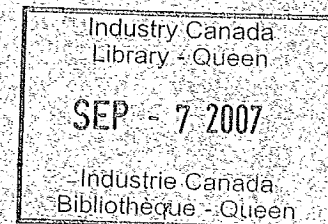


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Management Competencies and SME Performance Criteria: A Pilot Study

Submitted to the
Small Business Policy Branch, Industry Canada

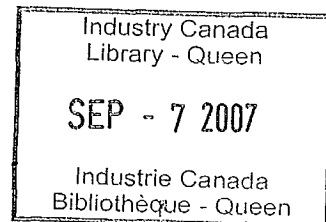


Prepared by
Dr. Barbara Orser and Dr. Allan Riding
Equinox Management Consultants Ltd.

December 2003

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Executive Summary

This pilot study reports on two relatively unexplored aspects of firm performance: the roles of management competencies and owners' perceptions about success. The research is a pilot test of a Management Competency Index, a diagnostic tool that seeks to measure the nature and diversity of managerial skills and knowledge of owners of small- and medium-sized enterprises (SMEs). The specific research objectives are:

- to measure the extent to which a sample of Western Canadian business owners have undertaken a series of specific managerial tasks;
- to investigate the associations between management competencies and owners' success criteria, growth intentions, growth strategies, and management experience; and,
- to investigate the relationships of these items to attributes of the firms and the owners of the firms.

This is the first empirical study that explores linkages among business owners' management skills, perceptions of success, and firm performance while also controlling for moderating variables including growth intention, age of owner, sector, age of firm, gender of owner and previous participation in business-related training. At the same time, this is also a pilot study, one that relies on a sample that is not fully representative of the population of Canadian SMEs. The report points the way to future, confirmatory research and identifies potential future directions in that respect.

Methodology

The sample frame employed in this work was drawn from previous research conducted on behalf of the Women's Enterprise Initiative (WEI) Research Committee in 2002 (Orser and Riding, 2002). This sampling frame comprised 1,002 respondents to the 2002 WEI survey and was drawn from commercial databases. The original WEI telephone survey was conducted during winter of 2002. For this work, the 1,002 respondents to the WEI survey were surveyed again, in June 2003. A total of 326 telephone surveys were completed representing a 46.2% response rate of eligible respondents and a 32.6 percent response rate from among the sampling frame.

Owners' Growth Intentions

Forty-two percent of the 326 respondents reported that they were seeking expansion of their firms during the next two years. The balance reported that they did not

intend to expand. Overall, owners' views appear stationary across the 1999-2002 survey periods. Growth intention was also associated with subsequent firm growth. Firms whose owners had voiced an intention to expand in the Winter 2002 WEI survey displayed substantially higher levels of revenue growth than did firms whose owners had not sought growth.

Success Criteria

In general, business owners identify customer relations, maintaining personal relationships, and product or service quality as the most important success attributes. Financial criteria such as profitability and income generation are not as highly rated. Hence, commercial (versus personal) performance criteria appear to predominate as owners' success criteria.

Significant differences were observed between employers and non-employer businesses: employers were relatively more concerned with generating income, profitability and operating performance than non-employers. These differences are reflected in the importance of both commercial (e.g., the firm's operating performance) as well as personal (e.g., personal goods acquisition) outcomes.

Further investigation found that "success" appears to be a multi-dimensional concept that reflects four underlying dimensions or factors:

- *market acceptance*, outcomes that are inherently extrinsic to the business owner and commercial in nature.
- *self-fulfillment*, intangible aspects of success that include criteria such as spiritual well-being, and pursuit of intellectual activities.
- *personal welfare*, factors that embrace criteria that are personal and largely extrinsic to the business owners.
- *financial performance* such as personal goods acquisition, profitability, generating income, and the firm's operating performance.

While different business owners rank different dimensions as primary, each of these dimensions holds some degree of importance to all business owners. That is, for all owners, success is comprised of all four of these dimensions but these are weighted differently from business owner to business owners. These results suggest that small business training programs must address issues related to owners' personal welfare. It is not sufficient to focus exclusively on commercial and technical aspects of small business management, as many training initiatives do.

Management Competencies

To investigate the role and importance of management competencies, two categories of information were sought on the survey:

- *Depth of experience* was measured by the number of years of business management experience in the current firm and by the total years of management experience;

- *Breadth of experience* was measured by owners' self-ratings of their abilities and experience on each of 25 activities that are typically undertaken by SME owners (e.g., small business management, small business regulation, project management, on-line communication).

On average, respondents brought 2 decades (19.4 years) of total experience to their firms of which, on average, 13.5 years was within their current firms. Male respondents brought significantly more years of management experience than their female counterparts (21.5 years versus 14.8 years, respectively). On average, male respondents had 14.8 years of current firm experience compared to female respondents with 10.4 years of experience in the firm. Compared to male business owners, women also were found to have significantly lower self-ratings of competence with respect to sourcing capital and with analysing financial results, but report significantly greater competency with respect to promotion and advertising.

Employers had significantly more experience in small business and operations management, human resources (e.g., delegating, people management) and accessing industry information including using market research and adopting new technology. Non-employers believe they have more experience in personal career management.

The findings also reveal that a surprisingly high proportion of business owners consider management activities such as adopting new technology, electronic commerce, and using such external sources information as market research, financial analysis, and industry information as "not applicable". This finding should be of significant concern to policy makers given that firm growth and survival are consistently associated with innovation. Within the sample, a majority of non-employer business owners and one-third of employer firms perceive innovation-related activities (e.g., electronic commerce, adopting new technology, accessing industry information) as "not applicable" to their firms.

The above results indicate that many business owners appear to have different priorities and are comfortable operating in traditional ways. These results suggest that a key challenge to policy makers is to assist business owners gain a better understanding about how innovation, adoption of technology, and acquisition of technology-based skills are applicable to firm performance and longevity.

Growth Strategies

To investigate growth strategies, those respondents who had indicated their intention to expand the size or scope of the business were asked to rate the importance of each of a set of 14 strategic approaches to generating growth. Improving existing products and services, upgrading operations and adding a new product or service were ranked "most important". The majority of owners focus on domestic markets: the least important growth strategy of both employer and non-employer firms was "seeking new international markets". It is also interesting to note that "assistance from government agencies" was a low priority of the business owners.

Several statistically significant differences between employer and non-employer firms were noted. Non-employers rated seeking new domestic markets and expanding

advertising as significantly higher while respondents of employer firms view hiring new employees as an important growth strategy.

Further investigation of the underlying patterns in the growth strategies suggests three underlying growth alternatives:

- *upgrading of resources*, strategies that include seeking financing and professional advice, assistance from government agencies and programs, adding new equipment or operating space, upgrading operations, and hiring additional employees.
- *product development* including improving existing products or services, adding a new product or service, employing additional technology or computer systems, improving one's business management skills, and seeking new domestic markets.
- *market development* strategies such as seeking new international markets, selling over the Internet, and expanding advertising and promotion.

The strategy associated with the highest levels of revenue growth over the 4-year 1999 to 2002 period is upgrading resources (might be referred to as improving factors of production). The results suggest that among those business owners who intend to grow the business, most pursue multiple growth strategies because growth entails both physical improvements (e.g., equipment) and improvements in knowledge and skills.

From the perspective of national policy, the results also suggest a need to emphasize the importance of market development. In particular, exporting and selling on the Internet do not appear to be employed to their full potential. These activities might be further encouraged and supported as economic development opportunities.

Linking Performance and Managerial Competencies

The theoretical model that underlies this study posits that the success factors associated with business ownership are a composite of pecuniary and non-pecuniary factors and that firm performance reflects owner and firm attributes. Empirically, firm performance was indeed found to be a multi-dimensional concept. Therefore, a multivariate statistical framework was employed to examine the linkages among perceptions of success, management competency measures, and firm performance. The vector of dependent variables included owners' self-scored achievement with respect to market acceptance, self-fulfillment, personal welfare, and financial performance as well as the four-year change in annual revenues. Independent potential causal variables included various measures of depth and breadth of management competency. Control variables included "tombstone" data about firms (for example, age of owner, sectoral dummy variables, age of firm, gender of owner, and previous participation in business-related training), and the factor variable was owners' growth intentions.

The results confirmed that the two groups of firms (those whose owners seek growth, those whose owners do not seek growth) differ significantly in terms of their performance after taking into account the other independent variables. In particular, revenue growth is found to be significantly associated with intention to grow. The analysis indicates that the five dimensions of performance/success also differ

significantly across the growth intention factor and are related to specific management competencies.

- Success with respect to market acceptance has a statistically significant association with: general management skills; network management skills, and personal welfare management skills.
- Success with respect to self-fulfillment has a statistically significant association with: general management skills and network management skills.
- Success with respect to personal welfare has a statistically significant association with general management skills, network management skills, personal welfare management skills, and, intention to grow.
- Success with respect to financial performance has a statistically significant association with: general management skills, HR management skills, network management skills, and, personal welfare management skills.

Further analysis revealed that growth in revenues was significantly correlated with the diversity, or breadth, of management skills and with the owners' intentions to pursue growth. Revenue growth was inversely correlated with the importance owners accorded to the self-fulfillment success criterion. This makes sense if owners who prioritize intellectual activities, spiritual well being, maintaining professional autonomy and community relations are significantly less likely to grow their firms. No single specific management competency (e.g., financial competency, marketing, etc.) was found to be associated with growth. Rather, growth appears to be a consequence of the interaction of multiple management activities (and the diversity of management experience that results) as well as the owners' determination that their firms would grow.

Conclusions and Recommendations

The findings of this pilot study provide important new insights about the growth of Canadian small firms and the importance of the non-financial aspects of firm performance. These findings suggest that the primary factors driving firm growth are owner's growth intentions and diversity of managerial ability. Study recommendations include:

- the need to continue communicating to business owners the relevance of those management activities associated with innovation (e.g., electronic commerce, accessing industry information and adopting new technology).
- The relative lack of operations management experience among business owners suggests a need for skill development as this area of management is sometimes overlooked in training programs. These management activities are particularly important given the study finding that those business owners that emphasize the upgrading of resources (an operational strategy) benefit from the largest change in annual revenues over the 4-year study period.
- To develop further owners' finance skills and competencies, Industry Canada should continue to work with organizations such as The Canadian Bankers Association to develop training resources focused on finance skills and

competencies. Small business training advisors might also benefit from further training in this area.

- Women business owners may benefit from being made aware of the significant differences in management experience from their male counterparts. Hence, reporting about the importance of management competencies should include benchmarks to compare level of experience by gender.
- Training programs and funding that focus exclusively on innovation and technology, without consideration of the psychological aspects of firm ownership, negate important drivers of firm growth. For example, training programs could provide owners with opportunities to explore their motives of firm ownership and a better understanding of the consequences of not seeking growth (e.g., cost of capital, lower survivorship rates, lack of market acceptance). Such programs might usefully address the personal sacrifices that business owners perceive as being associated with firm growth.

Finally, the Management Competency Index employed in this study appears to be a reliable composite measure of the diversity of owner manager experience. However, the study is a pilot study and several limitations must be noted. First, the sample used here differs from the population of Canadian SMEs in the following respects:

- The firms in the sample have survived sufficiently long to be listed in commercial databases and are therefore somewhat more mature than average and relatively fewer young firms and start-ups are represented. Early-stage firms, therefore, are considerably under-represented. While this is to be expected, it also introduces an important sampling bias that must be recognized in interpreting the results of the work: early-stage businesses would form an important segment of the target audience for policy measures.
- The sectoral distribution is heavily weighted towards firms in the retail and wholesale sectors, reflecting the original intention of the sampling frame in the earlier WEI survey.

Second, the timeframe employed in this study was too short to measure reliably the linkages among the key variables and growth in employment. Changes in employment among the firms sampled were small across the four-year period employed. Changes in sales revenue was therefore used as a growth measure.

Third, the work did not consider other intermediate outcomes of managerial competencies such as the ability to secure financing. Future work might consider exploring managerial competencies and financing outcomes.

In view of these limitations, it would be premature to advance policy recommendations without further confirmatory analysis. Therefore, several recommendations are advanced in this regard. First, in any future work, the 25 variables used to assess managerial competencies should not be reduced to a smaller set. This recommendation reflects the finding that breadth, or diversity, of management experience appears to be a better indicator of firm performance than competencies within specific

areas of management. As a result, future large-scale surveys might be lengthy, especially where tombstone data also need to be collected.

Two potential directions for future work are advanced for the purposes of discussion. One approach is to investigate the linkages among the key variables identified here and other, alternative, performance outcomes. One possibility in this direction is to re-sample respondents to the Financial Data Initiative baseline surveys to investigate the extent to which management competencies are related to such outcomes as loan turn-downs or the ability to acquire venture capital. This approach has the advantage that the FDI has already collected tombstone data as well as information about financing outcomes. Potential validation might be obtained with relatively little incremental data collection.

A second approach is a large-scale survey. This approach requires particularly careful design of a survey instrument to ensure reasonable length and reliable coverage of business success outcomes.

In conclusion, the research team is confident that follow-up research built around these preliminary findings will substantially contribute to our understanding of, and ability to support, the growth of small businesses in Canada. The results of this unique research study provide evidence to suggest the need to focus further on the economic, social, and psychological aspects of firm ownership. As such it is hoped that this pilot study has provided useful guidance and direction.

**Management Competencies and SME
Performance Criteria: A Pilot Study**

Management Competencies and SME Performance Criteria: A Pilot Study

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Management Competencies and SME Performance Criteria: A Pilot Study¹

"Growth is essentially an evolutionary process and based on the cumulative growth of collective knowledge, in the context of a purposive firm."

Penrose (1995, p. xiii)

1 Introduction

In the small business context, what constitutes success, and how is success achieved? The answers depend on who one asks. To policy makers, the understanding that small businesses are responsible for a disproportionate amount of job generation has led to a focus on job-creating births and expansions of small firms. For example, Newton (2001, p. 1) suggests "... a central emphasis of Industry Canada's policy agenda is on strategy to encourage innovation as the engine of growth for productivity and competitiveness."² Business owners, however, may not define success in terms of the growth of their firm (Ray and Trupin, 1993, d'Arleux, 1998). According to the literature, business owners define success in different ways, ways that include gaining personal wealth, financial independence, or professional autonomy, etc. (Ray and Turpin, 1989; Orser, 1997). Given that success, or performance criteria, may hold significantly different meanings to different stakeholders, how does perceived success relate to firm performance and management ability? This study addresses this question.

It is widely believed that management ability is an essential ingredient to small firm growth. Nonetheless, there has been little theoretical or empirical research about the nature of management competencies. Therefore, this study was undertaken to investigate the associations among management competencies, perceived success, and firm performance. The research also provides an opportunity to pilot test the Management Competency Index, a tool that seeks to measure the diversity of managerial skills and knowledge of owners of small- and medium-sized enterprises (SMEs). The specific research objectives of this work are to:

- Measure the extent to which a sample of Western Canadian business owners have undertaken a series of specific managerial tasks;
- Investigate the associations between management competencies and:

¹ The authors wish to acknowledge the important contributions of the Women's Enterprise Initiative (Western Economic Diversification), Ginny Devine (Viewpoints Research Ltd.), Kelly Love (Equinox Management), Roland Thomas (Carleton University), Erwin Dreessen and Don Harrison (Small Business Policy Branch, Industry Canada) and Sara Filbee (Innovation and Information Products, Industry Canada). All errors and omissions are the responsibility of the authors.

² Newton (2001, pp. 1) also writes that the "...ultimate underlying concern is with innovation, higher productivity, enhanced competitiveness, growth and jobs in the small business sector of the economy, and that improved management skills are a critical factor in the achievement of these goals."

- the perceived relative importance to SME owners of a variety of success criteria.
- owners' growth intentions.
- owners' anticipated growth strategies.
- owner's years of industry and management experience.
- Investigate the relationships of these items to attributes of the firms and the owners of the firms, including age, gender, stage of firm, firm size, etc.

The information obtained from this study will help further inform policy makers about motives behind business ownership and the design of metrics to assess management abilities of SME owners. The research also provides insights about why some individuals seek firm growth while others do not. Another important outcome of the study is the development of a measure of success, a tool that employs multiple success indicators to better understand the association between perceptions of success and business decisions.³ Finally, training agencies that assist small business and other stakeholders can potentially use the Management Competency Index to help business owners understand how management skills and perceptions of success are linked to firm management and to help guide development of curricula and training.

This is the first known study that explores the interactions and linkages among management skills, perceptions of success, and firm performance. The report comprises eight sections.

1. The report begins with a brief review of relevant literatures. Studies pertaining to management competency and perceptions of success are highlighted.
2. The next section provides an overview of the study methodology.
3. A description of the survey population is then provided. This is followed by sections that present the empirical findings.
4. The report proceeds to outline the preliminary findings about business owners' success expectations.
5. The report then describes the management experience of business owners.
6. Growth strategies employed by SMEs are then reviewed.
7. The penultimate section reports the linkages among these elements by describing the associations among management competencies, success

³ Newton (2001, pp. 41) notes the need to develop "...some widely accepted standards of management competence. The reasons for raising this issue derives simply from the observation that, in examining both the demand and supply sides of the market for management skills one is struck, first, by the problems associated with defining the necessary skills and competencies on the demand side and, at the same time, by the bewildering welter of uncoordinated sources on the supply side. One might therefore argue that the establishment and maintenance of a widely-acceptable set of competence standards would be a first step towards some order, harmony and co-ordination [of services]". The pilot testing of the Management Competency Index is an important step in the development of a standardized diagnostic for policy makers, training agencies and other stakeholder groups.

criteria, and other influences on growth including owners' growth intentions, growth strategies, and salient attributes of the firms.

8. The report closes with study recommendations and next steps for future research.

2 Background Literature

Entrepreneurship theory argues that the business owner is central to the growth process and that firm performance reflects factors such as:

- exogenous influences (e.g., industry, economic climate, political ethos, region, tax structure);
- business profile (e.g., capitalization, stage of firm);
- management competencies (e.g., skills and experience);
- owner characteristics (e.g., gender, life-cycle, education, age);
- owner growth intentions (e.g., attitudes to growth, likelihood of acquiring requisite resources and availability of resources); and,
- operational decisions (e.g., risk discrimination, expansion strategy, new product development).

Figure 1 depicts the conceptual model that incorporates the hypothesised elements of firm growth. This model serves as a guide for the empirical work presented within this study.

This model is relevant to public policy because one of the means by which public policy can further job-creating SME growth is through the provision of training programs (e.g., “Steps to Growth” is one such initiative). For example, Ehrlich *et al.* (2001) suggest that entrepreneurial and small business training is intended to influence “...one’s likelihood of becoming an entrepreneur and sustaining the effort to initiate and grow a new venture”.

Hence, an understanding about the influence of management competencies and perceived success will further assist policy makers in the development of training and other public policy initiatives. This section of the report therefore provides a brief overview of current research about the study’s two primary topics – perceptions of success and management competency.

2.1 Management Competencies

Dyke and her colleagues (1992) and Orser (1997) suggest that management ability (as well as managerial experience) has two dimensions: *depth* and *breadth*. Depth generally refers to the number of years of management experience. A manager or owner might have many years of experience, but if that experience is narrow, he or she may be less able to manage a firm than someone with less, but more varied, experience or ability. Breadth of experience allows owners to deal with a broader range of situations and challenges than would a more narrowly defined expertise: to “swing with the punches”. Hence, this work measures both breadth and depth of management experience. First, however, it is useful to review the state of research that has already been undertaken on this topic, as well as some of the debates.

2.1.1 What is Management Competence?

There is debate within competency-based research about definitions of managerial (or entrepreneurial) ability, (content or domain) knowledge, experience, competence and skill. For example, in regards to the definition of competence, Jacobs and Pons (1994) define competence as “the ability to perform management functions effectively in a work related situation. Hines (1995) defines “competencies” as “outcomes rather than subject areas” and “skills in doing managerial things”. Boyatzis (1982) defines managerial competencies as characteristics differentiating superior from average and poor managerial performance. It is beyond the scope of this paper to focus on all managerial attributes defined in competency-based research. As such, the focus of this particular study is on functional experience.

