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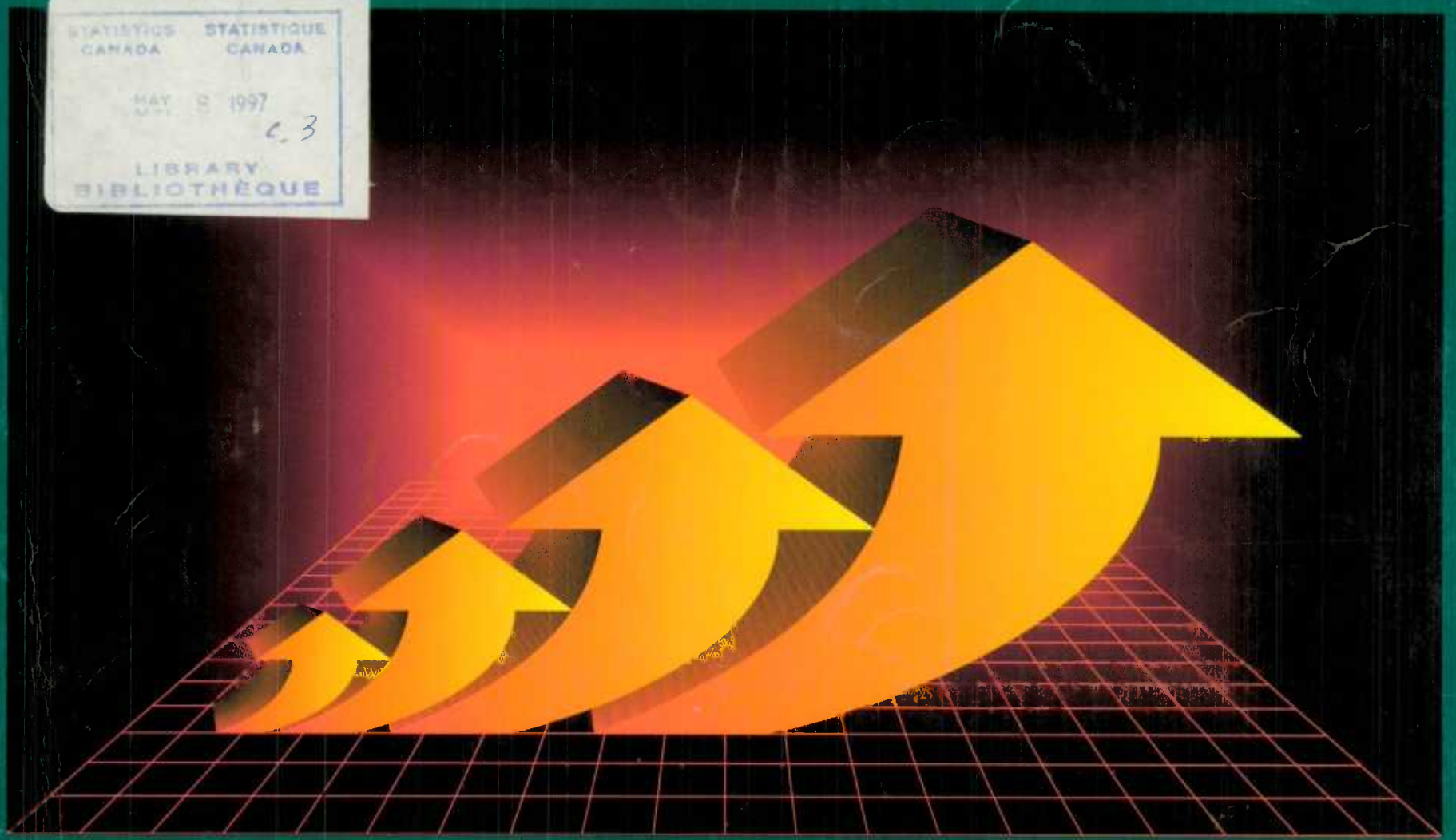
Successful Entrants: Creating the Capacity for Survival and Growth

Joanne Johnson, John Baldwin, Christine Hinchley



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Joanne Johnson, John Baldwin, Christine Hinchley

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The data were generated by Christine Hinchley and Joanne Johnson. The report was written by John Baldwin and Joanne Johnson. Fred Gault and Guy Gellatly, from Statistics Canada and Pierre-André Julien, from the Université du Québec à Trois-Rivières, improved the report with their comments. The French and English editors were Nathalie Turcotte, Julie Bélanger, Danielle Courchesne, Gaye Ward, and Suzanne David.

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Preface

Recent studies have demonstrated the extent of dynamic change that the industrial population undergoes as firms grow and decline. In our study of the manufacturing sector (*The Dynamics of the Industrial Competition*), we demonstrated not only that competition is constantly leading some firms to grow and others to decline but also that this process contributes to productivity growth.

This dynamic change in the firm population stems from different capabilities in firms. If we are to understand how these capabilities contribute to growth and decline, we need to study the underlying entities and tie their performance to differences in strategies and activities that are pursued.

This is the second in a series of three studies on small- and medium-sized enterprises conducted by the Micro-Economic Analysis Division of Statistics Canada on the causes of firm dynamics. The first—*Strategies for Success*, Catalogue No. 61-523R—provides an overview of the strategies and activities of a group of small- and medium-sized enterprises (GSME) that were growing during the last half of the 1980s. These are typically "established firms". It focuses on differences between the faster- and slower-growing firms in the sample and finds that innovation is the key to success—but that general and financial management provided the core capabilities of a firm. The third study—*Failing Concerns: Business Bankruptcy in Canada,* Catalogue No. 61-525—investigates which characteristics are associated with failure. The major findings of this study are that internal and external factors are about equally responsible for firm failure. Internal factors are more important among firms that are less than five years old. The major internal deficiencies, particularly in these younger firms, fall in the area of management capabilities.

This study looks at firms that are typically somewhat older than firms investigated in the bankruptcy study, but younger than firms investigated in the GSME study. The motivation for studying this group of firms is that new firms have an enormous potential to contribute to the economy. However, most new firms die. The first objective of the study, then, is to identify the characteristics of the entrants that survive. A secondary objective is to identify the differences between the entrants that succeeded by the very fact that they survived, and the entrants that not only survived, but achieved strong growth. Together the three studies provide an important addition to our knowledge about problems facing firms at different points in their life-cycle.

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Executive Summary

Why Are Successful Entrants Important?

New firms are an enigma. They provide both promise and disappointment. The arrival of new firms creates jobs. New firms also bring new goods and services to market themselves, while at the same time stimulating existing firms to do the same.

Yet most entrants—four out of five—die before reaching their tenth birthday. Mere survival beyond a decade is a mark of success.

An even more marked sign of success is growth. A sufficient number of the successful entrants achieve enough growth that the survivors as a group ultimately provide almost as many jobs as the entire group of entrants—both survivors and exiting firms—did when they first started.

The fact that so many of these firms die begs the question: What is it that causes promise to give way to disappointment and, what is it that enables some firms to grow?

The Research Strategy

To answer these questions, it is necessary to understand the competencies that are associated with survival, and to be able to distinguish the capabilities that are associated with growth.

In order to study these issues, data from a survey of firms that commenced operation between 1983 and 1986 are utilized. The Survey of Operating and Financing Practices queried firms on their management, competitive environment, business strategies and financial structure. This survey is the first major effort to conduct a comprehensive study of this segment of the commercial population. The reference period for the survey was the fiscal year ending in 1994. The survey was conducted in the spring of 1996. Some 4,000 firms were sampled and a response rate of 80% was attained.

The survey data are linked to longitudinal financial and employment data so that firms' responses can be tabulated by growth rates.

What Sort of Competitive Environment Do They Face?

Successful entrants face an intensely competitive environment: customers can easily switch to a competitor's product, and in addition to the fact that they typically face more than 20 competitors, the threat of new competitors is high.

Successful entrants report that, in their industry, competition centres around the traditional areas of price, quality, and customer service. More innovative ways of competing, such as frequently introducing new products, customizing products, and offering a wide range of products, are perceived to be less intense at the industry level.

What Types of Entrants Succeed?

The entrants surveyed are the successful entrants. They are successful in the sense that very few—one in five—new businesses actually survive a decade. They are the ones that successfully navigate the hazards of early infancy.

They are found in all industries. Most are quite small: in 1993, the average successful entrant had 9 employees and $1.2 million in sales. They were born small, have achieved moderate growth, and anticipate modest growth over the next few years. A small percentage (2.8%) believe that their sales will rise by more than 50% over the next two years.

The management of successful entrants has typically—in over 80% of the cases—been with the firm since its inception. Moreover, approximately four out of five managers of successful entrants typically have some ownership in the firm. The continuity of the management team, the financial involvement of management, and its industry and managerial experience provide a strong foundation for the firm.

What are the Strengths they Attribute to their Success?

Managers of successful entrants report that high quality products are the single most important strategy to success. Superior customer service and flexibility in responding to customer needs, as well as marketing strategies that focus on satisfying existing customers, are also perceived by managers to be crucial aspects of their competitive strategy. Appropriate pricing strategies, promoting company or product reputation, and improving position in existing markets are very important secondary strategies for these firms.

Managers typically rate a broad range of business and financial management strategies as very important to their success. Quality and financial flexibility emerge as the crucial managerial factors on the path to success. Equally, managers of successful entrants also consider human resources to be very important to their success. As a result, over half of successful entrants invest in upgrading the skills of their employees.

With the exception of using high quality suppliers, production strategies are deemed to be less important to firm success.

Technology strategies are accorded the lowest value among all the business strategies.

Do they Actively Engage in Business and Financial Planning?

Most successful entrants (84%) monitor their performance. Income-related criteria are the most frequently used performance gauge. In contrast, financiers accord almost equal importance to balance sheet and income-related criteria.

Despite the fact that successful entrants report that business and financial management strategies are crucial to their success, and that they monitor a number of criteria to assess their performance, only one in five have formalized plans to elucidate and communicate those strategies to the stakeholders of the firm. This is probably in large part due to successful entrants' small size: the probability of having formalized plans, and the sophistication of the plans, increases dramatically with the size of the firm.

What are the Sources and Types of Financing Used by Successful Entrants?

Deficiencies in capital structure are often at the heart of claims that financial markets block the growth of small firms. Despite this claim, a comprehensive picture of entrants has been lacking.

There is a significant amount of permanent—equity—capital backing successful entrants. Moreover, over half of the capital in successful entrants is derived from internal sources. A further third is contributed by banks and trust companies. These tendencies—strong backing by permanent capital, and use of internal and external financing—are evident among smaller and larger firms alike.

Substantial differences, however, are evident in the financing behaviour of smaller, compared with larger, successful entrants. Larger firms typically rely on a large number of sources (both internal and external) and types (e.g., combinations of equity capital with long- and short-term debt) of financing. Nearly three-quarters of larger firms have multiple types of financing, compared to less than half of smaller firms. Similarly, nearly two-thirds of larger firms draw on both internal and external sources of financing, compared to less than half of smaller firms.

The implication is that smaller firms have less flexibility than larger firms. They draw their resources from fewer areas and thus have to depend more on those sources. As a result, they are more vulnerable to the risk of any one of their financiers altering the terms of their financing at any time. Additionally, they draw their resources from fewer types of capital and thus have to depend more heavily on each type. Consequently, they are also less likely to be realizing the different benefits that equity, long-term debt and short-term debt capital each afford.

Will the New Economy Lead to New Capital Needs for the Entrant Population?

Particular concerns have been voiced about the financing of small firms with the onset of the new economy—an economy in which knowledge assets are becoming more important than physical assets. Because knowledge assets offer poor collateral and are more difficult to evaluate, financing problems are often said to be more severe here. The validity of these claims was investigated in two ways: by examining first how knowledge assets were financed, and second, how financial needs differed in high- as opposed to low-knowledge industries.

Financing Knowledge Assets

The primary source of financing for all activities is equity, a permanent source of capital for the firm. However, knowledge assets are more often financed through equity and government capital than are physical assets. Investments in physical assets—which are usually less risky—are more often financed with long-term debt. The implications are twofold. First, firms must have a high degree of equity to invest in knowledge. Second, government funds are typically used to finance knowledge investments, and thus may partially overcome the under-investment problem in building knowledge assets.

Financing in High-knowledge Industries

Firms that are operating in dynamic, high-knowledge industries use relatively more equity capital. Conversely, firms in low-knowledge industries rely more heavily on debt financing. Within each, firms involved in goods production typically have a longer term associated with their debt than service providers, who draw more on short-term debt.

Does their Financial Structure also Reflect Uncertainty in their Industry?

Successful entrants need to respond to the requirements of financing knowledge assets. They also face a competitive environment with varying degrees of uncertainty. Innovation and change bring obsolescence and uncertainty. This has implications for the financial structure of the firm.

This study finds that a firm's financial structure also reflects the stability and predictability of the environment in which it operates. Firms operating in more uncertain industries—where products and technology change rapidly, the threat of entry by competitors is high, and where consumer and competitor actions are difficult to predict—represent a greater potential risk to investors. As such, firms in more uncertain industries depend more heavily on equity—a permanent source of capital that both allows the firm greater flexibility and is less risk averse.

Are Successful Entrants Innovative?

Successful entrants, most often, are not innovative. Only one in five successful entrants innovated, and one in three invested in new technology. Within the successful entrant population, R&D activity and the realization of innovation is much more common in the goods sector than in the services sector, and in particular in the high-knowledge goods sector. Among the firms engaging in innovative activity, high-knowledge service providers are more likely to introduce process innovations, while goods producers and low-knowledge service providers are more likely to undertake product innovation.

Successful entrants develop a customer-oriented business focus. Their product strategies are aimed at enhancing the attractiveness of their current products in their existing market: they focus on quality and responsiveness to customer needs, and their process strategies are concentrated on improving the efficiency and quality of the production process.

Are High-growth Successful Entrants Different—And if so, how?

If growth entails the mastery of more complex tasks, competencies that are essential to accomplishing these tasks should receive greater stress from firms with the highest growth rates. Differences between the faster- and slower-growing firms should be greater for those strategies or activities that are most critically related to the growth. Understanding the relationship between specific competencies and growth is important to both entrants aspiring to grow as well as their stakeholders. Additionally, growth in entrants is important to the economy as a whole, because growth in entrants creates jobs. In order to investigate these differences, firms are ranked based on their average annual real growth in revenue since birth, and divided into two equal-sized groups: faster growers and slower growers.

Faster-Growing Successful Entrants Excel in All Areas

Balance—emphasis on striving to enhance their capabilities in all areas—is a consistent theme among faster-growing firms.

Faster-growing successful entrants place stronger emphasis on each of the management, financial flexibility, human resource, product, marketing, and production strategies than do slower-growing firms.

The greater emphasis that faster-growing successful entrants place on financial flexibility and financial planning translates into more flexibility—of two sorts—in their financing. First, they draw their financing from a larger number of sources. This means they are less dependent on any particular financier. Second, permanent capital accounts for a larger proportion of their financing than is the case for slower-growing firms. This implies faster-growing successful entrants have more flexibility in dealing with economic downturns and other unforeseen circumstances.

Innovation and Attention to Human Resources are the Characteristics Most Strongly Related to Growth

Faster-growing successful entrants are almost twice as likely to innovate as slow-growing firms. Similarly, they place more emphasis on strategies relating to enhancing, updating or expanding their product line, and improving production, than do slower-growing firms.

Faster-growing successful entrants place greater emphasis on hiring skilled employees and motivating their employees than do slower-growing firms. They are significantly more likely to train their people.

How Are Growth and Industry Dynamics Related?

The factors associated with growth vary across industries. The report explores how these factors vary based on whether the firm is a goods producer or service provider, whether the firm is in a high- or low-knowledge industry, and whether the firm operates in a new product market or a mature product market.

Developing Core and Product-specific Competencies Is Related to Growth in All Industries

Faster-growing successful entrants, regardless of whether they are goods producers or services providers or in high- or low-knowledge sectors, emphasize all business strategies more. Faster growers are more actively engaged in performance monitoring, innovating and training, and use more permanent capital than slower growers. The implication is that faster-growing successful entrants, regardless of their industry, excel in many areas.

Balance appears to be more important to growth in the high-knowledge sectors than in the low knowledge sectors. Faster growers in the high-knowledge sectors tend to outperform their slower-growing counterparts everywhere. Conversely in the low-knowledge sectors, faster-growers outperform slower growers in very specific areas.

In the low-knowledge industries, faster-growing firms have more permanent capital. There is no strong relationship between growth and permanent capital in the high-knowledge industries. However, this does not imply that permanent capital is unimportant here. Indeed, given that a high degree of permanent capital is more common in high-knowledge industries, it appears that permanent capital is critical to survival in such industries. Conversely, in low-knowledge industries, firms can survive with little permanent capital, but they typically grow at a slower pace.

Growth Among Successful Entrants in New Markets Is Related to Strategic Emphasis on Product Development

In new product markets, the characteristics of the product are continually changing. In these volatile markets, the successful entrants that grow are those that keep pace with or lead product changes. Growing firms are those that emphasize product development strategies. Emphasis on improving the way existing products are produced, or extending their market reach, is less strongly related to growth.

Growth Among Successful Entrants in Mature Markets Is Related to Strategic Emphasis on Production and Marketing

While growth in a maturing product market as a whole is limited, opportunities for growth exist for individual firms. In mature markets, firms that are growing rapidly are those that are seeking to refine the production and delivery of their products.

Faster-Growing Successful Entrants in Both New and Mature Markets Engage in Innovation, R&D, and Training

Faster growing successful entrants are those that translate their strategic emphases into action by undertaking R&D, innovation, and training. Despite the fact that some strategic emphases associated with firm growth differ across environments that vary by the degree of product-market maturity, there are commonalities: firms that grow are much more likely to engage in innovative activity and to train.

How Do Innovators Differ From Non-innovators?

This report demonstrates that regardless of the industry in which the firm operates or the maturity of the market which the firm serves, innovators grow faster than non-innovators. It is therefore of interest to ask how innovators differ from non-innovators.

Innovators face a more intensely competitive environment than do non-innovators. This is found across almost all of the measures of competitive intensity. Successful entrants who innovate typically face more competitors, less predictability of demand and more rapid product obsolescence. They are more likely to be located in growing product markets than successful entrants that do not innovate.

Innovators respond to their more intense competitive environment by striving to develop superior competencies in all areas, including management, technology, human resources, marketing, and production. They also counter the greater uncertainty they face by undertaking more formalized planning and monitoring their performance. Finally, they have built a capital structure that affords more flexibility and reduces exposure to risk in financial markets by drawing on more types and sources of financing.

How Does This Analysis Compare To Previous Findings?

This report, when viewed in combination with previous studies, demonstrates that the importance of various competencies depends on the maturity of the firm.

A study of bankrupt firms found that a lack of management skills was the primary internal factor for the failure of "entrant firms"—firms that are less than five years old (Baldwin et al. 1997). Other factors, such as human resource, innovation, and marketing competencies, were less important.

An earlier study of established SMEs found that the key discriminating criteria between faster- and slower-growing firms is innovation (Baldwin et al. 1994). Faster-growing established firms were more innovative, in terms of both product and process innovation than slower-growing firms. Here, competencies in the area of management, human resources, innovation, and marketing were less important.

In combination with the findings from this report, these studies suggest there is a transition in terms of what is most important. At the earlier stages, management capabilities are crucial to survival. As the firm ages, human resource and innovation strategies increase in importance. By the time the firm has reached an established stage, its management and human resources capabilities are typically quite developed, and growth is more closely associated with innovation.

Introduction

This report provides a comprehensive picture of an important segment of the economy: what is referred to in this report as "successful entrants". The successful entrants examined in this report are firms that have started within the last 11 to 14 years and have exhibited a degree of success by surviving the perils of infancy to emerge into their second decade of life.[1] They are teenagers who have moved from childhood to adolescence. These firms are of importance to the economy for two reasons. First, new firms are both contributors to, and catalysts for, the development of technologies, processes and products. New firms often commercialize new products and/or processes and encourage "incumbents to drastically cut slack from their operations. Entry stimulates incumbents to introduce new products and processes which they had been holding back" (Geroski 1995). The second, and prime, reason that successful entrants are so important is that they have come to account for a larger portion of the economy. Smaller firms have been increasingly accounting for a larger proportion of jobs (Picot and Dupuy 1996).

The first objective of this report is to illustrate the nature of operating and financing practices of successful entrants, and the nature of the environment within which they operate.[2] In this report, the firm is viewed as a collection of competencies. The core competencies, such as business and financial management, lay the fundamental framework for the firm. The ability of the firm to acquire, allocate and efficiently manage its resources depends on these competencies. Strategies and plans are turned into action by people, and hence, human resource competencies are a fundamental component of the firm. Based on these core capabilities, the firm develops product-specific capabilities concerning the product, the production process and the delivery technique. The core competencies can be applied to different markets as the firm grows and adapts to changes in the environment. The product-specific competencies pertain to specific markets and products.

The nature of the competencies required for survival and growth differ across industries. In some industries, production techniques are more critical to success, while in others marketing is more important. The nature of competencies will also differ across different stages of the development of a firm. In its incipiency, a firm may not develop breadth in management and financial skills, relying instead on a new product or process to give it an advantage over its competitors. However, all products in their initial form eventually become obsolete. Before this happens, other firms can learn to replicate a firm's products, produce them more cheaply, or bundle them with other products more attractively. In the long run, the survival of a new firm depends not just upon its ability to develop an initial product line, but also on its ability to modify, improve and update it, to improve its production proficiency, and to increase the attractiveness of its products in the market place. In order to adapt in a world of intense competition, new firms have to draw from a set of core capabilities to develop the next generation of products.

The environment in which the firm operates adds a final component to this picture. The environment is characterized by the relative power and predictability of customers, competitors and suppliers, and the stability of products and technology. The appropriateness and effectiveness of the competencies required for a firm's survival may be strongly dependent on its environment.

In addition to developing a profile of competencies and environmental influences for successful entrants, this report examines the interrelations between them by asking several questions. First, "What are the links between operating and financing strategies?" The importance of knowledge-creation activities, for example, has attracted considerable interest. Part of the report is devoted to examining whether knowledge-intensive firms adopt different operating and financing strategies than other firms, and how investments in knowledge and technology are financed. Second, this study explores whether uncertainty in the industry affects a firm's financing strategies.

The report also investigates the relationship between operating and financing practices and growth, taking into account the possibility that a firms' behaviour will vary depending on the industry and environment in which it operates. The study asks the question, "Does the way in which operating and financing strategies relate to growth differ depending on the dynamics of the industry?" Specifically, is the relationship between firm behaviour and growth conditioned by the type of industry (i.e., high-knowledge goods, low-knowledge goods, high-knowledge services, or low-knowledge services) and the maturity of the product market in which it operates?

Finally, the analysis reveals that innovation is a strong determinant of growth. This is a result that has been found previously (Baldwin et al. 1994). It has also been shown (Baldwin and Johnson 1996a) that older innovative firms differ from older non-innovative firms along numerous dimensions. In fact, innovators demonstrate superior competencies in all areas of their business: management, marketing, finance, human resources and production. Therefore, it is of interest to ask how successful entrant innovators differ from successful entrants that do not innovate.

The report is structured as follows. First, it describes the importance of successful entrants to the economy, the motivating factor in undertaking the study. Then it discusses the methodology of the survey that provided the data used for the report's analysis. The analysis starts by describing who the firms are, and the environment they face. Then it examines what the firms are like by outlining a comprehensive profile of successful entrants with respect to their strategies and activities across a range of areas. These include: business and financial management, human resources, innovation, technology, product and process development, and marketing. The profile section also discusses how financing is related to operating activities and the dynamics of the industry. Following this, the factors that are related to growth, and how these relationships vary across firms in different industrial environments, are examined. Finally, the differences between innovators and non-innovators are examined.

Why Are Successful Entrants Important?

Many firms are born each year. They each have an enormous potential to contribute to economic output, employment and renewal of the industrial structure. Yet most new firms die, making the survivors critical. Moreover, a sufficient number of these new firms achieve enough growth that the survivors as a group ultimately provide almost as many jobs as the entire group of entrants—both survivors and exiting firms—did when they first started.

The contribution of new firms is determined by the rate at which they enter an industry, their rate of survival and the rate at which they grow. On average, for each of the years 1984-86, new commercial firms[3] accounted for 17.8% of the population of businesses (Table 1). They accounted for 6.4% of jobs in the year after entry—the first full year of life.

The rates of entry differ considerably by size class. The smallest size class has the largest entry rate; on average in each of 1984, 1985 and 1986, 19.5% of firms in this class were born in that year. Entry rates were lowest for the largest size class (5.1%).[4]

Life for new firms is difficult. Many do not have the skills for success and fall by the wayside. Only 21.4% of firms born in the 1984–1986 period survived to 1994 (Table 2). Consequently, while the entry rate of all firms averaged 17.8% over the period 1984–86, the entry rate of just those firms that actually survived to 1994 was 3.8%.

Those firms that start smaller are particularly susceptible to failure. The survival rate was lowest (20.2%) for entrants that started with fewer than 10 employees. It was 51.1% for firms with more than 24 employees.

Table 1
Average Entry Rates, 1984 to 1986

Size class[1]	Entrants as a % of number of firms	Entrants as a % of number of employees
0–9 ALUs	19.5	9.0
10–24 ALUs	6.6	6.1
25+ ALUs	5.1	4.4
All	17.8	6.4

[1] *Firm size is measured in terms of average labour units (ALUs), which are a proxy for the number of employees (see Statistics Canada (1988) for a definition of an ALU).*

Table 2
Average Entry and Survival Rates, 1984 to 1986

Size class	Entrants as a % of number of firms	Survivors as a % number of firms	Survivors as a % of number of entrants
0–9 ALUs	19.5	3.9	20.2
10–24 ALUs	6.6	3.1	47.0
25+ ALUs	5.1	2.6	51.1
All	17.8	3.8	21.4

Since this study examines the differences in firm behaviour across industries, Figure 1 contains the birth rates for the high- and low-knowledge goods and services sectors averaged over the 1984, 1985, and 1986 birth cohorts. The total entry rates are higher in the service industries than the goods industries. However, the industry differences are fewer across the individual size classes (not reported here), thereby indicating that at least some of the differences in the entry rates across these broad industry groupings are the result of the services sector possessing a large percentage of small firms.

Figure 1
Average Entry Rates for All Entrants and Survivor Firms, 1984 to 1986

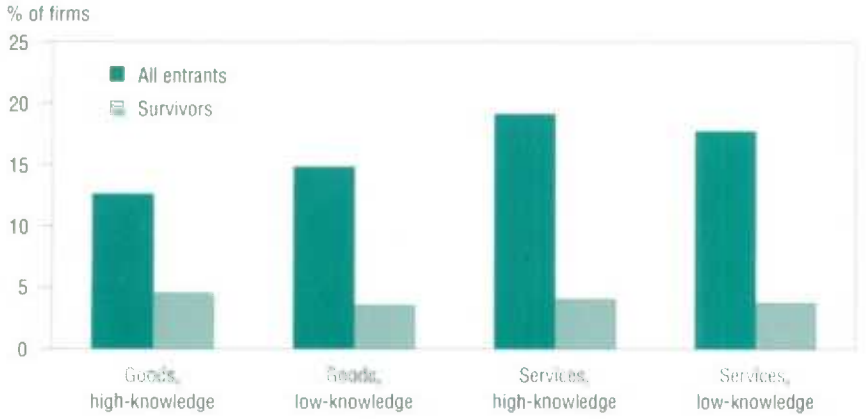
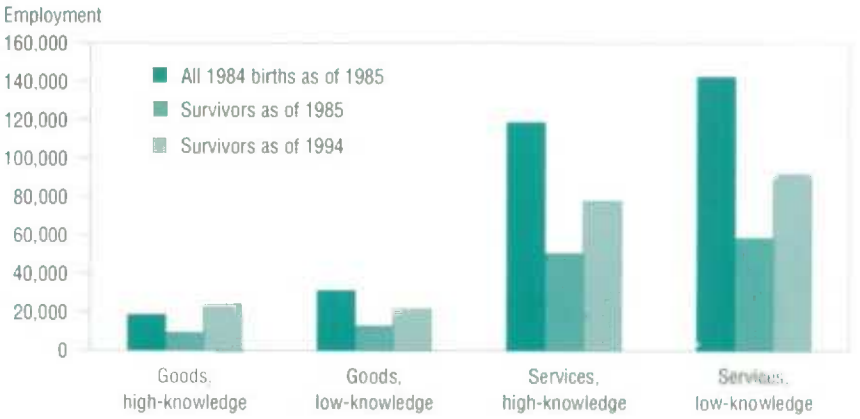


Figure 2
Total Employment in New Firms



The entry process contributes more, at least initially, to renewal in the services sector than in the goods sector. However, new firms in the service industries fail at higher rates. Hence, the entry rate of just survivors is quite similar across industries (Figure 1). Goods industries are harder to enter than service industries but entrants are better able to survive the changes of the early years in goods than in service industries.

