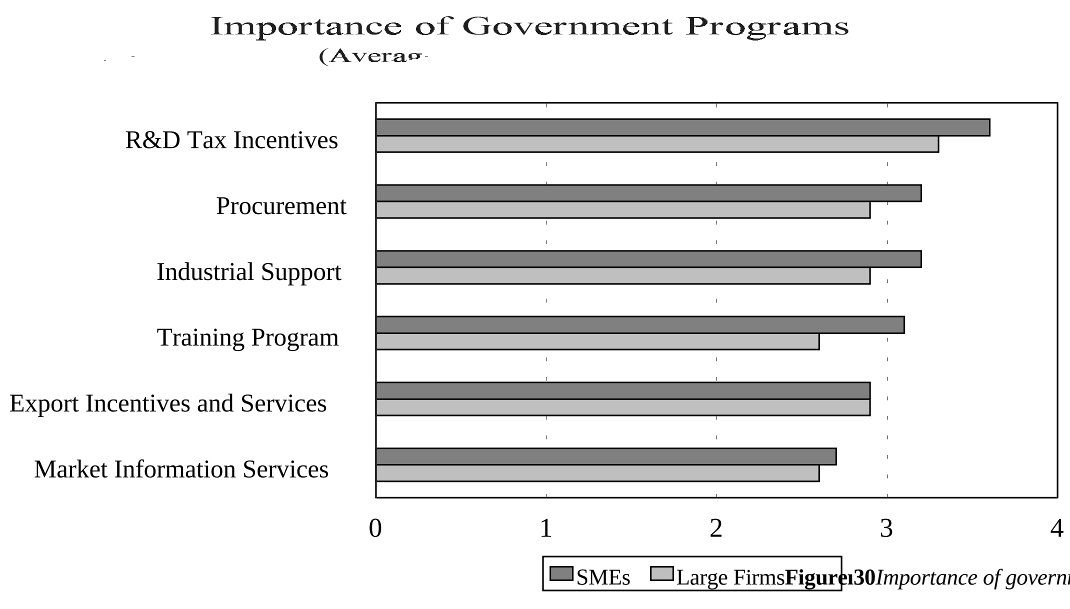


Figure 30 *Importance of government programs by size of firm*

Large firms rate procurement, industrial programs, and export incentives equally, with scores of 2.9 each, followed by training and market information each with scores of 2.6.

In conclusion, SMEs consider most government programs to be important for their growth and score government programs more highly than large firms. Large firms consider government programs in the slightly important to important range. For both SMEs and large firms, R&D tax incentives are the government programs most important to business growth, although R&D tax credits are used by fewer firms than other programs.

These results contrast with the findings of Baldwin's 1994 study of growing SMEs, in which training received the highest rating, government procurement, market information, and industrial support programs followed, and R&D tax and export incentives came last. However, the difference in perception between the less successful and the more successful growing SMEs with respect to government programs is interesting. The more successful growing SMEs rated R&D tax incentives and export incentives as much more important, and government training and procurement programs were negatively related to success.

4. CONCLUSION

This study finds important similarities in the behaviour of SMEs and large firms:

- Both large firms and SMEs perceive the four most important influences on their competitive position to be: product quality, customer service, flexibility, and range of products. Both large firms and SMEs consider their relative performance in these areas to be somewhat better or better than that of their competitors.

- For both SMEs and large firms, growth is influenced most by management, marketing, and employee morale. However, other important influences on growth are: access to capital and markets, ability to adopt technology, and organizational culture. Government assistance is considered the least important influence on growth.

- SMEs and large firms differ little in their business strategy. Market share and new products are important to the business strategy of both large firms and SMEs, as are technological change, efficient use of inputs, management practices, and human resources strategy.

- For both large firms and SMEs, customers and managers are the most important sources of product innovation, followed by the R&D unit, the production unit, and suppliers. For process innovation, managers and the production unit are the most important sources, followed by customers and the R&D unit.

This study has also identified the following important differences between large firms and SMEs:

- Large firms are much more likely than SMEs to pursue linkages with other firms through strategic partnerships, joint ventures, and strategic alliances. Therefore, SMEs may expand their scope to explore linkages with other firms, depending on the advantages these arrangements would have.