2.1.2 The Role of Management Competency in Firm Performance

Research finds that owner experience is linked to skills and competencies associated with innovation, managerial decisions and practices, and ultimately enhanced firm performance (Aliouat et al., 1999; Baldwin, 1993; Cooper, 2001; Dyke et al., 1992; Freel, 1999; Watson Wyatt, 2000, among others). Newton (2001) reports that

“among various sources of firms’ innovation, ‘management is the most prominent’ [and that] small firms rely on management as the well-spring of their innovation to a greater extent than do large firms, which tend to exploit alternative sources.”

Similarly, Lefebvre and Lefebvre (2000) report that innovative capabilities of the management team (e.g., ability to undertake R&D, knowledge intensity and unique know-how) are strongly associated with export performance and firm growth.

Conversely, a lack of managerial skills is associated with firm failure and the (in)ability of business owners to innovate and acquire those resources requisite to growth (e.g., capital, skilled labour). In the Canadian context, Baldwin (1993) concludes that the main reason for Canadian business failure is inexperienced management. Similarly, Riding et al. (2001) document that the primary reason given by lenders for default of loans was poor management skills of borrowers. Mason and Harrison (2001) find that the vast majority of business investors believe that their ability to invest was limited by the quality of the opportunities they see; the two primary deficiencies are: (a) unrealistic assumptions or information that is not credible, and (b) the entrepreneur/management team lacked credibility. Cressy (1994) in his longitudinal study on survival (as opposed to performance) found similar results. He found that human capital (defined as maturity or age, work experience and vocational training) was the most significant variable to influence firm longevity.

It seems simple. Poor management leads to business failure; good management leads to firm success. To improve firm performance, improve owners’ competencies. However, it is not clear what core management skills and competencies lead to success.

2.1.3 Research Challenges

Understanding management competencies is not without challenges. Burgoyne (1989) qualifies the difficulties in identifying core management competencies. These include: measurability and divisibility of competencies; generalizing skills over different categories of manager; the changing nature of managing; accommodating different styles and strategies of managing; and how individual competence contributes to and integrates into collective or organizational competence. When managerial skills and competencies are reported, attributes (or criteria) are often presented as a growing list of personal attributes often beyond the ability of one individual. For example, Abraham, Karns, Shaw and Mena (2001) identify 23 competencies including: oral/written communication skills, customer focus, team work, interpersonal skills, dependability, proficiency in languages, problem solving, purposefulness, technical expertise, flexibility/adaptability, staff development, previous experience and working in a foreign country.

Finally, even when research consistently reports that management skills and competencies are associated with firm survival, innovation and subsequent performance, business owners often fail to attribute success (or failure) to their skills and (lack of) abilities. For example, Industry Canada's (2001) survey of micro-business owners asked respondents to indicate those factors perceived as "vitally important in determining whether or not your business succeeds". Only 6 in 10 (61%) indicated management skills and management skill was ranked well below "favourable market conditions", "the regulatory environment", "relationship with business partners", "planning" and "clear vision". An important challenge stemming from the literature is the need to develop and test a parsimonious diagnostic tool that might assist business owners (and other stakeholders) in assessing their levels of managerial experience, skills and competencies and the association of these to management practice and performance.

2.2 Perceptions of Success

2.2.1 Introduction

What constitutes "success" to the business owner? A review of research finds that "success" is often defined using financial criteria such as *revenue*, *employment*, *productivity*, *profit*, and *return on investment*.⁴ Financial performance indicators do not, however, consider the non-pecuniary outcomes that owners value in their decision-making (Orser, 2003). Hence, this research embraces several definitions of performance, outcomes that allow for factors such *community development*, *new employment opportunities*, and/or *market acceptance and quality of the firm's services and/or products*. Figure 2 presents a conceptual mapping of success criteria, one that suggests "success" can be categorized through four dimensions: *internal*; *external*; *personal* and *commercial* criteria. This conceptual perspective will also serve as a guide in evaluating the research findings.

⁴ For example, see Canadian work by Aliouat and Gasse (1999) and Newton (2001) as well as related international studies by Analoui (1995), Freel (1999), Abraham, Karns, Shaw and Mena (2001)

2.2.2 Review of Research: Perceptions of Success

Most researchers present an index of statements or categories of success. For example, Parker and Chusmir (1992) qualified six selected "life success dimensions": status/wealth; contribution to society; family relationships; personal fulfillment; professional fulfillment and security. Orser (1997) categorized perceptions of success as being associated with family, financial, mobility, personal, environmental and emotional outcomes. On the basis of these and other studies, it is seen that definitions of success reflect both external factors (e.g., historical period, nationality, sector, employment structure and organizational setting) and individual factors (e.g., life cycle or life stage, experience, education, occupation, employment level, wealth, and gender). Definitions also encompass personal (e.g., self-fulfillment, freedom and work flexibility) and commercial criteria (e.g., business growth, profit).

- *External Influences:* Ray and Trupin (1989) examined the impact of exogenous influences on perceptions of success in the context of small business ownerships. In their cross-national study of business owners they questioned owner/managers of small firms about how they judged success, major challenges to achieve success, and success expectations. According to these authors, the most important qualifiers of success among all national groups were commercializing a product that was accepted by customers and gaining control over one's life. The least important factor was "becoming rich". Furthermore, the researchers found that among the major challenges to overcome to achieve success, satisfying customers was the single most important. This was one of the few universal aspects of the entrepreneurial group. Diversifying business opportunities, coping with a management crisis, and reconciling professional and private lives were also found to be important.
- *Individual Influences:* Parket and Chusmir (1992) found that male and female managers differed significantly on two dimensions. Personal fulfillment and security were more important to women managers than to male managers. Among non-managers, no gender differences in the value of security, professional fulfillment, and social contribution were found; however, women were more likely to value personal fulfillment and importance of family relationship more than men. Men valued status/wealth higher than women. Women managers viewed status/health and professional fulfillment as more important than non-managerial women.

Schein (1975) defined professionals' perceptions of success as career values that include factors related to: autonomy/independence; security/stability; technical-functional competence; general managerial competence; entrepreneurial activity; service or dedication to a cause; pure challenge and lifestyle. Similarly, Slipowitz (1992) in a study of professional women's concepts of success, reports on the interface between personal, family, and entrepreneurs' social environments. Success was seen as a process rather than a final outcome.

Related research also indicates that it is important to avoid stereotypical assumptions about perceptions of success and that measures of perceived success may not be associated with professional performance measures. For example, Lee-Gosselin and Grise (1990, p. 428) asked women entrepreneurs "What does it mean for you to be

successful in your business?" Three types of success criteria were identified. The primary criterion related to financial aspects of the firm (e.g., increased revenues; profits; and, earning income). Success was also defined in terms of the owner/managers' environment (e.g., people have confidence in the company, being visible and known in the community). Few respondents linked success to themselves (i.e. having control of their own business or market). The authors noted that these results were "...especially interesting given that half of the respondents talked about staying in business because they find opportunities to create and actualize themselves, all criteria reflecting very personal motives".

When Lee-Gosselin and Grise (1990) asked respondents to rate the level of success of the company and their personal success, the majority of these women considered both the firm (96%) and themselves (94%) to be successful. The authors then matched these high rates with the very modest financial performance of the respondent firms. This led the authors to conclude that female owners had particularly modest financial expectations (i.e., salaries would not be acceptable if working for someone else). Finally, these studies suggest definitions of success may be transitory – evolving over time – gender sensitive, and include pecuniary and non-pecuniary outcomes.

2.3 Linkages: Perceptions of Success, Management Competencies, Strategy, and Performance

What factors are associated with business growth? Mathews (1995) lists the following attributes he believes are common to firms with growth potential:

- "Innovation-led culture with ongoing product development strategy and well defined market opportunities...
- A balanced managerial team in place at an early stage of the business's development...
- Long-term plans and well-defined objectives and business strategy set out at an early stage of the business's life...
- Commitment to growth, high levels of motivation and ambition on the part of the owners/management team...
- Extensive use of external information and advisory services, and a willingness to take advice and help from a wide variety of sources...
- Willingness to relinquish equity and control in the business in order to achieve objectives, and
- An appropriate marketing strategy that is commensurate with rapid growth, including the targeting of high-growth export markets and a business that operates in growth market sectors."

This review of the literature suggests that this study may be among the first to examine empirically interactions among perceptions of success, management competencies, business strategy and other intervening variables (e.g., growth intentions, age of owner, stage of firm, firm size) on firm performance.

Figure 1: Managerial Competency Index (Orser, 1997, 2000)

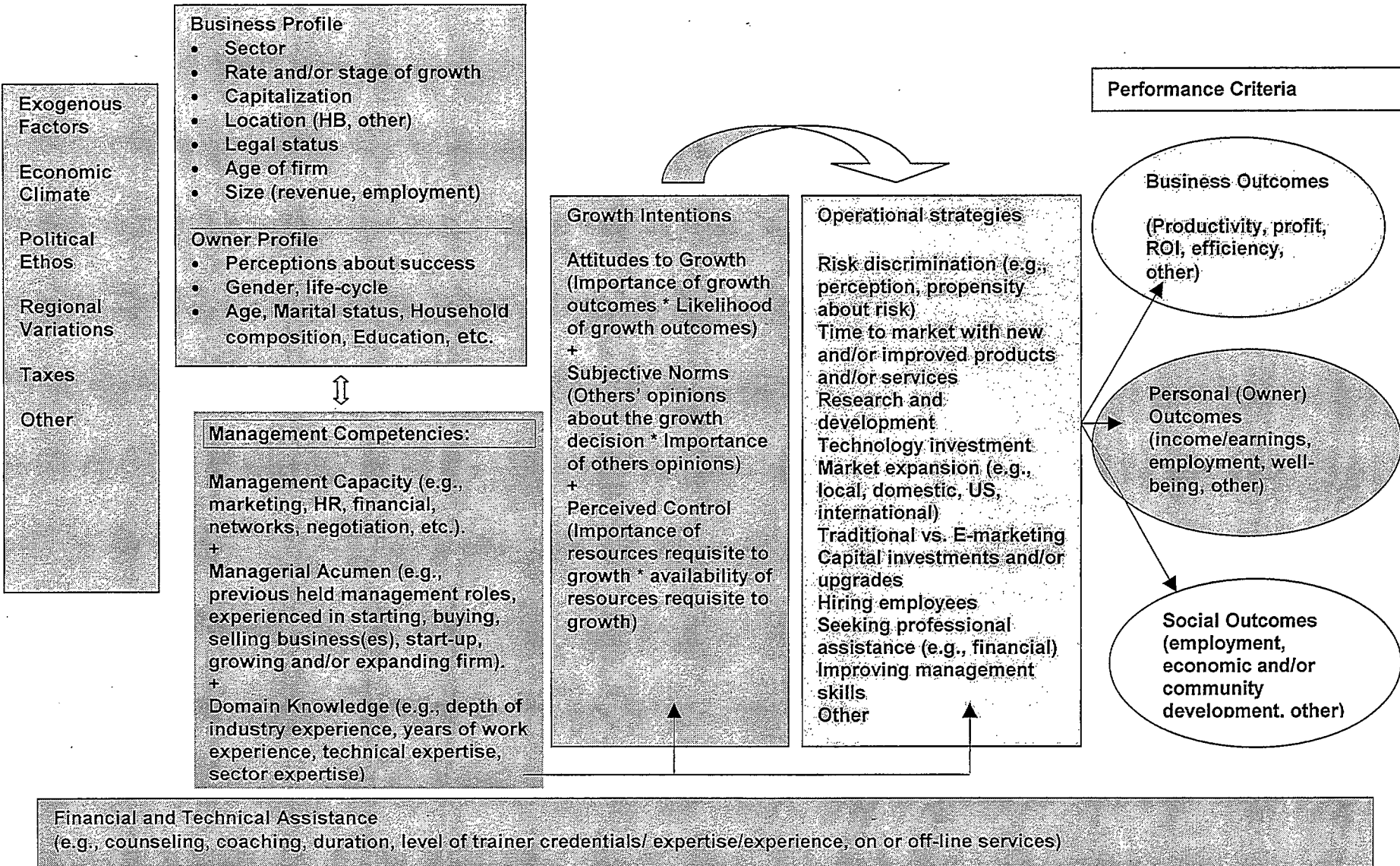
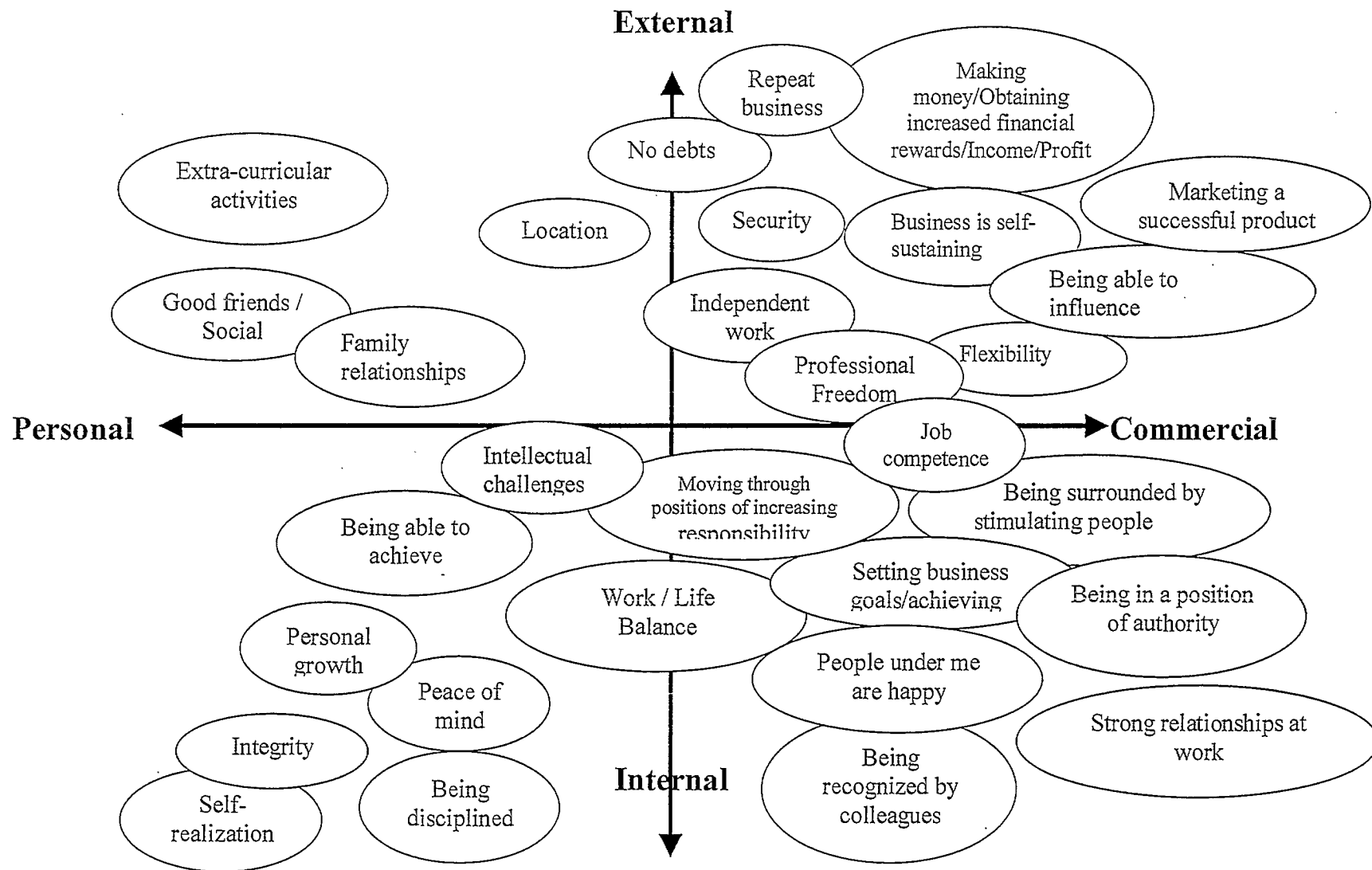


Figure 2: Conceptual Map of Owner Success Criteria (Orser and Dyke, 2000)



3 Research Methodology

3.1 Instrument Development

Development of the survey instrument was based on a number of related studies.

- **Management Competencies:** Development of those questions pertaining to management skills and competencies was undertaken through three separate studies (see Orser 1997, 2000, 2001). These studies investigated the validity of linking management competencies with firm performance.
- **Perceptions of Success:** Portions of the survey that investigate success criteria are drawn from studies conducted by Dyke and Murphy (1998), Orser et al. (1998), Orser (2000) and Dyke and Orser (2000). For example, Orser (2000) sought the opinions of female and male business owners regarding the question: "*How do you define success?*" Responses were examined using QSR NUD*IST software and coded accordingly. The success "nodes" that were created from the verbatim statements were then grouped and mapped on a four-point grid using tangible/external, intangible/internal, personal and professional points of reference.
- The project authority, the Women's Enterprise Initiative (WEI), and Western Economic Diversification provided additional input into the survey design for this report. The draft survey was field-tested in June 2003 and modified accordingly. The 2003 Industry Canada survey is contained in Appendix A.

3.2 Study Sampling Frame

The sample frame employed in this work was drawn from previous research conducted on behalf of the Women's Enterprise Initiative Research Committee (WEI) (Orser and Riding, 2002). This sampling frame arose from the need to assemble a control group of pseudo-randomly selected Western Canadian business owners to serve as a benchmark sample against which WEI participants could be compared. This sample comprised 1,002 respondents drawn from a commercial database.

This sampling frame of business owners was selected for several reasons. First, responses of the individuals within the 2001 WEI sample provide considerable baseline data. Table 1 lists the salient categories of data provided by the 2002 WEI survey.⁵ This allowed the use of a shorter questionnaire than would otherwise have been required. Use of the shorter questionnaire arguably improved the response rate. Second, the use of the 2002 WEI sample respondents as a sampling frame allows for quasi-longitudinal

⁵ The respondent database has been made available through an in-kind contribution of the four Women's Enterprise provincial agencies including Women's Enterprise Society of B.C., Alberta Women Enterprise Initiative, Manitoba Women Enterprise Centre and Women Entrepreneurs of Saskatchewan. A summary of the research methodology and survey employed in the 2002 WEI study is contained in Appendix B.

comparisons. This permits, for example, measures of revenue, employment and productivity changes over the interim period. Finally, because this is a pilot study, use of these data as a sampling frame allowed for the research to be conducted in a more cost effective way. The disadvantage is that the sample is not representative of the wider population of Canadian SMEs.

Table 1: Data Items: Women's Enterprise Impact Study

- Perceived value of SME training
- Respondent age, minority status, education
- Status of ownership
- Years of business management experience
- Years of experience in current business
- Growth intentions in next two years
- Barriers to firm growth
- Anticipated level of annual sales in next 2 years
- Obstacles to growth
- Anticipated strategies for growth
- Year firm was created
- Number of full-time and part-time employees
- Stage of firm
- Business revenues

3.3 Sampling Procedure

In June 2003, an introductory letter from the project authority was mailed to the 1,002 potential respondents that comprised the sampling frame for this work. The letter acknowledged respondents' earlier participation in the WEI predecessor study, identified the research objectives of the current work, and invited respondents to participate in a subsequent telephone follow-up survey. All respondents were promised confidentiality. A sample of this introductory letter is contained in Appendix C.

Pilot tests of the telephone survey were conducted during the first two weeks of June 2003. The telephone survey was then conducted in June and July 2003. Viewpoints Research Limited of Winnipeg, Manitoba conducted all telephone interviews. A total of 326 telephone surveys were completed representing a 46.2% response rate among eligible respondents or 32.6 percent response rate among the sampling frame (see Table 2 for sample response rates. Provincial breakdowns are presented in Appendix D).