Comparing the total number of jobs created by all entrants in the year after birth (for the 1984 entry cohort) with the number of jobs in the surviving firms in their year after birth and in 1994 (Figure 2), sets the performance of the survivors in context. Growth in the high-knowledge goods industry is so robust that surviving entrants managed to increase the number of jobs in the cohort in 1994 above those in the year after the birth—despite the exit of most of their cohort. In the other sectors, growth is not sufficient to offset the exit of some firms in the cohort in their early infancy and the total employment in the entry cohort declines. Nevertheless, the growth in the group of successful entrants in each of these sectors is large. The total growth in the services sectors exceeds that in each of the goods industries.

In summary, new entrants represent an impressive element of Canadian firms and jobs. On average, over the 1984–1986 period, approximately 18% of firms in operation had just commenced business that year. Intense competition in the increasingly global environment means that survival is difficult. New firms, partially due to their small size and lack of experience, face particularly difficult challenges, and only one in five survives a decade of operation. Many of those that do survive, however, grow considerably. By 1994, firms that were born in 1984 supported over 200,000 jobs.

Research Methodology

The data used in this report were collected in the Survey of Operating and Financing Practices. This section describes the frame and sample of "recently born" firms, how that sample was drawn and the questionnaire developed, the response rate to the survey, and the generation of the data.

The Frame and Sample

For the purposes of this study, "recent" means firms born in the previous 11-to-14-year period. According to the Longitudinal Employment Analysis Program (LEAP) database,[5] 469,114 commercial firms started up during the 1983–1986 period. Of those, 95,302 firms survived to 1993 and they serve as a base frame for the group of start-ups referred to as "successful entrants": firms that emerge out of "childhood" into their second decade. There were 39,675 firms for which financial information in both the year of birth and 1993 were available to use as the final frame for this survey.

From the frame of 39,675 firms, a sample of 3,991 firms was selected. The sample was stratified by four criteria to permit investigation of the profiles of different firm types. The first two, size and growth, were used to illustrate differences in operating and financing strategies between both smaller and larger firms and faster- and slower-growing firms.

Use of the third criterion, knowledge intensity, was based on the contention that knowledge-intensive firms, due to their relative lack of physical assets, encounter financing problems quite different from those of traditional firms.

Firms were broken down into categories of high and low knowledge by generating an aggregate index using data pertaining to research and development (R&D) spending, use of technology, workers' education levels, and wage and productivity rates at the industry level.[6] Within each of the goods-producing and service industries, industries were ranked by their score on the knowledge index, with those in the top half considered high knowledge, and those in the bottom half, low knowledge. Further discussion is provided in Appendix I.

The final criterion arose out of a desire to investigate the relationship between financial structure and firm strategies and performance. Baldwin and Johnson (1996b) show that the debt-to-asset ratio is an important determinant of firm survival in manufacturing. Consequently, differences between firms with high debt-to-asset ratios and those with low debt-to-asset ratios are sought.

In summary, the sample was drawn from the following strata: size (employment in 1993), the growth in employment from birth to 1993, the knowledge-intensity of the industry (within the goods and services sectors) and the relative debt-to-asset ratio. Population, sample, and respondent counts are presented, by strata, in Appendix I.

The Survey

The questionnaire was designed to obtain a broad overview of the financing and operating practices of successful entrants. Many of the questions were initially derived from previous questionnaires, notably the 1992 Survey of Growing Small- and Medium-Sized Firms and the 1993 Survey of Innovation and Technology, both conducted by Statistics Canada. A selection of managers of firms in the target population representing each official language were interviewed in person to pre-test the questionnaire.

The questionnaire contained several sections. The first had questions pertaining to management—the extent of managerial and industry experience, and the degree of managers' ownership in the firm. Section 2 comprised questions regarding the nature of the competitive environment. The third contained questions on firm competencies and business planning. The fourth had questions on financial planning and structure. The final question linked operating and financing practices: respondents were asked to indicate how various activities were financed. The questionnaire is contained in Appendix IV.

Data collection was carried out in three stages. Initially, the firms were contacted by phone to determine who was running the business. Then the questionnaire was addressed and mailed directly to the person responsible for the day-to-day operations. Finally, interviewers conducted telephone follow-ups for incomplete or non-responses. The majority of responses were obtained via these telephone interviews. The response rate to the survey was 80%, a very high response rate, by both industry and Statistics Canada standards, for a business survey.

Each of the questions also had a very high response rate (between 78% and 100%). In cases where a manager responded to all but a few questions, the missing responses were imputed. Imputing data involves estimating the true response for a firm for a particular question, using information on the size, debt-to-asset level, industry, and growth of the firm, as well as responses to other survey questions.

The missing data were imputed since not imputing missing responses is equivalent to assuming they are no different from those of the average respondent. However, missing responses occur more often for smaller and declining firms. Smaller and declining firms are often less likely to value many of the strategies or engage in many of the activities the survey investigated. Consequently, the true responses for the missing observations are unlikely to be similar to those of the average firm. Treating the missing responses as though they are the same as the average introduces an upward bias to the estimates. Readers interested in a detailed discussion of the imputation strategy are referred to Appendix I.

In order to reflect differences in the proportion of the population sampled in each strata, weights were calculated by dividing the population count at the strata level by the sample count at the strata level. The population estimates were then calculated by applying the associated weight to the sample responses. If this were not done (i.e., if unweighted data were used), the mean responses would not represent those of the population. They would only represent sample averages, which in the case of this survey are very different than the population because of the way in which the sampling was performed.

Who Are The Successful Entrants?

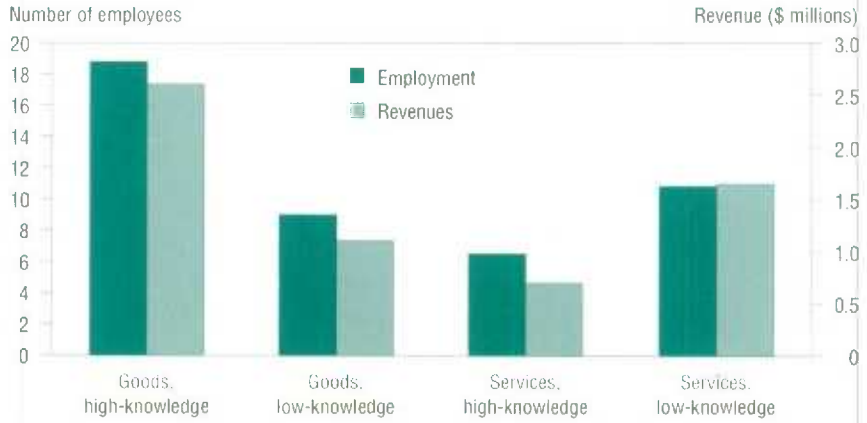
They are found in all industries. Most are quite small: in 1993, the average successful entrant had 9 employees and $1.2 million in sales. They were born small, have achieved moderate growth, and anticipate modest growth over the next few years. A small percentage (2.8%) believe that their sales will rise by more than 50% over the next two years.

The firms profiled in this survey are the successful entrants. They are special in the sense that very few—one in five—new businesses actually survive a decade. They are the ones that successfully navigate the hazards of early infancy and are found in all industries.

Successful entrants in the Survey of Operating and Financing Practices were the commercial firms that entered in the period 1983 through 1986 and survived through to 1996. While these firms grew over the period, they were still relatively small by the early 1990s. The average size of a successful entrant in 1993 was 9 employees, with average sales of about $1.2 million. Nearly three-quarters of successful entrants have fewer than 10 employees. A substantially smaller number, almost 16%, have between 10 and 24 employees. Very few successful entrants, less than 2%, have more than 100 employees.

Successful entrants in the knowledge-based goods industries were largest, with 19 employees and $2.6 million in sales on average (Figure 3). The average firm size in the low-knowledge goods industries was only half the size of those in the high-knowledge

Figure 3
Average Establishment Employment and Revenue



goods industries. In contrast to the goods industries, firms in high-knowledge industries in the services sector were smaller than those in the lower-knowledge industries.

The successful entrants in the survey had grown moderately during their short lives. The compound employment growth of the group surveyed was 6.6% between their first year after birth and 1993 (Figure 4). While many firms constantly enter an industry to test their skills, many who make the attempt die. Job creation associated with these start-and-stop attempts is short-lived. In contrast, the group of successful entrants creates new jobs that last for longer periods and, through expansion, serve to retain the overall importance of the new-entry cohort as many of the original entrants exit the

Figure 4
Employment Growth Rates in Successful Entrants Since Birth

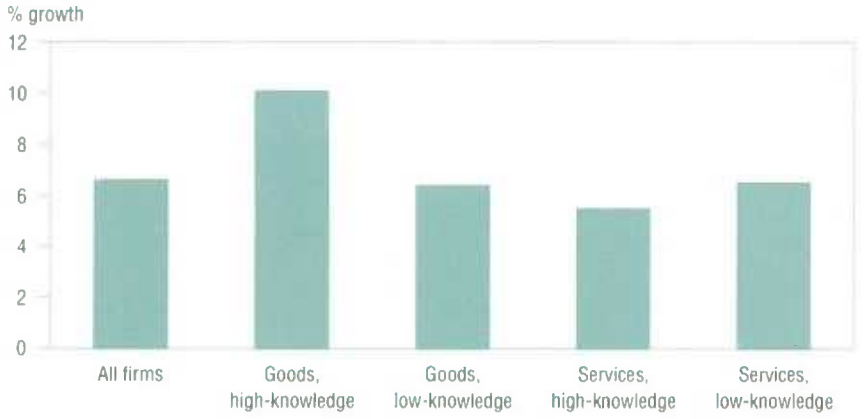
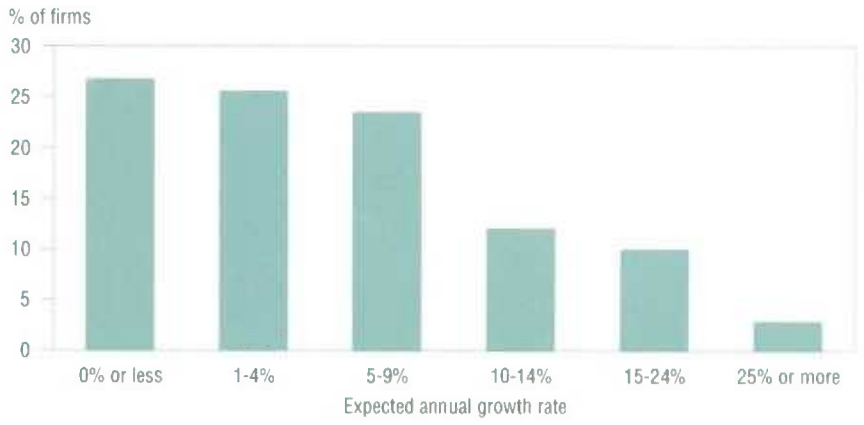


Figure 5
Distribution of Firms by Expected Revenue Growth Rates



industry. The highest growth rates occur in the high-knowledge goods industries.

The survey respondents expected their revenue growth, at least over the two years following the survey, to be much as it was in the past (Figure 5). Three-quarters of successful entrants anticipated positive annual revenue growth, while one in four firms expected their revenues to remain constant or decline. Most firms expected their revenue growth to be less than 10% per year—but 25% believed it would be more than 10% a year. A larger percentage of firms in the high-knowledge goods industries predicted higher growth rates than in the other industries (not reported here).

Successful entrants deal mostly with the domestic market. Only 12% indicated that they have any exports and, on average, only 3% of revenues were generated from exports. Large firms find exports are more important. While only 3% of revenues were generated by exports in firms with under 10 employees, this increased to 9% for firms with 25 or more employees. Most of the exports were concentrated in the goods sector where 9% of revenues came from exports. Service industries derived less than 3% of revenues from exports. Within each of the goods and service industries, the high-knowledge sectors exported more intensely.

What Sort of Competitive Environment Do They Face?

Successful entrants face an intensely competitive environment, both because customers can easily switch to a competitor's product and because the threat from new entrants is high. Successful entrants report that, in their industry, competition centres around the traditional areas of price, quality, and customer service. More innovative ways of competing, such as frequently introducing new products, customizing products, and offering a wide range of products, are perceived to be less intense at the industry level.

The competitive environment they face affects the skills required for survival and growth. Competition has many dimensions: it depends on the type of rivals a firm faces, the pressures placed upon it by buyers and suppliers, and the rapidity of changes in products and technology.

The type of competition in an industry is partially determined by the maturity of the market. To ascertain the nature of the market in which successful entrants operate, respondents were asked to indicate the development stage of the market for their primary product (the product that accounted for the greatest portion of revenue) by choosing one of four response categories: introductory (product demand just starting to grow, but product unknown to many potential users); growth (product demand growing; product becoming familiar to many potential users); maturity (product demand growth slowing; product familiar to most potential users); and post-maturity (no growth in product demand; few potential new users). Previous work (Gort and Klepper 1982) suggests that the early stage of product development involves a high degree of uncertainty and, consequently, is expected to influence the firm's performance. Product and technological innovations follow one another in quick succession. In later phases, the types of problems change. Reducing production costs via technological change becomes more important.

Despite the fact that they are new, successful entrants generally serve mature markets. While 29% of successful entrants were in a growing product market, 50% were in mature markets. Moreover, a greater percentage were in the post-maturity phase (18%) than the introductory phase (3%). As the life-cycle model would have predicted, successful entrants reported more rapid technological than product obsolescence. When asked to indicate if they felt that products quickly become obsolete and production technology changes rapidly in their industry (on a scale of 1 to 5), only 24% of firms felt that product obsolescence was rapid in their industry and 41% felt it was not. Yet, 45% said production technology changes rapidly and only 21% disagreed. The percentage of firms that disagreed (scores of 1 and 2) and agreed (scores of 4 and 5) is reported in Figure 6.

The number of competitors also serves as a measure of the amount of competition. About one-third of successful entrants faced between 5 and 19 competitors. Another 45% competed with over 20 firms. Thus, they generally face many competitors.

The number of competitors is only a rough proxy for competitiveness; firms face competition from potential as well as existing competitors. Even when the number of competitors is small, rivalry can be intense.[7] In order to gauge the intensity of competition, firms were asked if they disagreed or agreed with two propositions: that the threat of entry was high; and that their competitors' actions were predictable. Most successful entrants (41%) felt their competitors' actions were not easy to predict. Moreover, some 61% of successful entrants felt that threats from entry were high; just 17% felt little threat.

Figure 6
Firms' Perceptions About Their Industry

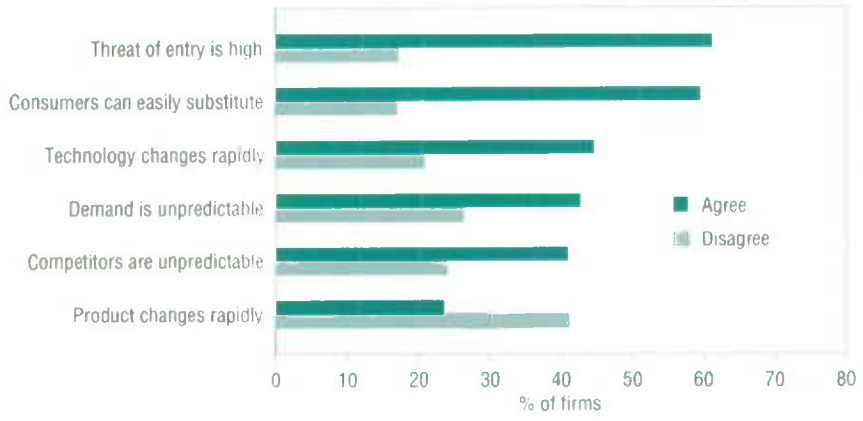
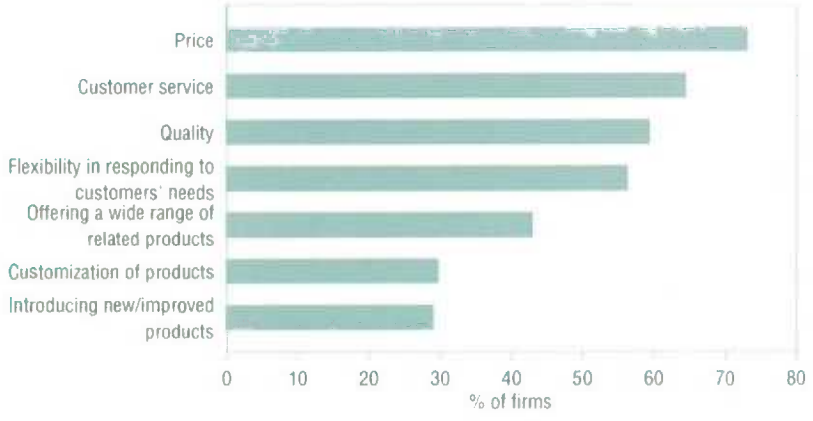


Figure 7
Percentage of Firms Reporting Intense Industry Competition



Customer relations also affects the nature of the competitive environment. Firms with only one customer face uncertainty due to bilateral bargaining and the potential high volatility of demand if the customer goes elsewhere. Firms with few repeat customers cannot build customer loyalty. Neither factor was problematic for successful entrants. In the survey, over half obtained less than 10% of their revenue from one customer. Over two-thirds of successful entrants derived more than half their revenue from repeat customers.

To examine the uncertainty associated with demand, successful entrants were asked if they agreed or disagreed with the statements "Consumer demand is difficult to predict" and "Consumers can easily substitute among competing products." The ease of substitution represents the largest source of uncertainty, as almost 60% of firms felt consumers could easily substitute. Unpredictability of consumer demand was less of a problem, though still high; just 43% of successful entrants rated it hard to predict.

The final element involved in describing the competitive environment that successful entrants face is the nature of competition. Successful entrants ranked competition in their industry on a scale of 1 (low) to 5 (high) in seven areas: price, customer service, quality, flexibility in responding to customers, product range, product customization, and the frequency with which new/improved products were introduced. The percentage of successful entrants that ranked each area as highly competitive (4 or 5) is plotted in Figure 7. In keeping with the fact that they function mainly in mature markets, successful entrants reported that competition in their industry was greatest with respect to price, customer service, and quality. In contrast, factors that mark growth industries—customization or introducing new products—were less important.

What Are They Like?

The primary goal of this section is to provide a broad overview of the operating and financing practices of successful entrants. A secondary goal is to provide some analysis of the linkages between operating and financing competencies. Examination of relationships between operating and financing competencies and growth, as well as how the environment tends to moderate the association between competencies and growth, is left to later sections of the report.

Throughout, this discussion relies on the view of a "firm" as outlined in the introduction. The firm can be thought of as having a collection of competencies. Competencies are identified both by strategic emphases of the firm as well as by the nature of activities the firm undertakes. It is possible that firms may claim to emphasize a particular strategy, though not pursue it actively. However, this is rarely the case. Previous studies (Baldwin et al. 1994; Baldwin and Johnson 1996a), based on related surveys, have shown that where firms emphasize a particular strategy, they act on that strategy as well, and thus may be considered to be developing a competency in that area.

A basic assumption that underpins the analysis here is that firms are heterogeneous. They make different choices with respect to each of these areas of competencies. These differences may be explained by firm characteristics, in some instances. Firms with a more complex structure, for example, are expected to place more emphasis on formalized planning and strategic development. For analysis, size is associated with complexity when investigating differences in financial and operating practices across size classes. The larger a firm's size, the more likely it is to need a formalized business plan that may be thoroughly communicated to all employees. Similarly, the larger the firm size, the greater the need to plan the use of resources through the development of complex financial plans. Common size differences and instances in which the influence of size is particularly strong are identified here.

This section discusses the core and product-specific competencies of successful entrants, reviewing the importance that successful entrants attribute to specific strategies, the activities they undertake to effect those strategies, and the outcomes of undertaking such activities.

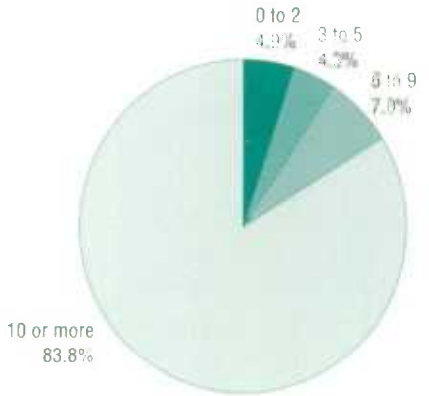
They Have Stable Ownership and Management Structures

The management of successful entrants has typically been with the firm since its inception. Moreover, most managers of successful entrants typically have some ownership in the firm. The continuity of the management team, the financial involvement of management, and its industry and managerial experience provide a strong foundation for the firm.

Sound business and financial management is essential to the survival of firms in today's competitive environment (McGuinness and Little 1981; Baldwin et al. 1994). Managing a firm means setting objectives, planning for ways to meet those objectives and assessing whether those objectives are achieved. A firm's management ability is assessed according to managers' experience, the extent to which managers assess and plan operating and financing activities, the attention they pay to a number of managerial issues, and finally, the manner in which the firm is financed.

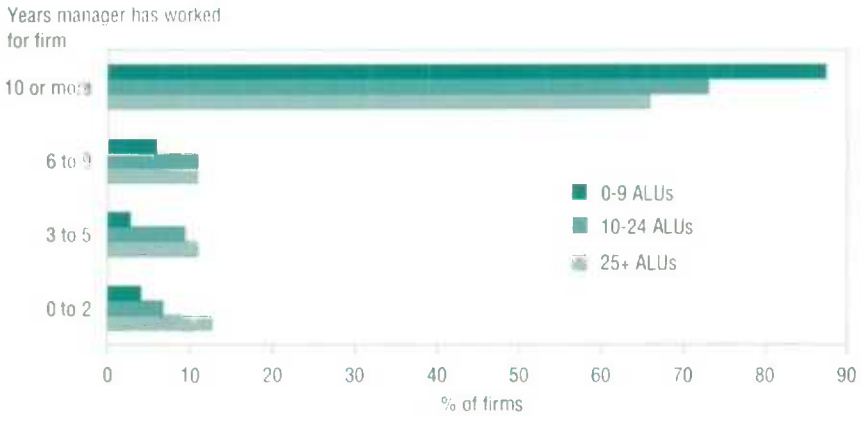
Successful entrants exhibit remarkably stable management structures, primarily because management generally has been with the successful entrants since their inception. Nearly 84% of the managers responsible for the daily operations of the successful entrants had been with their respective firm for 10 or more years (Figure 8). This implies that the managers of surviving businesses have developed substantial experience in their industry and in managing. While several studies have found that job turnover is relatively high in small firms (Picot and Pyper 1993), this is not the case for managers in surviving entrants.

Figure 8
Distribution of Firms According to the Number of Years the Manager Has Worked in the Firm



The longevity in the term of management is in large part due to the small size of the majority of successful entrants. Figure 9 illustrates that the smaller the firm, the longer the manager has typically been in the firm. Managers in small firms are more closely tied to the firm than managers elsewhere.

Figure 9
Percentage of Firms by Manager's Tenure and Firm Size



Note: ALU = average labour unit

An important factor tying management to smaller firms is that smaller firms are more frequently owner-operated. Of those surveyed, the likelihood of managers owning part of the company was greatest in firms in the smallest size class (83%) and lowest in the larger firms (70%).

Owning part of the firm creates a financial tie that binds the manager to the firm. Owner-managers have more vested in the firm than do non-owner managers and outside shareholders, and therefore provide a strong commitment to the firm, both in terms of the management behaviour, and the financial backing of the firm (Jensen and Meckling 1976). Moreover, the strength of the ties between management and the firm in owner-managed firms is enhanced by the fact that owner-managed firms have typically been under the present ownership for a long time. Eighty-three percent of firms in which management have some ownership in the firm had been under their current ownership for at least 10 years. Hence, in owner-managed firms, the ownership typically provides an additional source of stability.

The vast majority (74%) of these manager-owned businesses were started by their existing owners themselves (69%) or as part of a team or joint venture (5%). In the remainder, the managers acquired ownership by buying the firm from a non-family member (14%), inheriting/buying the business from a family member (10%), or purchasing/acquiring shares as an employee (4%). Some managers acquired ownership through a combination of these methods.

While ownership ties management more closely to smaller firms, these ties begin to rupture as the firm grows—both because new sources of outside capital are required and because management of the firm becomes more complex. As the firm grows, there is a greater need for professional management. Owner/managers who created the new firms and who may have specialized in one aspect—for example the technical side of the business—find that they have to bring in managers with broader managerial experience in order to successfully manage growth.

They Emphasize Business and Financial Management

Managers typically rate a broad range of business and financial management strategies as very important to their growth. Quality and financial flexibility emerge as the crucial factors on the path to success.

Management provides the foundation of the firm. Regardless of the firm's product, the ultimate viability of the firm rests on whether the firm can manage and finance its resources in such a way as to bring its products successfully to market.

The importance of management can be addressed in a survey in either general or specific terms. Using general questions risks overstating its importance. Respondents may consider only certain elements in the vast array of management concerns as being important and may transfer that importance to the overall category. Moreover, managers may be thinking of different elements, rendering the responses incomparable. Asking specific questions, and analysing them together resolves this problem. Hence, managers in this survey were asked to rate the importance of several specific business and financial management strategies to the success of the firm, on a scale of 0 to 5, (i.e., 0=does not apply; 1=low; and 5=high).

Continuous quality improvement—the first specific management strategy that was investigated—relates to more than just product quality. It pertains to quality in everything the firm does. The emergence of quality standards such as those set by the International Standards Organization (ISO 9000 Series) and the Canadian Standards Association (CSA Z299) and the widespread emphasis given to "total quality management" or "continuous quality improvement" attests to the importance of this strategy.

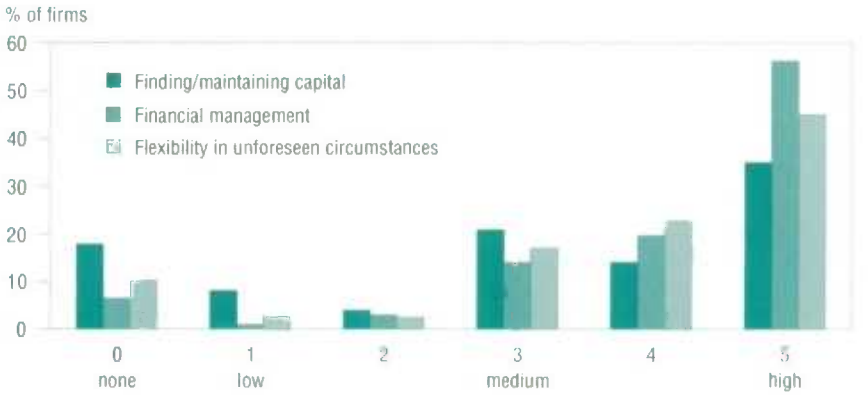
Managers also assessed the importance of "using information technology." Advances in information technology have rapidly permeated all types of businesses. Applications are ubiquitous; controlling production, measuring defect rates, monitoring competitors' actions and updating inventory are just a few examples. The intensification of competition has made the adoption of such technologies crucial to survival in some industries.

The third and fourth management strategies—"delegating decision making" and "consensus decision making"—pertain to the process by which decisions are made. Managers who fail to delegate decision-making responsibilities will simply run out of hours in the day. At the other end of the spectrum, firms that fail to engage in consensus decision making risk alienating employees or management personnel. The alienation results in a lack of communication, an inability to benefit from knowledgeable people and a loss of loyalty from personnel.

Of the four management strategies, "continuous quality improvement" is considered to be the most important (Figure 10). Only 12% of firms reported that the strategy was "not applicable." The remaining three management strategies appear to have a more limited range of applicability across firms. In each case, approximately one-fifth of firms considered the strategy not applicable to them. Nevertheless, among the firms that felt these management strategies were relevant, many attributed high importance to them. Almost half of successful entrants gave a score of 5 (high importance) or 4 (moderately high importance) to the use

Figure 10
Importance of Management Strategies

Figure 11
Importance of Financing Strategies



of information technology. The decision-making strategies were typically accorded moderate-to-high importance.