- The proportion of small firms using government programs is greater than the proportion of large firms, although use of government programs is widespread among firms of all sizes. Sixty percent or more of SMEs use some type of government program, and SMEs attach slightly more importance to all types of government programs. SMEs consider R&D tax credits and government training programs very important, more than large firms do. They also consider industrial programs and procurement important. SMEs attach less significance to market information services and export incentives supplied by government, although these services are influential.

- Large firms perceive organizational culture and skilled labour as more important growth factors than SMEs do. Large firms also consider innovative organizational structure to be more important to overall management practices than SMEs do.

- In general, large firms consider the use of production inputs to be more important in their overall strategies than SMEs do.

- More employees in large firms than in SMEs receive formal training, except professionals, who receive approximately equal training. Employees spend equal time in informal training in SMEs and large firms, approximately 10 percent of work time.

- Large firms consider licensing of intellectual property as a more important source of both product and process innovation than SMEs do.

In conclusion, SMEs and large firms follow generally similar business strategies. Management and marketing, access to capital, access to markets, and ability to adopt technology are perceived as the most important growth factors, and government assistance the least important, for both SMEs and large firms.

The results presented in this paper imply, therefore, that government policies should focus on making the business climate right. Sound macro-economic policies and fair, efficient market framework policies do much to help both large firms and SMEs to become more competitive and prosperous, and to create more jobs.

However, some important differences between SMEs and large firms' business strategies indicate that some specific government interventions might be warranted. First, large firms focus more on their employees within their overall business strategy. More large firms perceive skilled labour as an important factor, and more large firms offer their employees formal training, than SMEs do. In this context, government training programs could be an important help to SMEs.

Second, large firms are also more likely to enter into strategic partnerships, joint ventures, and strategic alliances with other firms. SMEs could, therefore, benefit from further exploration of possible linkages with other firms. In this area, government can be useful by facilitating such linkages at both the national or international levels.

Finally, licensing of intellectual property is more important as a source of innovation for large firms. SMEs could, therefore, benefit from further study of these sources of innovation. Government could act as a facilitator here also.

The evidence presented in this paper indicates that a government policy focus on SMEs is warranted. Although SMEs rank government assistance as the least important growth factor, they use government programs more intensively than large firms do, and generally rate them as more important to their overall business strategy.

BIBLIOGRAPHY

Acs, Z. J., and D. B. Audretsch (1990). *Innovation and Small Firms.* Cambridge, Mass: The MIT Press.

D'Amboise, Gerald (1991). *The Canadian Small- and Medium-sized Enterprise: Situations and Challenges.* Halifax: The Institute for Research on Public Policy.

Baldwin, John R., William Chandler, Can Le, and Tom Papailiadis (1994). *Strategies for Success: A Profile of Growing Small and Medium-sized Enterprises (GSMEs) in Canada*. Business and Labour Market Analysis Division, Statistics Canada.

Baldwin, John R., and Joanne Johnson (Feb. 1995). *Business Strategies in Innovative and Non-Innovative Firms*. No. 73, Research Paper Series, Analytical Studies Branch. Statistics Canada.

Betcherman, G. (1992). "Are Canadian Firms Underinvesting in Training." *Canadian Business Economics* 1:25–33.

Canadian Federation of Independent Business (1988). *Small Business Views the Banks: The Bottom Line*. Toronto: Canadian Federation of Independent Businesses.

Canadian Labour Market and Productivity Centre (1993). *1991 National Training Survey*. Ottawa: Canadian Labour Market and Productivity Centre.

Davig, W. (1986). "Business Strategies in Smaller Manufacturing Firms." *Journal of Small Business Management* 24:38–47.

Edmunds, S. E., and S. J. Khoury (1986). "Exports: A Necessary Ingredient in the Growth of Small Business Firms." *Journal of Small Business Management* 24:54–65.

Ibrahim, A. B., and J. R. Goodwin (1986). "Perceived Causes of Success in Small Business." *American Journal of Small Business* Fall: 41–50.

Lefebvre, L. A., J. Harvey and E. Lefebvre (1991). "Technological Experience and the Technology Adoption Decisions in Small Manufacturing Firms." *R&D Management* 21:241–249.

Lefebvre, L. A., and E. Lefebvre (1993). "Competitive Positioning and Innovative Efforts in SMEs." *Small Business Economics* 4:13–21.