The next section presents a statistical description of the sample and compares it to the corresponding attributes of the sampling frame. It outlines comparative analysis between the 2002 WEI sampling frame of 1,002 participants and the 2003 Industry Canada group of 326 respondents to investigate sample reliability.

**Table 2:
Sample Reponses Rate**

Sample Population	
Total Sample	1,002
Telephone no longer in service, unable to contact	234
No longer in business	60
Eligible respondents	707
Call Return	142
Refusal	223
Other	16
Completed surveys	326

3.4 Limitations

The primary limitation relates to the composition of the sample. Relatively large mature firms are over-represented, as are businesses in the retail sector. This bias was known at the outset and represents the trade-off of drawing on the WEI sampling frame. However, the work was designed as a pilot study to point the way to future research and the results will have to be interpreted with reference to the size and sectoral distribution of the sample data.

4 Description of Sample

This section outlines, for the purposes of providing a context for the findings, salient attributes of the sample of business owners that participated in this work.

4.1 Owner Attributes

The personal attributes of the business owners who responded to the two surveys are summarized in Table 3. Most of the respondent business owners are well educated. One in three (32.3 percent) have university or graduate education while one in four (24.5 percent) have some college experience. This finding reflects an educational trend that appears to be consistent among self-employed Canadians across the four Western provinces. For example, according to Chambers and Rylska (2001), one-half of self-employed individuals (of both genders) possessed "high levels of education" in 1999. It is also worth noting that, according to Chambers and Rylska (p. 99), "education has not been found as a significant factor in explaining why people choose to work for themselves."⁶

Approximately half of the business owners surveyed are less than 50 years of age with the majority falling into the 30 to 49 year age group. Only 2 percent of respondents are less than 30 years.

In addition to owners' age, education, and management experience several other salient demographic attributes were collected. Male business owners account for two-thirds of the sample (67.3 percent). Three-quarters of those surveyed created or participated in the creation of the business. Persons with disabilities account for 2.8 percent of respondents. Finally, aboriginal persons represent 3.1 percent of the sample while other visible minorities account for 4.7 percent of respondents. Other owner attributes are summarized in Table 3.

In general, the sample used here differs from the population of Canadian SMEs in the following respects.

1. The firms in the sample have survived sufficiently long to be listed in commercial databases and are therefore somewhat more mature than average and relatively fewer young firms and start-ups are represented. Early-stage firms, therefore, are considerably under-represented. While this is to be expected, it also introduces an important sampling bias that must be recognized in interpreting the results of the work: early-stage businesses

⁶ In his benchmark study of the determinants to business start-up longevity, Cressy (1994, p. 4) measured human capital by age of owner reasoning that: "*For small businesses the owners and managers are the same people. Maturity (proprietor age) brings wage and business experience, in the form of the acquisition of general 'human capital'. This enhances business skills and thereby the business survival changes (Bates, 1989; Cressy, 1994). Age also brings responsibilities (e.g., a family to support, a house mortgage to pay), which provide a moral and economic push to business continuation. Maturity also brings lower transfer earnings into wage employment (since wages are a function of tenure) 'locking in' the proprietor to his or her business (Cressy, 1992).*"

would form an important segment of the target audience for policy measures that might be based on these findings.

2. The sectoral distribution is weighted towards firms in the retail and wholesale sectors, reflecting the original intention of the sampling frame in the earlier WEI survey.

Table 3:
Owner Attributes

Attributes of Owners		Percent of Sampling Frame (2002; N=1002)	Percent of Current Sample (2003; N=326)
Age Category	Less than 30 years	2.6	2.1
	30 to 39 years	17.8	12.2
	40 to 49 years	32.1	33.0
	50 to 59 years	33.5	41.3
	More than 59 years	14.0	11.3
Persons with a disability		4.3	2.8
Aboriginal persons		3.8	3.1
Members of a visible minority?		5.9	4.7
Gender	Male	69.4	67.3
	Female	30.6	32.7
Education	Elementary school	1.8	1.8
	Some high school	15.3	9.8
	High school graduate	28.2	28.1
	Some college	9.2	8.3
	College graduate	14.2	16.2
	Some university	8.7	8.0
	University graduate	18.2	22.3
	Other (specify below)	4.4	5.5
Total Years of Experience	Less than 5	7.8	5.2
	5 to 9.9	14.3	12.2
	10 to 14.9	16.6	17.1
	15 to 19.9	15.0	15.0
	20 to 24.9	13.7	16.2
	More than 25	32.7	34.3
Owner created or participated in the creation of this business. ⁷		75.4	78.4
Owner also the manager of the business		96.9	97.2
Intention to expand the size or scope of the business		50.1	50.9

⁷ Again, we look to the work of Cressy (1994, pp. 6) who argues, "... *business purchases are more viable... for two reasons. Firstly, there is likely to be already an established clientele for the product/service ("goodwill"). This itself means a guaranteed initial demand for the product or service and obviates the problem of establishing/identifying one. Secondly, there is already an established network of suppliers for the business. These facts jointly imply less 'spade work' to be done by the new proprietor. To some extent the new proprietor has, simply by the fact of purchase, 'bought in' the business experience of his predecessor(s).* This argument may hold for overall firm performance and therefore will be considered in subsequent analysis.

Growth Intentions

To investigate owners' growth intentions, respondents were asked, "During the next two years, is it your intention to expand the size or scope of your business?" Approximately 40 percent (42.4 percent) of the business owners in the 2003 Industry Canada survey seek expansion. Conversely, nearly six in 10 business owners (57.6 percent) did not intend to expand during the next two years. In the 2002 WEI survey, the owners had been asked the same question.⁸ It is interesting to compare growth intentions of respondents over the interim between surveys, as shown in Table 4. Overall, owners' views appear reasonably stationary across the survey periods. Of those owners who had voiced an intention to expand on the WEI 2002 survey, 71.3 percent also articulated an intention to expand when asked in 2003; 85.2 percent of those who did not intend to expand as of 2002 are of like mind as of 2003.

Table 4:
Growth Intentions of Business Owners (WEI 2002 and Industry Canada 2003)

Intention to expand (2002 WEI Survey)		Intention to expand (2003 IC Survey)		
		Yes	No	Total
Yes		97 (71.3%)	39 (28.7%)	136
No		21 (14.8%)	121 (85.2%)	142
Total		118 (42.5%)	160 (57.5%)	278

*Includes only those respondents who answered this question in both surveys.

Table 5 presents a comparison, by sector, of changes in revenues from 1999 to 2002, for firms whose owners had expressed growth intentions with those of firms whose owners did not express growth intentions. It seems clear that revenues of firms whose owners sought growth generally grew (in both percentage and absolute terms) substantially more than those of firms whose owners who did not espouse growth. These findings are consistent with related research that finds that growth intention is highly associated with subsequent firm growth and that such decisions are somewhat stable over time (Orser, 1997).

Table 5:
Association Between Growth Intention and Annual Revenues

Sector	No Growth Intention (N=118)		Growth Intention (N=160)		Total Sample (N=278)	
	Increase in Revenues \$	Increase in Revenues %	Increase in Revenues \$	Increase in Revenues %	Increase in Revenues \$	Increase in Revenues %
Services	\$30,375	115.5	\$327,966	84.2	\$171,852	100.6
Retail	\$62,463	14.8	\$394,409	436.7	\$234,294	233.2
Goods	\$57,500	24.9	\$632,615	67.8	\$356,560	47.2
Other	-\$131,600	8.3	\$877,909	340.7	\$485,322	211.4
Total	\$35,889	50.6	\$461,299	271.0	\$254,221	163.7

⁸ By sector, growth was an objective for 48 percent of owners in the retail sector, 46 percent of owners of services firms, and 53 percent of owners of goods producers.

Finally, a Chi-square analysis of gender and intention to grow was conducted. The findings indicate no significant gender differences. This is in contrast to an earlier study by Orser (2002) that cite significant gender differences in the growth intentions of business owners. The differences may be related to the sample populations surveyed. In her earlier work, Orser (2002) employed a sample of relatively young businesses (e.g., obtained business registration within the last 3 years). In the current study, most business owners described themselves as mature firms.

4.2 Firm Attributes

Profiles of respondents' enterprises were also investigated, including: age of firm, firm size according to both revenues and number of employees, sector, and stage of development.

4.2.1 Sector Profile

The distribution of firms by sector is presented in Table 6. As noted previously, the sectoral breakdown is not representative of the population of SMEs as a whole: respondent firms are highly concentrated in the services and trade sectors, with relatively few establishments in the goods-producing sector. This was expected and reflects that the sampling frame was originally selected in the WEI survey to serve as a benchmark against which WEI participants could be compared.⁹

Table 6:
Sector Profile of Firms

Sector	Frequency	Percent of Sample
Wholesale	15	4.6
Retail	158	48.5
Professional Services ^a	34	10.4
Other Services ^b	57	17.5
Primary & Construction	5	1.5
Manufacturing	30	9.2
Other	27	8.3
Total	326	100

^a Includes professional, scientific and technical services, transportation, warehousing, couriers, information and cultural industries, real estate, rental and leasing, administrative support, waste management, remediation services, educational and health care assistance.

^b Includes arts, entertainment, recreation, accommodation and food services.

⁹ For example, Chambers and Rylska (2001) report that 55.3 percent of Western Canada SMEs are in the service sector, 12.3 percent are in the retail and wholesale trade sector, and 32.4 percent are in goods producing sectors. For self-employed individuals, this breakdown differs substantially by gender. For these smaller firms, 48.2 percent of men and 26.1 percent of women are in goods-producing sectors. Men comprise 51.8 percent of self-employed in the services sector whereas 73.9 percent of women business owners are in the services sector, with female self-employment being concentrated in retail trade (Chambers and Rylska, 2001, Ch. 3, p. 8).

4.2.2 Firm Size

Size of business was investigated using the number of employees and annual sales volume.¹⁰ The distribution of survey participants by employment size is illustrated in Table 7. In summary:

- 65 percent of the respondent firms employ 5 or fewer full-time equivalents (FTE);
- 28 percent of the firms employ 5 to 20 employees or FTEs; while
- 7 percent employ more than 20 FTEs.¹¹

Table 7:
Firm Attributes

Attributes of Firms		2002 Sample (n=1002)	2003 Sample (n=326)
FTE Categories	No Employees	18.5	20.7
	1 to 4.9 Employees	46.1	44.3
	5 to 19.9 Employees	28.2	27.6
	More than 20 FTE	7.3	7.4
Annual Revenues	<\$100,000	23.4	24.9
	\$100,000 to \$500,000	36.8	33.6
	500,000 to 1,000,000	15.2	17.0
	More than 1,000,000	24.6	24.5
Year firm founded	Pre 1994	71.1	74.0
	1995-1998	17.6	16.2
	1999-2000	7.9	8.0
	2001 or later	3.5	1.8

4.2.3 Firm Revenues

Respondents were asked to indicate, "For the most recent fiscal year, please tell me approximately what were the total revenues of the business?" Approximately one quarter (24.9 percent) of the firms surveyed earn less than \$100,000. Another 33.6 percent earn between \$100,000 and \$500,000. Another quarter of the respondents (24.5

¹⁰ Respondents were asked, "On average, excluding yourself, please tell me how many full time, part-time and contract employees worked for your business during 2002?" The number of full-time equivalent (FTE) employees was calculated two ways. The first calculation (FTE1) added one-half the number of part-time employees to the number of full-time employees. Because the 2002 survey did not ask for the number of contract workers, for consistency this estimate is used to determine employment change. A second calculation (FTE2) summated (a) the number of full-time employees; (b) 0.5 times number of part-time employee; and (c) 0.25 times number of contract employees. This estimate is used to summarize the current size of the sample firms.

¹¹ The proportion of firms with less than 5 employees is likely less than in the general SME population if one considers the profile of employer businesses and self-employed. For example, 35 percent of the firms in the sample used here reported more than five employees. Industry Canada (2003) reports that 42 percent of the 1.0 million Canadian business establishments (or employer firms) employ more than 5 people. This does not, however, take into account approximately 2.3 million self-employed individuals, 64 percent of which have no paid help.

percent) cited revenues of over \$1 million. Significant gender differences in firm revenue were noted. On average, male-owned firms cite revenue of \$1,214,000 compared to \$468,000 for female-owned business.

4.2.4 Stage of Development and Firm Age

Most business owners operate established businesses as over half (65.6 percent) indicate that their firms are at a *mature* stage of development.¹² Two in 10 firms (19.1 percent) indicate that they are “fast-growth” businesses; three percent are in the process of “winding down”.¹³ Table 7 presents a breakdown of the stage of development and firm age. As seen, the majority owners (74 percent) established their firms prior to 1994.

Table 8 presents the association between firm age and size. These results suggest that it would be incorrect to view non-employer firms as ‘embryonic’ employer firms: the vast majority (70 percent) of non-employers consider their businesses to be mature (compared to 63.7 percent of employer firms).

Table 8:
Association Between Firm Age and Size

	Non-Employer Firms	Employer Firms	Total
Year firm founded			
Pre 1994	71.6%	75.4%	74.2%
1995-1998	14.7%	16.5%	16.0%
1999-2000	13.7%	5.4%	8.0%
2001 or later		2.7%	1.8%
Stage of firm			
Start-up	1.4%	0.6%	0.8%
Growth	28.6%	35.7%	33.6%
Maturity	70.0%	63.7%	65.6%

4.3 Measuring Firm Performance

The two questionnaires employed in the study (that is, WEI, 2002; Industry Canada, 2003) were used to generate firm performance measures. Both surveys requested data on revenues and the number of employees of respondent firms at various points in time. These data allowed for the estimation of three sets of performance measures: revenue growth; employee growth; and, productivity estimation (where productivity is calculated as the ratio of sales per employee). These data are summarized in Table 9.

¹² Mature firms include businesses that are “winding down” and in “turnaround”. Growth firms include both “initial” and “fast-growth”.

¹³ In comparison, according to Chambers and Rylska (2001, Ch. 5, p. 4), the composition of Western SME’s is made up of 14 percent exits, 34 percent firms in decline, 37 percent growing firms, and 15 percent entries over the 1988-1997 period.

Table 9:
Performance Measures, by Employer Status of Firms

		Non-Employer Firms	Employer Firms
Revenues¹⁴ ((\$000))	Average Revenues in 1999	\$134.5	\$1,068.2
	Average Revenues in 2000	\$140.5	\$1,171.5
	Average Revenues in 2001	\$149.1	\$1,426.4
	Average Revenues in 2002	\$156.6	\$1,437.2
Number of Employees¹⁵	Average Employees in 2002	N/A	9.1
	Average Employees in 2003	N/A	9.5
Productivity ((\$000) ¹⁶)	Sales (2001) per 2002 Employee	\$115.7	\$173.5
	Sales (2002) per 2003 employee	\$156.6	\$172.5

4.3.1 Revenue Growth

The questionnaires provided firms' total revenues for each year from 1999 through 2002. Table 10 and Chart 1 record the distribution of one-year and four-year changes (in absolute terms) of the firms that comprised the sample used here. The table shows that one-year changes in revenues tended to be less extreme than changes over the four-year period. In addition, changes over a four-year horizon are arguably a better indicator of the role of management than changes over a shorter horizon, changes that may be more subject to the influence of random events. Hence, changes in firm revenue will be used in subsequent analysis.

¹⁴ For firms with no more than one employee, the standard errors of revenue estimates were approximately \$32,000; for firms with more than one employee, the standard errors of the revenue estimates were approximately \$200,000.

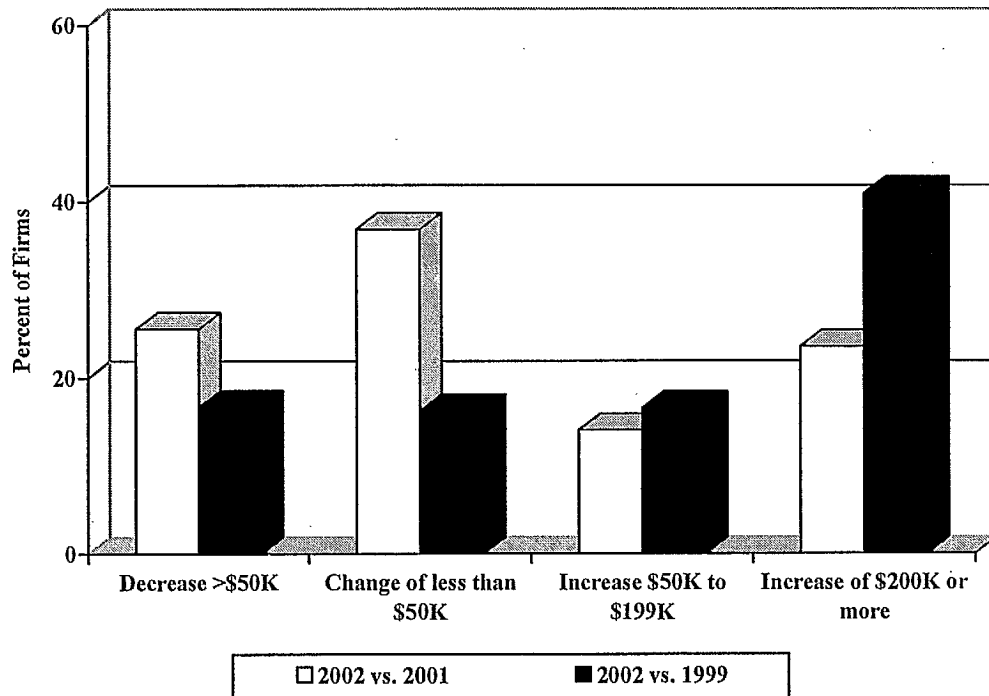
¹⁵ For firms with no more than one employee, the standard errors of employee estimates were approximately 0.2 employees; for firms with more than one employee, the standard errors of the employee estimates were approximately 0.95 employees.

¹⁶ Annual differences reflect the wording of the questions employed. For example, in 2003 respondents were asked to indicate: "On average, excluding yourself, please tell me how many full time, part time or contract employees worked for your business during 2002?" and "For the most recent fiscal year, please tell me approximately what were the total revenues of the business?" For firms with no more than one employee, the standard errors of productivity estimates were approximately \$30,000; for firms with more than one employee, the standard errors of the productivity estimates were approximately \$17,000.