The financial behaviour of small firms—including problems in acquiring financing, excessive debt levels, and financing barriers to growth—has been the focus of many previous studies (Hughes and Storey 1994; Barber et al. 1989; Advisory Council on Science and Technology 1990). Most of the studies have focused on the external environment rather than on internal competencies. Nevertheless, good financial management is an essential counterpart to good business management. Every single activity the firm undertakes must be financed: rent and wages must be paid, and equipment and material inputs must be purchased. Timely and efficient co-ordination of outlays with revenues is crucial not only to the profitability of the firm but also to its survival.

To investigate the importance that successful entrants attribute to financial management, managers of successful entrants were asked to rate the importance of the following financial management strategies to their success: finding/maintaining capital; financial management (costs, cash flow); and flexibility in meeting unforeseen circumstances.

The importance of financial planning was confirmed by the responses to these questions. Successful entrants typically rated financial management as a very important (mean score of 4.1) strategy, financial flexibility as an important-to-very-important (3.8) strategy, and finding and maintaining capital as an important strategy (3.1; Figure 11). Equally significant, successful entrants were less likely to report "not applicable" to the financing strategies than to almost any other category. This suggests that the financing strategies are considered the most broadly relevant across all firms.

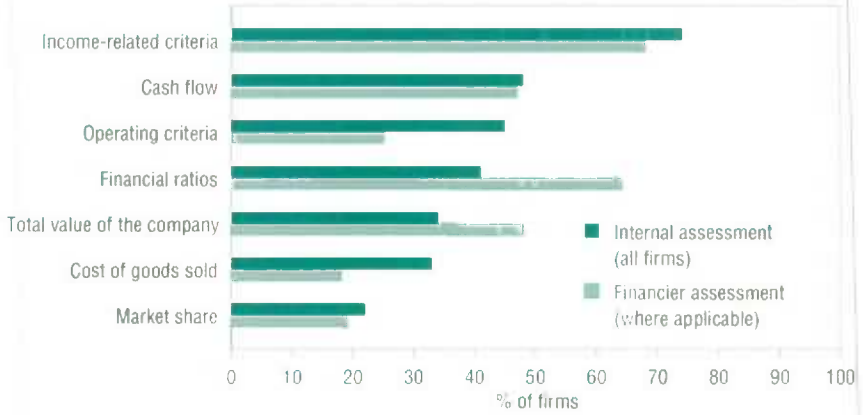
They Monitor Their Performance...

Most successful entrants monitor their performance. Income-related criteria are the most frequently used performance gauge. In contrast, financiers accord almost equal importance to balance sheet and income-related criteria.

Business and financial strategies are of little value unless firms have some means to ascertain the effectiveness of those strategies. In order to investigate what measures, if any, successful entrants use to assess their performance, managers were asked to indicate which of the following measures they employed to assess their firm's performance: income-related criteria; cash flow; financial ratios; total value of the company; operating criteria; cost of goods sold; or market share. Similarly, firms were asked if they had any external financing and, if so, whether performance conditions related to any of these measures were attached.

The valuation tendencies of all firms are compared to the valuation tendencies of the financiers of firms with external financing in Figure 12. Most successful entrants evaluate their overall performance according to specific financial and non-financial measurement criteria. Income measures are clearly the primary concern of successful entrants. Nearly three-quarters of successful entrants

Figure 12
Contrasting Self-Assessment Criteria with Financier Assessment Criteria



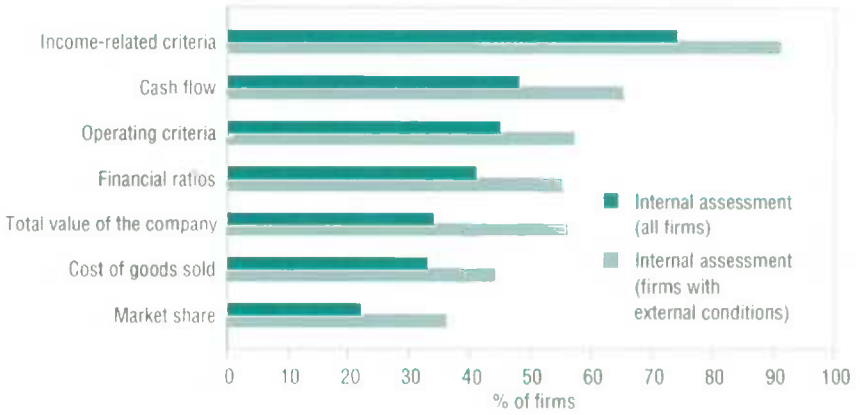
indicated that they monitor total or net revenue to assess their performance. Cash flow is also a critical measure: almost half of successful entrants used cash flow as a means to assess their performance. The remaining criteria were less commonly monitored by firms to assess their performance: 45% named operating criteria such as quality, downtime and/or delivery dates; 41% cited financial ratios; 34%, the total value of the company; and 33% also included the cost of goods sold.

The factors that the firm considered important for gauging its performance differed from the factors that concerned its financiers. Only 61% of firms reported having any external financiers. Of those, only about a third had performance conditions attached to that financing. For these firms with external financing and performance conditions attached, the most commonly required external standards for firms were based on income (68%), financial ratios (64%), the total value of the company (48%), and cash flow (47%). External financiers were less concerned about operating criteria (25%), market share (19%), and the cost of goods sold (18%) than were the firms themselves.

External financiers are generally more concerned about balance sheet information. The firms themselves are concerned about a much broader range of criteria, which includes more emphasis on non-financial measures. This difference in emphasis may reflect the capabilities of the assessor. Financiers have more experience in assessing financial criteria than operating criteria.

Given the difference in emphasis between successful entrants and their financiers, it is useful to ask whether firms with performance conditions attached to their external financing pay attention to different criteria than the average successful entrant. If they do not, externally-imposed criterion have likely had little impact on the way successful entrants evaluate themselves. In Figure 13 the percentage of all successful entrants that use a particular criteria to monitor their performance is compared with the percentage of firms with performance conditions attached to their external financing that track a particular measure.

Figure 13
Contrasting Self-Assessment Criteria of All Firms to Firms with External Conditions Attached



When assessing performance, firms with performance conditions attached to their external financing differ from the average successful entrant because they are more likely to report that they monitor each measure. The relative emphasis, however, is approximately the same as that of all firms.

...But They Engage in Less Formalized Business Planning

Despite the fact that successful entrants report that business and financial management strategies are crucial to their success, and that they monitor a number of criteria to assess their performance, the majority do not have formalized plans to elucidate and communicate those strategies to the stakeholders of the firm. This is probably in large part due to successful entrants' small size: the probability of having formalized plans, and the sophistication of the plans, increases dramatically with the size of the firm.

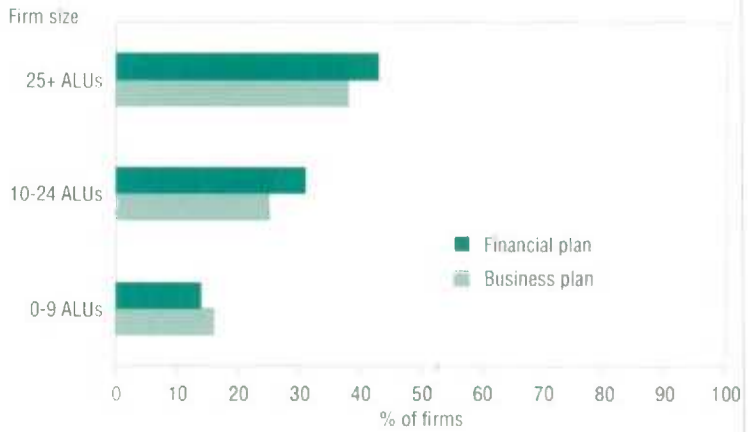
In order to ascertain the importance of formalized planning, successful entrants were asked if they had written business and financial plans. Only one in five successful entrants had a written business plan. The same proportion had a written financial plan. Only 12% of firms had both types of plans.

In the question, "Does your firm have a written business plan?", a written business plan was defined to include financial data and forecasts, objectives of the firm, business strategies, marketing and sales plans, product development intentions, and human resources plans. In the case of written financial plans, firms were simply asked if they had one and, if so, what it contained. The vast majority of financial plans for these businesses included a financial budget for the current year (94%), and only marginally fewer included historical financial data (87%). Financial forecasts, included in 56% of the plans, were much less common.

Part of the apparent contradiction between placing a high value on the business and financing strategies and infrequently translating that high value into formalized planning, may be due to the small size of most successful entrants. Smaller firms may be better able to identify and communicate strategies to their employees without having to draw up formalized plans. Similarly, smaller firms are less likely to use external financing and, thus, have less need to communicate these strategies to outsiders. Indeed, larger firms were more than twice as likely to have a business plan and three times more likely to have a written financial plan than the smaller firms (Figure 14). Larger firms were not only more likely to have a financial plan, but when they did, they were also more likely to include historical data, a current year's financial budget and financial forecasts in the plan.

The sophistication of the plan is in part determined by the frequency with which it is updated. More than half of successful entrants with business plans updated them annually, while another quarter

Figure 14
Percentage of Firms with Business and Financial Plans



Note: ALU = average labour unit

updated them semi-annually or more frequently. Slightly more than 10% updated them less than once a year, and a small percentage (6%) did not update them at all.

Updates of financial plans are typically done with the same frequency as those of business plans. Just over 40% of successful entrants updated their income statement, balance sheet and cash flow statement quarterly or monthly, and another 29% to 38% updated them annually. Capital expenditures were updated less frequently; slightly more than 40% of firms updated capital expenditures annually, and slightly less than 30% updated them more frequently.

As firm size increased, the updating of all four forecasts happened more often. Larger firms were more likely to update all four forecasts monthly. Smaller firms were more likely to update them annually. They were also more likely than larger firms not to update these four forecasts at all.

The financial sophistication of the firm is determined not only by what the plan includes and how often it is reviewed, but also by who reviews it. In this study, employees of the firm were cited the most frequently (61%) as reviewers of financial plans. Just over one-third of firms with a financial plan had it reviewed by an independent certified financial adviser, about one-fifth had it reviewed by a board of directors with outside members, and one-quarter had it reviewed by others outside the firm.

Differences across firm sizes in the tendency to have the financial plan reviewed by various parties suggest a transition in the nature of the financial review process as the firm grows. Successful entrants in the smallest size class typically had the financial plan reviewed by employees in the firm (Figure 15). The smallest firms, which are least likely to have personnel with extensive financial training, relied heavily on internal personnel for review. Small firms were only half as likely to have the financial plan reviewed by a board of directors with outside members or an independent certified financial advisor. Mid-size successful entrants were the most likely to have the plan reviewed by a board of directors with outside members, an independent certified financial advisor or others outside the firm. It is at this intermediate stage that firms recognize the need to have the plan reviewed by someone with formal training in financing. Finally, larger firms tend to be the most likely to have it reviewed by employees in the firm. It is likely then that this largest size group has grown to the stage where having staff trained in financial planning has become both possible and necessary.

Figure 15
Reviewers of the Financial Plan, by Firm Size

Note: ALU = average labour unit

The Financial Structure Reflects the Firm's Development Stage

There is a significant amount of permanent capital backing successful entrants. Moreover, over half of the capital in successful entrants is derived from internal sources. A further third is contributed by banks and trust companies. These tendencies—strong backing by permanent capital, and use of internal and external financing—are evident among smaller and larger firms alike.

Substantial differences, however, can be discerned in the financing behaviour of smaller, compared with larger, successful entrants. Larger firms typically rely on a large number of sources (both internal and external) and types (e.g., combinations of equity capital with long- and short-term debt) of financing.

The implication is that smaller firms have less flexibility than larger firms. They draw their resources from fewer areas and thus have to depend more on those sources. As a result, they are more vulnerable to the risk of any one of their financiers altering the terms of their financing at any time.

Additionally, they draw their resources from fewer types of capital and thus have to depend more heavily on each type. Consequently, they are also less likely to be realizing the different benefits that permanent capital, semi-permanent capital, and non-permanent capital can each afford.

The financial structure of a firm is the combined result of its strategic emphasis on business and financing strategies, its planning activities, its relationship with financiers and its general success. Two survey questions provide the data for investigating the financial structure of firms. In the first question, managers reported the breakdown of their firm's debt, equity, and other types of financing. In the second question, managers reported how much of the firm's debt, equity, and other types of financing came from a list of financing sources.[8]

Sources of Financing

Retained earnings is the largest single source of financing. The bulk of remaining funds (34%) came from banks and trust companies. Owner/managers provided a significant amount of funds to the firm, accounting for 12% of total financing. Successful entrants depended on suppliers for 7% of their financing.

The large number of financing sources are grouped into two categories: internal and external. Internal sources include retained earnings and funding from both owners and employees. External sources include suppliers, banks, trust companies, related firms, joint ventures, venture capitalists, merchant banks, capital groups, governments, public market, pension funds, insurance companies, private investors, customers, and other sources.

Table 3
Percentage Breakdown of Financing by Source, 1994

Source	All firms	0–9 ALUs	10–24 ALUs	25+ ALUs
		% of financing		
Internal	**51**	**51**	**49**	**47**
Retained earnings	38	38	41	34
Owners/employees	13	14	8	13
External	**49**	**49**	**51**	**53**
Suppliers	7	7	7	13
Banks and trust companies	34	34	33	30
Related firms, joint ventures, strategic alliances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	5	4	8	6
Other (private investors, customers, etc.)	4	4	3	4

Note: numbers may not add due to rounding. ALU = average labour unit.

The differences in the distribution of financing sources is not significantly different between smaller and larger firms. Both small and large firms derive about half of their financing from internal sources, and about half from external formal sources.

These average numbers, however, mask substantial differences in financing tendencies across firms. More than half of all firms (52%) depended on only one source of capital (Table 4). Moreover, the difference in dependencies was dramatically different across firms of different sizes. The group of smaller firms were much more likely to depend on only one source of financing than were the group of larger firms (55% compared with 33%). Larger firms were more likely to depend on combined sources of financing. These differences between large and small firms are statistically significant (see standard errors in Appendix II).[9]

Table 4
Percentage of Firms Relying on Internal and External Sources of Financing, 1994

	All firms	0–9 ALUs	10–24 ALUs	25+ ALUs
		% of firms		
Single sources of financing	**52**	**55**	**42**	**33**
Internal sources	27	29	22	14
External sources	25	26	20	19
Multiple sources of financing	**48**	**45**	**58**	**67**

ALU = average labour unit.

This implies that smaller firms have less flexibility than larger firms. They draw their resources from fewer areas and, thus, have to depend more heavily on those areas. As a result, they are more exposed to the demands of a small number of sources and have less flexibility than those who draw from a wider range of sources. Firms who draw their financing from a larger number of sources diversify the risk of any one of those sources raising rates or tightening loan terms at any given time.

In summary, the "average" breakdown of sources of financing suggests that all sources of financing are commonly used. The averages belie the strong tendencies for individual firms to depend heavily on a small number of financing sources. Such a dependence makes successful entrants, particularly smaller ones, more susceptible to volatility in financial markets than it might first appear from examining the average percentage breakdowns of the types of financing.

Types of Financing

The types of financial instruments are grouped into three categories. The first is permanent—or patient—capital, which includes share capital and retained earnings. This sort of capital affords the firm the most flexibility. It does not have to be repaid, it imposes no bankruptcy risk, and it does not have to be renegotiated periodically. However, the added flexibility comes at a higher price; equity investors will typically demand a higher return over the long run.

The second type of capital is semi-permanent. It is comprised of long-term debt, convertible debentures, shareholder advances and other sources of financing. This type of capital places more restraints on the firm than permanent capital. It typically entails fixed repayment schedules that, if missed, bring about serious financial repercussions for the firm. However, this type of capital is still more flexible than temporary capital, as it involves a longer repayment period, affording the firm greater flexibility. This type of capital is typically less costly over the long run than equity.

Finally, the third category consists of non-permanent, or temporary, capital. This type of capital includes trade credit, lines of credit, short-term debt, contract financing, and government investment tax credits and grants. It is the most restrictive in that it generally must be repaid in a short period and affords little flexibility. Nevertheless, it is usually the least costly.

On average, permanent capital accounts for almost half of successful entrants' total capital (Table 5). The remainder is almost equally split between semi-permanent and non-permanent capital, with the latter accounting for slightly more. The differences across firm sizes are relatively minor; they are not statistically significant. By itself, this suggests that both small and larger successful entrants have a relatively significant base of patient capital, thus providing them with substantial flexibility to weather economic hardship and invest in the future.

Table 5
Percentage Breakdown of Financing by Type, 1994

Type	All firms	0–9 ALUs	10–24 ALUs	25+ ALUs
		% of financing		
Permanent capital	**46**	**46**	**49**	**44**
Semi-permanent capital	**24**	**24**	**25**	**23**
Long-term secured debt	17	17	16	18
Other long-term debt, convertible debentures, shareholder advances, etc.	8	8	9	5
Non-permanent capital	**30**	**30**	**26**	**34**
Trade credit, line of credit, short-term debt, contract financing	29	29	25	33
Government investment tax credits and grants	1	1	1	0

Note: numbers may not add due to rounding. ALU = average labour unit.

Once again, however, these average numbers obscure substantial differences in financing tendencies across firms. Almost half of all firms depend on only one type of capital. Among firms relying on just one type of capital, permanent capital was most commonly used (26% of firms), followed by temporary capital (13%), and semi-permanent capital (10%; Table 6). The remaining firms had a more complex capital structure, relying on a mix of capital types.

Table 6
Percentage of Firms Relying on Various Types of Financing, 1994

Type	All firms	0–9 ALUs	10–24 ALUs	25+ ALUs
		% of firms		
Firms relying on a single type of financing	**49**	**53**	**42**	**27**
Permanent capital	26	28	26	14
Semi-permanent capital	10	9	11	6
Non-permanent capital	13	15	5	7
Firms relying on multiple types of financing	**51**	**47**	**58**	**73**
Semi- and non-permanent capital	4	4	4	3
Permanent and semi-permanent capital	9	9	6	12
Permanent and non-permanent capital	17	15	26	19
All (permanent, semi- and non-permanent capital)	21	19	22	39

Note: numbers may not add due to rounding. ALU = average labour unit.

Among firms with a complex financial structure, use of some form of permanent capital appears to be a core aspect of the financing structure of most firms. The most common complex financial structure used a combination of all three capital types (21% of firms), followed by a mixture of permanent and non-permanent capital (17% of firms), and a mixture of permanent and semi-permanent capital (9%). A handful of firms (4%) relied on a mix of semi-permanent and non-permanent capital.

There are large, significant, differences in the types of financing across the size classes. On average, smaller and larger firms depend, in about the same proportion, on each type of financing (Table 5). However, the averages obscure the fact that small and large firms differ dramatically in their actual financing behaviour. Smaller firms tend to use fewer types of financing and must, therefore, depend more heavily on the types they do utilize. Less than half of smaller firms (47%) used a combination of different types of capital (Table 6). In contrast, nearly three out of four large firms relied on a mixture of financing types. Furthermore, not only were larger firms significantly less likely to rely on just one type of financing, but they were also significantly more likely to draw from each of the types of capital when they did so.

This implies that smaller firms have less flexibility than larger firms. They draw their resources from fewer types of capital, making them more dependent on each type. Because of this, they are also less likely to efficiently match their financing to particular activities, unless their activities are also less complex. Those firms that do not rely on any temporary capital are covering their inventory costs with more expensive long-term debt and equity. Conversely, those that do not have patient capital are continually having to worry about financing, and in times of economic hardship will find that they are less able to acquire financing, and/or are forced to pay much higher interest rates.

Their Financial Structure Reflects the Nature of Their Business

The primary source of financing for all activities is permanent—equity—capital. However, knowledge assets are more often financed through permanent and government capital than are physical assets. Investments in physical assets, which are usually less risky, are more often financed with semi-permanent capital. The implications are twofold. First, firms must have a high degree of permanent capital to invest in knowledge. Second, government funds are typically used to finance knowledge investments, and thus may partially overcome the under-investment problem in building knowledge assets.

Financial instruments differ in terms of cost, structure and flexibility, and the appropriateness of each varies according to how the financing is used. The financial structure is a function of the firm's demand for various financial instruments and the supply of various financial instruments to the firm. Firms with high earnings variations prefer the flexibility that equity—permanent capital—affords. The willingness of different financiers to invest depends on the level and risk associated with the investment. Lenders have lower risk preferences than equity investors. Hence, debt financing will usually be offered at a lower cost than equity financing, but only for secure investments (i.e., firms that have more certain earnings, and/or collateral). Equity investors are more likely to accept higher risk in return for higher rewards.

The appropriateness of the financial instrument depends on the activities in which the firm engages. Investments in physical assets usually pose less risk, as the asset serves as collateral. Conversely, investments in knowledge (i.e., R&D, technology) are inherently difficult to value as collateral. Indeed, the value of knowledge is highest when few others hold that knowledge. It is precisely the inability of competitors to easily comprehend and apply the knowledge that makes it difficult for investors to value it. Yet, it is also this uniqueness that makes knowledge potentially lucrative and attractive to investors. While knowledge-intensive firms may be expected to attain higher earnings on average, there is greater uncertainty associated with them. Hence, these investments usually require a high degree of equity financing.

In order to investigate whether these differences in financing patterns exist, managers were queried about the types of capital used to finance various activities. They were asked what types of investments they have made and what types of financing instruments were used to fund the investments. They were also asked if they financed working capital, a financial cushion for uncertainties, debt reduction and other uses of funds and, if so, how.

The answers are summarized in Tables 7 and 8. For each of the use categories, permanent capital (retained earnings and share capital) was the most commonly used type of capital (Table 7). However, the importance of this type of capital relative to others varied according to the use of the funds. Investments in physical assets (machinery, equipment, land, and buildings) were less likely to be financed through permanent capital and more likely to be financed through long-term debt. Conversely, knowledge investments (R&D, technology, training, and market development) were more often funded by permanent capital. These findings corroborate those found in previous studies (Brewer et al. 1996).

Table 7
Percentage of Firms Citing a Type of Capital, of All Firms Citing a Use of Funds

Use of funds	Permanent capital	Long-term debt	Semi-permanent capital	Non-permanent capital	Government
			% of firms		
R&D	61	2	10	29	13
Technology	62	9	18	33	1
Market development	65	5	14	26	1
Training	75	3	7	21	3
Machinery and equipment	49	19	21	42	0
Land and buildings	41	44	46	23	0
Upgrades	52	12	16	40	0
Acquiring businesses	46	12	14	53	0
Working capital	52	4	8	50	0
Financial cushion	55	1	8	43	0
Debt reduction	68	4	17	17	0
Other	52	2	26	25	0

Hence, for a firm to invest in knowledge, it usually has to be realizing profits or be able to raise share capital. New businesses, unlike mature firms, will not yet have established either the earnings to reinvest in the company, or the earnings record that attracts outside equity, one of which is necessary for financing knowledge investments. Conversely, new firms may suffer less of a disadvantage relative to mature firms when financing investments in physical assets, because debt financing is more common here, and the physical asset itself can be used as collateral. The funds required for investment are less dependent on the company's earnings record.

Table 8
Of the Firms Using a Type of Capital, Percentage of Firms who Funded a Particular Use With it

Use of funds	Permanent capital	Long-term debt	Semi-permanent capital	Non-permanent capital	Government
			% of firms		
R&D	17	2	6	11	62
Technology	36	16	22	26	9
Market development	29	6	13	16	9
Training	49	7	9	19	33
Machinery and equipment	38	45	34	44	3
Land and buildings	14	45	33	10	2
Upgrades	27	20	17	28	2
Acquiring businesses	5	4	3	8	1
Working capital	45	11	15	59	7
Financial cushion	30	2	9	32	2
Debt reduction	28	5	15	10	3
Other	11	1	11	7	0

It is often argued that knowledge investments have the peculiar characteristic that their private benefit is smaller than their public benefit, as the undertaker of the investment cannot prevent others from benefiting from knowledge once it is discovered. Given this riskiness, firms will undertake sub-optimal amounts of knowledge investment, both because they cannot be guaranteed to reap the rewards and, as a corollary, cannot get financing for it. If government programs are meant to focus on this particular problem, the data in Table 8 suggest they are being used appropriately by the recipients of such aid. Investment tax credits and grants are typically used to fund "knowledge" investments and only infrequently used to finance investments in non-public goods.

Their Financial Structure Reflects the Dynamics of Their Industry

Firms that are operating in dynamic, high-knowledge industries use relatively more equity capital. Conversely, firms in low-knowledge industries rely more heavily on debt financing. Within each, firms involved in goods production typically have a longer term associated with their debt than service providers, who draw more on short-term debt. The implications are twofold: first, successful entrants match the structure of their financing to the nature of their industry, and second, in order to operate in high-knowledge industries, firms require a high degree of equity in their capital structure.

The fact that the use of different financing instruments varies according to the riskiness of the financed activity suggests that firms engaged in riskier activities will have a different financial structure than those engaged in less risky activities. To examine this issue, firms were classified operationally along two dimensions. The first (goods versus service industries) separates firms by the extent to which the assets of the firm are likely to be long-term physical assets. Firms in goods-producing industries have assets that are longer-lived than those in service industries. The second dimension (knowledge-intensity) relates to the inherent riskiness of the activities undertaken by the firm. High-knowledge industries are regarded as being inherently more risky.

Types of Funds

Goods-producing firms, which typically have relatively more longer-term assets, rely more heavily on long-term financing. Furthermore, a stronger asset base to offer as collateral reduces their riskiness and makes them good candidates for debt investments. It is not surprising, then, to find that long-term debt accounted for a significantly greater proportion of financing in goods-producing firms (24%) than in service firms (15%; Table 9). Conversely, temporary financing was more (although not significantly) important in service firms (30%) than in goods-producing firms (24%).

Firms operating in high-knowledge industries are operating in a more risky environment and, therefore, are expected to draw more heavily on permanent capital. This hypothesis is confirmed. Permanent capital accounted for 53% of financing in high-knowledge firms, significantly more than the 41% of financing in low-knowledge firms.

Table 9
Percentage Breakdown of Financing, by Type, 1994

Type	Industry Sector		Knowledge		Goods		Services	
					Knowledge		Knowledge	
	Goods	Services	High	Low	High	Low	High	Low
	% of financing							
Permanent capital	44	46	53	41	52	42	53	40
Long-term debt	24	15	13	20	17	27	12	18
Semi-permanent capital	29	24	22	27	22	31	22	25
Non-permanent capital	24	30	25	32	25	24	25	34
Government investment tax credits and grants	3	0	0	1	1	3	0	0

In summary, there are significant differences in the financial structure of firms in the goods and services and high- and low-knowledge sectors. High-knowledge firms, regardless of whether they are located in the goods or services sector, depend more heavily on share capital and retained earnings. Within subgroups, there also appear to be differences, although they are too small to be statistically significant. For example, high-knowledge firms in the goods-producing sector used more long-term debt (17% compared with 12%), while high-knowledge service firms turned more to other forms of semi-permanent or non-permanent capital for the balance of their financing.

Low-knowledge firms used more debt (semi-permanent and temporary capital) than high-knowledge firms (59% versus 47%). However, low-knowledge goods-producing firms tended to depend more on long-term secured debt than low-knowledge service firms (27% relative to 18%). On the other hand, low-knowledge service firms tended to depend more on temporary capital than low-knowledge goods firms (34% compared with 24%). Only this latter finding is statistically significant.

Sources of Funds

Differences in the sources of financing across industry sectors are consistent with differences in the types of financing. High-knowledge firms rely significantly more on internal funds (Table 10). Low-knowledge firms tend to rely significantly more on banks and trust companies for financing than do high-knowledge firms.

Table 10
Percentage Breakdown of Financing by Source, 1994

Source	Goods		Services	
	Knowledge		Knowledge	
	High	Low	High	Low
	% of financing			
Internal sources	**53**	**43**	**57**	**46**
Retained earnings	43	33	44	33
Owners/employees	10	9	13	13
External sources	**47**	**57**	**43**	**54**
Suppliers	9	5	4	10
Banks and trust companies	27	39	29	37
Related firms, joint ventures, strategic alliances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	7	10	3	5
Other (private investors, customers, etc.)	4	4	7	1

Note: numbers may not add due to rounding.

Their Financial Structure Reflects the Uncertainty in Their Industry

A firm's financial structure also reflects the stability and predictability of the environment in which it operates. Firms operating in more uncertain industries—where products and technology change rapidly, the threat of entry by competitors is high, and where consumer and competitor actions are difficult to predict—represent a greater potential risk to investors. As such, firms in more uncertain industries depend more heavily on permanent capital, which both allows the firm greater flexibility and is less risk averse.