Litvak I. A., and C. J. Maule (1980). *Entrepreneurial Success or Failure — Ten Years Later: A Study of 47 Technologically Oriented Enterprises.* Ottawa: Department of Regional Industrial Expansion, Industrial Innovation Office.

Morbey, G. K., and R. M. Reithner (1990). "How R&D Affects Sales Growth, Productivity and Profitability." *Research Technology Management*. May-June: 11–14.

Oakey, R., and S. Cooper (1988). *Management of Innovation in High Technology Small Firms.* Westport, Conn: Quorum Books.

Peterson, R. A., G. Albaum, and G. Kozmetsky (1986). "The Public's Definition of Small Business." *Journal of Small Business Management* 24:63–68.

Picot, G., J. Baldwin, and R. Dupuy (1994). "Have Small Firms Created a Disproportionate Share of New Jobs in Canada? A Reassessment of the Facts." Paper presented at the Canadian Economics Association Meetings, June 9–13, 1994, Calgary Alberta.

Scherer, F. M. (1992). "Schumpeter and Plausible Capitalism." *Journal of Economic Literature* 30:1416–33.

Schmidt, K. H. (1990). "The Innovative Attitude of Small- and Medium-sized Enterprises." *Journal of Small Business Management* 28:68–69.

Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. New York: Harper.

Walker, E., and J. Pethy (1978). "Financial Differences Between Large and Small Firms." *Financial Management* 7:61–68.

Wynarczyk, P., R. Watson, D. Storey, H. Short, and K. Keasey (1993). *Managerial Labour Markets in Small- and Medium-Sized Enterprises.* London: Routledge.

APPENDIX A: TABLES

Table A1
Importance to alliances of acquiring intellectual property (by size of firm)

Type of intellectual property	Total	< 500 employees	> 500 employees	Significance of difference
Patents	2.8	3.2	2.5	—
Trademarks	2.9	3.2	2.8	—
Copyrights	2.4	2.7	2.2	—
Trade secrets or know-how	4.2	4.2	4.1	—

Table A2
Importance to alliances of selling intellectual property (by size of firm)

Type of intellectual property	Total	< 500 employees	> 500 employees	Significance of difference
Patents	3.0	3.1	2.8	—
Trademarks	2.6	2.3	2.9	—
Copyrights	2.7	1.8	3.2	***
Trade secrets or know-how	4.0	4.3	3.8	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A3
Perceived competitive position (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Product quality	4.0	3.9	*
Customer service	4.0	3.8	***
Flexibility	3.9	3.8	—
Range of products	3.9	3.7	*
Employee skills	3.6	3.6	—
New products	3.5	3.5	—
R&D	3.4	3.4	—
Labour climate	3.4	3.5	—
Product price	3.2	3.3	—
Production costs	3.2	3.3	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A4
Factors perceived to aid growth (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Management skills	4.0	4.0	—
Marketing capability	3.8	3.8	—
Employee morale	3.8	3.8	—
Access to markets	3.6	3.8	**
Access to capital	3.7	3.5	*
Ability to adopt technology	3.6	3.7	—
Organizational culture	3.5	3.7	**
Skilled labour	3.4	3.7	***
Cost of capital	3.4	3.2	—
R&D	3.2	3.1	—
Intellectual property rights	2.4	2.6	—
Government assistance	2.1	2.0	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A5
Importance of markets and products (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Market share	4.0	4.1	—
New products, current markets	3.8	3.8	—
Current products, new markets	3.6	3.4	*
New products, new markets	3.4	3.2	*

Table A6
Importance of technology (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Improving current technology	3.6	3.8	**
Using others' technology	3.2	3.5	***
Developing new technology	3.2	3.2	—
Refining others' technology	3.2	3.3	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A7
Importance of use of production inputs (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Cutting labour costs	3.6	3.8	**
Using materials efficiently	3.4	3.6	**
Using new materials	3.0	2.9	—
Reducing energy costs	2.9	3.2	***

Table A8
Importance of management practices (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Total quality management	3.7	3.8	—
Process control	3.6	3.7	—
Innovative organizational structure	3.4	3.7	**
Management incentives	3.4	3.5	—
Just-in-time inventory control	3.3	3.2	—
Intellectual property management	2.7	2.8	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A9
Human resources strategy (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Continuous staff training	3.7	4.0	***
Other forms of staff motivation	3.7	3.6	—
Innovative compensation package	3.3	3.5	**