Table 10:
Revenue Growth, by Non-employers and Employers

		Non-Employers		Employers	
		Change in Revenues		Change in Revenues:	
		2002 vs. 2001	2002 vs. 1999	2002 vs. 2001	2002 vs. 1999
Decreases	\$50K or more	10.9%	9.15	25.5%	16.7%
	Up to \$50K	29.1%	23.6%	7.4%	5.6%
No Change		20.0%	5.5%	18.8%	9.0%
Increases	\$1 to \$49K	23.6%	36.4%	10.7%	9.7%
	\$50K to \$99K	7.3%	14.5%	6.0%	8.3%
	\$100K to \$149K		3.6%	8.1%	8.3%
	\$150K to \$199K	1.8%	1.8%		1.4%
	\$200K to \$249K	1.8%		8.1%	6.3%
	\$250K or more	5.5%	5.5%	15.4%	34.7%

Chart 1:
Distributions of Revenue Growth (1999 to 2002)

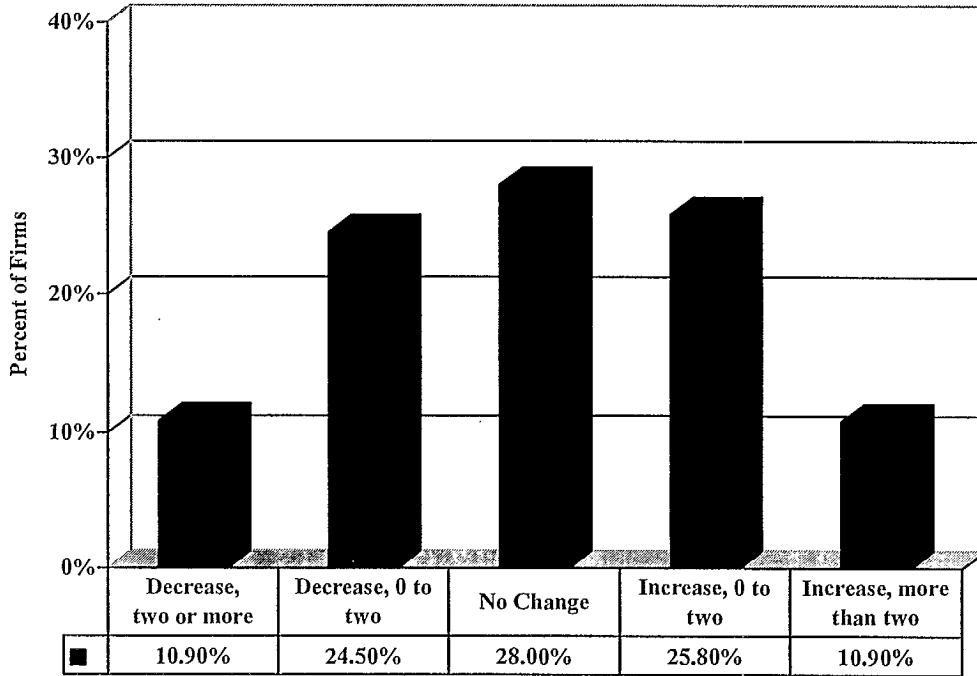


4.3.2 Employment Growth

Table 9, above, shows average employment in 2002 (based on the 2002 WEI survey) and in 2003 (based on the 2003 IC survey). This table documents the fact that little change in employment was observed for these firms during this one-year period.

This observation is reinforced in Chart 2, which shows that for the vast majority (more than 75 percent) of respondent firms, employment levels did not change by more than two employees during this interim.

Chart 2: Change in Number of Employees (1999 to 2002)



4.3.3 Productivity and Productivity Growth

Table 9 also shows productivity estimates based on the revenue and employment data discussed above. Given that employment data shows so little change over the one-year period, changes in productivity reflect changes in revenues. Taken together, it seems apparent that the most suitable measure of performance for the purposes of this work is the four-year change in revenues. This is a market-oriented measure (in keeping with objectives of most owners) and provides a reasonable measure of business expansion.

4.4 Summary

The data show that the sample used for this research differs from the Canadian population of SMEs in that firms tend to be somewhat older and larger and are relatively more highly concentrated in the retail sector.

Approximately 40 percent (42.4 percent) of the respondents reported that they were seeking expansion of their firms during the next two years. The balance, 57.6 percent, reported that they did not intend to expand. Overall, owners' views appear reasonably stationary across the survey periods. Of those owners who had voiced an intention to expand on the WEI 2002 survey, 71.3 percent also articulated an intention to expand when asked in June 2003; 85.2 percent of those who did not intend to expand as

of 2002 are of like mind as of June 2003. Growth intention was also associated with subsequent firm growth. Firms whose owners had voiced an intention to expand in the Winter 2002 WEI survey displayed substantially higher levels of revenue growth than did firms whose owners had not sought growth. These findings are consistent with related research that finds that growth intention is highly associated with subsequent firm growth and that such decisions are reasonably stable over time.

This section also found that measurement of growth is best expressed using sales growth over the 1999 to 2002 four-year period. Changes in employment tended to be small, with the vast majority of changes in the level of businesses' employment ranging from a loss of two jobs to a gain of two jobs. Accordingly, productivity changes were driven by changes in sales.

5 Owners' Perceptions of Success

5.1 Introduction

The preceding section of this report presented findings about business performance according to how policy makers and others traditionally define it, namely in financial terms and in terms of levels of employment. This section describes how the owners themselves define "success". For the purposes of this research, "perception of success" is a two-part concept that includes: (a) the relative importance of a variety of success criteria, and (b) the extent to which owners perceive that they have attained these success dimensions. This relationship can be viewed as a simple input-output model where the relative *importance* of various success criteria are *inputs* into individual actions while *success attainment* is the outcome or *output* of one's efforts.

5.2 Success Criteria

Accordingly, to investigate business owners' perceptions of success, respondents were asked two sets of related questions. In the first set of questions, respondents were asked to indicate the importance of each of 18 criteria that they might conceivably use to evaluate their business and personal activities. These criteria were used to understand potential influences that might motivate the business owners. For each of the 18 potential criteria, owners were asked:

"Please indicate the importance of each of the following [18] criteria, where 1=not important and 5=very important."

The 18 scales are listed in Table 11 and Chart 3 along with the average responses on each for employer firms, non-employer firms and in total. Table 11 lists in descending order, the average importance accorded each of the 18 success criteria by employers, non-employers and all respondents. In general, business owners identify customer relations, maintaining personal relationships, and product or service quality as the most important success attributes. Financial criteria such as profitability and income generation are not the most-highly rated individual scales. These findings suggest that commercial (versus personal) performance criteria predominate. It appears that success of the commercial operation is key to business owners' sense of accomplishment. This finding is consistent with a cross-national study about small business owners' perceptions of success. Ray and Trupin (1989, pp. 120) found that: *"The two most important factors for each of the national samples were commercialization of product that became well accepted by customers, and gaining control of one's life The least important factor in the U.S., Canadian and French samples, and the second least important factor for the Japanese sample, was becoming rich."*

Table 11 also reveals substantial differences between employers and non-employer businesses: employers are relatively more concerned with generating income, profitability and operating performance. These differences are again reflected in the importance of both commercial (e.g., the firm's operating performance) as well as

personal outcomes (e.g., personal goods acquisition). The significant difference observed with respect to investor relations is likely a manifestation of firm size.

Do perceptions of success differ by gender? The findings indicate that, in general, women rate *all* criteria more highly than men. These differences were also statistically significant.¹⁷ This is an interesting empirical finding. While the finding is consistent with research that has suggested gender differences in firm performance may be attributed to male and female differences in perceived success (Bellu, 1993; Lee-Gosselin and Grise, 1990), these data do not support the concept that women business owners of (primarily) mature firms value different aspects of business ownership. Perhaps women have a general tendency to rate the importance of success higher than men. Alternatively, women may perceive that they can “have it all” or feel the need to juggle all perceptions of success to appear successful. Hence, these results provide only a partial explanation about gender differences in firm performance.

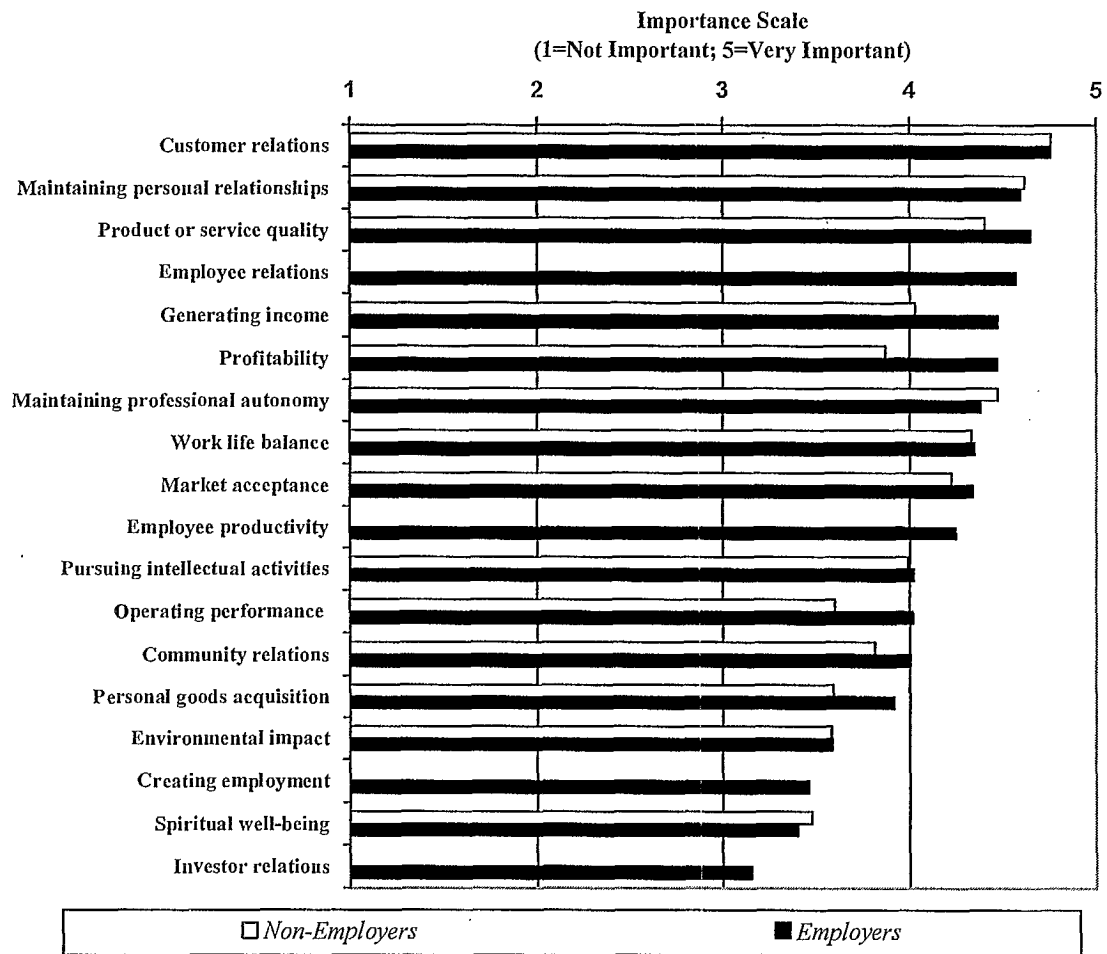
Table 11:
Average Score for Owners Success Criteria (1 to 5 scale)

Performance-criteria scales	Non-Employers	Employers	Total
Customer relations	4.75	4.75	4.75
Maintaining personal relationships	4.62	4.60	4.60
Product or service quality	4.40*	4.65*	4.57
Maintaining professional autonomy	4.47	4.38	4.41
Work life balance	4.33	4.35	4.34
Generating income	4.03***	4.47***	4.33
Market acceptance	4.22	4.34	4.30
Profitability	3.87***	4.47***	4.28
Pursuing intellectual activities	3.99	4.02	4.01
Employee relations	N/A	4.57	
Community relations	3.81	4.00	3.94
Operating performance	3.60**	4.02**	3.89
Personal goods acquisition	3.59*	3.91*	3.81
Employee productivity	N/A	4.25	
Environmental impact	3.58	3.58	3.58
Spiritual well-being	3.47	3.40	3.42
Creating employment	N/A	3.46	
Investor relations	2.51**	3.15**	2.95

*Difference between firm categories is statistically significant at $p < 0.05$. **Difference between firm categories is statistically significant at $p \leq 0.01$. ***Difference between firm categories is statistically significant at $p < 0.001$.

¹⁷ The only non-significant gender difference was for self-fulfillment for respondents from non-employer firms. In all other cases, differences across genders were statistically significant at the 5 percent level.

Chart 3:
Mean Score of Owners Success Criteria¹⁸



To explore further the nature of owners' success criteria, factor analysis using the method of principal components was applied to the 18 success criteria variables. A brief explanation of the technique is offered followed by the statistical findings.

Factor analysis is a statistical technique that attempts to identify a relatively small set of underlying dimensions (that are not necessarily directly measurable), or factors, that explain the pattern of correlations among a larger set of observed variables (for example, among the set of 18 variables employed here to investigate owners' perceptions of success). For example, if individuals who rate "maintaining personal relationships" highly also tend to rate "work/life balance" highly, both ratings may be a reflection of a single underlying factor that relates to the importance respondents place on family life in

¹⁸ Employee productivity, creating employment, employee relations, and investor relations by *non-employers* are not presented as most of these respondents indicated the criteria to be "not applicable".

general. Factor analysis seeks out such patterns of responses among the owners.¹⁹ Accordingly, factor analysis was applied to all respondents; however, the four scales that did not apply to very-small, non-employer firms, were not incorporated into the analysis.²⁰

The application of factor analysis, using the method of principal components with varimax rotation, to the remaining 14 scales led to the factor loadings presented in Table 12. The analysis uncovered four factors that explained a total of 56.7 percent of the variation among the 14 variables retained for the analysis. Table 12 lists the "loadings" of each scale on these four factors where the individual loadings may be conceptualized as the strength of the association between the scale and the underlying factor. Inspection of these results reveals the nature of the four factors.

1. The first factor incorporates five variables that correlate with the extent to which the business' products or services have gained external (especially product market) acceptance. This factor is inherently *extrinsic* to the business owner and *commercial* in nature and is termed here *market acceptance*.
2. The second factor is associated with intangible scales of spiritual well-being, pursuit of intellectual activities, etc. and is inherently *personal* and *intrinsic* to the business owner. The scales that most closely relate to this factor pertain to the owners' personal, inner, feelings. It is termed *self-fulfillment* for the purposes of this study and might alternately be termed *personal fulfillment*.
3. The third factor differs from the second in that, while it embraces variables that are *personal* to the business owners, the scales that most closely relate to it are aspects of the owners' environments and tend to be tangible rather than emotional. The variables are largely *extrinsic* to the respondent. It is termed *personal welfare* for the purposes of this work.
4. The final factor contains variables that are again *commercial* rather than personal and which are *intrinsic* with respect to the respondent. The variables that load highly on this factor all appear to reflect various elements of *financial performance*.

Analysing which responses across the 18 scales correlated with which other scales derived these four "factors". The principal components analysis, by construction, identifies factors that are mutually independent and hence do not correlate with each other. The particular scales that relate to a given "factor" are a consequence of the patterns of responses of the business owners.

The empirical results presented in Table 12 are highly consistent with the conceptual map proposed earlier (refer to Figure 2). Success appears to be multi-

¹⁹ Preliminary principal component analysis of the success criteria was conducted for employers and non-employers. The findings were general consistent between the two groups of respondents (see Appendix E). Label differences of the factors presented in Table 12 and Tables A-2 and A-3 in Appendix E reflect the authors' interpretations of the variable loading and weights for each factor solution.

²⁰ The four scales excluded from this analysis were those that measured the importance that respondents' accorded to employee productivity, creating employment, employee relations, and investor relations. This is because most owners of non-employer firms responded that these scales were "not applicable".

dimensional. For example, inspection of Table 11 reveals that, on average, owners view personal welfare (work-life balance, personal relationships, etc.) as being of greater importance than any of the other three dimensions of success, including financial performance.

What are the implications of these findings for business trainers and policy makers who seek to assist individuals in firm start-up and growth? For small business trainers, these results suggest that programs must address issues related to owners' personal welfare. It is not sufficient to focus exclusively on commercial and technical aspects of small business management, as many training initiatives do. A review of those scales that lie behind each of the factors provides a sense of some of the topics that ought to be addressed in training curricula. Business owners can be encouraged to refer to the typology of success criteria presented in Figure 3 to ensure that all dimensions of business ownership are considered in the planning of their firm.

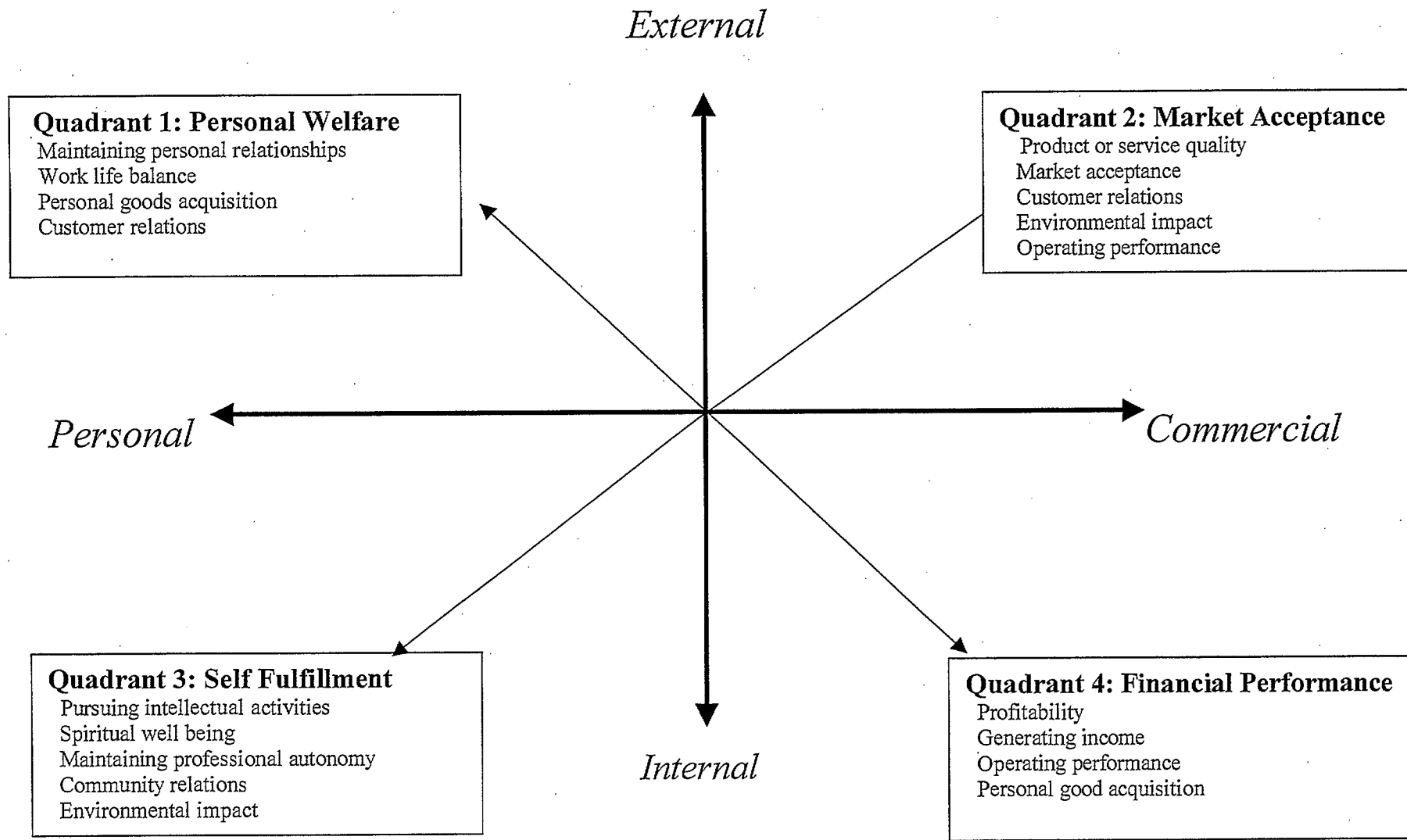
These findings also help to explain why a small minority of firms account for a disproportionate level of job creation.²¹ For policy makers, success is often defined in terms of firm growth. However, these results underline that growth is only one aspect of firm performance. These findings also emphasize the important of targeting policy initiatives. To the extent that public policy seeks job creation, it would seem that a "one size fits all" approach is an inefficient use of public resources. The results raise the question about how public policy measures can more effectively target the majority of firms whose owners are not committed to rapid growth.

Table 12:
Principal Components Analysis, Perceived Success Measures

	Market Acceptance	Self- Fulfillment	Personal Welfare	Financial Performance
Product or service quality	0.718			
Market acceptance	0.682			
Customer relations	0.591		0.446	
Environmental impact	0.516	0.490		
Pursuing intellectual activities		0.787		
Spiritual well-being		0.681		
Maintaining professional autonomy		0.518		
Community relations		0.421		
Maintaining personal relationships			0.803	
Work life balance			0.661	
Personal goods acquisition			0.492	0.466
Profitability				0.856
Generating income				0.599
Operating performance	0.433			0.561
Eigenvalues	4.152	1.453	1.294	1.041

²¹ For example, in the UK it is found that 50 percent of job creation by SMEs is accounted for by 4 percent of firms.