Industries where change is endemic because products become obsolete, where demand shifts continuously across products, or where there is constant entry are characterized by an uncertain operating climate. The uncertainty associated with the firm's industrial environment affects the view investors take of the firm. An essential step in acquiring external financing is, typically, to prepare a business plan in which the firm identifies the nature and predictability of its target market, competitors, suppliers and expectations of future conditions. Firms in uncertain markets pose a greater risk to investors than those able to predict market conditions more easily.

An "uncertainty" classification of industries is required to investigate whether the uncertainty inherent in the industry affects the financial structure of the firm. The classification adopted here uses a question on the survey that asked managers to indicate how strongly they agreed or disagreed with eight statements about their industry. The statements were classified into three groups. The first pertains to the rapidity of product and technological obsolescence. The second relates to the stability of demand for the firms' products, in terms of both the ease with which demand can be predicted, and the ability of consumers to substitute among competing products. The third category investigates the nature of competitors—how easy it is to predict their actions, how easily competitors can substitute among suppliers, and how intense is the threat of new entrants.

Industries were classified into three groups—those with high, medium and low uncertainty—according to a three-step process. First, based on their responses, each firm was assigned a score from 1 to 5 on each question, with 5 indicating the highest degree of uncertainty. An average response was then calculated for each of the three categories outlined above, and averaged across the three categories (an equal weight was given to each category). These firm-based scores then were averaged at the industry level. Finally, firms were divided into one of three "risk" groups based on the industry average: those industries that, on average, thought their environment was not very uncertain (scored less than 3); those industries in which firms experienced a moderate degree of uncertainty (3 to 3.5); and those industries in which firms, on average, thought that their environment was highly uncertain (scored greater than 3.5).

Types of Funds

As expected, firms operating in industries where there is high uncertainty depended substantially more on permanent capital for financing (51%) than firms in industries where there was low uncertainty (33%; Table 11). Firms in industries characterized by a greater degree of stability and predictability tended to depend more on both semi-permanent and non-permanent capital. However, the largest difference was found in terms of non-permanent capital (39% of financing in the least uncertain industries, compared with 26% in the most uncertain). Firms in the most uncertain industries require the greater flexibility that is afforded by permanent capital. Conversely, firms in the less uncertain industries are better able to predict their inflows and outflows and can turn to less expensive short-term financing.

Table 11
Percentage Breakdown of Financing by Type, 1994

Type	Uncertainty		
	Low	Moderate	High
	% of financing		
Permanent capital	**33**	**47**	**51**
Semi-permanent capital	**29**	**24**	**23**
Long-term secured debt	19	16	18
Other long-term debt, convertible debentures, shareholder advances, etc.	10	9	5
Non-permanent capital	**39**	**29**	**26**
Trade credit, line of credit, short-term debt, contract financing	39	29	25
Government investment tax credits and grants	0	1	1

Note: numbers may not add due to rounding.

Sources of Funds

Similarly, firms operating in highly uncertain industries depended more on internal sources for their financing (52%) than firms in the least uncertain industries (46%; Table 12). In particular, they depended more heavily on retained earnings (40%), than did firms in more stable industries (28%). Conversely, firms in uncertain industries relied less heavily on external sources. Nevertheless, there is one external source—banks—that is used slightly more in highly uncertain environments. Firms in industries with low levels of uncertainty tended to use more financing from owners, employees, suppliers and other formal sources such as related firms and venture capital.

Table 12
Percentage Breakdown of Financing by Source, 1994

Source	Uncertainty		
	Low	Moderate	High
	% of financing		
Internal sources	**46**	**51**	**52**
Retained earnings	28	39	40
Owners/employees	18	12	12
External sources	**54**	**49**	**48**
Suppliers	12	8	3
Banks	30	35	34
Related firms, joint ventures, strategic allowances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	9	3	7
Other (private investors, customers, etc.)	3	4	3

Note: numbers may not add due to rounding.

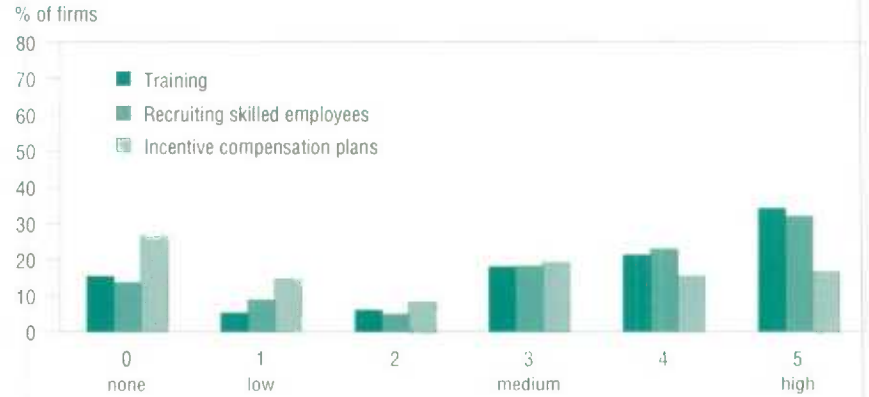
They Develop Their People

Managers of successful entrants consider human resources to be critical to their success. As a result, over half of successful entrants invest in upgrading the skills of their employees.

Sound business and financial strategies are complemented by the development of a firm's human resources. Regardless of what a firm produces, ultimately people are required to develop, make, and sell the firm's products. Moreover, irrespective of how people are employed, firms can make choices about the *quality* of workers that they seek to employ, either through hiring highly qualified individuals, continually upgrading the skills of their existing employees, and/or seeking to motivate their workers in such a way that they will apply their existing skills with greater diligence.

In the survey, managers rated the importance of three human resource strategies to their ongoing success on a scale of 0 (no importance or not applicable) to 5 (high importance). The three human resource strategies were: the perceived importance to the firm's success of "training," "recruiting skilled employees," and "providing incentive compensation plans."

Figure 16
Importance of Human Resource Strategies



The view that both acquiring workers with skills, as well as maintaining and advancing those skills, is important to success is widely held. Approximately two-thirds of successful entrants indicated that training and recruiting skilled employees were important to their success (scores of 3, 4 or 5; Figure 16). Approximately one-third of firms reported that these strategies were crucial to success (score of 5). Conversely, the importance of motivating

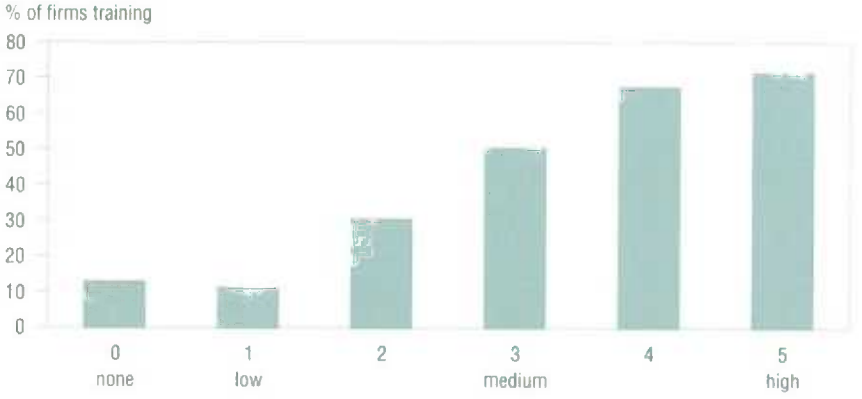
employees through incentive compensation was less. Only 17% felt that incentive compensation plans were crucial to firm success, and one-quarter of firms felt that they were not applicable.

Data on training activities confirm the emphasis that firms give to training as a strategy. Just over half (52%) of successful entrants provided formal on- or off-the-job training to some of their employees. Money spent on training accounted for an average of 22% of investment expenditures across respondents who trained and also reported investment in training.[10]

The value that a firm places on the importance of training is strongly related to the actual undertaking of training. The higher the importance a firm attributes to training, the more likely it is to train (Figure 17).

These results complement the observations that successful entrants place a high value on business and financial management strategies. The core competencies of firms are to be found not just in their capabilities in management and financing, but also in the quality of their people.

Figure 17
Percentage of Firms Training by Perceived Importance of Training to On-going Success



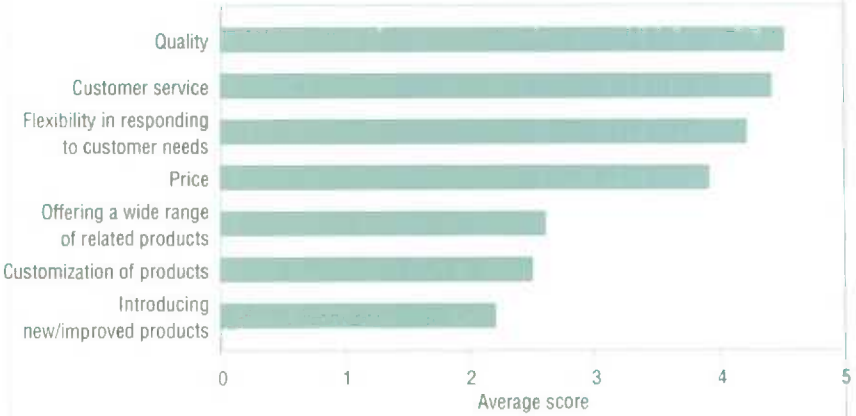
They Focus on Their Established Business

Successful entrants develop a customer-oriented business focus. Their product strategies are aimed at enhancing the attractiveness of their current products in their existing market. They focus on quality and responsiveness to customer needs; and their process strategies are concentrated on improving the efficiency and quality of the production process.

There were several questions on the survey that examined product-specific strategies. Firms rated the importance (on a scale of 0 to 5) of product-based competencies, market-based competencies, and production-based competencies.

Firms are, in general, defined by what they produce. The management team is only successful to the extent that consumers purchase the firm's products. Firms can concentrate their product-based strategies on making their existing products as attractive to consumers as possible. There are several ways in which they do this. They can offer an attractive price, focus on quality, strive to provide superior customer service, or offer flexibility in meeting their customers' needs. Alternatively, firms can try to alter their product line. In doing so, they might choose to customize their products, develop a product line that carries a wide range of related products, or continually expand and update their product line by frequently introducing new/improved products.

Figure 18
Importance of Product-Based Strategies



Of these strategies, successful entrants give the highest priority to strategies related to quality and service. Quality, customer service, flexibility in responding to customers, and price are considered the most important (Figure 18). Moreover, virtually all firms attribute some value to these strategies; less than 7% rate any of these strategies to be not applicable (see appendix). Alternative strategies that involve updating, expanding or enhancing their product line, are perceived by successful entrants to be less important.

The quality-oriented niche strategies are aimed at maintaining existing customers rather than attracting new ones. Successful

Figure 19
Importance of Market-Based Strategies

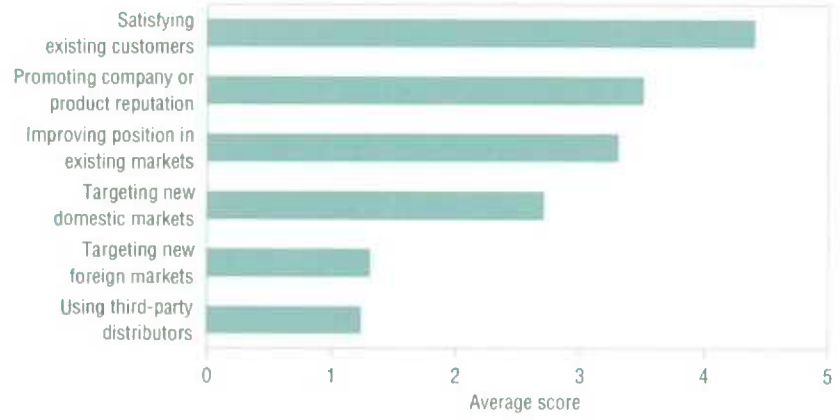
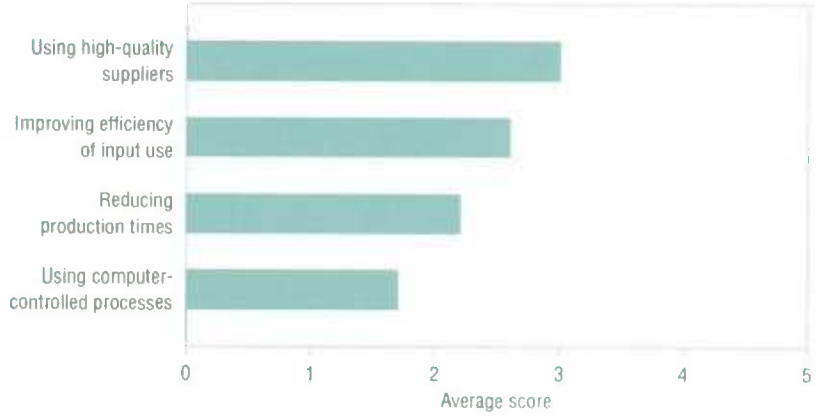


Figure 20
Importance of Production Strategies



entrants concentrate their marketing strategies on their existing markets. This broad strategy includes specific strategies such as "satisfying existing customers," or slightly more aggressive strategies directed at "promoting the reputation of the company and its products" and "improving position in existing markets" (Figure 19). Successful entrants, on average, place less value on capturing new markets, be they domestic or foreign. In general, the more aggressive the strategy, the less value successful entrants place on it.

The third component to product-based competencies lies in how successful entrants make their products. They may seek to improve their production by doing it better, faster, more efficiently, or by using better inputs. To do so, they may aim to reduce their use of material inputs; they may strive to reduce their production times; they may focus on the functioning of their production processes by introducing integrated computer-controlled processes; or they may stress the importance of using high-quality suppliers.

Corresponding to the importance that successful entrants give to quality as part of their product strategy, using high quality suppliers is rated the most important production strategy (Figure 20). Improving efficiency of input use is next in importance, followed by reducing production times and using computer controlled processes.

This picture confirms the finding of other studies on small firms (Baldwin et al. 1994; D'Amboise 1991). The success of small firms depends on their ability to produce a high-quality output; their comparative advantage is their flexibility that allows them to provide quick and efficient service.

A Small Vanguard of Successful Entrants are Innovative

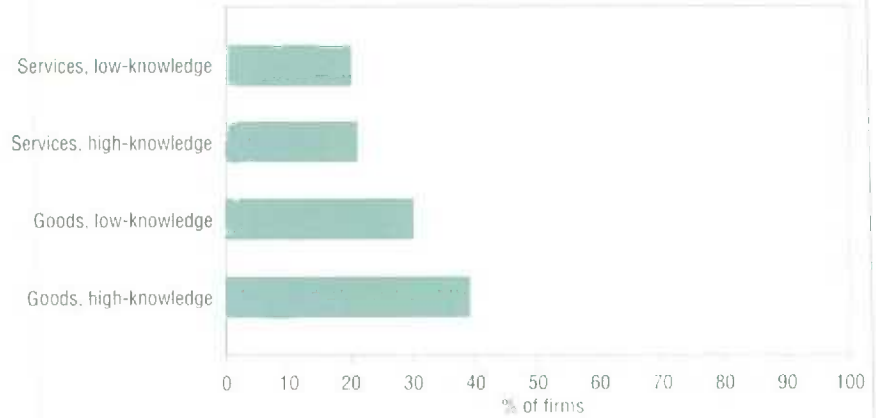
One in five successful entrants innovated in the 1992 to 1994 period. One in three invested in new technology in 1994. Within the successful entrant population, R&D activity and the realization of innovation is much more common in the goods sector than in the services sector, and in particular in the high-knowledge goods sector. Among the firms engaging in innovative activity, high-knowledge service providers are more likely to introduce process innovations, while goods producers and low-knowledge service providers are more likely to undertake product innovation.

Successful entrants devote their resources to improving their existing products, marketing and production. They are less likely to venture into R&D and technological development. Part of the reason may be the limited range of application of these capabilities. Management, financing, human resources, and product-specific competencies are key to survival in all industries, but technical and innovation competencies have more specific applications only in particular industries.

Some industries are more innovative than others. The leaders are constantly producing new products for use in other industries (Robson et al. 1988). Industries that make use of innovations produced elsewhere, either as inputs or as machinery, focus less on producing new knowledge and more on incorporating innovations produced by others into their production process. Differences in the intensity of innovation confirm that some industries are more innovative than others. Firms were asked to indicate whether they had introduced an innovation in the 1992 to 1994 period; those that did are termed innovators. Almost 40% of high-knowledge, goods-producing firms were innovators, compared with 30% of low-knowledge goods producers, and about 20% of high- and low-knowledge service providers (Figure 21). The differences between goods, high-knowledge and each of the service groups are statistically significant.

Differences in the pattern of innovation across industries accord with the view that groups of innovation-producing industries, and innovation-using industries exist (Figure 22). The high-knowledge goods producers that innovate are significantly more likely to undertake product, as opposed to process innovation. On the other hand, in high-knowledge service industries, innovators are significantly more likely to introduce process innovations than product innovations. Many process innovations here involve adopting innovative products and technologies offered by goods producers.

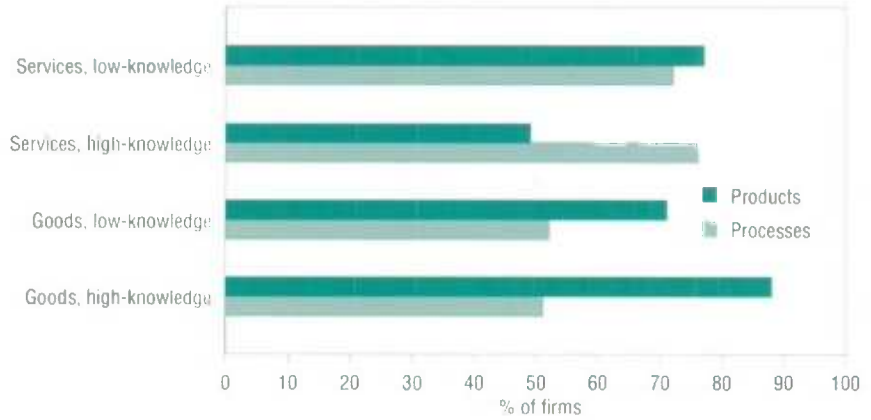
Figure 21
Percentage of Firms Innovating by Industry



There are various means by which a firm can develop product or process innovations. To ascertain the importance successful entrants attribute to R&D and technical capabilities, they were asked to rate a number of strategies by importance. R&D, technology, and intellectual property rights are expected to be more important in goods industries than services industries. Similarly, given that the high- and low-knowledge classification is based on factors such as the amount spent on R&D and incidence of technology use (in goods industries), it is expected that these strategies will be more important in high-knowledge industries than low-knowledge industries. The findings are largely confirmatory in nature. Goods producers

attributed a higher value to each of the R&D and technology strategies than did service firms, although the differences are only statistically significant between high-knowledge goods producers and each of the service groups (Figure 23). Among goods producers, firms in high-knowledge industries valued each of the strategies more than those in low-knowledge industries, except for purchasing others' technology. Within each of the industry groupings, developing or refining technology was the leader in importance. In all but the high-knowledge goods sector, purchasing others' technology was next in importance. In the high-knowledge goods sector, R&D capabilities were next in importance.

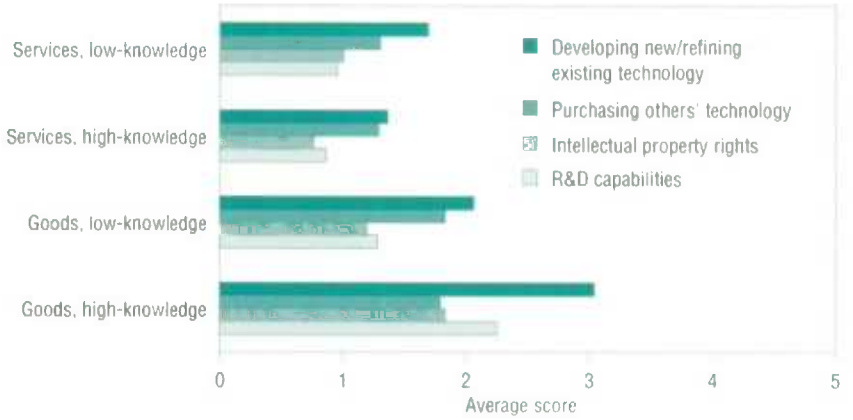
Figure 22
Percentage of All Innovators Introducing Product and Process Innovations



R&D activity is concentrated in a relatively small number of firms. Only 11% of successful entrants incurred R&D expenditures in 1994. The incidence of R&D spending varied considerably across industries. One out of three firms in the high-knowledge goods sector incurred R&D expenditures, compared with 13% of low-knowledge goods producers, 12% of high-knowledge service providers, and 9% of low-knowledge service providers.

Technical change comes not only from R&D expenditures that contribute to radical innovations, but also from the diffusion of technologies. Technology acquisition and licensing is the second most important investment expenditure for investing firms, behind machinery and equipment. One out of three successful entrants invests in acquiring technology. Here there is little difference between firms in the goods and services sectors. However, high-knowledge firms are more likely to invest in technology than low-knowledge firms. About 42% of high-knowledge goods producers, and 38% of high-knowledge service providers invested in new technology, compared with 29% of low-knowledge goods producers, and 30% of low-knowledge service providers. Note, however, that the differences are only significant between the high-knowledge goods producers and the two low-knowledge sectors.

Figure 23
Importance of Technology and R&D Strategies



This picture confirms that only a small group of successful entrants are innovative. However, the importance given to technology relative to other business strategies is similar to the emphasis given by somewhat older incumbent firms (Baldwin et al. 1994). Moreover, the percentage of firms that are innovative in the goods industries is almost the same as that among all small manufacturing firms (Baldwin and Da Pont 1996). Any group of firms consists mainly of firms focusing on established markets, with only the vanguard of the group introducing radical innovations.

Are High-growth Successful Entrants Different—And if so, how?

If growth entails the mastery of more complex tasks, competencies that are essential to accomplishing these tasks should receive greater stress from firms with the highest growth rates. Differences between the faster- and slower-growing firms should be greater for those strategies or activities that are most critically related to the growth.

Understanding the relationship between specific competencies and growth is important to both successful entrants aspiring to grow as well as their stakeholders. Additionally, growth in successful entrants is important to the economy as a whole, because growth in successful entrants creates jobs. Indeed, without this growth, the long-term contribution to employment of any given birth cohort would be much smaller. The influence of the entrant firm population is felt as these firms grow. Consequently, these findings are relevant to policy makers who are seeking to develop programs that foster economic prosperity.

Before proceeding, several caveats require mention. Growth is only one of several objectives firms pursue. There are likely to be many firms that do not wish to grow; growth would bring about either significant increases in responsibility on the part of owners, or mean relinquishing control to others to manage and finance the business. Some of those who choose not to grow may well have the capabilities of doing so. This will reduce the association between growth and the characteristics required for growth.

Second, it is important to note that the association of a particular activity with growth does not prove that the factor causes growth. It is suggestive, but does not prove a causal relationship. There may be another factor responsible for both the behaviour and the growth. For example, R&D may, on average, be associated with growth. However, this may occur if manufacturing firms are growing faster than service firms, and they are more likely to engage in R&D. In this case, R&D may not be associated with growth in manufacturing firms alone, or in service firms alone and, thus, should not be considered sufficient for growth. Engaging in R&D is related to, but does not guarantee growth.

Previous studies have found that the importance of various competencies depends on the maturity of the firm. A study of bankrupt firms found that a lack of management skills was the primary internal factor for the failure of "entrant firms"—firms that are less than five years old (Baldwin et al. 1997). Other factors, such as human resource, innovation, and marketing competencies, were less important. An earlier study of established firms found that the key discriminating criteria between faster- and slower-growing firms is innovation (Baldwin et al. 1994). Faster-growing established firms were more innovative, in terms of both product and process innovation than slower-growing firms. Here competencies in the area of management, human resources, innovation, and marketing were less important.

To investigate how competencies in successful entrants are related to growth, firms were ranked according to their annual average real growth[11] in revenue from birth to 1993, and cut at the median into two groups—faster- and slower-growing firms.

Growing Successful Entrants Are More Innovative

Faster-growing firms are more innovative in a number of ways. They are more likely to introduce new or improved products and seek out new markets, while striving for efficiency gains through process innovation.

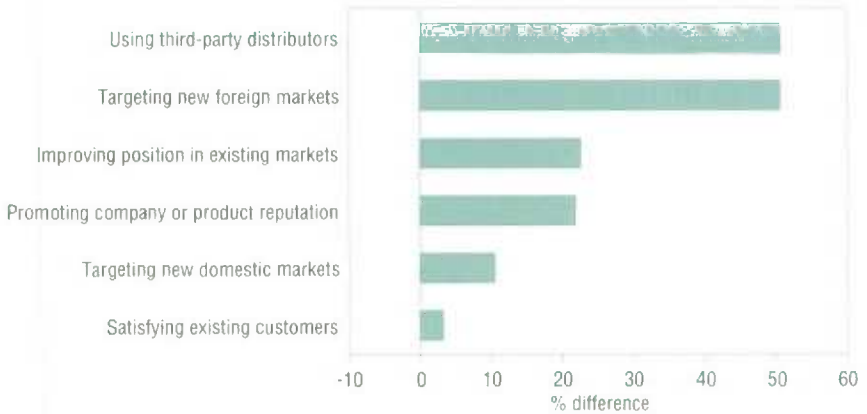
Growing firms rate almost all of the product-specific strategies higher than other firms. They are most distinguished in the value they place on product innovation-related strategies such as introducing new/improved products, offering a wide range of products, or customizing their products (Figure 24).

It is important to note that a greater stress on innovative strategies does not mean there is less emphasis on enhancing existing products. Growing firms also place more value on quality, customer service, and flexibility in responding to customer needs. Indeed, while the percentage differences are greater for the more innovative strategies, only one of these (introducing new products) is significantly higher in the faster-growing group. The differences between faster- and slower-growing firms for both customer service and flexibility in responding to customer needs, while smaller in percentage terms, are statistically significant. Growing firms do not simply churn out new or modified products for the sake of attracting customers' attention with superficial modifications; rather they focus on introducing higher quality new products and on improving the delivery of the product.

The innovative stance of growing firms is evident in their marketing strategy as well. Faster-growing firms place greater emphasis on each of the marketing strategies than slower-growing firms (Figure 25). They place significantly more emphasis on the more aggressive strategies such as targeting new markets, improving position in existing markets, promoting company or product reputation, and using third-party distributors. Note, once again, that the emphasis on attracting new customers is not in place of marketing strategies

Figure 24
Percentage Differences in the Perceived Importance of Product Strategies Between Faster- and Slower-Growing Firms

Figure 25
Percentage Differences in the Perceived Importance of Marketing Strategies Between Faster- and Slower-Growing Firms



designed to satisfy existing customers. Growing firms are not less attentive to their existing customers—attention to satisfying existing customers just does not discriminate the faster growers from the slower growers.

The only competitive strategy that faster-growing firms do not emphasize more than their slower-growing counterparts is the importance of price to their competitive strategy; however this finding is not statistically significant.

The emphasis on enhancing product lines or expanding market share does not come at the expense of improving production efficiencies. Faster-growing firms also rate each of the production-related strategies significantly higher than slower-growing firms (Figure 26).

Faster-growing firms indicate that they perceive aggressive, innovative strategies to be crucial to their success. The next logical question then is, "What do they actually do in the way of innovating?" Faster-growing firms are more likely to invest in technology and R&D (Figure 27). These investments pay off handsomely: faster-growing firms innovate at twice the rate of slower-growing firms. The latter two differences, investing in R&D, and innovating are statistically significant.

In summary, successful entrants are attentive to their established market. They are concerned about quality and customer service. The faster-growing successful entrants are those that reach beyond the bounds of their established market. They are introducing new and/or improved products, and seeking out new customers. They are also looking inside the firm and continually striving to improve, update and modify their operations. These results corroborate those found in the GSME survey (Baldwin et al. 1994) where faster-growing firms outperform in every area, but where innovation is the key factor discriminating between more- and less- successful firms.