Table A10
Sources of product innovation (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Customers	3.7	3.6	—
Managers	3.7	3.5	**
R&D unit	3.5	3.2	—
Suppliers	3.3	3.3	—
Production unit	3.2	3.3	—
Parent or affiliated firms	3.0	2.9	—
Competing firms	2.9	2.8	—
Contracting out	2.7	2.7	—
Canadian intellectual property	2.2	2.6	***
Foreign intellectual property	2.1	2.6	***
Government contracts	2.1	2.0	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

Table A11
Sources of process innovation (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
Managers	3.7	3.6	—
Production unit	3.5	3.6	—
Customers	3.4	3.4	—
R&D unit	3.2	3.1	—
Suppliers	3.1	3.2	—
Parent or affiliated firms	2.9	2.8	—
Competitors	2.7	2.7	—
Contracting out	2.5	2.8	***
Canadian intellectual property	1.9	2.4	***
Foreign intellectual property	1.9	2.3	***
Government contracts	2.0	1.7	*

Table A12
Importance of government programs (by size of firm)

	< 500 employees	> 500 employees	Significance of difference
R&D tax incentives	3.6	3.3	**
Procurement	3.2	2.9	—
Industrial support	3.2	2.9	—
Export incentives and services	2.9	2.9	—
Training programs	3.1	2.6	***
Market information services	2.7	2.6	—

*** indicates significance at the 95% confidence interval;
** at 90%;
* at 80%; and
— indicates not significant.

APPENDIX B: SURVEY QUESTIONNAIRE

Industry Canada

Survey of Investment Strategies

Abt Associates of Canada

Social Research Consultants

LABEL

About This Survey

- Industry Canada has asked Abt Associates to conduct a survey among a cross-section of Canadian businesses and organizations.

- The objective of the study is to obtain information on the relationships among different types of investments. Of primary interest are investments in:

    - physical capital;
    - human resources;
    - research and development;
    - construction and infrastructure.

    Understanding the nature of the interrelationships among these different investment categories will assist Industry Canada in formulating policies to stimulate investment.

- **Your participation will help to ensure the results of the study are representative of all types of organizations.**

- Please be assured that sensitive business information is protected under the provisions of section 20 of the *Access to Information Act.* Any information collected by the survey which would qualify for protection under section 20 of the *Act* will be treated in a confidential manner.

    Participation in this survey is voluntary. Your cooperation in completing the form, however, is vital for statistical information to be useful and valuable.

- If you have any questions about the survey or the questionnaire, please call our Survey Information Centre at 1-800-[illegible] who will be pleased to assist you.

Instructions for Completing the Questionnaire

- The name of the organization for which you are to report is shown on the front cover of this questionnaire.

    Please answer for all parts of this organization in Canada. For example, if your organization operates from two or more locations in Canada please provide information for all of these locations.

- Please answer each question which applies to your organization. **IF ACTUAL FIGURES ARE NOT AVAILABLE FOR NUMBER OF EMPLOYEES TRAINED OR FOR MONEY SPENT ON SPECIFIC TYPES OF EXPENDITURES, PLEASE PROVIDE ESTIMATES.** Take note of the text that appears at the foot of some pages of the questionnaire which explains certain terms used.

- Once you have completed the questionnaire, please seal it in the postage-paid envelope provided and mail the envelope back to Abt Associates. Thank you for your cooperation.

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1. Is your company controlled by a parent company?

Yes.............. ☐ No.............. ☐ **GO TO QUESTION 4**

2. What is the legal name of the parent company? **(WRITE IN BELOW)**

____

NAME OF PARENT COMPANY

3. What is the location of the parent company?

CANADA.......................... ☐

UNITED STATES .... ☐

OTHER (SPECIFY) ______________________

4-a) Has your company been acquired during the last three (3) years?

Yes.............. ☐ No.............. ☐

-b) Has your company acquired another company during the last three (3) years?

Yes.............. ☐ No.............. ☐

5-a) In the past three (3) years has your company been involved in any:

Strategic partnerships?	Yes............... ☐	No............... ☐
Joint ventures?	Yes............... ☐	No............... ☐
Strategic alliances?	Yes............... ☐	No............... ☐

IF NO TO *ALL* IN QUESTION 5-a), SKIP TO QUESTION 6

5-b) Was the acquisition, sale or licensing of intellectual property a factor involved in the decision to form a strategic alliance, partnership or joint venture?