Figure 3: Empirical Map of Business Owner Success Criteria (Orser and Riding, 2003)



To further analyse the nature of these four factors, scales were calculated by taking the average importance ratings of the items that comprised each factor. For example, to obtain a measure of importance of the personal welfare factor, the four scales (or variables) that loaded on that factor (maintaining personal relationships, work-life balance, etc.) were averaged. Likewise scales for each of the other three factors were derived. Table 13 presents the average values of these scales broken down by gender of owner and by employer status of the businesses. These are also presented graphically in Chart 4.

Table 13:
Average Values of Factor by Gender and Employer Status

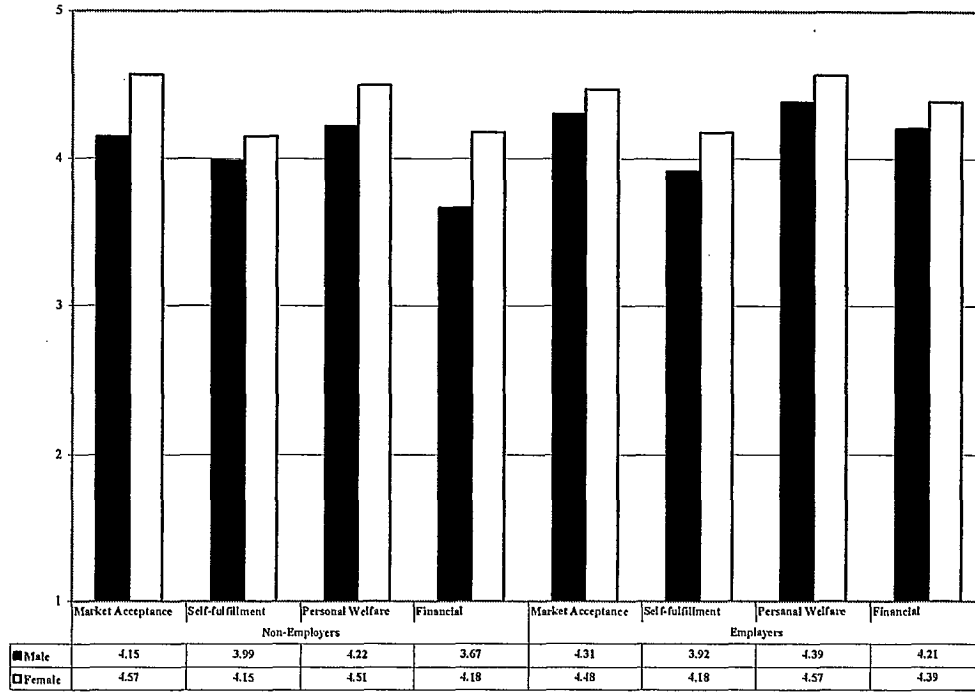
Firm Size Category	Gender	Market Acceptance	Self-Fulfillment	Personal Welfare	Financial Performance
Non-Employers	Male (N=59)	4.15	3.99	4.22	3.67
	Female (N=41)	4.57	4.15	4.51	4.18
	Total (N=100)	4.32	4.05	4.34	3.88
Employers	Male (N=160)	4.31	3.92	4.39	4.21
	Female (N=58)	4.48	4.18	4.57	4.39
	Total (N=218)	4.35	3.98	4.44	4.25
Total	Male (N=219)	4.27	3.93	4.35	4.08
	Female (N=99)	4.52	4.17	4.55	4.31
	Total (N=318)	4.34	4.00	4.41	4.15

What are the success priorities of Western business owners? For each respondent, the factor that he or she deemed the *most important* of the four (according to their highest of the four respective scores for each of the factor measures) was calculated. Chart 5 and Table 14 show the frequencies with which each of the four factors were identified as owners' primary success outcomes. For non-employer firms, owners' most frequently cited primary success outcomes were those that related to personal welfare. For employer firms, financial outcomes were more frequently identified as the predominant success criterion than for non-employer firms.

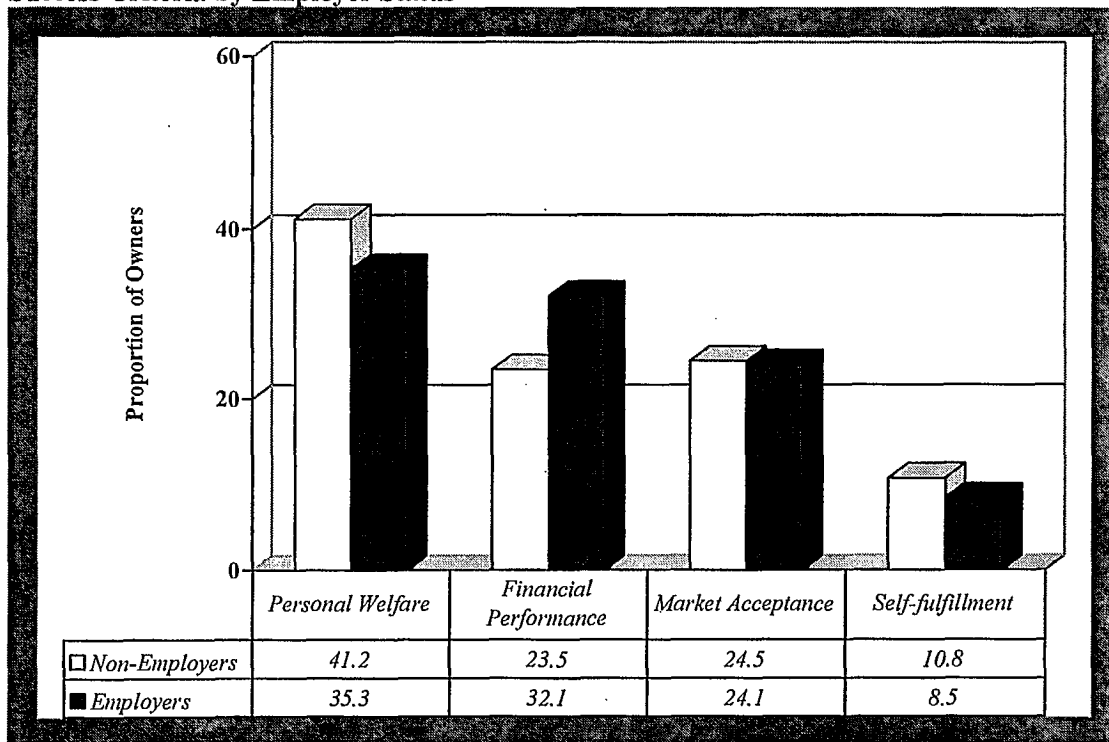
Table 14:
Breakdown of Primary Success Criterion

Primary Success Criterion	Proportion (%) of Owners	
	Non-Employers	Employers
Market Acceptance	24.5%	24.1%
Self-fulfillment	10.8%	8.5%
Personal Welfare	41.2%	35.3%
Financial Performance	23.5%	32.1%

**Chart 4:
Average Factor by Gender and Employer Status**



**Chart 5:
Success Criteria by Employer Status**



This section has found that the success criteria embraced by SME owners may not correspond with those of policy makers. Whereas public policy generally seeks to encourage outcomes that relate to job-creation and firm viability, business owners tend to focus on intrinsic and somewhat intangible elements of personal welfare. This work will therefore examine links between job-creating growth and owners' personal criteria for success later in the report. First, however, it is useful to report on the extent to which owners feel that they have fulfilled or attained their dimensions of success.

5.3 Attainment of Success

While the preceding part of this section documents the *importance* respondents accorded key dimensions of success, this section examines respondents' self-assessments of the extent to which they have *attained* success. Using the same list of 18 potential success criteria, respondents were then asked to indicate the extent to which they perceived they had succeeded. The specific question posed of them was:

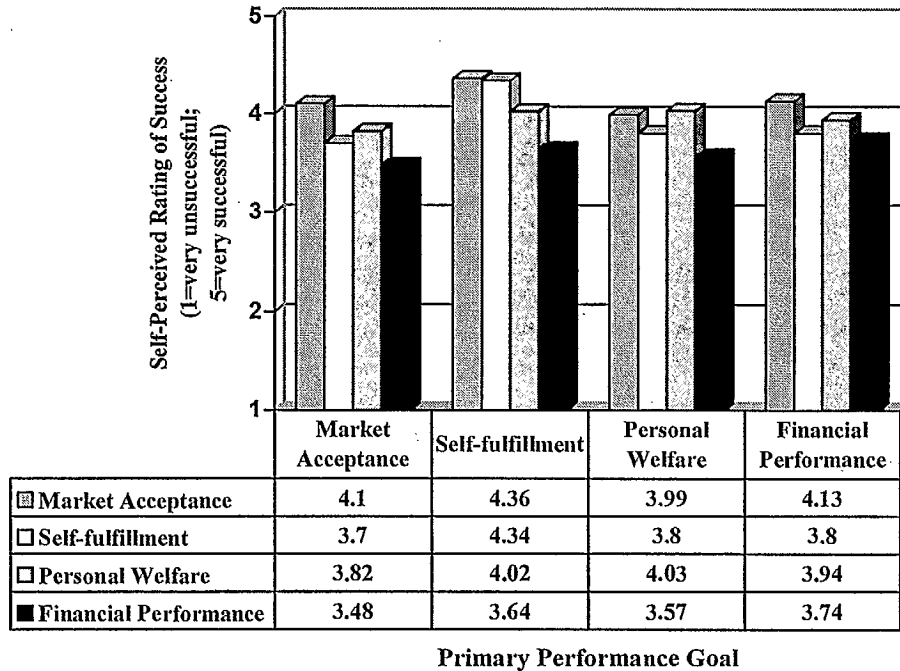
"To what extent have you been successful in achieving the following where 1 = very unsuccessful and 5 = very successful?"

Chart 6 shows the extent to which respondents rated themselves with respect to the success on each of the four success factors identified in the preceding section. The chart demonstrates several interesting findings.

The dimension of success that business owners identified as being their primary success criterion was, for the most part (but not universally), the dimension that they feel themselves to have best accomplished. For example, owners who identified "market acceptance" as primary self-assessed themselves, on average, 4.1 on that dimension. This value was higher than their self-assessments of success with respect to the three other dimensions. This result suggests the importance of owners' intentions with respect to their accomplishments. Owners who seek a particular outcome generally feel that they have best accomplished that particular task.

A notable exception to this generalization was for respondents who identified financial performance as their primary success criterion. In this case, business owners rated themselves as performing relatively poorly (3.74) on this dimension. It is also interesting that there are no gender differences in the attainment of financial performance even though women business owners operate significantly smaller businesses. Numerous speculations might explain this observation; however, further research seems required if this finding is to be explained unambiguously. Finally, to some extent, this result may be reflective of self-fulfillment: respondents may deem as important those things at which they are proficient.

Chart 6:
Perceived Attainment of Success by Prioritized Factor Score



5.4 Summary

In general, business owners identify customer relations, maintaining personal relationships, and product or service quality as the key attributes of success. Financial criteria tend not to be as highly rated. Hence, commercial (versus personal) performance criteria appear to predominate among owners' success criteria. Significant differences were observed between employers and non-employer businesses: employers were relatively more concerned with generating income, profitability and operating performance than non-employers were.

Further investigation found that "success" appears to be a multi-dimensional concept that reflects four underlying dimensions or factors:

- *market acceptance*, outcomes that are inherently extrinsic to the business owner and commercial in nature;
- *self-fulfillment*, intangible aspects of success that include criteria such as spiritual well-being, and pursuit of intellectual activities;
- *personal welfare*, factors that embrace criteria that are personal and largely extrinsic to the business owners; and,
- *financial performance* such as personal goods acquisition, profitability, generating income, and the firm's operating performance.

While different business owners rank different dimensions as primary, each of these dimensions holds some degree of importance to all business owners. That is, for all owners, success is comprised of all four of these dimensions but are weighted differently from business owner to business owners. These results suggest that small business training programs must address issues related to owners' personal welfare. It is not sufficient to focus exclusively on commercial and technical aspects of small business management, as many training initiatives do.

6 Management Competencies

To investigate the depth and breadth of management competencies, three sets of questions were employed.

1. The 2002 WEI survey asked respondents “*How many years of business management experience do you have in total?*”
2. Respondents to the 2002 WEI survey were also asked to respond to “*How many years of business management experience do you have in the present firm?*”
3. The 2003 Industry Canada survey asked respondents to rate management experience across 25 activities (e.g., small business management, small business regulation, project management, on-line communication where 1 = limited management experience and 5 = extensive management experience). The scales were distilled from previous research (Orser, 1997) that asked respondents to self-assess their management strengths and weaknesses for of each 25 specific skills. Respondents were provided with the opportunity to respond “not applicable” and “don’t know” or “refused”.

6.1 Depth of Management: Years of Management Experience

On average, respondents brought 2 decades (19.4 years) of experience to their firms. The average of years of experience within their respective present firms was 13.5 years (see Table 15). Male respondents brought significantly more years of management experience than their female counterparts (21.5 years versus 14.8 years, respectively). On average, male respondents had 14.8 years of current firm experience compared to female respondents with 10.4 years of experience in the firm. This finding is consistent with other Canadian research that finds women bring less management experience to the business start-up (Orser, 1997).

These differences are also implied by the age of firms. According to the 2003 survey, the average age of women-owned businesses was 16.7 years compared to 26 years for businesses owned by males. On average, male-owned businesses were significantly older than those owned by women (26 years versus 16.7 years, respectively). These findings support related research that finds female-owned firms are younger than those firms owned by males (Orser, 1997; Orser and Riding, 2000).

Table 15:
Years of Management Experience

	Total Years of Management Experience	Years of Management Experience in Present Firm
Male	21.5	14.8
Female	14.6	10.4
Total Sample	19.4	13.5

6.2 Breadth of Management Experience

To investigate the breadth of management experience, responses were grouped several ways. First, the average response for each of the 25 competency scales was calculated for the total sample and by gender and sector. These findings are presented in Tables 16 and 17.²² Several gender differences were found. Women were found to have less experience in sourcing capital and analysing financial results and more promotion and advertising experience. Employers had significantly more experience in small business and operations management, human resources (e.g., delegating, people management) and accessing industry information including using market research, adopting new technology. Non-employers believe they have more experience in personal career management.

Table 16:
Management Competencies by Gender of Owner
(Average Responses on 1 to 5 Scales)

Management Competency Area	Male	Female	Total
Supplier/client relationships	4.40	4.50	4.43
Small business management	4.36	4.35	4.35
Pricing	4.23	4.26	4.24
Personal career management	4.11	4.20	4.14
Operations management	4.14	4.15	4.14
Small business regulation	3.94	4.06	3.98
Project management	3.93	3.99	3.95
People management	3.77	3.87	3.80
Delegating	3.97	3.80	3.92
Personal time management	3.59	3.72	3.63
Professional networks	3.64	3.60	3.63
Business plans	3.53	3.52	3.53
Promotion and advertising	3.25*	3.51*	3.33
New product development	3.43	3.48	3.44
On-line communications	3.09	3.31	3.15
Financial reporting	3.38	3.26	3.34
Software skills	2.80	2.96	2.84
Industry standards	2.70	2.60	2.67
Using market research	2.61	2.54	2.59
Accessing fields of knowledge	2.44	2.49	2.46
Sources of capital	2.70**	2.37**	2.61
Financial analysis	2.65*	2.33*	2.57
Accessing industry information	2.31	2.28	2.30
Adopting new technology	2.17	2.20	2.18
Electronic commerce	1.75	1.81	1.77

*Differences between genders statistically significant at: *p < . 0.10; **p < 0.05.*

²² Tables 16 and 17 show the rankings of the 25 specific management competency scales ranked from highest average overall scores on their respective 1-to-5 scales.

Table 17:
Management Competency Scores by Employer Status
(Average Response on 1 to 5 Scales)

Scale	Non-Employers	Employers	Total
Supplier/client relationships	4.40	4.45	4.43
Small business management	4.18**	4.43**	4.35
Pricing	4.06**	4.32**	4.24
Operations management	3.88**	4.23**	4.14
Personal career management	3.80***	4.29***	4.14
Small business regulation	3.95	3.99	3.98
Project management	3.85	3.99	3.95
Delegating	3.52***	4.04***	3.92
People management	3.54**	3.89**	3.80
Professional networks	3.55	3.66	3.63
Personal time management	3.72	3.59	3.63
Business plans	3.47	3.55	3.53
New product development	3.34	3.48	3.44
Financial reporting	3.22	3.40	3.34
Promotion and advertising	3.26	3.36	3.33
On-line communications	3.03	3.21	3.15
Software skills	2.69	2.90	2.84
Industry standards	2.61	2.70	2.67
Sources of capital	2.38**	2.71**	2.61
Using market research	2.40*	2.66*	2.59
Financial analysis	2.21***	2.71***	2.57
Accessing fields of knowledge	2.39	2.48	2.46
Accessing industry information	2.15	2.35	2.30
Adopting new technology	1.78**	2.30**	2.18
Electronic commerce	1.68	1.80	1.77

*Differences between firm categories statistically significant at: *p < 0.10; **p < 0.05; ***p < 0.01.*

The frequency of “not applicable” responses was also calculated to determine which of the 25 skills and activities was least important to the sample group of owners. As might be expected, non-employer firms rated as “not applicable” those items that related to employees and, because non-employer firms are typically very small, items related to investor relations. It is noteworthy that so many business owner respondents rated as “not applicable” such items as adopting new technology, electronic commerce, and using sources of such external information as market research, financial analysis, and industry information. These findings are presented in Table 18.

These findings should be of significant concern to policy makers for at least three reasons. First, while firm growth and survival are consistently associated with innovation, the majority of non-employer and one-third of employer firms perceive innovation (e.g., electronic commerce, adopting new technology, accessing industry information) as “not applicable”. Second, these findings challenge Newton’s (2001, pp. 5) position that:

“The knowledge-based economy (KBE) is widely acknowledged to be no less than a new techno-economic paradigm that is revolutionary in scale, impact and pervasiveness. An essential characteristic is the central role of knowledge (tacit and codified) in the cumulative process of innovations.”

The above results indicate that many business owners appear to have different priorities and are comfortable operating in traditional ways. Finally, these results suggest that a key challenge to policy makers is to assist business owners gain a better understanding about how innovation, adoption of technology, and acquisition of technology-based skills are applicable to firm performance and longevity.

Table 18:
Relative Frequency of “Not-Applicable” Responses on Management Experience Scales

Scale	Non-Employers	Employers	Total
Electronic commerce	53.9%	39.0%	142
Adopting new technology	54.9%	29.1%	121
Accessing industry information	30.4%	17.0%	69
Financial analysis	28.4%	14.8%	62
Using market research	28.4%	14.8%	62
Software skills	27.5%	13.5%	58
Accessing fields of knowledge	26.5%	13.0%	56
On-line communications	25.5%	13.0%	55
Industry standards	19.6%	14.8%	53
Operations management	28.4%	8.5%	48
New product development	19.6%	12.1%	47
Delegating	36.3%	1.8%	41
Sources of capital	12.7%	10.8%	37
People management	29.4%	1.8%	34
Financial reporting	7.8%	10.3%	31
Project management	5.9%	10.8%	30
Promotion and advertising	9.8%	4.9%	21
Professional networks	9.8%	2.2%	15
Small business regulation	1.0%	3.1%	8
Personal career management	1.0%	2.7%	7
Business plans	2.9%	1.3%	6
Pricing	3.9%	0.9%	6
Small business management	0.0%	0.4%	1
Personal time management	0.0%	0.4%	1
Supplier/client relationships	0.0%	0.0%	0

6.3 Categories of Management Competency

To gain a better understanding of the nature of management competency, the 25 items were categorized across traditionally defined dimensions of management knowledge (marketing, finance, etc.). The 25 management activities spanned a variety of traditional management functions. To comprehend better how management expertise is distributed across these functions, the 25 activities were grouped into the traditional functional areas of management as shown in Table 19. The scales that comprised each of

these functional areas were averaged for each respondent. Table 20 presents the descriptive statistics of these measures of management ability broken down across these salient dimensions.