Figure 26
Percentage Differences in the Perceived Importance of Production Strategies Between Faster- and Slower-Growing Firms

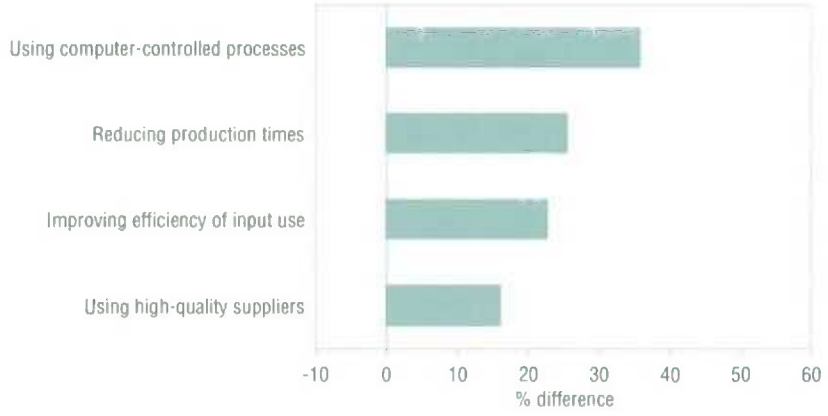
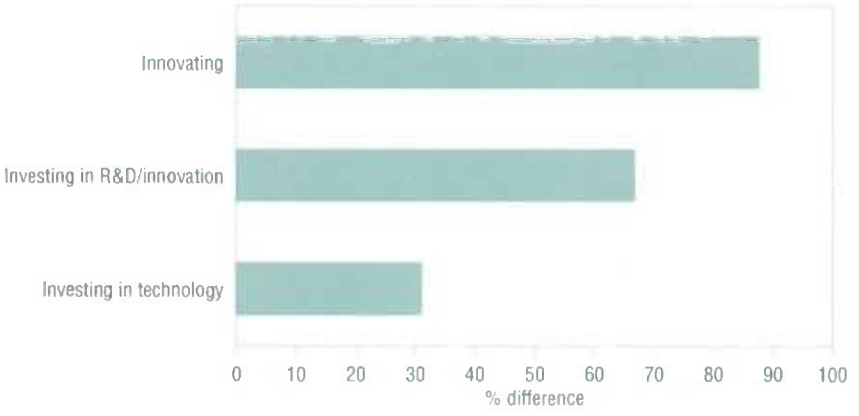


Figure 27
Percentage Differences in the Proportion of Firms Investing and Innovating Between Faster- and Slower-Growing Firms



Growing Successful Entrants Have Superior Management and Human Resource Competencies

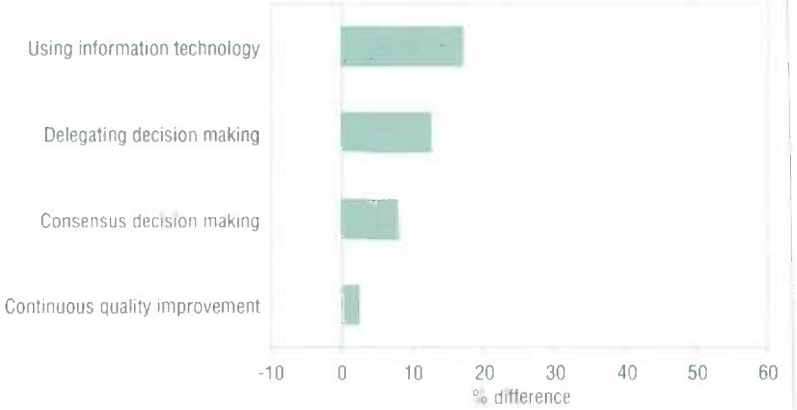
Faster-growing successful entrants place stronger emphasis on each of the management and human resource strategies than do slower-growing firms. Of particular strategic importance is using information technology, hiring skilled employees, and providing incentive compensation schemes. Faster growers are significantly more likely to train.

Successful entrants report that they believe management, financing and human resource competencies are crucial to their ongoing success. The logic of this is readily apparent. Firms that strive to enhance their human resources should have people who are more productive, imaginative, and customer-oriented. Firms that have superior financing capabilities should have financial structures that accommodate and foster, rather than hinder, growth. Finally, firms that are able to manage and harness their resources more effectively should also grow more.

There is a second reason to expect management, financing and human resource competencies to be associated with growth. Innovation is strongly associated with growth. Innovation is, by definition, change—producing a new/improved product or producing an existing product in a different way. Innovation requires workers to perform new, often much more complex, tasks. As such, firms that are innovative need a workforce that is adaptable and open to change and able to learn new skills (Johnson et al. 1996). Firms that are innovative also need to invest in technology and machinery, often without being able to reap the profits from these endeavours for a long time. Indeed, as was shown in a previous section, operation in a high-knowledge industry, or an uncertain industry, both of which are associated with greater risk, requires proportionately more permanent capital. This investment requires superior capabilities to finance and manage the costs of these investments. Finally, the change and potential turmoil associated with innovation requires superior management skills to orchestrate that change successfully. Previous work (Baldwin and Johnson 1996a) has found that innovative firms have superior capabilities in each of these areas.

Regardless of the causal role, the hypothesis that these competencies are related to growth is confirmed. Faster-growing firms attribute greater value to each of the management strategies than do slower-growing firms (Figure 28). However, the difference is only statistically significant for "using information technology".

Figure 28
Percentage Differences in the Perceived Importance of Management Strategies Between Faster- and Slower-Growing Firms



While faster-growing firms also attribute significantly greater value to financial flexibility in meeting unforeseen circumstances, they do not rate the two remaining financing strategies—finding/maintaining capital and financial management—more highly than do slower-growing firms (Figure 29).

Figure 29
Percentage Differences in the Perceived Importance of Financing Strategies Between Faster- and Slower-Growing Firms

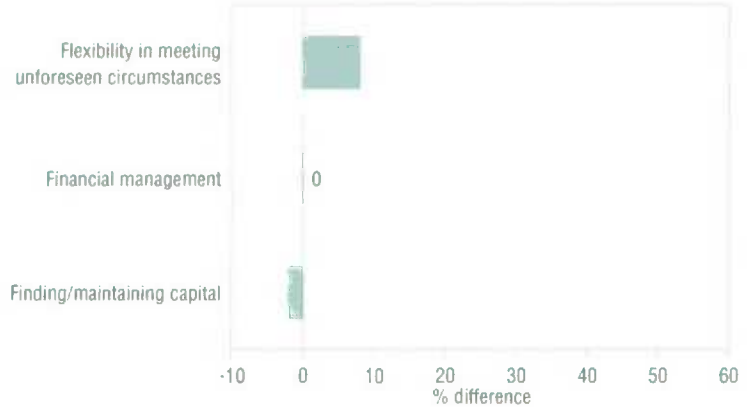
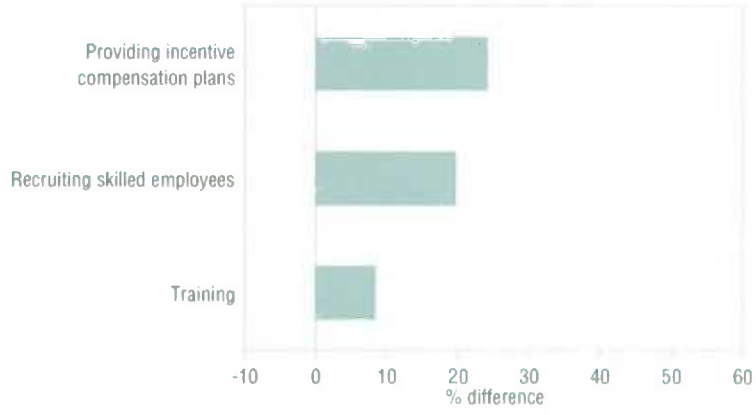


Figure 30
Percentage Differences in the Perceived Importance of Human Resource Strategies Between Faster- and Slower-Growing Firms



Accompanying this greater emphasis on management and financial flexibility in the faster-growing firms is a greater emphasis on financial and business planning. Faster-growing firms were more likely to have business (21% compared with 17%) and financial plans (21% compared with 17%) than slower-growing firms. Growing firms also updated their plans and forecasts more frequently than slower growers. However, these differences are not statistically significant.

Finally, growing firms also excel with respect to human resources. Faster-growing firms indicated that each of the human resource strategies—hiring skilled employees, maintaining high quality employees through training, and motivating employees through incentive compensation plans—are more important than did slower-growing firms, although the difference in valuation of one of these (training strategies) is not statistically significant (Figure 30). Once again, as is the case with innovation, the difference in strategic emphasis is even more evident in the firms' actions. Over 60% of faster-growing firms engaged in training in 1994, significantly more than the 44% of slower-growing firms that did so.

In summary, faster-growing firms place greater strategic emphasis on their core competencies and are more likely to engage in business and financial planning and training than are slower-growing firms. It may be that the higher importance attributed to these competencies is due to the fact that they are critical to successful innovation, and innovative firms typically grow faster, or it may be that these competencies are associated with growth regardless of the innovative stance of the firm.

The strongest discriminator—in terms of both percentage differences and statistical significance—among the core competencies between faster- and slower-growing successful entrants is attention to human resources. It is noteworthy that while previous studies have found similar relationships between growth and innovation for established firms, human resource strategies were not significantly associated with growth. Alternatively, in younger, entrant firms, management competencies appear to be much more important for survival than human resources or innovation (Baldwin et al. 1997).

Growing Successful Entrants Have Greater Flexibility Built into Their Financial Structure

The greater emphasis that faster-growing successful entrants place on financial flexibility and financial planning translates into more flexibility—of two sorts—in their financing. First, they draw their financing from a larger number of sources. This means they are less dependent on any particular financier. Second, permanent capital accounts for a larger proportion of their financing than is the case for slower-growing firms. This implies growing successful entrants have more flexibility in dealing with economic downturns and other unforeseen circumstances.

Faster-growing successful entrants typically had more permanent capital (50%) than slower growers (42%; Table 13). While this difference is not statistically significant at this broad level, the greater dependence on permanent capital arises consistently for the industry breakdowns used in this report, and some of these differences are statistically significant.[12] Faster-growing successful entrants are significantly more likely to rely on multiple sources of financing (54% compared to 43%; Table 14).

Table 13
Percentage Breakdown of Financing, by Type, 1994

Type	Slower growers	Faster growers
	% of financing	
Permanent capital	42	50
Semi-permanent capital	27	22
Non-permanent capital	31	28

Table 14
Percentage of Firms Relying on Internal and External Sources of Financing, 1994

	Slower growers	Faster growers
	% of firms	
Internal sources only	26	28
External sources only	31	18
Internal and external sources	43	54

Not only do faster-growing successful entrants possess a different capital structure than slower-growing successful entrants, but they apply that capital differently as well. As noted previously, "knowledge" (R&D and technology) investments are typically financed through permanent capital, while investments in "physical" (machinery, equipment, land, and buildings) assets are relatively more likely to be financed through long-term debt. This section investigates whether faster growers, given the differences in financial structure, contrast with slower growers in how they finance these assets.

Two tables investigate this issue. In Table 15, the proportion of firms using a specific type of capital to finance investments in knowledge and physical assets is described. Table 16 looks at the issue from the other angle, presenting the proportion of firms that use either single or multiple types of capital to fund an investment. The first table shows how important each of the types of capital is for financing a particular investment, whereas the second illustrates the importance of combinations of capital types.

Faster-growing firms typically make use of a greater number of financing instruments. When financing both knowledge and physical investments, faster-growing firms were more likely to make use of permanent and semi-permanent financing (Table 15). Slower growers tended to rely on more non-permanent capital. These differences are not statistically significant, partially because the

number of firms investing in either knowledge or physical assets is quite small, and hence the sample size is small. The differences are, however, large enough that they suggest that further studies are warranted.

Table 15
Percentage of Firms Citing Various Sources of Financing for Knowledge and Physical Investments

Type	Knowledge assets		Physical assets	
	Slower growers	Faster growers	Slower growers	Faster growers
	% of firms			
Permanent capital	55	65	45	54
Semi-permanent capital	15	21	26	36
Non-permanent capital	38	28	43	37
Government financing	7	4	0	0

It is also useful to examine the importance of a combination of capital types. When purchasing knowledge assets, faster-growing successful entrants are much more likely to rely solely on permanent or semi-permanent capital to finance their investment. Over half, 54%, of faster growers drew all of their financing for knowledge assets from permanent capital, compared with 44% of slower-growing successful entrants (Table 16). Conversely, over a third of slower-growing successful entrants financed their knowledge investments out of non-permanent capital, compared with fewer than one in five faster growers. Faster-growing firms are better able to finance their knowledge investments with more patient capital, either because they have earned greater profits and kept them in the company, because they can illustrate the value of those assets better (e.g. through patents), because they have gained a superior reputation or because they are better able to convince financiers they have a greater likelihood of success. Their greater tendency to have formalized business plans and strategic emphasis in all areas of the business suggests that this last reason plays some role. Once again, while these differences are not statistically significant, they are intuitively appealing and suggest the need for further study.

On the physical asset side, growing firms are more likely to use either permanent capital alone, or combinations of capital types to finance the asset purchase. Almost a quarter of faster growers financed their investments in physical assets through a combination of capital types, compared with just 14% of slower growers. Once again, this may be due to the fact that growing firms engaged in more sophisticated financial planning, and chose more efficient means—combining types of capital—to finance their activities. The only significant difference here is that faster growers are less likely to rely solely on non-permanent capital to finance their investments in physical assets. They appear to be more likely to turn to either permanent capital or some combination of capital types, although these differences, individually, are not significant.

Table 16
Percentage of Firms Using Single or Combinations of Capital Types to Fund Investments

Type	Knowledge assets		Physical assets	
	Slower growers	Faster growers	Slower growers	Faster growers
	% of firms			
Single type of capital	**85**	**85**	**86**	**77**
Permanent capital	44	54	35	43
Semi-permanent capital	6	12	18	16
Non-permanent capital	34	19	33	18
Multiple types of capital	**15**	**15**	**14**	**23**
Permanent and semi- or non-permanent capital	12	11	10	11
Semi- and non-permanent capital	4	4	4	12

Note: numbers may not add due to rounding.

How Are Growth And Industry Dynamics Related?

The discussion in the previous section revealed that growing firms tend to place greater emphasis on enhancing a broad range of core and product-specific competencies. There is no single key factor that distinguishes faster- and slower-growing firms.

This section of the report investigates whether the relationship between a firm's competencies and its growth rate is conditioned by certain factors. There are many factors that could be examined. Various *industry* classifications can be used to control for different aspects of the environment that a firm faces. Since goods and service industries differ substantially with respect to the nature of the product, production processes and the asset base, it seems appropriate to ask: "Is attention to production efficiency more strongly associated with growth in goods-producing firms than in service providers?" Likewise, because high- and low-knowledge industries differ with regard to the nature of human capital investments, it is logical to ask, "Are human resource strategies more correlated with growth in knowledge-based industries than in other industries?" Industries can also be divided on the basis of other characteristics, such as the growth in the product market in which the firm operates. New, growing product markets are characterized by rapid product obsolescence, which raises the question, "Is growth in these industries connected more with an emphasis on product rather than production strategies?"

Alternatively, it may be that the *type of firm* conditions the relationship between behaviour and growth. In this case, whether or not certain strategies are more strongly associated with growth in smaller firms than in larger firms or in firms with different capital structures may be of interest. The greater risk involved in innovative activity suggests that innovative firms that grow may be quite different from growing firms that stick to their base products and production methods.

One report cannot investigate all of these issues thoroughly. This report concentrates on how two factors condition the correlates of growth. To examine the first—the basic nature of the product the firm offers—industries are divided into four groups: high-knowledge goods producers, low-knowledge goods producers, high-knowledge service providers and low-knowledge service providers. This classification is described in Appendix I.

The second classification of firms is based on the development stage of the product market in which the firm operates. The dynamics of a growing industry set the stage for different growth paths than those prevalent in mature markets. New and growing markets are characterized by more turmoil. The firm population in these markets is undergoing continual change, as there is typically rapid entry and exit of firms. Moreover, during the growth phase of the development of a product market there are usually ongoing changes in product characteristics (Gort and Klepper 1982). The differences between mature and growing markets suggest that the appropriateness and effectiveness of various strategies differ across the two markets.

A question from the survey regarding the maturity of the market in which they operate is used to classify firms. Respondents were asked to indicate the development stage of the market for their primary product (the product that accounts for the greatest proportion of revenue). Four response categories were provided: introductory (product demand just starting to grow, but product unknown to many potential users); growth (product demand growing; product becoming familiar to many potential users); maturity (growth of product demand slowing; product familiar to most potential users); and post-maturity (no growth in product demand; few potential new users). Firms whose product market had been classified as introductory or growth are combined into one group, where they were considered to be in "new markets." The remaining firms were considered to be in "mature markets."

Throughout this section, firms are first classified according to the categorization of interest (either industry, or stage of market). Then, within the categorizations, firms are ranked according to their average annual real growth in revenue, and sorted into two equal-sized groups of faster- and slower-growing firms.

Developing Core and Product-specific Competencies Is Related to Growth in All Industries

Faster-growing successful entrants, regardless of the nature of their product, emphasize all business strategies more. Faster growers are more actively engaged in performance monitoring, innovating, and training. They use more permanent capital than slower growers. Nevertheless, there are some differences in the relative importance of various factors between firms in the goods and service industries and between firms in the high- and low-knowledge industries.

The importance of each of the strategic areas was ascertained by calculating the average score for each of the strategic areas, and examining differences in average scores between faster- and slower-growing firms. Faster-growing firms in each of the industries generally ascribe higher average scores to the importance of each of the broad categories of management, human and technical resources, product strategies, marketing, and production (Figure 31).

While the faster growers out-score the slower growers in all but one case, there are some differences in terms of the size and significance of differences across the industry groups. The percentage differences are generally largest in the service sector. However, in each of the service sectors, only two differences are significant. Marketing is significant in both cases. For the second significant difference, human resources are valued significantly more in high-knowledge service industries, while management is emphasized more by faster-growing firms in the low-knowledge service sector. Almost all the differences are significant in the high-knowledge goods industries (only technical resources and financing are not). Finally, the size and significance of the differences are generally lowest in the low-knowledge goods producers. However, production strategies appear to be at least as important here as they are in other industries.

Given the similarity in valuation of product, production and human resource strategies, it is not surprising that faster-growing firms in each of the industries train and innovate more (Figure 32). However, as might be expected given the relationship between human resource strategies and growth, the difference in the proportion of firms training between faster and slower growers is only significant in the high-knowledge sectors.

There are also differences in the relationship between growth and performance monitoring across industries. Monitoring of most operating and financing performance criteria is more strongly associated with growth in low-knowledge industries, be they goods producers or service providers. Specifically, growth is more closely associated with monitoring income-related criteria, cost of goods sold, financial ratios and cash flow in low-knowledge goods industries, although only the first two differences are significant (Figure 33). In the low-knowledge service industries, faster growers are more likely to monitor each of the criteria, although the difference is only significant for monitoring cash flow. Assessing performance by market share is associated more strongly with growth in high-knowledge industries (although the difference is only significant in the high-knowledge service sector).

Figure 31
Percentage Differences Between the Average Scores of Faster- and Slower-Growing Firms

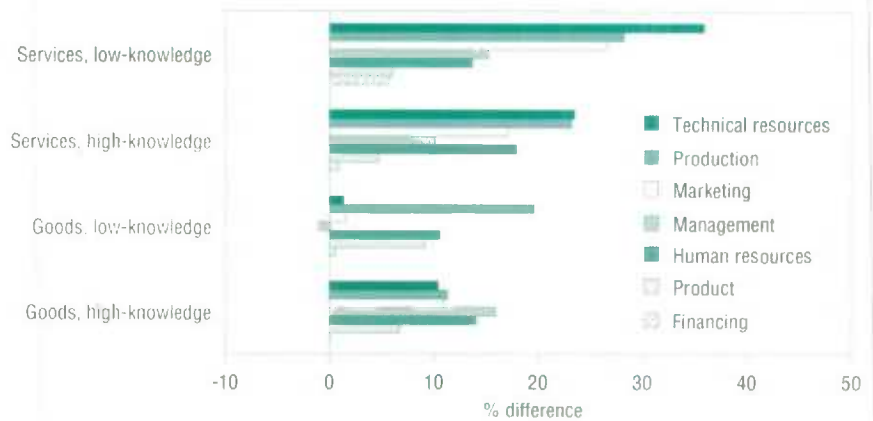


Figure 32
Percentage Differences in the Proportion of Firms Innovating and Training Between Faster- and Slower-Growing Firms

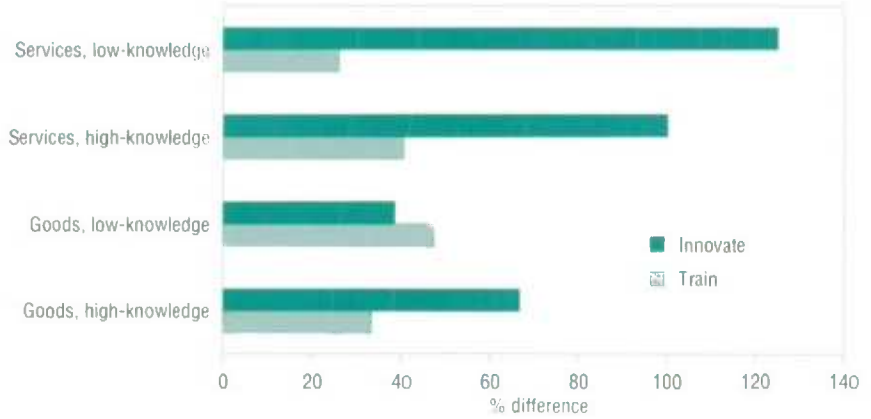
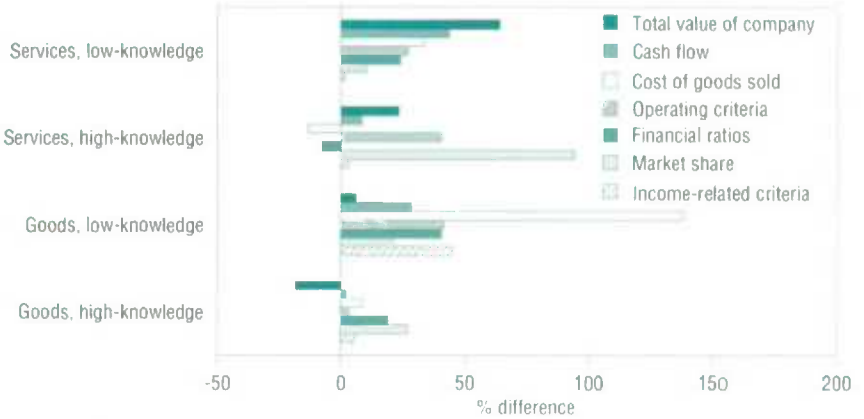


Figure 33
Percentage Differences in Proportion of Firms Using Criteria to Assess Performance Between Faster- and Slower-Growing Firms



The relationship between growth and financial structure also differs across industries. In the low-knowledge industries, faster-growing firms have significantly more permanent capital (Table 17). There is no strong relationship between growth and permanent capital in the high-knowledge industries. However, this does not imply that permanent capital is unimportant here. Indeed, given that the percentage contribution of permanent capital is higher in high-knowledge industries, it appears that permanent capital is critical to survival in such industries. Conversely, in low-knowledge industries, firms can survive with little permanent capital, but those that do so, grow at a slower pace.

Table 17
Differences in Types of Financing Between Faster- and Slower-growing Firms Across Industries, 1994

Type	Goods, high-knowledge		Goods, low-knowledge		Service, high-knowledge		Service, low-knowledge	
	Slower growers	Faster growers	Slower growers	Faster growers	Slower growers	Faster growers	Slower growers	Faster growers
	% of financing							
Permanent capital	**49**	**54**	**35**	**50**	**55**	**49**	**32**	**46**
Semi-permanent capital	**21**	**22**	**39**	**22**	**23**	**20**	**25**	**26**
Long term secured debt	17	16	36	16	12	13	19	17
Other long-term debt, convertible debentures, shareholder advances, etc.	5	6	4	6	11	7	6	9
Non-permanent capital	**29**	**23**	**26**	**28**	**22**	**31**	**42**	**28**
Trade credit, line of credit, short-term debt, contract financing	29	22	23	25	22	31	42	28
Government investment tax credits and grants	1	2	3	3	0	0	0	0

Note: numbers may not add due to rounding.

Growth and Market Maturity

Firm Growth in New Markets Is Related to Strategic Emphasis on Product Development

In new product markets, the characteristics of the product are continually changing. In this volatile environment, the successful entrants that grow are those that keep pace with or lead product changes: growing firms are those that emphasize product development strategies. Emphasis on improving the way existing products are produced, or extending their market reach, is less strongly related to growth.

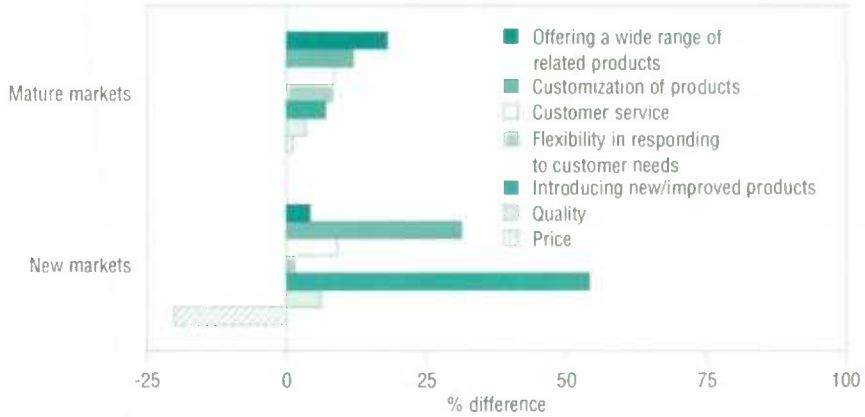
New markets are characterized by ongoing changes in product characteristics. At this stage of development, product change is so rapid that firms have little time to focus on improvements in the production process, and it could be argued there is relatively less to gain by focusing on improving the efficiency with which existing products are produced. Successful entrants that grow here should be those that anticipate and stimulate demand for new product features, and focus on product development.

These arguments are confirmed by the responses to several questions. Respondents were asked to indicate the importance of various competitive strategies. The percentage difference in the scores between faster- and slower-growing firms for both mature markets and new markets shown in Figure 34 confirms that faster-growing firms attribute greater importance to frequently introducing new products and customizing products. Moreover, both of these differences are statistically significant in new markets, but not in mature markets.

Conversely, as anticipated, firm growth in new markets is associated less with production-related strategies (Figure 35). Attention to these production strategies is associated with firm growth in new markets, but not as strongly as attention to product strategies, nor are the differences for production strategies statistically significant. Moreover, attention to production strategies is less strongly associated with firm growth in new markets than it is in mature markets.

The findings are similar with respect to the importance of marketing. The differences between faster- and slower-growing successful entrants in new markets, in terms of the emphasis they put on marketing, and in particular, expanding market reach, are smaller, and statistically less significant than the differences in mature markets. The association with growth is weaker than is the case either between growth and product strategies in new markets, or the association between firm growth and marketing in mature markets (Figure 36).

Figure 34
Percentage Differences in the Perceived Importance of Product Strategies Between Faster- and Slower-Growing Firms



Growth and Market Maturity

Firm Growth in Mature Markets Is Related to Strategic Emphasis on Production and Marketing

While growth in a mature product market as a whole is limited, opportunities for growth exist for individual firms. In mature markets, firms that are growing rapidly are those that are seeking to refine the production and delivery of their products. They are targeting new foreign markets.

In mature markets, there is less opportunity for the firm to gain a competitive advantage through product development. However, some firms do achieve rapid growth. The faster-growing firms, generally demonstrate superior competencies in one of two other areas.

First, growing firms in mature markets typically place greater emphasis on improving their production processes. Faster-growing firms attributed significantly greater importance to "using high quality suppliers," "reducing production times," and "using computer-controlled processes." Moreover, attention to these production strategies was more closely associated with growth in mature markets than was the case in new markets (Figure 35).

The second emphasis strongly associated with growth in mature markets is in the area of market development (Figure 36). More of the marketing strategies are significantly associated with growth in mature markets than in new markets. The competitive advantages lie not so much in introducing new products, but improving the delivery of existing products. For example, while many Canadian markets are "mature," foreign countries frequently represent untapped potential opportunities for successful entrants. Indeed, strategic emphasis on foreign markets is strongly, and significantly, associated with growth in mature markets, but not in new markets.