Yes.............. ☐ No.............. ☐ **GO TO QUESTION 6**

5-c) Please indicate the importance of the types of intellectual property shown below in the decision to form a strategic alliance, partnership or joint venture.

ACQUIRED OR LICENCED FROM OTHER FIRMS	**Importance to decision**					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Patents..	☐	☐	☐	☐	☐	☐
Trademarks	☐	☐	☐	☐	☐	☐
Copyrights	☐	☐	☐	☐	☐	☐
Trade secrets/know-how..	☐	☐	☐	☐	☐	☐

SOLD OR LICENCED TO OTHER FIRMS	**Importance to decision**					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Patents..	☐	☐	☐	☐	☐	☐
Trademarks	☐	☐	☐	☐	☐	☐
Copyrights	☐	☐	☐	☐	☐	☐
Trade secrets/know-how..	☐	☐	☐	☐	☐	☐

6. Please assess your firm's competitive position in relation to your main competitors for each of the elements listed below.

tive to main competitors, our competitive position is:

ewhat orse	About the same	Somewhat better	Much better	Not applicable
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

	Rela	
	Much worse	Som wo
Price of products (goods and services).................	☐	☐
Quality of products (goods and services)..............	☐	☐
Customer services..	☐	☐
Range of products (goods and services)...............	☐	☐
Frequency of introduction of new products (goods and services)...	☐	☐
Flexibility in responding to customers' needs.......	☐	☐
Costs of production...	☐	☐
Spending on research and development................	☐	☐
Labour climate...	☐	☐
Skill levels of employees.......................................	☐	☐

7-a) Please provide your assessment of the relative importance of the factors listed below for the growth of your company during the **PAST 5 YEARS**.

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	Importance for growth of company					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Management skills	☐	☐	☐	☐	☐	☐
Research and development capability	☐	☐	☐	☐	☐	☐
Ability to adopt technology	☐	☐	☐	☐	☐	☐
Skilled labour	☐	☐	☐	☐	☐	☐
Access to capital	☐	☐	☐	☐	☐	☐
Cost of capital	☐	☐	☐	☐	☐	☐
Intellectual property rights	☐	☐	☐	☐	☐	☐
Government assistance	☐	☐	☐	☐	☐	☐
Marketing capability	☐	☐	☐	☐	☐	☐
Access to markets	☐	☐	☐	☐	☐	☐
Organizational culture	☐	☐	☐	☐	☐	☐
Employee morale	☐	☐	☐	☐	☐	☐

7-b) And what is your assessment of the relative importance of these factors for growth of your company over the **NEXT 5 YEARS**?

	Importance for growth of company					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Management skills	☐	☐	☐	☐	☐	☐
Research and development capability	☐	☐	☐	☐	☐	☐
Ability to adopt technology	☐	☐	☐	☐	☐	☐
Skilled labour	☐	☐	☐	☐	☐	☐
Access to capital	☐	☐	☐	☐	☐	☐
Cost of capital	☐	☐	☐	☐	☐	☐
Intellectual property rights	☐	☐	☐	☐	☐	☐
Government assistance	☐	☐	☐	☐	☐	☐
Marketing capability	☐	☐	☐	☐	☐	☐
Access to markets	☐	☐	☐	☐	☐	☐
Organizational culture	☐	☐	☐	☐	☐	☐
Employee morale	☐	☐	☐	☐	☐	☐

8. Please specify your firm's overall business strategy by indicating the importance of the selected options below:

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Importance to overall business strategy