Table 19²³
Traditional Functional Areas of Management

Functional Areas of Management	Scales
Networking	<ul style="list-style-type: none"> • Professional networks • Supplier/client relationships
Personal care	<ul style="list-style-type: none"> • Personal career management • Personal time management
General management	<ul style="list-style-type: none"> • Small business management • Small business regulation • Project management • Accessing fields of knowledge • Industry standards
Planning	<ul style="list-style-type: none"> • Business plans • New product development
Marketing	<ul style="list-style-type: none"> • Pricing • New product development • Using market research • Promotion and advertising
Operations management	<ul style="list-style-type: none"> • Operations management • Accessing industry information • Supplier/client relationships • Industry standards
Finance	<ul style="list-style-type: none"> • Financial reporting • Financial analysis • Sources of capital
Human resources (HR)	<ul style="list-style-type: none"> • People management • Delegating
Management of technology	<ul style="list-style-type: none"> • On-line communications • Software skills • Electronic commerce • Adopting new technology

Chart 7 shows how the scores on these traditional functional areas are distributed between employer and non-employer firms. Overall, business owners perceive themselves to be particularly skilled with respect to networking, personal care, and HR. They see their skills in general management, planning, marketing and operations management as being relatively less well honed or less than adequate. However, owners do not appear to be comfortable with respect to their finance and technology-related skill sets. It seems that owners' perceived needs lie in the latter two areas.

²³ Several scales were related to more than one of the functional areas of management. For example, "industry standards" was entered into operations management and general management.

Table 20 shows that management skills, as traditionally defined, are evenly distributed across gender of owner (with the exception of finance and human resource related skills). However, owners of employer firms demonstrate significantly higher levels of skills than do owners of firms that are not employers. The cause and effect of this finding is not clear. On the one hand, this difference may be a consequence of natural selection. Alternatively, it may reflect that management skills are necessary to the growth that leads to being an employer business. To explore this question, multiple regressions will be employed in Section G of the report in order to identify which of the sets of management skills identified here are associated with enterprise growth.

Chart 7:
Traditional Management Skills by Employer Status of Firms

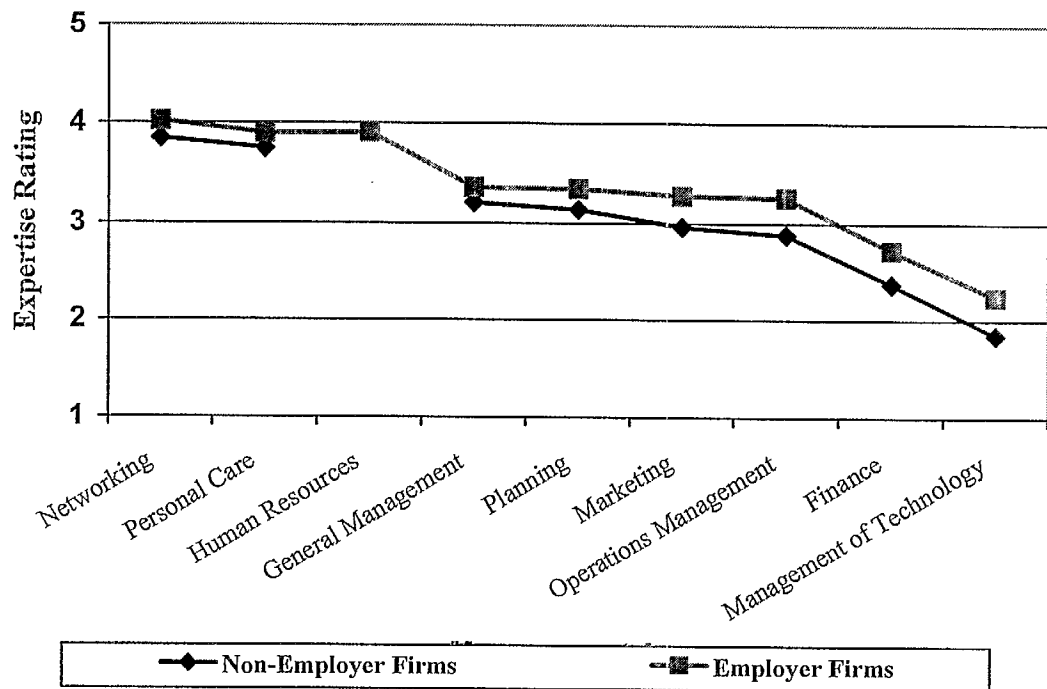


Table 20:
Functional Areas of Management, by Employer Status and Owner Gender

Functional Areas	Firm Category	N	Mean	Standard Error	p-value (Across firm category)
By Employer Status					
General Management	Non-Employer Firms	97	3.21	0.070	0.059
	Employer Firms	213	3.36	0.045	
Planning	Non-Employer Firms	101	3.14	0.101	0.055
	Employer Firms	224	3.35	0.056	
Operations Management	Non-Employer Firms	97	2.88	0.080	0.000
	Employer Firms	215	3.26	0.044	
Management of Technology	Non-Employer Firms	102	1.85	0.092	0.000
	Employer Firms	223	2.24	0.060	
Finance	Non-Employer Firms	102	2.37	0.095	0.002
	Employer Firms	223	2.72	0.061	
Human Resources	Non-Employer Firms	102	2.70	0.130	0.000
	Employer Firms	224	3.91	0.048	
Networking	Non-Employer Firms	102	3.85	0.083	0.077
	Employer Firms	224	4.02	0.047	
Marketing	Non-Employer Firms	101	2.96	0.088	0.002
	Employer Firms	224	3.28	0.049	
Personal Care	Non-Employer Firms	102	3.75	0.075	0.073
	Employer Firms	222	3.90	0.049	
By Gender of Owner					
General Management	Male-Owned	221	3.33	0.045	0.365
	Women-Owned	89	3.26	0.072	
Planning	Male-Owned	225	3.31	0.059	0.455
	Women-Owned	100	3.23	0.093	
Operations Management	Male-Owned	221	3.17	0.047	0.253
	Women-Owned	91	3.07	0.081	
Management of Technology	Male-Owned	225	2.14	0.061	0.665
	Women-Owned	100	2.09	0.095	
Finance	Male-Owned	225	2.72	0.060	0.001
	Women-Owned	100	2.36	0.098	
Human Resources	Male-Owned	225	3.63	0.066	0.017
	Women-Owned	101	3.32	0.127	
Networking	Male-Owned	225	3.98	0.050	0.761
	Women-Owned	101	3.95	0.076	
Marketing	Male-Owned	225	3.20	0.051	0.634
	Women-Owned	100	3.15	0.086	
Personal Care	Male-Owned	225	3.84	0.050	0.513
	Women-Owned	99	3.89	0.070	

Note that number of respondents varies because not all respondents necessarily answered all items that comprise each scale. The standard error estimates describe the range of responses by each category of respondent. Approximately 64 percent of responses fall in the range of one standard error below the mean to one standard error above the mean. The p-values test the null hypothesis that the means do not differ across the two categories of firms listed in the table. The p-value estimates the probability with which the observed difference between the means is attributable to sampling error.

Note that the levels of traditionally defined management competencies are, in every case, significantly greater for managers of employer firms. Across genders, women owners felt themselves to be significantly less experienced with respect to both finance and HR-related skills. This latter observation suggests that there may be considerable merit to gender-specific training.

6.4 Calculating Breadth of Management Experience

To investigate total breadth of management competence, the responses to each of the 25 management competence scales were recoded into binary (0,1) variables. Specifically, owners with extensive experience (those who rated their experience as 4 or 5 on the particular management activity) were coded as one (1). Owners who rated their experience on a particular scale as less than 4 were coded as zero (0) on that scale. This conversion identified, for each respondent, those skills that were particular strengths. By adding across the 25 recoded binary scales, a measure of breadth of management is generated (the number of specific activities, out of 25, for which the respondent is particularly competent). Values of this measure ranged between a maximum score of 25 and a minimum score of 0. The average values, by sector and gender of owner, are presented in Table 21. No statistically significant differences were identified either by gender or sector of firm.

Table 22 provides additional breakdowns of the management competency diversity measure. In this case, significant differences across stage of firm, size of firm, and the four-year change in revenues are observed. Larger firms, and those with higher levels of revenue growth are observed to be associated with higher values of this management competency measure.

Table 21:
Management Competency Score by Sector and Gender

Sector	Male Owners	Female Owners	Total
Services	11.62	11.54	11.59
Retail	11.47	11.04	11.33
Goods	12.11	9.43	11.57
Other	11.33	12.67	11.63
Total	11.58	11.21	11.47

Table 22:
Benchmarks, Management Diversity Measure by Salient Attributes

	Mean	N	Standard Deviation	p-value (ANOVA)
Education				0.894
Elementary school	10.5	6	3.62	
Some high school	11.2	32	5.35	
High school graduate	11.5	91	4.41	
Some college	10.7	27	3.99	
College graduate	11.2	53	4.46	
Some university	11.6	26	5.02	
University graduate	11.9	73	4.69	
Other (specify below)	12.4	18	3.36	
Age Category (Recorded)				0.426
Less than 30	10	7	2.00	
30-50	11.2	147	4.22	
More than 50	11.7	172	4.81	
Stage of firm				0.058
Start-up	17	2	2.83	
Growth	12.2	81	4.71	
Maturity	11.3	158	4.06	
Annual Revenues in 2003 (\$000)				0.000
Less than \$50	8.8	35	4.71	
\$50 to \$99.9	9.4	29	4.25	
\$100 to \$249.9	11.6	47	3.84	
\$250 to \$499.9	11.4	45	3.85	
\$500 to \$999.9	12.9	47	4.66	
\$1,000 or more	13.3	58	4.62	
Employees in 2003				0.000
1 employee or less	9.9	102	4.66	
1 to 5 employees	11.4	105	3.90	
5 to 20 employees	12.5	91	4.45	
20 or more employees	14.0	28	4.46	
Quartiles, 4-year change in revenues				0.004
Lowest growth quartile	11.8	50	4.70	
Second lowest growth quartile	9.8	50	4.33	
Second highest growth quartile	11.7	50	4.03	
Highest growth quartile	12.9	53	4.48	
Total	11.6	203	4.51	

In this table, the p-value tests the null hypothesis that the mean responses do not vary across the categories. Here, the p-value estimates the probability that the observed differences in the mean values across categories is attributable to sampling error using a one-way analysis of variance.

6.5 Summary

To investigate the role and importance of management competencies, the survey sought two categories of information:

- *Depth of experience* was measured by the number of years of business management experience in the current firm and by the total years of management experience;
- *Breadth of experience* was measured by asking business owners to self-rate their abilities and experience on each of 25 activities that are typically undertaken by SME owners (e.g., small business management, small business regulation, project management, on-line communication).

On average, respondents brought 2 decades (19.4 years) of total experience to their firms of which an average of 13.5 years was within their current respective present firms. Male respondents brought significantly more years of management experience than their female counterparts (21.5 years versus 14.8 years, respectively). On average, male respondents had 14.8 years of current firm experience compared to female respondents with 10.4 years of experience in the firm. Compared to male business owners, women also were found to have significantly lower self-ratings of competence with respect to sourcing capital and with analysing financial results, but report significantly greater competency with respect to promotion and advertising.

Employers had significantly more experience in small business and operations management, human resources (e.g., delegating, people management) and accessing industry information including using market research and adopting new technology. Non-employers believe they have more experience in personal career management.

The findings also reveal that a surprisingly high proportion of business owners consider as “not applicable” such items such as adopting new technology, electronic commerce, and using such external sources information as market research, financial analysis, and industry information. These findings should be of significant concern to policy makers given that firm growth and survival are consistently associated with innovation and that a majority of non-employer business owners and one-third of employer firms perceive innovation-related activities (e.g., electronic commerce, adopting new technology, accessing industry information) as “not applicable” to their firms.

The above results indicate that many business owners appear to have different priorities and are comfortable operating in traditional ways. Finally, these results suggest that a key challenge to policy makers is to assist business owners gain a better understanding about how innovation, adoption of technology, and acquisition of technology-based skills are applicable to firm performance and longevity.

7 Growth Strategies²⁴

7.1 Introduction

To investigate the association between business strategy and firm performance, the research team drew on the 2002 WEI portion of the survey data. During the 2002 WEI project, respondents who had indicated their intention to expand the size or scope of the business in the following two-year period were then asked:

*“How important are each of the following as elements in your strategy towards accomplishments of your revenue goals?”
(where 1 = not at all important and 5 = extremely important).*

Table 23 presents the average values of importance for each of the 14 growth variables. Among those respondents that sought to grow their firms, improving existing products and services, upgrading operations and adding a new product or service were ranked “most important”. The majority of respondents focussed on domestic markets because the least important growth strategy of both employer and non-employer firms was “seeking new international markets”. It is also interesting to note that “assistance from government agencies” was a low priority of the Western business owners.

Several statistically significant differences between employer and non-employer firms were noted. Non-employers rated seeking new domestic markets and expanding advertising as significantly higher while respondents of employer firms view hiring new employees as an important growth strategy.

7.2 Factor Analysis of Growth Strategies

To further investigate the underlying patterns in the growth strategies employed by Western business owners, the 14 strategy elements listed above were entered into a principal components analysis. The analysis indicated three factors that collectively account for 53.2 percent of variation in the data. The results of this analysis are presented in Table 24.

A review of the variables that load on each of the 3 factors reflect activities such as *upgrading of resources* business strategies that include seeking financing and professional advice, assistance from government agencies and programs, adding new equipment or operating space, upgrading operations, and hiring additional employees. The second factor loaded on the strategy scales that reflect aspect of *product development* include improving existing products or services, adding a new product or service, employing additional technology or computer systems, improving my business management skills, and seeking new domestic markets. The third factor reflects *market development* strategies such as seeking new international markets, selling over the

²⁴ This section pertains to a subset of the sample population, namely those firms in the 2002 WEI survey that expressed the intention to grow their firm. As such, this information is intended to provide readers with a better understanding about the strategies employed by firms that seek grow. Given that the data is limited to growth-orientated firms it is not included in the subsequent section that will investigate the associations between various input and firm outcomes.

Internet, and expanding advertising and promotion. Each of these factors appears to be a coherent business strategy. The factor scores are presented in Table 25.

Table 23:
Average Importance Score for Business Strategy Components

Elements of Business Strategies	Non-Employer Firms	Employer Firms	Total
Improving existing products or services	3.24	3.29	3.28
Upgrading operations	3.49	3.19	3.27
Adding a new product or service	3.41	3.16	3.23
Adding new equipment or operating space	3.22	3.17	3.18
Improving my business management skills	3.32	3.13	3.18
Seeking new domestic markets	3.59**	3.00**	3.16
Hiring additional employees	2.81*	3.24*	3.13
Employing additional technology or computer systems	3.05	2.97	2.99
Expanding advertising and promotion	3.46***	2.79***	2.96
Seeking financing advice	2.92	2.69	2.75
Seeking professional advice	2.62	2.76	2.72
Assistance from government agencies or programs	2.70	2.52	2.57
Selling over the Internet	2.73	2.31	2.42
Seeking new international markets	2.19	1.97	2.03

*Differences between firm categories statistically significant at: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.*

Table 24:
Principal Component Analysis of Growth Strategies²⁵

Growth Strategies	Upgrading Resources	Product Development	Market Development
Seeking financing advice	0.736		
Assistance from government agencies or programs	0.701		
Adding new equipment or operating space	0.690		
Upgrading operations	0.610		
Hiring additional employees	0.609		
Seeking professional advice	0.535	0.498	
Improving existing products or services		0.811	
Adding a new product or service		0.754	
Employing additional technology or computer systems		0.512	
Improving my business management skills		0.470	
Seeking new domestic markets		0.469	
Seeking new international markets			0.782
Selling over the internet		0.404	0.654
Expanding advertising and promotion			0.475
Eigenvalues	4.791	1.488	1.168
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			

²⁵ Principal component analysis was also undertaken for *employers* and *non-employers*. The underlying constructs (or variable grouping) were similar to those presented here.

What are the associations among growth strategies and other salient attributes of the firms, including revenue growth? To explore this question, the mean scores of the individual scales that comprised each factor were calculated for each of the three factors, for each respondent. For example, to compute the importance of the *market development* element for a given respondent, the three scales that loaded on the market development factor (e.g., seeking new international markets, selling over the Internet and expanding advertising and promotion) were averaged. Likewise, the importance of product development and upgrading of resources dimensions were also averaged. Table 25 presents the average importance measures of the three growth strategies broken down by employer status, gender and firm growth quartile.²⁶

A t-test was conducted to investigate potential gender differences between non-employers and employers. In terms of employment status, again, non-employers were more likely to pursue market development. Another possible interpretation of the results is that “employers” are more likely to employ all three of the growth strategies. No significant gender differences in growth strategy were noted.

Table 25:
Importance of Growth Strategy Elements

	Upgrade Resources	Product Development	Market Development
Employer Status			
Non-Employer Firms	3.00	3.14	2.79**
Employer Firms	2.93	2.95	2.36**
Gender			
Male	3.02	2.98	2.41
Female	2.78	3.06	2.61
4-Year Growth in Revenues			
Lowest growth quartile	2.93	2.73	2.14
Second lowest growth quartile	3.10	3.02	2.52
Second highest growth quartile	3.15	3.18	2.65
Highest growth quartile	2.94	2.93	2.44
Total	2.95	3.00	2.47

*Differences between firm categories statistically significant at ** $p < 0.05$.*

The final step in the analysis was to identify which of the three elements of growth strategy (upgrading resources, product development, market development) was deemed most important by each of the respondents. Hence, for each respondent, the element with the highest average of the importance scores was identified as primary. Chart 8 shows the average change in revenues over the 4-year period broken down by respondents’ “primary” element of their growth strategies.

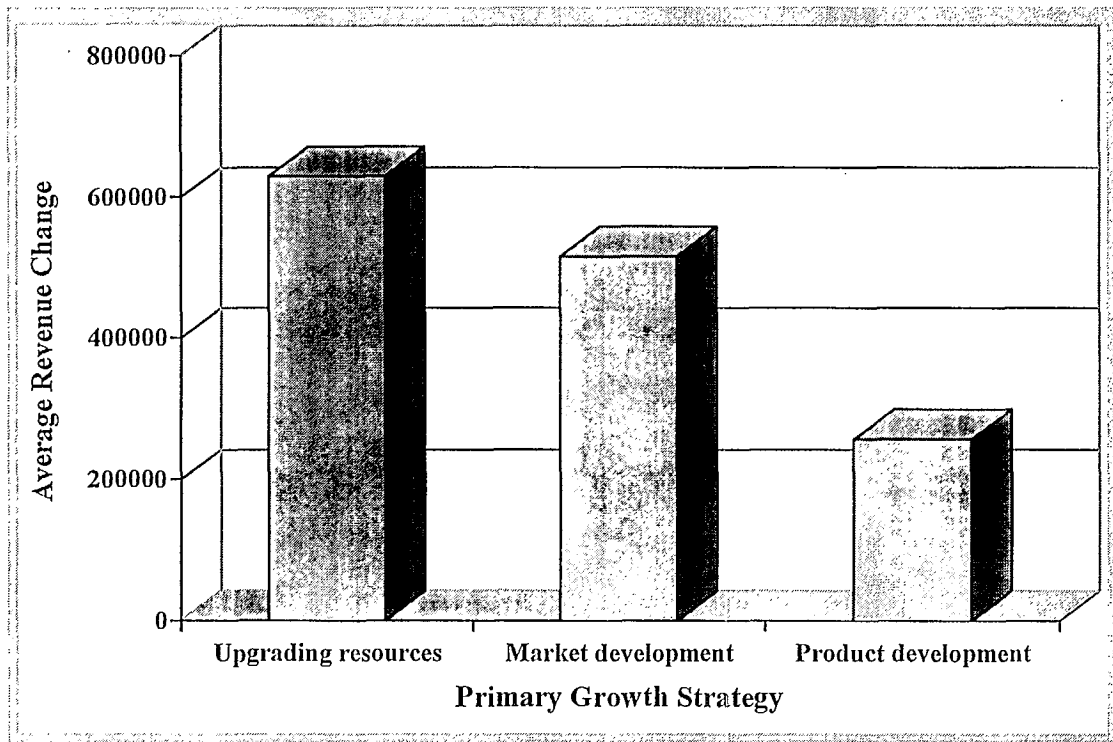
The results suggest that respondents who rated *upgrading resources* (what economists might refer to as “improving factors of production”) as their most important of the three growth strategies benefited from the largest change in annual revenues over the 4 year period (\$630,000). This compares to the four-year revenue change of

²⁶ To calculate “growth quartiles”, firms were ranked depending on the magnitude of their four-year change of revenues. These rankings were then grouped into quartiles.