Figure 35
Percentage Differences in the Perceived Importance of Production Strategies Between Faster- and Slower-Growing Firms

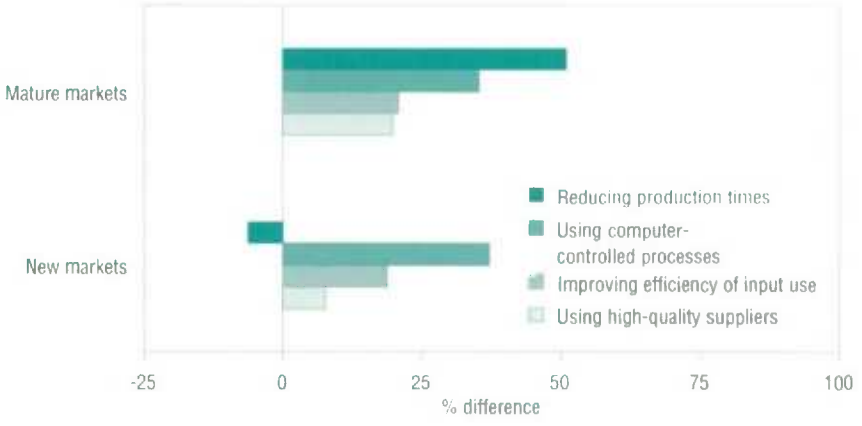
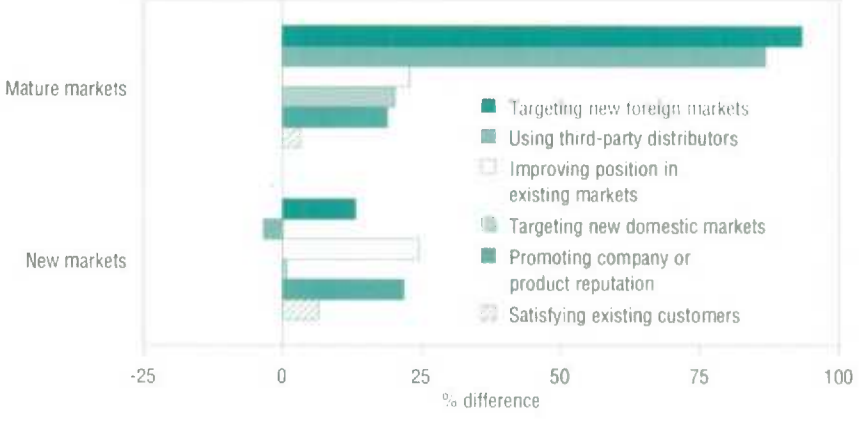


Figure 36
Percentage Differences in the Perceived Importance of Marketing Strategies Between Faster- and Slower-Growing Firms



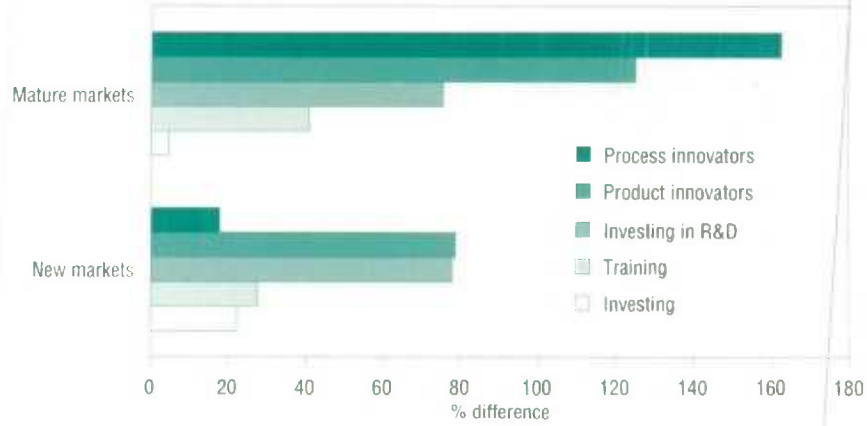
Growth and Market Maturity

All Growing Firms Engage in Innovation, R&D, Training, and Financing Activities

Faster-growing successful entrants, regardless of the market they serve, have greater backing by permanent capital than slower-growing successful entrants. Faster-growing successful entrants are those that translate their strategic emphases into action by undertaking R&D, innovation, and training. Despite the fact that the strategic emphases associated with firm growth differ across environments of varying degrees of maturity, the implications are the same: firms that grow engage in various types of innovative activity and train their workers.

Innovation is a key factor in growth, regardless of the environment. However, the importance of a product focus in new markets versus an efficiency focus in mature markets is confirmed by looking at the differences in innovative behaviour. In mature, as well as new markets, both product and process innovation are associated with firm growth. However, in more mature industries, while both types of innovation are significantly associated with growth, faster growth is more strongly associated with process innovation than product innovation (Figure 37). Conversely, in new markets, firm growth is more strongly associated with product innovation than process innovation; in fact process innovation is not significantly associated with growth.

Figure 37
Percentage Differences in Activities Between Faster- and Slower-Growing Firms



In both new and mature markets, firms that grow train more (Figure 37). The stronger emphasis on product development among growing firms operating in new markets means that faster-growing firms are those that are offering new products or improving their existing products. The stronger emphasis on improving production efficiency in growing firms operating in mature markets implies that the firms that are introducing new processes or upgrading existing ones are growing faster. In each case, innovation brings about greater skill requirements (Baldwin and Johnson 1996a), and firms that innovate tend to train more. Consequently, it is not surprising

to find that faster-growing firms, in each of the groups, train more than slower-growing firms, although the difference is only statistically significant in the mature sector.

Many of these findings also apply to R&D. Both product and process innovations are frequently the result of R&D projects. Consequently, it is not surprising to find that faster-growing firms in both mature and growing industries are those that more frequently engage in R&D activities. However, the difference is only significant for firms operating in new markets. It may be that more radical types of innovation are more strongly associated with growth in new markets, whereas in mature markets, improving efficiency and delivery in a consistent and incremental manner is more important.

There are also commonalities in the relationship between growth and financial structure across the groups. Regardless of the maturity of the industry, firms that grow faster have more permanent capital. The average contribution of permanent capital was lowest in firms operating in new markets, and highest in firms operating in mature markets, but within each of those groups, a higher contribution of permanent capital was always associated with more growth (Table 18). As was the case in other segments of this report, these differences in reliance on permanent capital are not significant. However, when analyzed in context with these other findings, the consistency of this finding suggests that further study is warranted.

In summary, while the relationship between strategies and growth differs across the two markets, the conclusion is the same: firms that are growing are innovating and training their workers to meet the demands that ongoing change fosters. Additionally, growing firms, regardless of the market they operate in, have more permanent capital.

Table 18
Differences in Types of Financing Between Faster- and Slower-growing Firms Across Market Stages, 1994

Type	New Markets		Mature Markets	
	Slower growers	Faster growers	Slower growers	Faster growers
	% of financing			
Permanent capital	**36**	**44**	**45**	**53**
Semi-permanent capital	**23**	**22**	**28**	**22**
Long-term secured debt	17	19	19	12
Other long-term debt, convertible debentures, shareholder advances, etc.	5	4	9	10
Non-permanent capital	**41**	**34**	**27**	**25**
Trade credit, line of credit, short-term debt, contract financing	40	33	26	25
Government investment tax credits and grants	1	1	1	1

Note: numbers may not add due to rounding.

How Do Innovators Differ From Non-innovators?

This study, along with numerous other studies (e.g., Baldwin et al. 1994), has found that innovative firms typically achieve stronger growth or are more successful than firms that do not innovate. Moreover, the previous sections demonstrate that regardless of the industry in which the firm operates or the maturity of the market which the firm serves, innovators grow faster than non-innovators. Hence, it is of interest to understand how this group of firms differs from the non-innovative group. Such an analysis provides information on the competencies that appear to be complementary to innovation.

This information benefits both managers and stakeholders of firms that aspire to innovate and grow. The finding that certain characteristics or competencies are strongly associated with innovation suggests that firms may not be able to innovate successfully without also developing those complementary competencies. For example, if innovative firms tend to have a more complex financial structure, perhaps due to the greater risk involved in innovation, then firms that decide to undertake innovation may need to develop superior financing capabilities. Hence, engaging in innovative activity may have repercussions for the firms' requirements in other areas.

This information is also relevant to policy makers wishing to foster greater innovation among Canadian firms. As previous studies have argued (Johnson et al. 1996), the finding that innovative firms tend to train more, suggests that policies that recognize the complementarities between innovation and training may be more successful than single-focused policies.

Previous studies (Baldwin and Johnson 1996a) have found that more-innovative established SMEs tend to demonstrate superior capabilities across the entire range of business competencies than less-innovative established SMEs. Thus, to some extent, the purpose of this section is to investigate whether these findings hold for successful entrants as well as established SMEs. However, this analysis extends that of previous analyses by contrasting the nature of the competitive environment that innovators face, with the environment that non-innovators face. Furthermore, this study contains a more detailed analysis of the differences in financial structure between innovators and non-innovators.

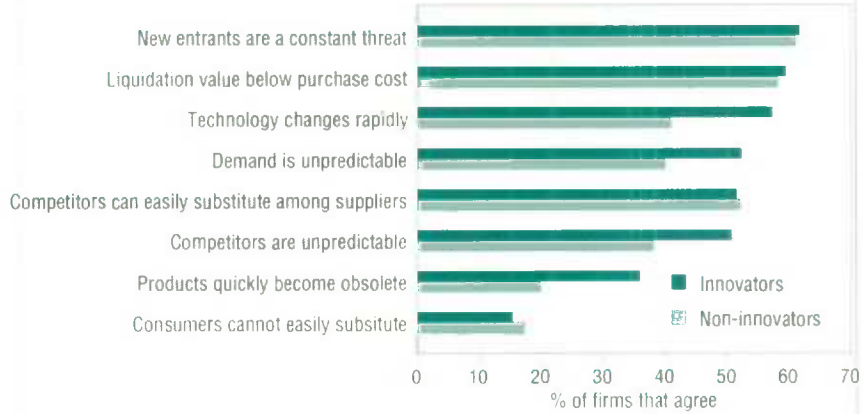
Innovating Successful Entrants Face Greater Competition and Market Risk

Innovators face a more intensely competitive environment than do non-innovators. This is found across almost all of the measures of competitive intensity. Successful entrants who innovate typically face more competitors, less predictability of demand and more rapid product and technological obsolescence. They are more likely to be located in growing product markets than successful entrants that do not innovate.

As discussed previously, there are many aspects that characterize a competitive environment: the number of competitors, the intensity with which they compete, the ability of customers to substitute among competitors, the changes in products and technology, and the nature of competition itself (in terms of price, quality, customer service, and so forth).

Innovating successful entrants face more competitors; only three-quarters of non-innovative firms face more than four competitors, compared to 87% of innovators. Products in the industries in which innovators operate also become obsolete more quickly than those in industries served by non-innovators. Almost 36% of innovators agree with the statement that products become obsolete quickly in their industry, while less than 20% of non-innovators agree with the statement. Similar differences are found with respect to changes in technology. Innovators typically indicated that they felt technology changed more rapidly than did non-innovators.

Figure 38
Contrasting Innovators and Non-Innovators' Perceptions Regarding Their Industry



Demand is also less predictable among innovators. Over half, 52%, of innovators felt that demand was unpredictable in their industry, compared to less than 40% of non-innovators. Almost exactly the same responses are found with respect to the predictability of competitors' actions.

The nature of competition that innovators and non-innovators face is different. With regard to the traditional competitive tools of price, flexibility, quality, and customer service, innovators report approximately the same degree of competition in their industry as do non-innovators (Figure 39). However, innovators indicate that in their industry, competition is more intense in terms of customization of products and introducing new products.

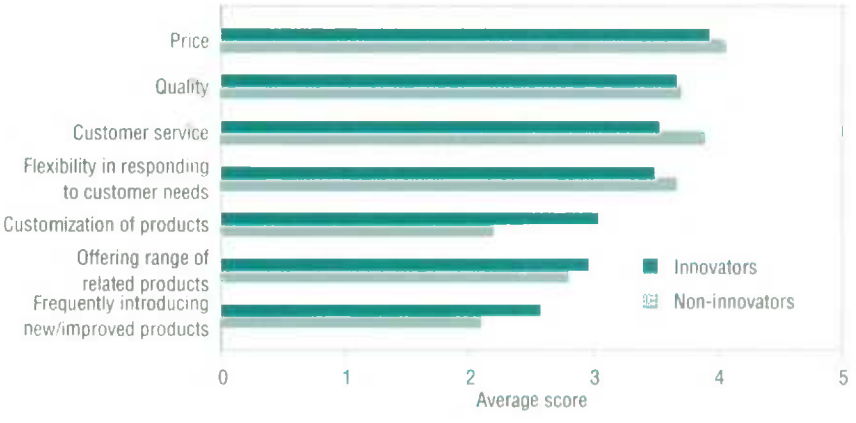
Consequently, in terms of each of these indicators, innovators seem to face a more intensely competitive environment and greater uncertainty.

However, innovators do obtain more of their revenues from repeat customers. Almost 70% of innovators obtain between 25% and 89% of their revenue from repeat customers. Conversely, only 51% of non-innovators are in this range. Non-innovators are more likely to be almost solely dependent on repeat customers (90% or more of their revenues are derived from repeat customers), or derive only a small percentage of their sales (24% or less) from repeat customers. Both of these extremes have disadvantages. Firms that depend too heavily on repeat customers are not reaching out to new customers, and therefore, have limited growth opportunities. Conversely, firms that can count little on repeat customers do not develop customer loyalty. These findings suggest that, along this dimension, innovators have a more favourable customer base than non-innovators.

The stage of the market also characterizes the nature of the environment which firms serve. Slightly more than 42% of innovative firms are located in new or growing product markets, whereas only 29% of non-innovative firms are similarly located. The fact that innovators are located in growing markets suggests that they may face more uncertainty, given that neither products nor markets are well established; however, they may also be able to achieve higher growth. This latter finding is indeed confirmed by responses to the question regarding the growth in revenue they anticipated. Innovative firms anticipate stronger growth in their revenue. Fully 36% of innovators anticipate annual sales growth over the next two years to equal or exceed 10%, compared to just 21% of non-innovators.

Innovative successful entrants face a more competitive environment than non-innovative successful entrants. To some extent, the environment impacts on required strategies. A competitive environment may force innovativeness in some circumstances. But it is no doubt true that innovators, by their very own innovative activity, have intensified the competitiveness of their environment. Furthermore, innovative firms may perceive their environment differently from non-innovators because they have developed superior competencies in assessing their competitors. This, in turn, will affect the nature of the business competencies they develop.

Figure 39
Intensity of Competition in the Industry



They Respond by Building Superior Business Competencies, and a Financial Structure that Affords Flexibility and Reduces Risk

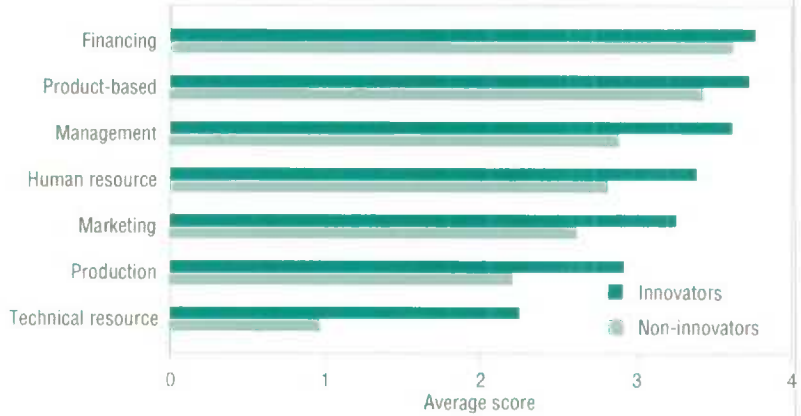
Innovators respond to their more intense competitive environment by striving to develop superior competencies in all areas, including management, technology, human resources, marketing, and production. They also counter the greater uncertainty they face by undertaking more formalized planning and monitoring their performance. Finally, they have built a capital structure that affords more flexibility and reduces exposure to risk in financial markets, by drawing on more types and sources of financing.

Innovators place more emphasis on almost all of the business strategies. Specifically, they place more emphasis on management, human resource, technology, marketing, and production strategies than non-innovators (Figure 40). The biggest difference lies in the valuation of technology strategies. The only area to which they do not give significantly greater emphasis is financing strategies; these strategies are valued highly by both innovators and non-innovators alike.

The stronger strategic emphasis in each of the areas is translated into action. Innovators are significantly more likely to train, export and incur investment expenditures (Figure 41). Specifically, they are significantly more likely to invest in R&D, technology, market development, training, and machinery and equipment (not reported here).

With respect to their product strategies, innovators place more emphasis on customizing products, offering a wide range of products, and frequently introducing new/improved products than do non-innovators (not reported here). In the more traditional areas of price, quality, and customer service, innovators do not score significantly differently than non-innovators.

Figure 40
Contrasting the Importance of Various Business Strategies to Innovators and Non-Innovators



The importance given to managing the business, in the face of intense competition and uncertainty is manifested by a greater emphasis on business planning and monitoring behaviour. Innovators are almost twice as likely to have a business plan, and more than twice as likely to have a financial plan. Moreover, innovators are more likely to monitor each of the income, financial, and operational criteria to assess their performance, than are non-innovators (Figure 42).

In summary, it is apparent that innovators face a more intensely competitive environment and greater uncertainty than do non-innovators. Their superior business competencies, as demonstrated both by their pursuit of various business strategies, and the undertaking of investment, training and exporting, suggest that they are better equipped than non-innovative firms to respond to this environment. So too does the capital structure in innovative firms, which offers greater flexibility and protection from financial risk than does that of non-innovators. Innovators are also significantly more likely to depend on multiple types and sources of capital (Table 19). Hence, innovators are better able to enjoy the benefits that different

Figure 41
Percentage of Innovators and Non-innovators Investing, Training, Planning and Exporting

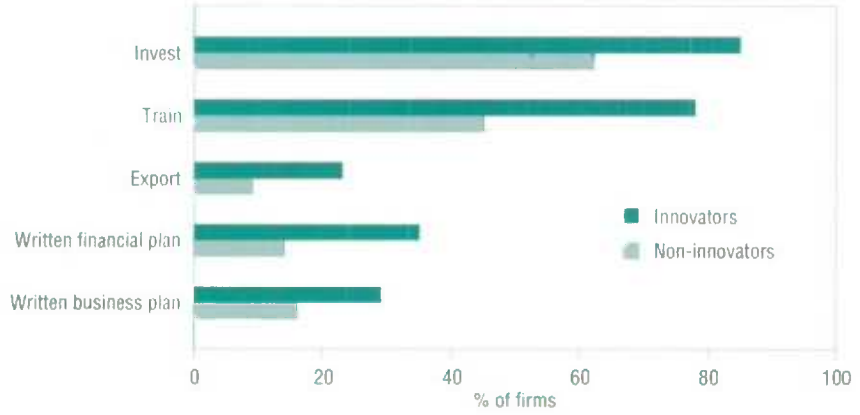


Figure 42
Percentage of Firms Assessing Various Performance Criteria

types of capital afford, and they are less dependent on individual financiers for their financing requirements.

The data presented here demonstrate that innovators face a more competitive environment, that they develop superior competencies and that they have more flexible financial structures. However, it is important to note that these observations do not prove that a particular type of environment is required for innovation. The data are consistent with the argument that a more intensely competitive environment stimulates firms to innovate, while at the same time forcing them to develop superior competencies in all areas in order to survive. Yet, the data are also consistent with the argument that when firms innovate they provide a force for change in their industry, and evoke similar responses from other firms. In this latter case, it is innovation that intensifies the competitive environment.

Table 19
Percentage of Firms Relying on Various Types of Financing

Type	Non-innovators	Innovators
	% of firms	
Firms relying on a single type of financing	**52**	**38**
Permanent capital	26	27
Semi-permanent capital	11	6
Non-permanent capital	15	6
Firms relying on multiple types of financing	**48**	**62**
Permanent and semi-permanent capital	10	5
Permanent and non-permanent capital	15	23
Permanent, semi- and non-permanent	19	30
Semi- and non-permanent capital	4	4

Note: numbers may not add due to rounding.

Appendix I: Methodology

The following table provides counts of the number of firms in the population, in the sample and the number that actually responded to the survey. The sample was allocated approximately equally across the cells of interest to minimize the variance of the difference in means between any pair of cells.

Table A
The Population Sample and Respondent Counts of Incorporated Firms Born in the 1983-to-1986 Period and for Which Financial Data Are Available

	Population count	Percent	Sample count	Percent	Respondent count	Percent
Total	39,675	100	3,991	100	2,962	100
Knowledge intensity of the industry						
Goods, low-knowledge	4,853	12	989	25	733	25
Goods, high-knowledge	1,386	3	885	22	679	23
Services, low-knowledge	17,892	45	1,107	28	796	27
Services, high-knowledge	15,544	39	1,010	25	754	26
Firm size						
0-9 ALUs	31,569	80	1,504	38	1,121	38
10-24 ALUs	5,618	14	1,420	36	1,056	36
25+ ALUs	2,488	6	1,067	27	785	27
Absolute growth from birth to 1993						
Decline in ALUs	8,164	21	1,017	25	723	24
0-4 ALU growth	20,837	53	1,037	26	769	26
5-14 ALU growth	7,214	18	979	25	755	26
15+ ALU growth	3 460	9	958	24	715	24
Financial criteria - debt-to-asset ratios						
Low: 0-19th percentile	7,899	20	994	25	737	25
Med-Low: 20-59th percentile	15,974	40	1,024	26	790	27
Med-High: 60-79th percentile	7,902	20	1,040	26	791	27
High: 80-100th percentile	7,900	20	933	23	644	22

Note: numbers may not add due to rounding. ALU = average labour unit.

Imputation

Imputing involves assigning a response for a firm to questions to which it did not respond. Firms do not respond to every question for a number of reasons—they do not have time, they do not know the answer, they do not understand the question, or they simply choose not to. To correct for this, a value as close as possible to the "true value" of the response is estimated using related information.

The first rule of imputing is to only assign a particular data point to a firm when that data point is likely to be correct. If good information for imputing a particular variable were not available for a particular firm, the response would not be imputed. Similarly, if the imputation criteria were less likely than the mean of all observations to approximate the true response, one would not be imputed. Fortunately, the response rates across both firms and questions are very high, and strong relationships across variables allow imputation with confidence.

Imputing is essential because firms that do not answer certain questions are likely to be different from those that do. Dropping firms with a missing response may not give as complete a picture as using well-imputed values. Not imputing implicitly says that non-responding firms are the same as other firms.

Two ways to impute were considered. One method imputes missing responses for specific variables on a variable-by-variable basis by making use of general relationships between variables and existing responses for that respondent. The other uses the responses of a similar firm to fill in all of the missing responses for a given firm. On the recommendation of the methodologists at Statistics Canada—and in light of the high question-by-question response rates obtained—the first imputation procedure was adopted to maximize the likelihood that the imputed data would be correct.

This strategy looked both at how responses vary across strata, as well as at how they related to certain other questions. For example, 43 out of 2,962 firms did not respond to the question "Do you have a written financial plan?" The likelihood of the firm having a financial plan varied substantially across the strata. In addition, the likelihood of the firm having a financial plan was strongly dependent on whether or not it had a business plan. Consequently, a firm was classified according to its size, growth, and debt-to-asset ratio ranking, and whether or not it had a business plan, and was compared to similar firms to see how likely they were to have a written financial plan. A value for the firm in question was imputed accordingly.

Generation of the Industry Classification

For the purposes of conducting analysis at the industry-level, industries were broken down into two groups - goods producing, and services. Within each of the groups, an index of knowledge intensity was created (using principal component analysis). Within each of these groups, industries were then ranked according to their score on the knowledge index, and those in the top half were deemed to be high-knowledge industries, and those in the bottom half were deemed to be low-knowledge industries.

Goods Producing Industries

The goods producing industries include: agriculture, fishing and trapping, logging and forestry, mining and manufacturing. The following table presents the variables included in the principal component analysis.

Table B
Variables and Associated Weights for the Goods Producing Knowledge Index

Variables included in the index	Weight in Index
Multifactor productivity in 1992	0.042
Proportion of workers with post-secondary education	0.519
Score on innovation index	0.538
Percent of sales devoted to R&D	0.474
Percent of firms using advanced technologies	0.464

Service Industries

The service industries include all services, except services incidental to agriculture and mining and government services, education, health, member organizations i.e. religious/business associations.

Table C
Variables, and Associated Weights for the Service Sector Knowledge Index

Variables included in the index	Weight in Index
GDP per hour worked in 1992	0.516
Proportion of workers with post-secondary education	0.562
Average wage rate	0.647

The data used to provide this analysis were derived from a number of sources. Estimates of multifactor productivity in 1992 and GDP per hour worked in 1992 were derived from Statistics Canada (1996). Estimates of average wage rates, the percent of sales devoted to R&D, the proportion of workers with post-secondary education, and the percent of firms using advanced technologies was derived from Lee and Has (1996). Robson et al. (1988) was used to provide estimates of an innovation index. The latter takes on a value of 0 for the least innovative industries, 1 for those in the middle and 2 for the most innovative.

The industries were classified as illustrated by the following table.

Table D
Industry Classification

Low Knowledge	High Knowledge
Goods Producing Industries	**Goods Producing Industries**
Agriculture	Mining
Fishing & trapping	Crude petroleum & natural gas
Logging & forestry	Rubber
Quarry & sand pits	Plastics
Services incidental to mining	Paper & allied products
Food	Primary metals
Beverages	Fabricated metal products
Tobacco	Machinery
Leather	Transportation equipment
Textiles	Electrical & electronic products
Clothing	Non-metallic mineral products
Wood	Refined petroleum & coal products
Furniture & fixture	Chemical & chemical products
Printing & publishing	
Other manufacturing	
Service Industries	**Service Industries**
Transportation	Construction
Storage	Pipeline transportation
Wholesale trade	Communication
Retail trade	Other utilities
Accommodation, food & beverages	Finance, insurance & real estate
Amusement & recreational services	Business services
Other services	

Appendix II - List of Tables

Note: numbers may not add due to rounding. ALU = average labour unit.