	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Markets and products						
Maintaining market share	☐	☐	☐	☐	☐	☐
Introducing new products (goods and services) in present markets	☐	☐	☐	☐	☐	☐
Introducing current products (goods and services) in new markets	☐	☐	☐	☐	☐	☐
Introducing new products (goods and services) in new markets	☐	☐	☐	☐	☐	☐
Technology						
Developing new technology	☐	☐	☐	☐	☐	☐
Further refining a technology developed by others	☐	☐	☐	☐	☐	☐
Using technology developed by others	☐	☐	☐	☐	☐	☐
Improving own existing technology	☐	☐	☐	☐	☐	☐
Use of production inputs						
Using new materials	☐	☐	☐	☐	☐	☐
Using existing materials more efficiently	☐	☐	☐	☐	☐	☐
Cutting labour costs	☐	☐	☐	☐	☐	☐
Reducing energy costs	☐	☐	☐	☐	☐	☐
Management practices						
Improving management incentives through compensation schemes	☐	☐	☐	☐	☐	☐
Innovative organizational stucture	☐	☐	☐	☐	☐	☐
Just-in-time inventory control	☐	☐	☐	☐	☐	☐
Process control	☐	☐	☐	☐	☐	☐
Total quality management	☐	☐	☐	☐	☐	☐
Improved intellectual property management	☐	☐	☐	☐	☐	☐
Human resources strategy						
Continuous staff training	☐	☐	☐	☐	☐	☐
Innovative compensation package	☐	☐	☐	☐	☐	☐
Staff motiviation in other ways	☐	☐	☐	☐	☐	☐
Others (PLEASE SPECIFY)						
________________	☐	☐	☐	☐	☐	☐
________________	☐	☐	☐	☐	☐	☐

Process Control: A mechanism by which a production process is achiev
efficient production in an economical, timely fashion, resulting in a proc
conformance.

Total Quality Management: A commitment to continuous quality impro
all levels of management and employees, a clear quality policy, a well-d
quality plan, and the application of principles and procedures for reachin
quality excellence.

Continuous Staff Training: Include both on-the-job and off-the-job act

ved which ensures
duct free of non-

ovement involving:
leveloped strategic
ng and maintaining

ivities.

9-a) Listed below are some potential sources for **Product (goods and services) Innovation.** Please rate the importance of each for your firm.

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	Importance of source for product innovation					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Research and development unit	☐	☐	☐	☐	☐	☐
Production unit	☐	☐	☐	☐	☐	☐
Contracting out	☐	☐	☐	☐	☐	☐
Management	☐	☐	☐	☐	☐	☐
Parent or affiliated firms	☐	☐	☐	☐	☐	☐
Licensing Canadian intellectual property/ know-how	☐	☐	☐	☐	☐	☐
Licensing foreign intellectual property/ know-how	☐	☐	☐	☐	☐	☐
Government contracts	☐	☐	☐	☐	☐	☐
Competitors	☐	☐	☐	☐	☐	☐
Customers	☐	☐	☐	☐	☐	☐
Suppliers	☐	☐	☐	☐	☐	☐
Other (PLEASE SPECIFY) ______________	☐	☐	☐	☐	☐	☐

9-b) Considering **Process Innovations** in your firm, please rate the importance of each of these potential sources.

	Importance of source for process innovation					
	Not important	Slightly important	Important	Very important	Crucial	Not applicable
Research and development unit	☐	☐	☐	☐	☐	☐
Production unit	☐	☐	☐	☐	☐	☐
Contracting out	☐	☐	☐	☐	☐	☐
Management	☐	☐	☐	☐	☐	☐
Parent or affiliated firms	☐	☐	☐	☐	☐	☐
Licensing Canadian intellectual property/ know-how	☐	☐	☐	☐	☐	☐
Licensing foreign intellectual property/ know-how	☐	☐	☐	☐	☐	☐
Government contracts	☐	☐	☐	☐	☐	☐
Competitors	☐	☐	☐	☐	☐	☐
Customers	☐	☐	☐	☐	☐	☐
Suppliers	☐	☐	☐	☐	☐	☐
Other (PLEASE SPECIFY) ______________	☐	☐	☐	☐	☐	☐

Product Innovation involves the development of new goods and services or improvements to existing ones.

Process Innovation involves changes and improvements to the production process.

10-a) Listed below are various types of government programs and services. For each, please indicate if your firm used the type of government program or service in the last three (3) years.

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-b) And for each used, please rate the importance of the program or service type to the growth of your firm.