\$516,000 for those that rated *market development* as most important and \$257,000 for those that rated *product development* as most important.

It appears that among those business owners who intend to grow their business, most pursue multiple growth strategies. The upgrading of resources appears to be a key. There are no significant differences in the importance of growth strategies across genders. Finally, from the perspective of national policy, there remains need to emphasize the importance of market development. In particular, exporting and selling on the Internet might be further encouraged and supported as economic development opportunities.

Chart 8:
Revenue Growth and Growth Strategies



7.3 Summary: Growth Strategies

To investigate growth strategies, those respondents who had indicated their intention to expand the size or scope of the business were asked to rate the importance of each of a set of 14 strategic approaches to generating growth. Improving existing products and services, upgrading operations and adding a new product or service were ranked “most important”. The majority of owners focus on domestic markets: the least important growth strategy of both employer and non-employer firms was “seeking new international markets”. It is also interesting to note that “assistance from government agencies” was a low priority of the business owners.

Several statistically significant differences between employer and non-employer firms were noted. Non-employers rated seeking new domestic markets and expanding

advertising as significantly higher while respondents of employer firms view hiring new employees as an important growth strategy.

Further investigation of the underlying patterns in the growth strategies suggests three underlying growth alternatives:

- *upgrading of resources*, strategies that include seeking financing and professional advice, assistance from government agencies and programs, adding new equipment or operating space, upgrading operations, and hiring additional employees;
- *product development* including improving existing products or services, adding a new product or service, employing additional technology or computer systems, improving one's business management skills, and seeking new domestic markets; and,
- *market development* strategies such as seeking new international markets, selling over the Internet, and expanding advertising and promotion.

The strategy associated with the highest levels of revenue growth over the 4-year 1999 to 2002 period is upgrading resources (what could be referred to as "improving factors of production"). The results suggest that among those business owners who intend to grow the business, most pursue multiple growth strategies because growth entails both physical improvements (e.g., equipment) and improvements in knowledge and skills.

From the perspective of national policy, the results also suggest a need to emphasize the importance of market development. In particular, exporting and selling on the Internet do not appear to be employed to their full potential. These activities might be further encouraged and supported as economic development opportunities.

In summary, three primary growth strategies were identified. Highest levels of revenue growth were associated with those firms whose owners had adopted upgrading of resources as a primary approach. Least effective, in terms of revenue growth, was a product development strategy.

8 Linking Performance and Managerial Competencies

The theoretical model (Figure 1) that underlies this study posits that the success factors associated with business ownership are a composite of pecuniary and non-pecuniary factors and that firm performance reflects owner and firm attributes. Empirically, firm performance was indeed found to be a multi-dimensional concept. It includes traditional measures of organizational performance such as sales growth but also dimensions of success such as self-fulfillment, market acceptance, financial success, and personal welfare. To further complicate matters, it was also seen that not all owners seek the same growth outcomes.

This section reports on an investigation of the linkages among, on the one hand, business success, and, on the other hand, management competency and the attributes of the firm and its owners. The focus is the role played by management competency in helping owners achieve the various dimensions of firm performance or success. This problem may be restated using the analogy of a statistical regression model. The dependent variable in the analogy is success. The independent, potentially causal, variables in the analogy include management competencies, firm and owner attributes, and other potential determinants of success. Two aspects of the problem complicate the analogy. First, two types of enterprises are recognized: those whose owners seek growth of their respective firms and those whose owners do not seek growth. Second, the dependent variable, success, is seen to comprise several dimensions. Statistical analysis of this expanded model therefore requires going beyond a regression framework. The particular technique of choice is MANCOVA (Multivariate Analysis of Covariance), a technique that is designed to address exactly this type of problem formulation. The next paragraphs are devoted to a short outline of this technique.

8.1 MANCOVA Analysis

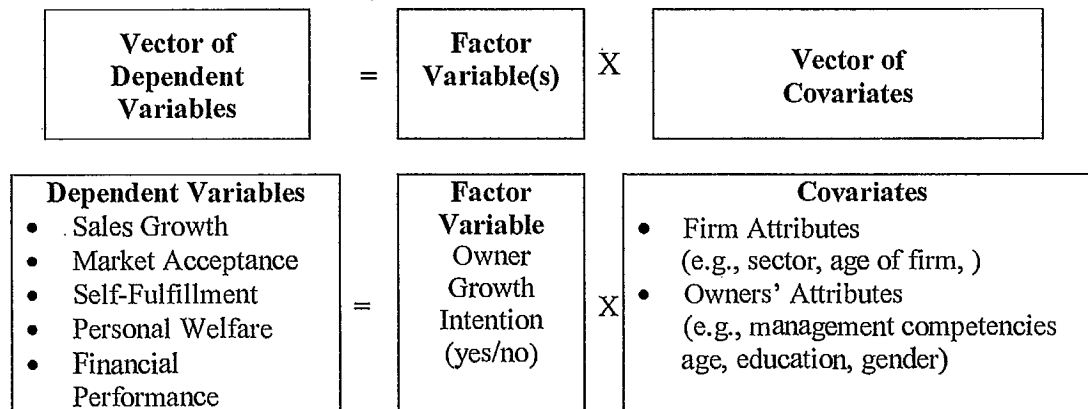
MANCOVA is a means of statistically investigating two (or more) groups of subjects on several dependent variables at the same time. Normally, as here, the dependent variables may be correlated with each other and share a common conceptual meaning. In this application, the dependent variables are the various perceptions of success – those perceived by business owners and growth in revenues. In this application, the two groups are distinguished where one group of owners seek expansion of their firms and in the other group, owners do not seek growth.²⁷

This procedure allowed the research team to test the null hypotheses that the means of a joint distribution of dependent variables (the dimensions of firm performance

²⁷ Stevens (2002, pp. 173-174) comments that researchers may often be interested in using more than one dependent variable when making comparisons. First, virtually any systematic difference between two groups is likely to affect subjects in more than one way. Second is that use of multiple dependent variables allows researchers to gain “a more complete and detailed description of the phenomenon under investigation”. Finally, even when groupings of subjects do not differ significantly on any one of the variables, “jointly the set of variables may reliably differentiate between the groups”.

and success identified here) do not differ across groups defined by owner growth intention, after taking into account other potential determinants of success and performance. The procedure also allowed investigation of the effects of a number of covariates — moderating variables of firm attributes (e.g., sector, age of firm) and owners' attributes (e.g. owner age, education, etc.). Thus, the technique also allows the researcher to study how the potential determinants of performance (for example, management competency) relate to the success and performance outcomes. Graphically, the model is visualized in Figure 4.²⁸

Figure 4:
Schematic of the MANCOVA Model of SME Success



The regression analogy of MANCOVA, therefore, is that the model relates a group of dependent variables (the four dimensions of firm performance) to a series of independent variables (both the *moderating variables* such as firm and owners' attributes – and hypothesized *causal variables* of management competencies and experience) taking into account that there are firms whose owners seek growth and those whose owners do not seek growth. A list of the variables employed in the analysis follows presently. A description of each variable is contained in Appendix F.

8.1.1 Variables employed in MANCOVA Analysis

Three sets of variables were entered into the MANCOVA analysis: (a) a vector of dependent performance measures; (b) independent variables that reflect aspects of

²⁸ The specific forms of the general linear model (GLM) used in the analysis included MANOVA (multivariate analysis of variance) and MANCOVA (multivariate analysis of covariance). These multivariate statistical procedures extend regression analysis and analysis of variance to the case of multiple dependent variables across one or more factor variables. MANOVA and MANCOVA make several statistical assumptions. The most important assumption is that of independence among the cases. Here, independence means that the individual firms were not sampled in a systematic manner and that each firm included in the sample is independent of the other firms in the sample. In this situation, the assumption of independence is likely to hold. A second assumption is that the data are distributed as joint normality. To address this, the data were transformed using standard logarithmic transformations to approach univariate normality. In addition, MANCOVA has been shown to be robust to violations of joint normality (Stevens, 2002). The third main assumption is that of equal covariance matrices across the two groups. Again, Stevens (2002) observes that so long as the two factor categories contain comparable numbers of observations (as they do in this application), violation of equality of covariance matrices is not an issue.

management competence, measures of success and other potential moderating influences; and (c) owners' intention to grow the business.

Vector of performance measures as dependent variables:

- Log transform of 4-year change in annual revenues;²⁹
- Self-scored achievement with respect to market acceptance;
- Self-scored achievement with respect to self-fulfillment;
- Self-scored achievement with respect to personal welfare; and
- Self-scored achievement with respect to financial performance.

Factor variable:

- Intention to grow.

Independent variables (“covariates”)

- *Causal Variables*
 - Management competency measures
 - General management skills
 - Planning
 - Operations managements skills
 - Technology skills
 - Finance skills
 - HR skills
 - Networking skills
 - Marketing skills
 - Personal management
 - Diversity of management experience
 - Years of management experience
- *Importance of Performance Criteria*
 - Market Acceptance
 - Self-fulfillment
 - Personal Welfare
 - Financial Performance
- *Other moderating variables*
 - Age of owner
 - Sectoral dummy variables (retail, services and goods)
 - Age of firm
 - Gender of owner
 - Previous participation in business-related training

8.1.2 MANCOVA Results

The results of estimating the full MANCOVA model are reported in Appendix F. As is customary, the model was iteratively re-estimated with variables that were not statistically significant removed in successive steps. Tables 26A and 26B present the results of the reduced model after all non-significant variables had been removed. A concise summary of the analysis of how the various significant independent variables relate to the various dependent variables is presented in Table 26C.

²⁹ The logarithmic transformation was applied to the change in revenues in order for this variable to conform more closely to the statistical assumption that the variables are normally distributed. This transformation is standard practice when the distribution of data is skewed.

**Table 26A:
Linking Management Competency, Success, and Performance***

MANCOVA Tests			
Effect	Hotelling's Trace	F (5, 144)	Sig.
Intercept	23.259	669.85	0.000
General Management	0.069	1.98	0.084
HR Management	0.133	3.83	0.003
Network Management	0.321	9.23	0.000
Personal Welfare Management	0.447	12.88	0.000
Intention to grow	0.088	2.55	0.031

**Only those variables from among those listed above that were found to be statistically significant determinants of the various dimensions of performance are included.*

These results show that the two groups of firms (those whose owners seek growth, those whose owners do not seek growth) differ significantly in terms of their performance after taking into account the other independent variables employed here. The analysis indicates that the five dimensions of performance/success also differ significantly across the grouping factor (i.e., growth intention) and relate to specific management competencies as follows.

- Revenue growth is found to be significantly associated with:
 - intention to grow.
- Success with respect to market acceptance is significantly statistically associated with:
 - general management skills;
 - network management skills; and,
 - personal welfare management skills.
- Success with respect to self-fulfillment is significantly statistically associated with:
 - general management skills; and,
 - network management skills;
- Success with respect to personal welfare is significantly statistically associated with:
 - general management skills;
 - network management skills;
 - personal welfare management skills; and,
 - intention to grow.
- While success with respect to financial performance is significantly statistically associated with:
 - general management skills;
 - HR management skills;
 - network management skills; and,
 - personal welfare management skills

Table 26B:
Linking Management Competency, Success, and Performance

Tests of Between-Subjects Effects				
Independent Variable	Dependent Variable	F	p-value	Adjusted R²
Model	Transform of 4-yr change in revenues	1.76	0.124	0.024
	Market Acceptance	18.56	0.000	0.365
	Self-Fulfillment	12.48	0.000	0.273
	Personal Welfare	24.56	0.000	0.435
	Financial Performance	12.82	0.000	0.279
Intercept	Transform of 4-yr change in revenues	2986.14	0.000	
	Market Acceptance	63.85	0.000	
	Self-Fulfillment	24.94	0.000	
	Personal Welfare	20.67	0.000	
	Financial Performance	7.38	0.007	
General Management	Transform of 4-yr change in revenues	0.05	0.832	
	Market Acceptance	6.79	0.010	
	Self-Fulfillment	6.07	0.015	
	Personal Welfare	4.34	0.039	
	Financial Performance	2.81	0.096	
HR Management	Transform of 4-yr change in revenues	0.27	0.605	
	Market Acceptance	0.17	0.681	
	Self-Fulfillment	0.05	0.824	
	Personal Welfare	0.57	0.452	
	Financial Performance	10.44	0.002	
Network Management	Transform of 4-yr change in revenues	1.77	0.186	
	Market Acceptance	36.25	0.000	
	Self-Fulfillment	27.80	0.000	
	Personal Welfare	7.03	0.009	
	Financial Performance	4.66	0.033	
Personal Welfare Management	Transform of 4-yr change in revenues	1.18	0.279	
	Market Acceptance	5.97	0.016	
	Self-Fulfillment	2.37	0.126	
	Personal Welfare	59.76	0.000	
	Financial Performance	7.78	0.006	
Intention to grow	Transform of 4-yr change in revenues	5.85	0.017	
	Market Acceptance	0.00	0.994	
	Self-Fulfillment	2.09	0.150	
	Personal Welfare	6.01	0.015	
	Financial Performance	1.41	0.237	

**Only those variables from among those listed above that were found to be statistically significant determinants of the various dimensions of performance are included.*

Table 26C: Correlation Analysis of Moderating Variables with Firm Performance/Success

Skills	Performance / Success Dimensions				
	Revenue Growth	Market Acceptance	Self-fulfillment	Personal Welfare	Financial Performance
General Management		***	**	**	*
HR					***
Management Network		***	***	***	**
Management Personal Welfare		**		***	***
Management Growth	**			**	
Intention					

*** p-value < 1%; ** p-value < 5%; * p-value < 10% based on univariate F tests for group differences.

8.2 Determinants of Enterprise Growth: Regression Analysis

Given the policy emphasis on firm growth, further analysis was undertaken to investigate more closely those variables associated with the dimension of success of primary importance to policy makers: growth in revenues. To do so, ordinary least squares (OLS) multiple regression was employed. In this case, the one dependent variable was a log-transformed measure of the change in total revenues over the four-year period, 1999 to 2002. Potential independent variables included determinants of success (including various measures of management competency), various firm and business attributes were used as control variables.

OLS Regression Findings:

Table 27 shows the results of the regression analysis for all firms in the sample and again for that subset of businesses that were employer firms. The table shows, for each of these groups of firms, the original full regression model and the reduced model that resulted from the systematic suppression of non-significant variables. The results were consistent across the two groups of firms. First, the regression models were statistically significant overall. The adjusted R^2 of 0.096 and 0.087 were statistically significant at the 0.000 and 0.002 levels. While these goodness-of-fit measures appear low, it should be noted that these values are not unusual in analysis of cross-sections of subjects. While these variables do not collectively explain all of the reasons behind business growth, they are related, to a statistically significant extent, with the growth outcome of interest here.

Three variables were found to be significant determinants of growth in revenue. Two of these, **diversity of management** and the **owners' intentions to pursue growth**, were positively correlated with revenue growth. The third significant explanatory variable was owners' self-scored achievement with respect to **self-fulfillment**. This makes sense if owners who prioritize intellectual activities, spiritual well being,

maintaining professional autonomy and community relations are significantly less likely to grow their firms. No single specific management competency (e.g., financial competency, marketing, etc.) was found to be associated with growth. Rather, growth appears to be a consequence of the interaction of multiple management activities (and the diversity of management experience that results) and the owners' determination that their firms would grow.

These findings provide important new insights about the growth of Canadian small firms and the importance of the psychological aspects of firm performance. While the research literature about firm growth has emphasized the association between factors such as innovation and the adoption of new technologies (Mathews, 2002), these findings suggest that the primary factors driving firm growth are owner's growth intentions and diversity of managerial ability. These associations are presented in the revised conceptual model of firm performance presented in Figure 5. The implications of these findings for public policy are now considered.

8.3 Summary

The theoretical model that underlies this study posits that the success factors associated with business ownership are a composite of pecuniary and non-pecuniary factors and that firm performance reflects owner and firm attributes. Empirically, firm performance was indeed found to be a multi-dimensional concept. Therefore, a multivariate statistical framework was employed to examine the linkages among perceptions of success, management competency measures, and firm performance. The vector of dependent variables included owners' self-scored achievement with respect to market acceptance, self-fulfillment, personal welfare, and financial performance as well as the four-year change in annual revenues. Independent potential causal variables included various measures of depth and breadth of management competency. Control variables included "tombstone" data about firms (age of owner, sectoral dummy variables, age of firm, gender of owner, and previous participation in business-related training), and the factor variable was owners' growth intentions.

The results confirmed that the two groups of firms (those whose owners seek growth, those whose owners do not seek growth) differ significantly in terms of their performance after taking into account the other independent variables. In particular, revenue growth is found to be significantly associated with intention to grow. The analysis also indicates that the five dimensions of performance/success also differ significantly across the growth intention factor and are related to specific management competencies.

- Success with respect to market acceptance has a statistically significant association with: general management skills; network management skills, and personal welfare management skills.
- Success with respect to self-fulfillment has a statistically significant association with: general management skills and network management skills.
- Success with respect to personal welfare has a statistically significant association with general management skills, network management skills, personal welfare management skills, and, intention to grow.

Success with respect to financial performance has a statistically significant association with: general management skills, HR management skills, network management skills, and, personal welfare management skills.