Table 1
Average Entry Rates, 1984 to 1986

Size class	Entrants as a % of number of firms	Entrants as a % of number of employees
0-9 ALUs	19.5	9.0
10-24 ALUs	6.6	6.1
25+ ALUs	5.1	4.4
All firms	17.8	6.4

Table 2
Average Entry and Survival Rates, 1984 to 1986

Size class	Entrants as a % of number of firms	Survivors as a % of number of firms	Survivors as a % of number of entrants
0-9 ALUs	19.5	3.9	20.2
10-24 ALUs	6.6	3.1	47.0
25+ ALUs	5.1	2.6	51.1
All firms	17.8	3.8	21.4

Table 3
Percentage Breakdown of Financing by Source, 1994

Source		Size			
		All firms	0-9 ALUs	10-24 ALUs	25+ ALUs
		% financing			
Internal	**mean**	**51**	**51**	**49**	**47**
	standard error	**2**	**3**	**3**	**4**
Retained earnings	mean	38	38	41	34
	standard error	2	3	3	4
Owners/employees	mean	13	14	8	13
	standard error	2	2	1	3
External	**mean**	**49**	**49**	**51**	**53**
	standard error	**2**	**3**	**3**	**4**
Suppliers	mean	7	7	7	13
	standard error	1	1	1	2
Banks and trust companies	mean	34	34	33	30
	standard error	3	3	4	4
Related firms, joint ventures, strategic alliances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	mean	5	4	8	6
	standard error	1	1	3	1
Other (private investors, customers, etc.)	mean	4	4	3	4
	standard error	1	2	1	1

Table 4
Percentage of Firms Relying on Internal and External Sources of Financing, 1994

		Size			
		All firms	0-9 ALUs	10-24 ALUs	25+ ALUs
		% of firms			
Single sources of financing	**mean**	**52**	**55**	**42**	**33**
	standard error	**3**	**4**	**5**	**5**
Internal sources	mean	27	29	22	14
	standard error	2	3	2	2
External sources	**mean**	**25**	**26**	**20**	**19**
	standard error	**3**	**3**	**5**	**5**
Multiple sources of financing	**mean**	**48**	**45**	**58**	**67**
	standard error	**3**	**4**	**5**	**5**

Table 5
Percentage Breakdown of Financing, by Type, 1994

Type		Size			
		All firms	0-9 ALUs	10-24 ALUs	25+ ALUs
		% of financing			
Permanent capital	**mean**	**46**	**46**	**49**	**44**
	standard error	**2**	**3**	**4**	**4**
Semi-permanent capital	**mean**	**24**	**24**	**25**	**23**
	standard error	**2**	**3**	**4**	**4**
Long-term secured debt	mean	17	17	16	18
	standard error	2	2	3	4
Other long-term debt, convertible debentures, shareholder advances, etc.	mean	8	8	9	5
	standard error	2	2	3	1
Non-permanent capital	**mean**	**30**	**30**	**26**	**34**
	standard error	**2**	**3**	**3**	**4**
Trade credit, line of credit, short-term debt, contract financing	mean	29	29	25	33
	standard error	2	3	3	4
Government investment tax credits and grants	mean	1	1	1	0
	standard error	0	0	0	0

Table 6
Percentage of Firms Relying on Various Types of Financing, 1994

Type		Size			
		All firms	0-9 ALUs	10-24 ALUs	25+ ALUs
		% of firms			
Firms relying on a single type of financing	**mean**	**49**	**53**	**42**	**27**
	standard error	**3**	**4**	**5**	**5**
Permanent capital	mean	26	28	26	14
	standard error	3	3	4	2
Semi-permanent capital	mean	10	9	11	6
	standard error	2	2	4	4
Non-permanent capital	mean	13	15	5	7
	standard error	2	3	1	4
Firms relying on multiple types of financing	**mean**	**51**	**47**	**58**	**73**
	standard error	**3**	**4**	**5**	**5**
Semi- and non-permanent capital	mean	4	4	4	3
	standard error	1	1	1	1
Permanent and semi-permanent capital	mean	9	9	6	12
	standard error	2	2	2	5
Permanent and non-permanent capital	mean	17	15	26	19
	standard error	2	2	5	3
All (permanent, semi- and non-permanent capital)	mean	21	19	22	39
	standard error	3	3	4	6

Table 7
Percentage of Firms Citing a Type of Capital, of All Firms Citing a Use of Funds

Use of funds		Permanent capital	Long-term debt	Semi-permanent capital	Non-permanent capital	Government
				% of firms		
R&D	mean	61	2	10	29	13
	standard error	9	1	4	8	7
Technology	mean	62	9	18	33	1
	standard error	6	3	4	5	0
Market development	mean	65	5	14	26	1
	standard error	6	1	5	5	1
Training	mean	75	3	7	21	3
	standard error	5	2	2	5	1
Machinery and equipment	mean	49	19	21	42	0
	standard error	5	4	4	4	0
Land and buildings	mean	41	44	46	23	0
	standard error	7	7	7	6	0
Upgrades	mean	52	12	16	40	0
	standard error	6	4	5	6	0
Acquiring businesses	mean	46	12	14	53	0
	standard error	16	8	8	16	0
Working capital	mean	52	4	8	50	0
	standard error	4	1	2	4	0
Financial cushion	mean	55	1	8	43	0
	standard error	6	1	2	6	0
Debt reduction	mean	68	4	17	17	0
	standard error	7	1	7	6	0
Other	mean	52	2	26	25	0
	standard error	11	1	11	9	0

Table 8
Of the Firms Using a Type of Capital, Percentage of Firms who Funded a Particular Use With it

Use of funds		Permanent capital	Long-term debt	Semi-permanent capital	Non-permanent capital	Government
				% of firms		
R&D	mean	17	2	6	11	62
	standard error	3	1	2	3	15
Technology	mean	36	16	22	26	9
	standard error	4	4	5	4	5
Market development	mean	29	6	13	16	9
	standard error	4	2	4	3	5
Training	mean	49	7	9	19	33
	standard error	4	4	3	4	13
Machinery and equipment	mean	38	45	34	44	3
	standard error	4	7	5	5	2
Land and buildings	mean	14	45	33	10	2
	standard error	3	7	6	3	1
Upgrades	mean	27	20	17	28	2
	standard error	3	6	5	5	2
Acquiring businesses	mean	5	4	3	8	1
	standard error	2	3	2	4	1
Working capital	mean	45	11	15	59	7
	standard error	4	4	3	5	4
Financial cushion	mean	30	2	9	32	2
	standard error	3	1	3	5	2
Debt reduction	mean	28	5	15	10	3
	standard error	4	2	6	3	3
Other	mean	11	1	11	7	0
	standard error	3	1	6	3	0

Table 9
Percentage Breakdown of Financing, by Type, 1994

Type		Industry Sector		Knowledge		Goods		Services	
		Goods	Services	High	Low	Knowledge		Knowledge	
						High	Low	High	Low
		% of financing							
Permanent capital	mean	44	46	53	41	52	42	53	40
	standard error	3	3	3	3	2	4	4	4
Long-term debt	mean	24	15	13	20	17	27	12	18
	standard error	4	2	2	2	2	5	2	3
Semi-permanent capital	mean	29	24	22	27	22	31	22	25
	standard error	4	2	3	3	2	5	4	3
Non-permanent capital	mean	24	30	25	32	25	24	25	34
	standard error	3	3	3	3	2	4	4	4

Table 10
Percentage Breakdown of Financing by Source, 1994

Source		Goods		Services	
		Knowledge		Knowledge	
		High	Low	High	Low
		% of financing			
Internal sources	**mean**	**53**	**43**	**57**	**46**
	standard error	**3**	**4**	**4**	**4**
Retained earnings	mean	43	33	44	33
	standard error	3	4	4	4
Owners/employees	mean	10	9	13	13
	standard error	1	1	2	3
External sources	**mean**	**47**	**57**	**43**	**54**
	standard error	**3**	**4**	**4**	**4**
Suppliers	mean	9	5	4	10
	standard error	1	1	1	2
Banks and trust companies	mean	27	39	29	37
	standard error	2	5	4	4
Related firms, joint ventures, strategic alliances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	mean	7	10	3	5
	standard error	1	4	1	2
Other (private investors, customers, etc.)	mean	4	4	7	1
	standard error	1	1	3	0

Table 11
Percentage Breakdown of Financing by Type, 1994

Type		Uncertainty		
		Low	Moderate	High
		% of financing		
Permanent capital	**mean**	**33**	**47**	**51**
	standard error	**7**	**3**	**4**
Semi-permanent capital	**mean**	**29**	**24**	**23**
	standard error	**7**	**3**	**3**
Long-term secured debt	mean	19	16	18
	standard error	5	2	3
Other long-term debt, convertible debentures, shareholder advances, etc.	mean	10	9	5
	standard error	5	2	2
Non-permanent capital	**mean**	**39**	**29**	**26**
	standard error	**8**	**3**	**4**
Trade credit, line of credit, short-term debt, contract financing	mean	39	29	25
	standard error	8	3	4
Government investment tax credits and grants	mean	0	1	1
	standard error	0	0	0

Table 12
Percentage Breakdown of Financing by Source, 1994

Source		Uncertainty		
		Low	Moderate	High
		% of financing		
Internal sources	**mean**	**46**	**51**	**52**
	standard error	**8**	**3**	**4**
Retained earnings	mean	28	39	40
	standard error	7	3	4
Owners/employees	mean	18	12	12
	standard error	7	2	2
External sources	**mean**	**54**	**49**	**48**
	standard error	**8**	**3**	**4**
Suppliers	mean	12	8	3
	standard error	6	1	1
Banks	mean	30	35	34
	standard error	6	4	4
Related firms, joint ventures, strategic alliances, venture capitalists, merchant banks, capital groups, governments, public market, pension funds and insurance companies	mean	9	3	7
	standard error	4	0	2
Other (private investors, customers, etc.)	mean	3	4	3
	standard error	3	2	1

Differences Across Faster- and Slower-growing Successful Entrants

Significance of the difference between faster and slower growing firms: * difference is statistically significant at the 10% level
** difference is statistically significant at the 5% level

Table 13
Percentage Breakdown of Financing, by Type, 1994

Type		Slower growers	Faster growers	t-test for difference in mean
		% of financing		
Permanent capital	mean	42	50	1.58
	standard error	3	4	
Semi-permanent capital	mean	27	22	-1.15
	standard error	3	3	
Non-permanent capital	mean	31	28	-0.58
	standard error	3	3	

Table 14
Percentage of Firms Relying on Internal and External Sources of Financing, 1994

Type		Slower growers	Faster growers	t-test for difference in mean
		% of firms		
Internal sources only	mean	26	28	0.40
	standard error	3	4	
External sources only	mean	31	18	-2.60 **
	standard error	4	3	
Internal and external sources	mean	43	54	1.94 *
	standard error	4	4	

Table 15
Percentage of Firms Citing Various Sources of Financing for Knowledge and Physical Investments

Type		Knowledge Assets			Physical Assets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of firms			% of firms		
Permanent capital	mean	55	65	1.00	45	54	1.06
	standard error	8	6		6	6	
Semi-permanent capital	mean	15	21	0.77	26	36	1.28
	standard error	5	6		5	6	
Non-permanent capital	mean	38	28	-1.06	43	37	-0.71
	standard error	8	5		6	6	
Government financing	mean	7	4	-0.49	0	0	0.00
	standard error	6	1		0	0	

Table 16
Percentage of Firms Using Single or Combinations of Capital Types to Fund Investments

Type		Knowledge Assets			Physical Assets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of firms			% of firms		
Single type of capital	**mean**	**85**	**85**	**0.00**	**86**	**77**	**-1.41**
	standard error	**5**	**4**		**4**	**5**	
Permanent capital	mean	44	54	0.94	35	43	0.94
	standard error	8	7		6	6	
Semi-permanent capital	mean	6	12	0.89	18	16	0.31
	standard error	3	6		4	5	
Non-permanent capital	mean	34	19	-1.52	33	18	-2.24 **
	standard error	9	4		6	3	
Multiple types of capital	**mean**	**15**	**15**	**0.00**	**14**	**23**	**1.41**
	standard error	**5**	**4**		**4**	**5**	
Permanent and semi- or non-permanent capital	mean	12	11	-0.20	10	11	0.24
	standard error	4	3		3	3	
Semi and non-permanent capital	mean	4	4	0.00	4	12	1.49
	standard error	3	3		2	5	

Table 17
Differences in Types of Financing Between Faster- and Slower-growing Firms Across Industries, 1994

Type		Goods, high-knowledge			Goods, low-knowledge			Services, high-knowledge			Services, low-knowledge		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of financing			% of financing			% of financing			% of financing		
Permanent capital	**mean**	**49**	**54**	**1.07**	**35**	**50**	**2.33 ****	**55**	**49**	**-0.95**	**32**	**46**	**1.84 ***
	standard error	**4**	**3**		**4**	**5**		**5**	**5**		**5**	**6**	
Semi-permanent capital	**mean**	**21**	**22**	**0.23**	**39**	**22**	**-2.03 ****	**23**	**20**	**-0.58**	**25**	**26**	**0.68**
	standard error	**3**	**3**		**8**	**4**		**5**	**5**		**4**	**5**	
Long-term secured debt	mean	17	16	-0.24	36	16	-2.23 **	12	13	0.20	19	17	-0.48
	standard error	3	2		8	3		3	4		4	4	
Other long-term debt, convertible debentures, shareholder advances, etc.	mean	5	6	1.04	4	6	1.01	11	7	-0.58	6	9	0.68
	standard error	1	1		1	1		5	4		3	3	
Non-permanent capital	**mean**	**29**	**23**	**-1.89 ***	**26**	**28**	**0.35**	**22**	**31**	**1.22**	**42**	**28**	**-1.81 ***
	standard error	**3**	**2**		**6**	**3**		**4**	**6**		**6**	**5**	
Trade credit, line of credit, short term debt, contract financing	mean	29	22	-2.10 **	23	25	0.26	22	31	1.20	42	28	-1.83 *
	standard error	3	2		6	3		4	6		6	5	
Government investment tax credits and grants	mean	1	2	1.03	3	3	0.35	0	0	0.69	0	0	0.75
	standard error	0	1		1	1		0	0		0	0	

Table 18
Differences in Types of Financing Between Faster- and Slower-growing Firms Across Market Stage, 1994

Type		New Markets			Mature Markets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of financing			% of financing		
Permanent capital	**mean**	**36**	**44**	**0.88**	**45**	**53**	**1.34**
	standard error	**6**	**6**		**4**	**4**	
Semi-permanent capital	**mean**	**23**	**22**	**-0.07**	**28**	**22**	**-1.20**
	standard error	**4**	**5**		**4**	**4**	
Long-term secured debt	mean	17	19	0.18	19	12	-1.86 *
	standard error	4	5		3	3	
Other long-term debt, convertible debentures, shareholder advances, etc.	mean	5	4	-0.56	9	10	0.20
	standard error	3	1		3	3	
Non-permanent capital	**mean**	**41**	**34**	**-0.74**	**27**	**25**	**-0.23**
	standard error	**7**	**7**		**4**	**3**	
Trade credit, line of credit, short-term debt, contract financing	mean	40	33	-0.78	26	25	-0.23
	standard error	7	7		4	3	
Government investment tax credits and grants	mean	1	1	0.69	1	1	0.06
	standard error	0	0		0	0	

Table 19
Percentage of Firms Relying on Various Types of Financing

Type		Non-innovators	Innovators	t-test for difference in mean
		% of firms		
Firms relying on a single type of financing	**mean**	**52**	**38**	**-2.09 ****
	standard error	**3**	**6**	
Permanent capital	mean	26	27	0.15
	standard error	3	6	
Semi-permanent capital	mean	11	6	-1.39
	standard error	2	3	
Non-permanent capital	mean	15	6	-2.50 **
	standard error	3	2	
Firms relying on multiple types of financing	**mean**	**48**	**62**	**2.09 ****
	standard error	**3**	**6**	
Permanent and semi-permanent capital	mean	10	5	-1.77 *
	standard error	2	2	
Permanent and non-permanent capital	mean	15	23	1.26
	standard error	2	6	
Permanent, semi- and non-permanent	mean	19	30	1.64
	standard error	3	6	
Semi- and non-permanent capital	mean	4	4	0.00
	standard error	1	2	

Appendix III - List of Figures

Figure 1
Average Entry Rates for All Entrants and Survivor Firms, 1984 to 1986

	All entrants	Survivors
	% of firms	
Goods high-knowledge	12.6	4.5
Goods low-knowledge	14.8	3.5
Services high-knowledge	19.1	4.0
Services low-knowledge	17.7	3.7

Figure 2
Total Employment in New Firms*

	All 1984 births as of 1985	Survivors as of 1985	Survivors as of 1994
		Employment	
Goods high-knowledge	18,352	9,315	24,105
Goods low-knowledge	31,057	12,681	21,539
Services high-knowledge	118,733	50,352	77,836
Services low-knowledge	142,462	58,436	91,543

** Calculated from first full year after birth.*

Figure 3
Average Establishment Employment and Revenue

		Goods, high-knowledge	Goods, low-knowledge	Services, high-knowledge	Services, low-knowledge
Number of employees	mean	18.8	9.0	6.5	10.8
	standard error	0.9	0.4	0.4	0.9
Revenues ('000s)	mean	2,599.1	1,093.0	692.4	1,646.1
	standard error	132.6	99.9	44.2	173.8

Figure 4
Employment Growth Rates in Successful Entrants Since Birth

	All firms	Goods, high-knowledge	Goods, low-knowledge	Services, high-knowledge	Services, low-knowledge
% growth	6.6	10.1	6.4	5.5	6.5

Figure 5
Distribution of Firms by Expected Revenue Growth Rates

Expected annual growth rate	% of firms
0% or decline	26.7
1 to 4%	25.2
5 to 9%	23.4
10 to 14 %	12.0
15 to 24%	9.9
25% or more	2.8

Figure 6
Firms' Perceptions About Their Industry

	Scores	Product changes rapidly	Technology changes rapidly	Demand is unpredictable	Consumers can easily substitue	Competitors are unpredictable	Threat of entry is high
					% of firms		
Disagree	1 and 2	41.0	20.7	26.1	16.8	23.8	17.1
Neutral	3	35.5	34.8	31.3	23.8	35.4	21.9
Agree	4 and 5	23.5	44.5	42.6	59.4	40.8	61.1

Figure 7
Percentage of Firms Reporting Intense Industry Competition

Intensity	Scale	Price	Flexibility in responding to customers' needs	Quality	Customer service	Customization of products	Offering a wide range of related products	Introducing new/improved products
					% of firms			
Does not apply	0	3.9	6.0	3.7	3.2	25.7	20.8	30.2
Low	1	4.7	1.6	2.9	2.9	6.7	6.6	10.2
	2	2.7	4.9	5.9	5.2	14.4	8.5	10.5
Medium	3	15.7	31.2	28.4	24.5	23.7	21.1	20.1
	4	19.4	23.8	26.2	26.8	16.0	18.8	17.0
High	5	53.6	32.4	33.1	37.5	13.6	24.1	12.0

Figure 8
Distribution of Firms According to The Number of Years the Manager Has Worked in the Firm, and
Figure 9
Percentage of Firms by Manager's Tenure and Firm Size

Years manager has worked for firm	Size			
	All firms	0-9 ALUs	10-24 ALUs	25+ ALUs
		% of firms		
0 to 2	4.9	4.0	6.7	12.6
3 to 5	4.3	2.7	9.3	10.8
6 to 9	7.0	5.9	11.0	10.8
10 or more	83.8	87.4	73.1	65.9

Figure 10
Importance of Management Strategies

Importance	Scale	Continuous quality improvement	Using information technology	Delegating decision making	Consensus decision making
mean		*3.77*	*2.91*	*2.70*	*2.78*
standard error		*0.07*	*0.10*	*0.11*	*0.11*
			% of firms		
None	0	11.9	21.3	19.2	19.0
Low	1	1.2	5.4	11.2	12.1
	2	1.6	4.2	9.3	6.4
Medium	3	12.1	23.1	19.1	17.6
	4	29.5	21.9	23.2	24.3
High	5	43.8	24.2	18.1	20.6

Figure 11
Importance of Financing Strategies

Importance	Scale	Finding/maintaining capital	Financial management	Flexibility in unforeseen circumstances
mean		*3.10*	*4.08*	*3.75*
standard error		*0.12*	*0.07*	*0.07*
			% of firms	
None	0	17.9	6.4	10.2
Low	1	8.1	0.9	2.7
	2	4.0	3.0	2.4
Medium	3	20.9	14.0	17.0
	4	14.1	19.7	22.8
High	5	34.9	56.1	45.0

Figure 12
Contrasting Self-Assessment Criteria, with Financier Assessment Criteria, and
Figure 13
Contrasting Self-Assessment Criteria of All Firms to Firms with External Conditions Attached

Criteria		Internal Assessment		Financier Assessment
		All firms	Firms with external conditions	Firms with external conditions
			% of firms	
Income related criteria	mean	74	91	68
	standard error	3	3	7
Cash flow	mean	48	65	47
	standard error	3	7	7
Financial ratios	mean	41	55	64
	standard error	3	7	7
Cost of goods sold	mean	33	44	18
	standard error	3	7	6
Total value of the company	mean	34	56	48
	standard error	3	7	7
Market share	mean	22	36	19
	standard error	2	6	6
Operating criteria	mean	45	57	25
	standard error	3	7	6

Figure 14
Percentage of Firms With Business and Financial Plans

		Size		
		0-9 ALUs	10-24 ALUs	25+ ALUs
			% of firms	
Business plan	mean	16	25	38
	standard error	3	4	6
Financial plan	mean	14	31	43
	standard error	3	5	5

Figure 15
Reviewers of the Financial Plan, by Firm Size

		Size		
		0-9 ALUs	10-24 ALUs	25+ ALUs
		% of firms		
Board with outside directors	mean	14	33	30
	standard error	5	7	6
Independent certified financial advisor	mean	27	50	44
	standard error	7	10	9
Firm employees	mean	64	46	70
	standard error	10	8	7
Others outside the firm	mean	21	35	29
	standard error	6	10	7

Figure 16
Importance of Human Resource Strategies

Importance	Scale	Training	Recruiting skilled employees	Incentive compensation plans
mean		*3.27*	*3.24*	*2.31*
standard error		*0.10*	*0.10*	*0.11*
			% of firms	
None	0	15.4	13.6	26.6
Low	1	5.2	8.8	14.4
	2	6.0	4.8	8.2
Medium	3	18.0	18.1	19.1
	4	21.3	22.9	15.2
High	5	34.2	31.9	16.5

Figure 17
Percentage of Firms Training by Perceived Importance of Training to On-going Success

Importance given to training	Rating	% of firms training
None	0	12.8
Low	1	11.2
	2	30.4
Medium	3	50.4
	4	67.4
High	5	71.5

Figure 18
Importance of Product-Based Strategies

Importance	Scale	Price	Flexibility in responding to customer needs	Quality	Customer service	Customization of products	Offering a wide range of related products	Introducing new/improved products
mean		*3.92*	*4.22*	*4.48*	*4.42*	*2.46*	*2.64*	*2.24*
standard error		*0.08*	*0.06*	*0.05*	*0.08*	*0.12*	*0.10*	*0.11*
					% of firms			
None	0	6.3	5.9	2.7	6.2	33.6	26.9	31.5
Low	1	3.5	0.6	0.8	0.3	4.8	7.2	10.3
	2	4.1	1.2	0.2	0.2	3.6	4.2	9.5
Medium	3	12.3	6.6	6.6	5.1	19.1	18.5	16.4
	4	25.4	29.6	21.0	14.9	17.6	22.8	15.5
High	5	48.4	56.1	68.6	73.3	21.2	20.4	16.7

Figure 19
Importance of Market-Based Strategies

Importance	Scale	Targeting new domestic markets	Targeting new foreign markets	Improving position in existing markets	Satisfying existing customers	Promoting company or product reputation	Using third-party distributors
mean		*2.69*	*1.30*	*3.34*	*4.44*	*3.54*	*1.23*
standard error		*0.12*	*0.11*	*0.12*	*0.05*	*0.11*	*0.09*
				% of firms			
None	0	28.6	51.9	21.1	6.2	18.0	51.2
Low	1	7.8	17.4	1.8	0.7	1.7	19.7
	2	4.5	5.4	1.4	0.2	4.9	5.1
Medium	3	12.5	8.4	13.3	3.0	6.5	9.6
	4	18.9	8.1	22.8	16.2	20.9	8.1
High	5	27.8	8.9	39.7	73.8	47.9	6.3

Figure 20
Importance of Production Strategies

Importance	Scale	Improving efficiency of input use	Reducing production times	Using computer-controlled processes	Using high-quality suppliers
mean		*2.60*	*2.16*	*1.67*	*3.03*
standard error		*0.14*	*0.14*	*0.12*	*0.13*
			% of firms		
None	0	35.8	43.4	50.6	30.2
Low	1	2.5	4.6	8.1	1.6
	2	2.5	3.3	4.7	0.9
Medium	3	11.4	11.7	11.6	8.2
	4	20.5	14.8	10.1	21.3
High	5	27.3	22.1	14.8	37.9

Figure 21
Percentage of Firms Innovating by Industry

		Goods, high-knowledge	Goods, low-knowledge	Services, high-knowledge	Services, low-knowledge
Percent of firms innovating	mean	39	30	21	20
	standard error	3	6	4	5

Figures 22
Percentage of All Innovators Introducing Product and Process Innovation

		Goods, high-knowledge	Goods, low-knowledge	Services, high-knowledge	Services, low-knowledge
		% of firms			
Processes	mean	51	52	76	72
	standard error	5	13	6	9
Products	mean	88	71	49	77
	standard error	4	12	9	13

Figure 23
Importance of Technology and R&D Strategies

		Goods, high-knowledge	Goods, low-knowledge	Services, high-knowledge	Services, low-knowledge
		Average score			
Developing new/refining existing technology	mean	3.04	2.06	1.36	1.69
	standard error	0.12	0.21	0.17	0.23
Purchasing others' technology	mean	1.79	1.83	1.29	1.30
	standard error	0.11	0.21	0.18	0.21
R&D capabilities	mean	2.25	1.28	0.86	0.95
	standard error	0.12	0.22	0.18	0.18
Intellectual property rights	mean	1.83	1.19	0.76	1.00
	standard error	0.11	0.24	0.15	0.19

Differences Across Faster- and Slower-growing Successful Entrants

Significance of the difference between faster and slower growing firms: * difference is statistically significant at the 10% level
** difference is statistically significant at the 5% level

Figure 24
Differences in the Perceived Importance of Product Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Price	mean	4.03	3.80	-1.34
	standard error	0.10	0.14	
Flexibility in responding to customer needs	mean	4.10	4.35	2.08 **
	standard error	0.09	0.08	
Quality	mean	4.41	4.56	1.50
	standard error	0.08	0.06	
Customer service	mean	4.28	4.58	1.97 **
	standard error	0.13	0.08	
Customization of products	mean	2.31	2.63	1.41
	standard error	0.17	0.15	
Offering a wide range of related products	mean	2.49	2.80	1.41
	standard error	0.15	0.16	
Frequently introducing new/improved products	mean	2.06	2.44	1.73 *
	standard error	0.15	0.16	

Figure 25
Differences in the Perceived Importance of Marketing Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Targeting new domestic markets	mean	2.56	2.83	1.09
	standard error	0.16	0.19	
Targeting new foreign markets	mean	1.05	1.58	2.49 **
	standard error	0.14	0.16	
Improving position in existing markets	mean	3.02	3.70	3.03 **
	standard error	0.19	0.12	
Satisfying existing customers	mean	4.37	4.51	1.24
	standard error	0.08	0.08	
Promoting company or product reputation	mean	3.21	3.91	3.24 **
	standard error	0.18	0.12	
Using third-party distributors	mean	0.99	1.49	2.91 **
	standard error	0.10	0.14	

Figure 26
Percentage Differences in the Perceived Importance of Production Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Improving efficiency of input use	mean	2.35	2.88	1.97 **
	standard error	0.18	0.20	
Reducing production times	mean	1.93	2.42	1.82 *
	standard error	0.18	0.20	
Using computer-controlled processes	mean	1.43	1.94	2.14 **
	standard error	0.13	0.20	
Using high-quality suppliers	mean	2.81	3.26	1.72 *
	standard error	0.19	0.18	

Figure 27
Differences in the Proportion of Firms Investing and Innovating Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		% of firms		
Investing in R&D / innovation	mean	9	15	1.66 *
	standard error	2	3	
Investing in technology	mean	29	38	1.59
	standard error	4	4	
Innovating	mean	16	30	2.80 **
	standard error	3	4	

Figure 28
Differences in the Perceived Importance of Management Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Continuous quality improvement	mean	3.73	3.82	0.64
	standard error	0.10	0.10	
Using information technology	mean	2.70	3.16	2.32 **
	standard error	0.15	0.13	
Delegating decision making	mean	2.55	2.87	1.51
	standard error	0.15	0.15	
Consensus decision making	mean	2.68	2.89	0.96
	standard error	0.16	0.15	

Figure 29
Differences in the Perceived Importance of Financing Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Finding/maintaining capital	mean	3.13	3.07	-0.26
	standard error	0.16	0.17	
Financial management	mean	4.08	4.08	0.00
	standard error	0.09	0.12	
Flexibility in meeting unforeseen circumstances	mean	3.61	3.90	2.04 **
	standard error	0.11	0.09	

Figure 30
Differences in the Perceived Importance of Human Resource Strategies Between Faster- and Slower-growing Firms

		Growth		
		Slower	Faster	t-test for difference in mean
		Average score		
Training	mean	3.15	3.41	1.27
	standard error	0.14	0.15	
Recruiting skilled employees	mean	2.96	3.54	3.04 **
	standard error	0.14	0.13	
Providing incentive compensation plans	mean	2.08	2.58	2.21 **
	standard error	0.16	0.16	

Figure 31
Differences Between the Average Scores of Faster- and Slower-growing Firms

		Goods, high-knowledge			Goods, low-knowledge			Services, high-knowledge			Services, low-knowledge		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		Average score			Average score			Average score			Average score		
Management	mean	3.08	3.57	3.85 **	3.07	3.04	-0.12	2.88	3.17	1.27	2.82	3.25	1.90 *
	standard error	0.09	0.09		0.17	0.19		0.14	0.18		0.17	0.15	
Technical resources	mean	2.12	2.34	1.24	1.58	1.60	0.07	0.98	1.21	1.00	1.03	1.40	1.11
	standard error	0.13	0.12		0.27	0.11		0.19	0.13		0.22	0.25	
Human resources	mean	3.08	3.51	2.39 **	2.63	2.91	0.74	2.63	3.10	1.77 *	2.86	3.25	1.27
	standard error	0.15	0.10		0.36	0.12		0.15	0.22		0.24	0.19	
Financing	mean	3.53	3.53	0.00	3.62	3.64	0.09	3.50	3.53	0.13	3.66	3.87	0.95
	standard error	0.11	0.13		0.17	0.13		0.15	0.17		0.18	0.13	
Marketing	mean	3.02	3.35	2.74 **	2.73	2.77	0.10	2.45	2.87	2.47 **	2.48	3.14	2.53 **
	standard error	0.09	0.08		0.29	0.30		0.08	0.15		0.22	0.14	
Production	mean	3.09	3.44	1.97 **	2.65	3.17	3.33 **	1.98	2.44	1.36	2.02	2.59	1.52
	standard error	0.11	0.14		0.12	0.10		0.19	0.28		0.27	0.26	
Product	mean	3.59	3.83	1.66 *	2.87	3.13	0.78	3.39	3.55	1.13	3.51	3.72	1.29
	standard error	0.12	0.08		0.23	0.24		0.09	0.11		0.12	0.11	