	-a) Used		-b) Importance				
	No	Yes	Not important	Slightly important	Important	Very important	Crucial
Government training programs	☐	☐	☐	☐	☐	☐	☐
Government market information services	☐	☐	☐	☐	☐	☐	☐
Government export promotion initiatives and services	☐	☐	☐	☐	☐	☐	☐
Government industrial support (e.g. regional, tech and development programs)	☐	☐	☐	☐	☐	☐	☐
Government procurement (purchases of goods and services)	☐	☐	☐	☐	☐	☐	☐
Government research and development tax incentives	☐	☐	☐	☐	☐	☐	☐

11. How many people were in your company in each of the occupational groups listed below for the three years indicated?

Full Time	**1991**	**1992**	**1993**
Executive/Managerial	______	______	______
Professional/Technical	______	______	______
Production	______	______	______
Sales	______	______	______
All other occupations	______	______	______
TOTAL FULL TIME EMPLOYEES	______	______	______

Part Time	**1991**	**1992**	**1993**
TOTAL PART TIME EMPLOYEES	______	______	______

PLEASE REPORT FOR YOUR FISCAL YEAR ENDING IN THE CALENDAR YEAR INDICATED

Executive/Managerial: Occupations which involve the development and review of firm's policy, organizing and directing the major functions of the organization.

Professional/Technical: Occupations requiring a university degree or college diploma in a specific field or discipline. Examples are science, engineering, education, health-related disciplines, commerce, economics, law and social work. Technicians and technologists in science, engineering and medicine.

Production: Occupations related to processing, fabricating and assembly.

Sales personnel: Occupations relating to the selling and marketing of the firm's products/services.

All other occupations: Clerical/Office, supervisory, skilled trades, all other occupations.

ype to the growth of
mportance
Very
Important Important Crucial
nal groups listed below for the
1992 1993
92 1993
AR YEAR INDICATED
and review of firm's
n.
college diploma in a
ion, health-related
and technologists in
bly.
e firm's
ther occupations.

12. What was your payroll for each of the occupational groups listed below for the three years indicated? (to nearest $1,000)

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Full Time	**1991**	**1992**	**1993**
Executive/Managerial	$	$	$
Professional/Technical	$	$	$
Production	$	$	$
Sales	$	$	$
All other occupations	$	$	$
TOTAL FULL-TIME EMPLOYEE PAYROLL	$	$	$

	1991	1992	1993
YROLL	$	$	$

oth full and part time) in each occupational group received any years indicated (see definition of training below)?

	1991	**1992**	**1993**
RAINING			

ll time and part time) please provide an estimate of the nt in **informal training** during the most recent fiscal year.

__________ %

ment takes the form of either formal programs or informal

instructor and have an identifiable structured plan designed er on-the-job, in a classroom or a specially equipped training of on-the-job experience and classroom instruction. ther during or after work hours at either a company location

by working under normal work or production conditions ker or under the direction of a supervisor.

Part Time

TOTAL PART-TIME EMPLOYEE PAY

13-a) How many of your employees (b **formal training** during the three

Executive/Managerial

Professional/Technical

Production

Sales

All other occupations

TOTAL EMPLOYEES RECEIVING TR

13-b) For your total employees (both fu percentage of total work-time spe

Percentage of total work-time spent on **informal training**

Employee training and develop programs:

Formal Programs: require an to develop a worker's skill eith site, or through a combination c Classroom instruction can be ei or a post-secondary institution.

Informal training: is acquired either with an experienced wor

14. Please provide total expenditures of your firm for each of the following categories (to nearest $1,000):

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	1991	1992	1993
Market development	$______	$______	$______
Research and development	$______	$______	$______
Material inputs for production	$______	$______	$______
Buildings	$______	$______	$______
Production machinery and equipment	$______	$______	$______
Formal staff training (full time and part time staff)	$______	$______	$______
Other (SPECIFY) ______	$______	$______	$______
TOTAL EXPENDITURES	$______	$______	$______

15. To reduce response burden for firms we have used published financial statements for many of the key financial data we require. However, variation in the reporting of two key variables leaves us with a requirement to obtain two lines from financial statements for your three (3) most recent fiscal years.

	Most recent FY	**Second most recent FY**	**Third most recent FY**
Fiscal year end date (YY-MM-DD)	______	______	______
Retained Earnings (profits kept in the company)	$______	$______	$______
Capital Stock (Common and preferred)	$______	$______	$______

Thank you for responding to this questionnaire. Do you wish to obtain a copy of the results of this study?

Yes ☐ No ☐

IF YES

NAME: ______

TITLE: ______

ADDRESS: ______
(If different from that listed on front page)

______

______

______

If you have any additional comments, please write them here:

This survey is administered by:
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