Figure 32
Differences in the Proportion of Firms Innovating and Training Between Faster- and Slower-growing Firms

		Goods, high-knowledge			Goods, low-knowledge			Services, high-knowledge			Services, low-knowledge		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of firms			% of firms			% of firms			% of firms		
Innovating	mean	30	50	3.12 **	26	36	0.83	15	30	1.74 *	12	27	1.74 *
	standard error	4	5		9	8		5	7		5	7	
Training	mean	51	68	2.65 **	36	53	1.41	42	59	1.84 *	50	63	0.66
	standard error	5	4		9	8		6	7		8	7	

Figure 33
Percentage Differences in Proportion of Firms Using Criteria to Assess Performance Between Faster- and Slower-growing Firms

Internal assessment		Goods, high-knowledge			Goods, low-knowledge			Services, high-knowledge			Services, low-knowledge		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of firms			% of firms			% of firms			% of firms		
Income-related criteria	mean	74	78	0.71	60	87	2.93 **	73	75	0.23	74	75	0.10
	standard error	4	4		9	2		5	7		7	7	
Cash flow	mean	51	52	0.14	39	50	0.91	48	52	0.43	39	56	1.72 *
	standard error	5	5		9	8		6	7		7	7	
Financial ratios	mean	42	50	1.13	37	52	1.25	39	36	-0.33	38	47	0.98
	standard error	5	5		9	8		6	7		6	7	
Cost of goods sold	mean	47	51	0.62	21	50	3.39 **	30	26	-0.40	30	40	1.08
	standard error	5	4		3	8		7	7		6	7	
Total value of the company	mean	38	31	-0.97	34	36	-0.17	30	37	0.76	25	41	1.62
	standard error	6	4		9	8		6	7		7	7	
Market share	mean	26	33	0.99	19	23	0.50	17	33	1.70 *	20	22	0.28
	standard error	5	5		7	4		5	8		5	5	
Operating criteria	mean	69	71	0.28	46	65	1.58	37	52	1.63	37	47	1.01
	standard error	5	5		9	8		6	7		7	7	

Figure 34
Differences in the Perceived Importance of Product Strategies Between Faster- and Slower-growing Firms

Product Strategies		New Markets			Mature Markets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		Average score			Average score		
Price	mean	4.14	3.31	-2.61 **	3.99	4.03	0.22
	standard error	0.13	0.29		0.13	0.13	
Flexibility in responding to customer needs	mean	4.24	4.30	0.30	4.04	4.37	2.20 **
	standard error	0.10	0.17		0.12	0.09	
Quality	mean	4.46	4.73	2.01 **	4.36	4.51	1.15
	standard error	0.12	0.06		0.11	0.07	
Customer service	mean	4.23	4.61	1.01	4.26	4.62	2.68 **
	standard error	0.34	0.16		0.12	0.06	
Customization of products	mean	2.43	3.19	1.72 *	2.18	2.44	0.99
	standard error	0.37	0.24		0.17	0.20	
Offering a wide range of related products	mean	2.83	2.95	0.31	2.33	2.75	1.60
	standard error	0.27	0.27		0.18	0.19	
Introducing new/improved products	mean	1.81	2.79	2.51 **	2.15	2.30	0.56
	standard error	0.25	0.30		0.18	0.20	

Figure 35
Differences in the Perceived Importance of Production Strategies Between Faster- and Slower-growing Firms

Production Strategy		New Markets			Mature Markets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		Average score			Average score		
Improving efficiency of input use	mean	2.52	2.99	1.01	2.31	2.79	1.47
	standard error	0.31	0.35		0.22	0.24	
Reducing production times	mean	2.72	2.55	-0.34	1.57	2.37	2.74 **
	standard error	0.32	0.39		0.18	0.23	
Using computer-controlled processes	mean	1.51	2.07	1.22	1.39	1.88	1.73 *
	standard error	0.27	0.37		0.15	0.24	
Using high-quality suppliers	mean	3.24	3.49	0.57	2.63	3.15	1.67 *
	standard error	0.27	0.35		0.23	0.21	

Figure 36
Differences in the Perceived Importance of Marketing Strategies Between Faster- and Slower-growing Firms

Marketing Strategies		New Markets			Mature Markets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		Average score			Average score		
Targeting new domestic markets	mean	2.97	2.99	0.05	2.33	2.80	1.62
	standard error	0.25	0.36		0.19	0.22	
Targeting new foreign markets	mean	1.68	1.90	0.45	0.75	1.45	3.46 **
	standard error	0.35	0.34		0.11	0.17	
Improving position in existing markets	mean	3.16	3.93	1.90 *	2.94	3.61	2.49 **
	standard error	0.34	0.22		0.23	0.14	
Satisfying existing customers	mean	4.33	4.61	1.32	4.36	4.50	1.15
	standard error	0.14	0.16		0.10	0.07	
Promoting company or product reputation	mean	3.44	4.19	1.94 *	3.14	3.73	2.23 **
	standard error	0.33	0.20		0.21	0.16	
Using third-party distributors	mean	1.17	1.13	-0.14	0.90	1.68	3.61 **
	standard error	0.23	0.16		0.12	0.18	

Figure 37
Differences in Activities Between Faster- and Slower-growing Firms

Activity		New Markets			Mature Markets		
		Slower growers	Faster growers	t-test for difference in mean	Slower growers	Faster growers	t-test for difference in mean
		% of firms			% of firms		
Process innovators	mean	17	20	0.33	8	21	2.23 **
	standard error	6	7		3	5	
Product innovators	mean	14	25	1.72 *	8	18	2.24 **
	standard error	4	5		2	4	
Training	mean	51	65	1.24	42	59	2.40 **
	standard error	8	8		5	5	
Investing in R&D	mean	9	16	1.94 *	8	14	1.20
	standard error	2	3		3	4	
Investing	mean	54	66	1.06	69	72	0.47
	standard error	8	8		4	5	

Figure 38
Contrasting Innovators and Non-innovators' Perceptions Regarding Their Industry

	Non-innovators	Innovators
	% of firms that agree	
Consumers cannot easily subsitute	17.16	15.34
Products quickly become obsolete	19.90	35.83
Competitors are unpredictable	37.99	50.55
Competitors can easily substitute among suppliers	51.87	51.37
Demand is unpredictable	39.87	52.12
Technology changes rapidly	40.86	57.12
Liquidation value below purchase cost	57.98	59.29
New entrants are a constant threat	60.89	61.58

Figure 39
Intensity of Competition in the Industry

		Non-innovators	Innovators	t-test for difference in mean
		Average score		
Frequently introducing new/improved products	mean	2.09	2.57	1.73 *
	standard error	0.12	0.25	
Offering range of related products	mean	2.79	2.96	0.70
	standard error	0.12	0.21	
Customization of products	mean	2.19	3.04	4.20 **
	standard error	0.11	0.17	
Flexibility in responding to customer needs	mean	3.66	3.49	-0.93
	standard error	0.09	0.16	
Customer service	mean	3.89	3.53	-1.78 *
	standard error	0.07	0.19	
Quality	mean	3.70	3.67	-0.20
	standard error	0.10	0.11	
Price	mean	4.06	3.93	-0.76
	standard error	0.10	0.14	

Figure 40
Contrasting the Importance of Various Business Strategies to Innovators and Non-innovators

		Non-innovators	Innovators	t-test for difference in mean
		Average score		
Technical resource	mean	0.96	2.25	5.22 **
	standard error	0.09	0.23	
Production	mean	2.20	2.92	2.68 **
	standard error	0.12	0.24	
Marketing	mean	2.61	3.25	3.97 **
	standard error	0.08	0.14	
Management	mean	2.88	3.61	5.37 **
	standard error	0.08	0.11	
Human resource	mean	2.81	3.38	2.77 **
	standard error	0.10	0.18	
Product-based	mean	3.42	3.72	2.24 **
	standard error	0.06	0.12	
Financing	mean	3.61	3.76	1.08
	standard error	0.07	0.12	

Figure 41
Percentage of Innovators and Non-innovators Investing, Training, Planning and Exporting

		Non-innovators	Innovators	t-test for difference in mean
		% of firms		
Written business plan	mean	16	29	2.23 **
	standard error	3	5	
Written financial plan	mean	14	35	3.32 **
	standard error	2	6	
Export	mean	9	23	2.60 **
	standard error	2	5	
Train	mean	45	78	5.83 **
	standard error	4	4	
Invest	mean	62	85	4.07 **
	standard error	4	4	

Figure 42
Percentage of Firms Assessing Various Performance Criteria

		Non-innovators	Innovators	t-test for difference in mean
		% of firms		
Income-related criteria	mean	71	84	2.60 **
	standard error	3	4	
Financial ratios	mean	37	54	2.53 **
	standard error	3	6	
Cash flow	mean	44	63	2.97 **
	standard error	4	5	
Cost of goods sold	mean	31	40	1.18
	standard error	3	7	
Total value of company	mean	29	49	2.98 **
	standard error	3	6	
Market share	mean	18	37	2.83 **
	standard error	3	6	
Operating criteria (performance, meeting quality standards, meeting delivery dates)	mean	40	62	3.28 **
	standard error	3	6	

Statistics Canada

Survey of Operating and Financing Practices

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Si vous préférez recevoir ce questionnaire en français, veuillez cocher la case et retourner le questionnaire dans l'enveloppe affranchie ci-jointe. ☐

NOTE: A product is a good or service

This document should be completed by the person responsible for the daily operations of the firm

About yourself - the manager

A1 How many years have you worked for this firm?

Check one only

○ 0 to 2 ○ 3 to 5 ○ 6 to 9 ○ 10+

A2 How many years have you worked in this industry?

Check one only

○ 0 to 2 ○ 3 to 5 ○ 6 to 9 ○ 10+

A3 How many years have you worked as a manager?
Including this firm and other organizations that you have worked for.

Check one only

○ 0 to 2 ○ 3 to 5 ○ 6 to 9 ○ 10+

A4 Do you, or any of the other managers, have any ownership in this firm?

○ Yes ○ No

If no, skip to B1

A5 How did the managers acquire that ownership?

Check all that apply

- ○ Started the business themselves
- ○ Inherited/bought it from a family member
- ○ Bought it from a non-family member
- ○ Team start-up/joint venture
- ○ Purchased/acquired shares as employees
- ○ Other (specify):

A6 How many years has the firm been under the present ownership control?

Check one only

○ 0 to 2 ○ 3 to 5 ○ 6 to 9 ○ 10+

A7 Does the management own more than 50% of this firm?

○ Yes ○ No

Competitive Environment

B1 How many firms does your firm compete with?
If your firm serves more than one product market, please provide an average across product markets. A competitor is a firm that could offer similar products to your customer(s).

Check one only

○ None ○ 5 to 19 ○ 100+
○ 1 to 4 ○ 20 to 99 ○ Don't know

Competitive Environment (Continued)

B2 For the **industry** in which your firm operates, how strongly do you agree or disagree with each of the following statements?

	Disagree 1	2	Neutral 3	4	Agree 5	Does not apply
Products quickly become obsolete	○	○	○	○	○	○
Production technology changes rapidly	○	○	○	○	○	○
Liquidation value of machinery and equipment is well below purchase cost	○	○	○	○	○	○
Consumer demand is easy to predict	○	○	○	○	○	○
Consumers can easily substitute among competing products	○	○	○	○	○	○
Competitors' actions are easy to predict	○	○	○	○	○	○
Competitors can easily substitute among suppliers	○	○	○	○	○	○
The arrival of new competitors is a constant threat	○	○	○	○	○	○

B3 For the **industry** in which your firm operates, rate the intensity of competition among firms in the following areas.

	Competition low 1	2	3	4	high 5	Does not apply
Price	○	○	○	○	○	○
Flexibility in responding to customer needs	○	○	○	○	○	○
Quality	○	○	○	○	○	○
Customer service	○	○	○	○	○	○
Customization of products	○	○	○	○	○	○
Offering a wide range of related products	○	○	○	○	○	○
Frequently introducing new/improved products	○	○	○	○	○	○

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SURVEY OF OPERATING AND FINANCING PRACTICES

Competitive strategies

C1 Does your firm currently have a written business plan?
In addition to financial data and forecasts, a written business plan typically includes objectives of the firm, its business strategies, marketing and sales plans, product development plans, and human resources plans.

○ Yes ○ No

↓ **If no, skip to C3**

C2 How often has the business plan been revised or updated in the last five years?

Check one only

- ○ more frequently than semi-annually
- ○ semi-annually
- ○ annually
- ○ bi-annually
- ○ less frequently than bi-annually
- ○ never

C3 Which of the following criteria does your firm use to assess its performance?

Check all that apply

Financial Measures

- ○ Achievement of operating break-even point
- ○ Revenue growth
- ○ Net income growth
- ○ Cash flow
- ○ Debt/equity ratio
- ○ Return on assets ratio
- ○ Return on sales ratio
- ○ Return on equity
- ○ Return on Research & Development (R&D) ratio
- ○ Cost of goods sold
- ○ Total value of company
- ○ Other (specify) _____

Non-financial Measures

- ○ Market share
- ○ Operating performance (down time, etc.)
- ○ Meeting quality standards
- ○ Meeting delivery dates
- ○ Other (specify) _____

C4 Rate the importance of each of the following factors to **your firm's competitive strategy.**

	Importance low 1 2 3 4 5 high	Does not apply
Price	○ ○ ○ ○ ○	○
Flexibility in responding to customer needs	○ ○ ○ ○ ○	○
Quality	○ ○ ○ ○ ○	○
Customer service	○ ○ ○ ○ ○	○
Customization of products	○ ○ ○ ○ ○	○
Offering a wide range of related products	○ ○ ○ ○ ○	○
Frequently introducing new/improved products	○ ○ ○ ○ ○	○

C5 Rate the importance of each of the following factors to the ongoing success of **your firm.**

	Importance low 1 2 3 4 5 high	Does not apply
Management		
Continuous quality improvement	○ ○ ○ ○ ○	○
Using information technology	○ ○ ○ ○ ○	○
Delegating decision making	○ ○ ○ ○ ○	○
Consensus decision making	○ ○ ○ ○ ○	○
Technology & R&D		
Developing new/refining existing technology	○ ○ ○ ○ ○	○
Purchasing others' technology	○ ○ ○ ○ ○	○
R&D capabilities	○ ○ ○ ○ ○	○
Protecting products/ processes with intellectual property rights (patents, trademarks, etc.)	○ ○ ○ ○ ○	○
Human Resources		
Training	○ ○ ○ ○ ○	○
Recruiting skilled employees	○ ○ ○ ○ ○	○
Providing incentive compensation plans	○ ○ ○ ○ ○	○
Financing		
Finding/maintaining capital	○ ○ ○ ○ ○	○
Financial management (costs, cash flow)	○ ○ ○ ○ ○	○
Flexibility in meeting unforeseen circumstances	○ ○ ○ ○ ○	○
Marketing		
Targeting new domestic markets	○ ○ ○ ○ ○	○
Targeting new foreign markets	○ ○ ○ ○ ○	○
Improving position in existing markets	○ ○ ○ ○ ○	○
Satisfying existing customers	○ ○ ○ ○ ○	○
Promoting company or product reputation	○ ○ ○ ○ ○	○
Using third party distributers	○ ○ ○ ○ ○	○
Production		
Improving efficiency of input (materials or services) use	○ ○ ○ ○ ○	○
Reducing production times	○ ○ ○ ○ ○	○
Using computer controlled processes	○ ○ ○ ○ ○	○
Using high quality suppliers	○ ○ ○ ○ ○	○

SURVEY OF OPERATING AND FINANCING PRACTICES

Competitive Strategies(continued)

C6 Over the past 5 years, how have your firm's capabilities changed in the following areas?

	Change: Weakened 1	2	3	4	Improved 5	Does not apply
Management	○	○	○	○	○	○
Financing (accessing and cost management)	○	○	○	○	○	○
Human resource planning and development	○	○	○	○	○	○
Production	○	○	○	○	○	○
Technological	○	○	○	○	○	○
Innovation	○	○	○	○	○	○
Marketing	○	○	○	○	○	○
Customer service	○	○	○	○	○	○
Supplier relations	○	○	○	○	○	○

Innovation

D1 During the 1992 to 1994 period, did your firm introduce any innovations?

An innovation is the introduction of a new or improved product or process. Exclude aesthetic changes that do not change the technical construction or performance of the product.

○ Yes ○ No

If no, skip to E1

D2 How many of these innovations were...

	Number of innovations
... entirely new products?*	
... modifications of existing products?	
... entirely new processes?	
... modifications of existing processes?	

** An innovation may be reported as both **product** and **process***

D3 For how many of these innovations does your firm have an intellectual property right? (e.g. patents, trade secrets, etc.)

_____ number of innovations

Investment

E1 For the fiscal year ending in 1994, indicate your firm's gross investment expenditures in each of the following areas.

Report either percentages or dollar values

	Percent of investment	OR	Investment dollars
R&D/innovation for products or processes	%	$	
Technology acquisition and licencing (incl. computer hardware and software)	%	$	
Market development	%	$	
Training	%	$	
Machinery and equipment (incl. capital leases)	%	$	
Land and buildings	%	$	
Upgrades to existing land, machinery or equipment	%	$	
Acquiring other businesses	%	$	
Other (specify): _____	%	$	
TOTAL 100	%	$	

Workers

F1 Currently, how many persons work for your firm?

Include full and part-time employees and contract persons.

Check one only

○ 1 to 9 ○ 25 to 49 ○ 100 to 199
○ 10 to 24 ○ 50 to 99 ○ 200+

F2 Did your firm give any of its workers formal training in 1994?

Including on-the-job and off-the-job training.

○ Yes ○ No

Revenues

G1 What were your firm's total revenues for the fiscal year ending in 1994?

$ _____ .00

G2 In the fiscal year ending in 1994, what percentage of total revenues were generated by sales outside Canada ?

_____ %

G3 What was the highest percentage of total revenues accounted for by a single customer in the fiscal year ending in 1994?

A single customer is a purchaser -- either a person or a firm.

Check one only

○ 0% to 4% ○ 10% to 24% ○ 50% to 89%
○ 5% to 9% ○ 25% to 49% ○ 90% to 100%

G4 What percentage of total revenues came from repeat customers in the fiscal year ending in 1994?

A repeat customer is a customer that has purchased your firm's product at least once before.

Check one only

○ 0% to 4% ○ 10% to 24% ○ 50% to 89%
○ 5% to 9% ○ 25% to 49% ○ 90% to 100%

G5 Over the next two years, how much do you expect revenue to grow **annually?**

Check one only

○ 0% or decline ○ 5% to 9% ○ 15% to 24%
○ 1% to 4% ○ 10% to 14% ○ 25% +

G6 Which of the following best describes the market for your firm's primary product?

The primary product is the one that accounts for the greatest proportion of revenue.

Check one only

○ *Introductory*	*Product demand just starting to grow, but product unknown to many potential users*
○ *Growth*	*Product demand growing; product becoming familiar to many potential users*
○ *Maturity*	*Product demand growth slowing; product familiar to most potential users*
○ *Post-maturity*	*No growth in product demand; few potential new users*

SURVEY OF OPERATING AND FINANCING PRACTICES

Financing

H1 Does your firm have a written financial plan?

○ Yes ○ No

If no, skip to H4

H2 Does the plan include ...

... historical financial data?	○ Yes	○ No
... financial budget for the current year?	○ Yes	○ No
... financial forecast beyond the current year?	○ Yes	○ No

H3 Is the financial plan reviewed by...

... a board of directors with outside members?	○ Yes	○ No
... an independent certified financial adviser?	○ Yes	○ No
... employees of the firm?	○ Yes	○ No
... others outside the firm?	○ Yes	○ No

H4 Indicate how frequently the following **forecasts** are updated for your firm.

	Not up-dated	Forecasts updated at least monthly	quarterly	annually
Income statement	○	○	○	○
Balance sheet	○	○	○	○
Cash flow statement	○	○	○	○
Capital expenditures	○	○	○	○

H5 For the 1994 fiscal year end, provide the breakdown of your firm's debt, equity, and other types of financing.

Report either percentages or dollar values

	Percent		OR	Dollars
Retained earnings		%	$	
Share capital		%	$	
Trade credit		%	$	
Convertible debentures		%	$	
Contract financing (advance payments or loans from customers)		%	$	
Short-term secured loans		%	$	
Short-term unsecured loans		%	$	
Long-term secured loans		%	$	
Long-term unsecured loans		%	$	
Investment tax credits		%	$	
Grants		%	$	
Other (specify):		%	$	
TOTAL	100	%	$	

H6 How much of your firm's debt, equity and other types of financing came from each of the following sources, as of the fiscal year ending in 1994?

Report either percentages or dollar values

	Percent		OR	Dollar values
Retained earnings		%	$	
Owner managers		%	$	
Suppliers		%	$	
Customers (loans or advance payments)		%	$	
Related firms		%	$	
Banks & trust companies		%	$	
Joint ventures, strategic alliances		%	$	
Venture capitalists, merchant banks, capital groups		%	$	
Pension funds & insurance companies		%	$	
Employees		%	$	
Private investors (silent partners)		%	$	
Governments		%	$	
Public market		%	$	
Others		%	$	
TOTAL	100	%	$	

H7 What performace conditions were attached to the provision of any of your firm's external financing?

○ No external financing

○ No performance conditions attached

Mark all that apply

Financial Measures

- ○ Achievement of operating break-even point
- ○ Revenue growth
- ○ Net income growth
- ○ Cash flow
- ○ Debt/equity ratio
- ○ Return on assets ratio
- ○ Return on sales ratio
- ○ Return on equity
- ○ Return on Research & Development ratio
- ○ Cost of goods sold
- ○ Total value of company
- ○ Other (specify)

Non-financial Measures

- ○ Market share
- ○ Operating performance (down time, etc.)
- ○ Meeting quality standards
- ○ Meeting delivery dates
- ○ Other (specify)

SURVEY OF OPERATING AND FINANCING PRACTICES

Financing (continued)

H8 For the 1994 fiscal year, indicate how your firm financed each of the following.

Check all methods used to finance the following **Use of funds**	Did not devote funds to this category	Types of funds: Retained earnings	Share capital	Trade credit	Contract financing	Line of credit	Short-term secured loans	Short-term unsecured loans	Long-term secured loans	Long-term unsecured loans	Convertible debentures	Investment tax credits	Grants	Other
R&D innovation of products or processes	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Technology acquisition and licencing (incl. computer hardware and software)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Market development	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Training	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Machinery and equipment (including capital leases)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Land & buildings	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Upgrades to existing land, machinery or equipment	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Acquisition of other businesses	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Working capital	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Financial cushion for uncertainties	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Debt reduction	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Other uses of funds	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Thank you for your co-operation

Please mail the completed form in the return envelope today (postage paid)

Do you wish to receive a complimentary copy of a report summarizing the results of this survey? ○ Yes ○ No

Are you the person responsible for the day-to-day operations of the firm? ○ Yes ○ No

If you have any comments regarding this survey, please provide them in the space below.

Do not hesitate to contact the regional office if you have any concerns or questions.

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Notes

[1] Indeed, these entrants have survived well beyond the expected life of an entrant. If it is assumed that the distribution of survival times follows a Weibull distribution, a least squares regression analysis of non-parametric survivor function estimates can be used to estimate the median survival time of any group of firms. The estimated median survival time, using the Longitudinal Employment Analysis Program (LEAP) database, is about 3 years.

[2] It is important to note that the information contained in this document is with reference to the managers' perceptions in 1996. It is possible that the firm pursued quite different strategies in its earlier years. Nevertheless, there are several reasons for presuming that a firm's strategies broadly reflect those that have been in effect since the firm's inception. First, management has typically not changed since birth. Second, evidence suggests firms tend to make few changes after birth (Wynarczyk, et al., 1993). Third, a cohort of entrants gradually improves not so much because new firms that start with lower levels of productivity learn, but because the least efficient are culled out (Baldwin and Rafiquzzaman, 1995). This suggests that most firms adopt a particular combination of strategies and that the market then signals which combination is correct.

Of course, without longitudinal studies, it is difficult to confirm the extent to which firms modify strategies and competencies over time. The approach adopted here has been to take snapshots at different points in time–right after birth when failure occurs, at early adolescence and later in life. As the highlights indicate, there are some similarities in the strategies found to be associated with success in the three studies–but also some differences.

[3] See Statistics Canada (1988) for a description of the database. Many similar studies of entry and exit have not been able to accurately identify births and deaths of firms. The LEAP database has been specifically designed to minimize this problem. Specifically, LEAP is constructed to track firms over time, despite mergers and name changes.

[4] The higher entry rates prevalent in the smaller size class may be due in larger part to the relative ease of entry for smaller firms. This may contribute to the greater rate of exit of smaller firms which is also reviewed in this section. It may be that the relative ease of entry beckons the entry of firms that are less prepared, or it may be that the exit is also less costly, making it efficient for firms to both enter and exit more frequently. Previous work (Baldwin 1995) suggests that the former hypothesis, that the ease of entry beckons the entry of less efficient firms, plays at least a part. He finds that entrants are typically less efficient than incumbent firms, particularly smaller entrants.

[5] See Statistics Canada (1988) for a description of the database. The database was subset to include just the commercial sector—that is, government, education and health are not part of the universe examined.

[6] A similar method has been used by Lee and Has (1996).

[7] See Baldwin (1995) for a study that shows the intensity of competition, as measured by market-share turnover, is not closely related to concentration.

[8] It is sometimes argued that the interpretation of breakdowns such as these are particularly difficult for relatively new firms. Retained earnings typically account for a large proportion of a firm's total capitalization. The younger the firm is, the less time it has had to build up retained earnings. Therefore, if there are certain financial structures that are appropriate to certain firm sizes or industries, the financial structure of new firms will be less strongly related to their size and industry than is the case for more mature firms. This problem is not expected to be too serious for the group of firms studied here, as the financial statements pertain to 1994 when all firms in the group were between 8 and 11 years old. These firms are likely to have been able to adopt a financial structure that is necessary for firms of that size and industrial location.

Another problem may be that most of these firms are owner-managed, and there is evidence that the financial structure of owner-managed firms is sometimes affected by personal finances that may not be captured in the financial statements used in this survey (Shailer 1993). For example, the financing for owner-managed firms sometimes comes from personal finances, and this may not be accurately represented in the business' financial statements. Alternatively, some firm debt may have been incurred for personal reasons and incorrectly included in the business' financial statements.

Readers should note that the term "external sources" that is used here is derived from the list of financing sources. In general, all sources other than retained earnings, owners, and employees are deemed to be external. However, the firms themselves may not consider some of the other sources to be "external financiers". Hence, some of the firms with external sources of financing may have indicated on the question concerning "performance conditions attached to external financing" that they had no external financing, even if they had some financing from sources deemed to be external.

[9] In the body of this report, a significant difference is one where the difference is statistically significant at the 10% level (although many of the differences are significant at the 5% level).

[10] Note that, despite the fact that 52% said they train, only 32% reported investment expenditures for training. The investment figures likely underestimate the extent to which successful entrants engage in training for two reasons. First not all expenditures may be considered an investment. Secondly, firms generally report having great difficulty in calculating their training expenditures. The firm typically has a record of its other investment expenditures, as it would receive an invoice for any such expenditure. The problem with training expenditures essentially lies in the fact that firms do not know what to include in the estimates. Should they include the salary of people being trained or internal trainers for whom training is not a regular activity? How do firms record investments in on-the-job training where useful outputs are generated from the training? To resolve the problem, a simple question requiring the manager to indicate if the firm had trained any of its employees was included.

[11] Firm revenues are adjusted for inflation using industry price indices.

[12] The lack of statistical significance here is in part due to the fact that many firms rely on single types of financing. Hence, the variance of the mean estimates is quite high. Nevertheless, this analysis is included because the consistency of these findings is suggestive of meaningful differences.

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