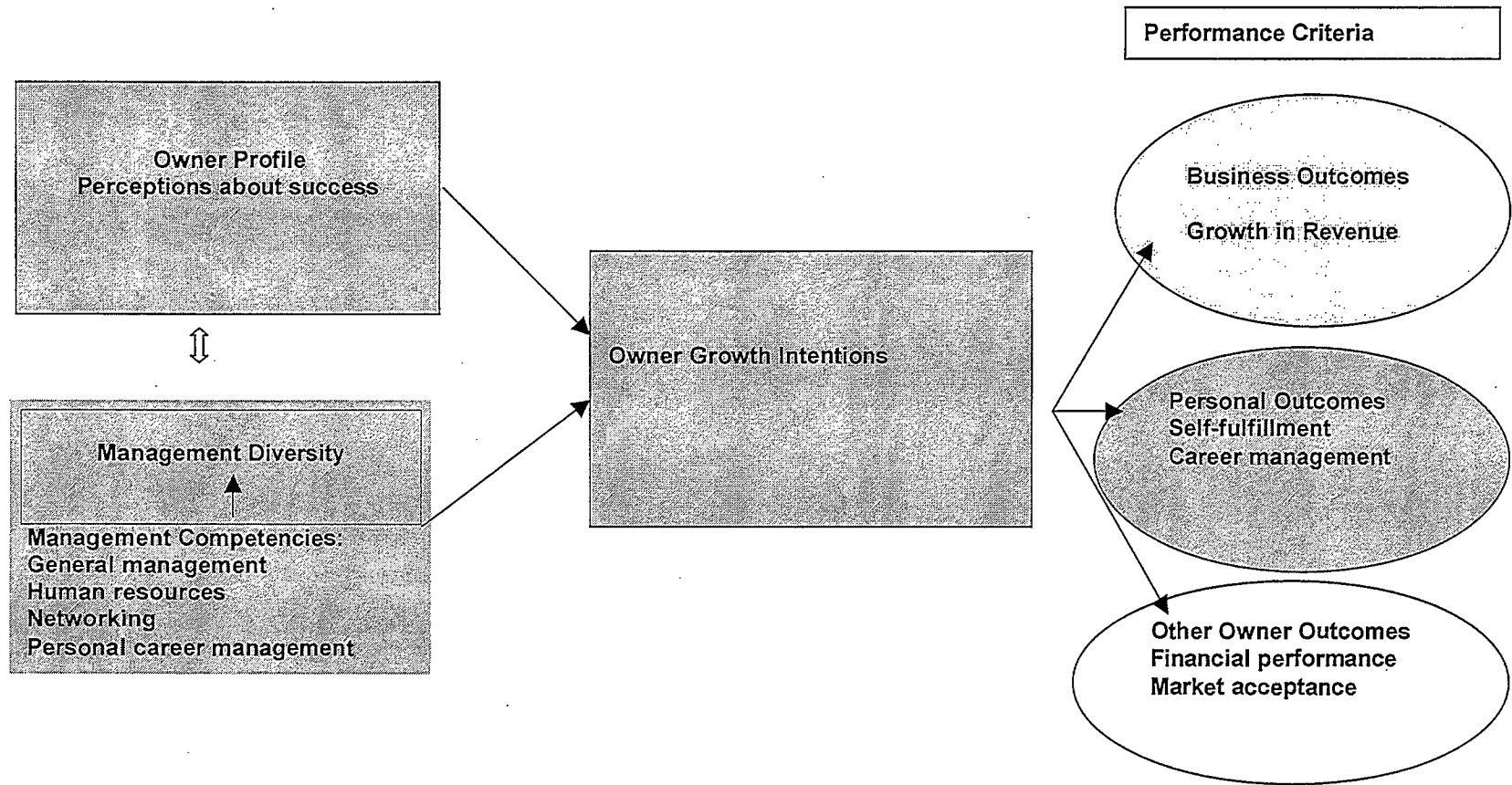
Further analysis revealed that growth in revenues was significantly correlated with the diversity, or breadth, of management skills and with the owners' intentions to pursue growth. Revenue growth was also inversely correlated with the importance owners accorded the self-fulfillment success criterion. This makes sense if owners who prioritize intellectual activities, spiritual well being, maintaining professional autonomy and community relations are significantly less likely to grow their firms. No single specific management competency (e.g., financial competency, marketing, etc.) was found to be associated with growth. Rather, growth appears to be a consequence of the interaction of multiple management activities (and the diversity of management experience that results) as well as the owners' determination that their firms would grow.

Table 27:
OLS Regression Results, Revenues Growth and Management Ability Measures*

Variables	All Firms				Employer Firms			
	Full Model		Reduced Model		Full Model		Reduced Model	
	Coefficient Estimate	p-value	Coefficient Estimate	p-value	Coefficient Estimate	p-value	Coefficient Estimate	p-value
Constant	13.9447	0.000	13.718	0.000	13.9210	0.000	13.6060	0.000
Management diversity measure	0.0265	0.140	0.100	0.093	0.1375	0.186	0.106	0.260
Intention to Expand (2001)	0.1227	0.036	0.013	0.003	0.1402	0.082	0.205	0.005
Factor Score, 'Self-fulfillment'	-0.0851	0.005	-0.090	0.003	-0.1113	0.007	-0.106	0.009
R-Squared	0.133		0.110		0.149		0.107	
Adjusted R-Squared	0.075		0.096		0.068		0.087	
F Statistic	2.272		7.681		2.085		5.400	
Significance level of regression	0.011		0.000		0.087		0.002	

*This table shows only those variables determined to be statistically significant. Appendix F describes all variables entered in the initial analysis.

Figure 5: Empirical Model of Firm Performance (Orser and Riding, 2003)



9 Summary and Recommendations

This pilot study has reported on two relatively unexplored aspects of firm performance: the roles of management competencies and owners' perceptions about success. This section summarizes the observations that will help to further inform public policy and future research.

The findings suggest that success is a function of four criteria: *market acceptance* (including customer relations, product or service quality, and environmental impact); *self-fulfilment* (including the pursuit of intellectual activities, spiritual well-being, maintaining professional autonomy and community relationships); *personal welfare* (including maintaining personal relationships, work/life balance, and personal goods acquisition) and *financial success* (including firm profitability and operating performance and generating income). These success or performance factors, in turn, influence owner growth intentions and subsequent firm growth.

Among those business owners that sought growth, three underlying strategies were identified: *the upgrading of resources* (including seeking financial advice, assistance from government agencies or programs, adding new equipment or operating space, hiring additional employees); *product development* (including improving existing products and services, adding new products and services, employing additional technology) and *market development* (includes seeking international markets, selling over the internet and expanding advertising and promotion). Among those owners who intended to grow their firm, the upgrading of resources was associated with higher levels of revenue growth than the other two strategies.

Firm growth was found to be directly associated with diversity of management experience and owners' growth intentions. These two factors underlie all other owner and firm attributes that have historically been associated with firm growth. Growth also appears to be inversely correlated with owners' needs for self-fulfillment, indicating that growth entails a sense of personal sacrifice.

9.1 Management competencies

The study revealed that many business owners perceive themselves to be relatively well versed in supplier/client relationships, small business management and pricing. However, few business owners cited experience in those aspects of management associated with innovation. Finance and operations management were also found to be relatively weak areas of management competence.

Given the focus of Industry Canada's economic development strategy of innovation, several policy implications ensue:

- There remains the need to continue communicating to business owners the relevance of those management activities associated with innovation (e.g., electronic commerce, accessing industry information and adopting new technology). For example, small business training should include discussions about the relative absence of these skills

and the potential competitive advantage of acquiring expertise in these management competencies. Case studies would be helpful in terms of profiling how business owners have acquired this type of experience and the subsequent impact on their firm's performance.

- The relative lack of operations management experience suggests a need for skill development as this area of management is sometimes overlooked in training programs. These management activities are particularly important given the study finding that those business owners that emphasize the upgrading of resources (an operational strategy) benefit from the largest change in annual revenues over the 4-year study period.
- To develop further owners' finance skills and competencies, Industry Canada should continue to work with organizations like The Canadian Bankers Association to develop training resources focused on finance skills and competencies. Small business training advisors might also benefit from further training in this area.
- The finding that women bring significantly fewer years of management experience to their businesses, yet perceive themselves to be equally experienced, suggests that some women may not fully comprehend the competencies that their male competitors retain. Women business owners may benefit from being made aware of the significant differences in management experience from their male counterparts. Hence, reporting about the importance of management competencies should include benchmarks to compare level of experience by gender.
- Furthermore, training programs and funding that focus exclusively on innovation and technology, without consideration of the psychological aspects of firm ownership, negate important drivers of firm growth. For example, training programs could provide owners with opportunities to explore their motives of firm ownership and a better understanding of the consequences of not seeking growth (e.g., cost of capital, lower survivorship rates, lack of market acceptance). Such programs might usefully address the personal sacrifices that business owners perceive as being associated with firm growth.

9.2 Future Research

This research suggests that further investigation of the role of management competencies, growth intention, perceived success and firm performance is warranted. Furthermore, the Management Competency Index appears to be a reliable composite measure of the diversity of owner manager experience. However, the following recommendations should be considered prior to a large-scale survey:

- The 25 variables used to assess managerial competencies should not be reduced. This recommendation reflects the finding that breadth or diversity of management experience is a better indicator of firm performance than specific areas of management.
- The 18 success criteria can be effectively reduced into four success factors: market acceptance, self-fulfillment, personal welfare and financial outcomes.

- The influence of owner intention is a key indicator of firm growth and should be included in all future SME research that seeks to understand the dynamics of firm growth. The absence of this factor in other research studies leads to missing variable bias the consequences of which can be profound.

Finally, it is worth investigating the linkages between management competencies, and access to capital. Suppliers of capital have traditionally identified management abilities of the entrepreneur as an important element in lending and investment decisions. It may be helpful to account for differences in management ability in accounting for what might otherwise appear to be a financing gap. Industry Canada's Financing Data Initiative appears to be an appropriate venue for researching these potential linkages.

10 Appendix A: 2003 Industry Canada Survey

Hello, may I speak with <first name last name> _____ ?

- Available..... **1** **CONTINUE**
- Not available / call back later..... **2** **When would be the best time to call back Ms. / Mr. _____ ? (Note date and time)**
- Refusal..... **99** **THANK AND TERMINATE**

Hello Ms. _____, my name is _____ and I work for Viewpoints Research, a national research firm. Last year you were kind enough to participate in a telephone survey conducted by Women's Enterprise Initiative. You may also recall receiving a letter from Industry Canada about a follow up study. I am calling in regards to the small business survey being conducted on behalf of Industry Canada. (PAUSE)

IF RESPONDENT DOES NOT RECALL INDUSTRY CANADA LETTER... The purpose of the telephone survey is to better understand the elements of business success and the links between management experience and business performance.

We would like to ask you a few questions that we estimate will take approximately 20 minutes of your time. Is this a convenient time?

- Yes..... **1** **CONTINUE**
- Not a good time..... **2** **Ms. / Mr. _____, when would be the best time to call you back ? (Note date and time) Thank you, we will call you back.**
- Refusal..... **99** **THANK AND TERMINATE**

Section A Performance Criteria

We would like to learn more about the criteria that you use to evaluate your business and personal activities. I'd like you to rate the importance of each of the following criteria using a scale from 1 to 5, where 1 means not important and 5 means very important. If the criteria is "not applicable" to you just say so. **ROTATE**

	PERFORMANCE CRITERIA	NOT IMPORTANT					VERY IMPORTANT		NA	DK/REF
A1	Profitability, for example return on capital invested and net profit.	1	2	3	4	5	6	7		
A2	Product or service quality (for example on-time delivery).	1	2	3	4	5	6	7		
A3	Operating performance, for example inventory turnover or financial ratios.	1	2	3	4	5	6	7		
A4	Customer relations (for example, corporate image or good will.)	1	2	3	4	5	6	7		
A5	Investor relations, for example shareholder or banking relations.	1	2	3	4	5	6	7		
A6	Employee relations for example, employee retention or employee satisfaction.	1	2	3	4	5	6	7		
A7	Employee productivity, for example revenue per employee.	1	2	3	4	5	6	7		
A8	Community relations, such as community recognition or working relationships in the community.	1	2	3	4	5	6	7		
A9	Environmental impact, for instance recycling or emission standards.	1	2	3	4	5	6	7		
A10	Creating employment opportunities by hiring people.	1	2	3	4	5	6	7		
A11	Market acceptance, for example recognition or product quality.	1	2	3	4	5	6	7		
A12	Generating income, for example, salary and financial security.	1	2	3	4	5	6	7		
A13	Maintaining relationships with friends, family and/or partner.	1	2	3	4	5	6	7		
A14	Managing work and life demands	1	2	3	4	5	6	7		

PERFORMANCE CRITERIA	NOT IMPORTANT			VERY IMPORTANT		NA	DK/REF
	1	2	3	4	5		
A15 Spiritual well-being for instance faith and spiritual needs.	1	2	3	4	5	6	7
A16 Pursuing intellectual activities, such as acquiring new knowledge.	1	2	3	4	5	6	7
A17 Maintaining professional autonomy or independence in decision making.	1	2	3	4	5	6	7
A18 Ability to acquire personal goods such as a house, car or the ability to travel.	1	2	3	4	5	6	7

Now thinking about the same criteria, I'd like to know to what extent you feel you have been successful in achieving them. Using a scale from 1 to 5, where 1 means very unsuccessful and 5 means very successful please tell me how you would rate your level of success. Again, if any of the criteria are not applicable to you, just say so.

Performance Criteria	Very unsuccessful			Very successful		NA	DK/REF
	1	2	3	4	5		
A19 Profitability, for example return on capital invested or net profit.	1	2	3	4	5	6	7
A20 Product or service quality (for example on-time delivery).	1	2	3	4	5	6	7
A21 Operating Performance, for example inventory turnover or financial ratios.	1	2	3	4	5	6	7
A22 Customer relations (for example, corporate image and good will.)	1	2	3	4	5	6	7
A23 Investor relations, for example shareholder or banking relations.	1	2	3	4	5	6	7
A24 Employee relations for example, employee retention or employee satisfaction.	1	2	3	4	5	6	7
A25 Employee productivity, for example revenue per employee.	1	2	3	4	5	6	7
A26 Community relations, such as community recognition or working relationships in the community..	1	2	3	4	5	6	7
A27 Environmental impact, for instance recycling or emission standards.	1	2	3	4	5	6	7

Performance Criteria	Very unsuccessful			Very successful			NA	DK/REF
A28 Creating employment opportunities by hiring people.	1	2	3	4	5	6	7	
A29 Market acceptance, for example recognition, product quality.	1	2	3	4	5	6	7	
A30 Generating income, for example, salary and financial security.	1	2	3	4	5	6	7	
A31 Maintaining relationships with friends, family and partner.	1	2	3	4	5	6	7	
A32 Managing work and life demands	1	2	3	4	5	6	7	
A33 Spiritual well-being, for example faith and spiritual needs.	1	2	3	4	5	6	7	
A34 Pursuing intellectual activities, such as acquiring new knowledge.	1	2	3	4	5	6	7	
A35 Maintaining professional autonomy or independence in decision making.	1	2	3	4	5	6	7	
A36 Ability to acquire personal goods such as a house, car or the ability to travel.	1	2	3	4	5	6	7	

Section B : Management Experience

The next few questions are about the amount of experience you have in various aspects of business. For each question I would like you to indicate your level of experience using a five point scale, where 1 means you have limited or no experience and 5 means you have extensive experience. If any of the experience criteria are "not applicable" to you or your firm, please say so.

	Limited or no Experience			Extensive Experience			NA	DK/REF
B37 Small business management, for example owned one or more small businesses in last 5 years.	1	2	3	4	5	6	7	
B38 Small business regulation, such as licensing or business permits.	1	2	3	4	5	6	7	
B39 Developing and executing business plans.	1	2	3	4	5	6	7	

		Limited or no Experience		Extensive Experience			NA	DK/REF
		1	2	3	4	5	6	7
B40	Operations management experience, for example managing multiple departments within a business or firm.	1	2	3	4	5	6	7
B41	Project management, such as integrating tasks, logistics and making time estimates.	1	2	3	4	5	6	7
B42	On-line communications such as e-mail and the Internet.	1	2	3	4	5	6	7
B43	Software skills, for example employing business software such as word processing and spreadsheets in business decision-making.	1	2	3	4	5	6	7
B44	Financial reporting such as tax planning or accounting practices.	1	2	3	4	5	6	7
B45	Accessing industry information through Canada Business Centres, Strategis or by retaining consultants.	1	2	3	4	5	6	7
B46	Employing advanced financial analysis such as return on investment, share-of-market and pro-forma statements.	1	2	3	4	5	6	7
B47	People management skills like hiring, firing or managing others.	1	2	3	4	5	6	7
B48	Professional networks or contacts in the community, trade or industry.	1	2	3	4	5	6	7
B49	Delegating to employees or contractors.	1	2	3	4	5	6	7
B50	Pricing goods or services.	1	2	3	4	5	6	7
B51	Developing relationships with suppliers and/or clients.	1	2	3	4	5	6	7
B52	Developing and commercializing a new product or service idea or concept.	1	2	3	4	5	6	7
B53	Using market research for competitive analysis, testing new services or products or estimating demand.	1	2	3	4	5	6	7
B54	Promotion and advertising.	1	2	3	4	5	6	7

		Limited or no Experience		Extensive Experience			NA	DK/REF
B55	Buying and selling commercial goods on the Internet.	1	2	3	4	5	6	7
B56	Adopting leading-edge industry technologies, for example business-to-business electronic marketing practices.	1	2	3	4	5	6	7
B57	Accessing new fields of knowledge, such as industry experts and research and development groups.	1	2	3	4	5	6	7

Now using a scale from 1 to 5, where 1 means limited knowledge and 5 means extensive knowledge, please rate your level of knowledge about each of the following.

		LIMITED KNOWLEDGE		EXTENSIVE KNOWLEDGE			NA	DK/REF
B57	Industry quality and performance standards, for example ISO guidelines.	1	2	3	4	5	6	7
B58	Knowledge about alternative sources of capital, for example debt and equity, credit or venture capital.	1	2	3	4	5	6	7

B59 Now using a scale from 1 to 5, please rate your personal career management, where 1 means you have struggled to maintain employment and 5 means you have achieved advancement and increased responsibilities during your career.

1 2 3 4 5 6 7

B60 Now using a scale from 1 to 5, please rate your personal time management, where 1 means you have difficulty juggling work and family demands and 5 means you are able to efficiently juggle work and family demands.

1 2 3 4 5 6 7

Section C

Background Information

In order for your responses to be more meaningful, we would like you to answer some questions that will be used only for statistical purposes. We want to reassure you that your answers will be kept confidential and that your answers will be combined with those of other participants in the survey only to calculate statistics.

C1 On average, excluding yourself, please tell me how many full time, part time or contract employees worked for your business during 2002?

Full-time paid employees (30 hours/week or more) _____

Part-time paid employees (less than 30/hours / week) _____

Contract workers _____

C2 Again, all information is confidential. For the most recent fiscal year, please tell me approximately what were the total revenues of the business?

\$ _____ *thousand* 1

\$ _____ *million* 2

Don't know / Refused 3

C3 If your business was operating three years ago, approximately what were the business' total revenues at that time?

\$ _____ *thousand* 1

\$ _____ *million* 2

Don't know / Refused 3

C4 Can you please tell me the sector that best represents the main activity of your business?

Service Industry

Wholesale Trade.....	01
Retail Trade.....	02
Transportation, Warehousing and Couriers.....	03
Information and Cultural Industries.....	04
Real Estate and Rental and Leasing.....	05
Professional, Scientific and Technical Services.....	06
Administrative, Support, Waste Management and Remediation Services.....	07
Educational Services.....	08
Health Care and Social Assistance.....	09
Arts, Entertainment and Recreation.....	10
Accommodation and Food Services.....	11
Goods Production Industry	
Agriculture.....	12
Forestry, Fishing and Hunting.....	13
Mining and Oil and Gas Extraction.....	14
Construction.....	15
<u>Manufacturing:</u>	
Non-durable goods, textiles, food, etc.....	16
Durable goods: raw material transformation.....	17
Durable goods: machinery, equipment, furniture.....	18
Other (specify below).....	19

C5 During the next two years, is it your intention to expand the size or scope of your business?

Yes.....	1	
No.....	2	GO
TO C7		
Don't know / Refused.....	3	GO
TO C7		

C6 To meet your growth intentions, approximately what level of annual sales would you like to reach two years from now? (If the respondent refuses: you can give me your answer in terms of growth percentage)

\$ _____ thousand	1
\$ _____ million	2
_____ % increase	3
Don't know / Refused	4

C7 We have completed all our questions and thank you for your assistance. Would you like to obtain information about our survey results?

Yes.....1
No.....2
..... *THANK & TERMINATE*
Don't know / Refused.....3
..... *THANK & TERMINATE*

Q8 Can I forward this information to your business address?
Yes.....1 *CONFIRM*
ADDRESS SAMPLE
No.....2

Q9 If no, where would you like the survey information sent?
FAX (____) _____ - _____
E-mail _____@_____

Again, thank you for taking the time to complete this questionnaire.

11 Appendix B: 2001 Women's Enterprise Initiative Project

11.1 2001 WEI Sample Survey (Training clients)

Section S	Screening
------------------	------------------

S1 Hello, may I speak with <firstname lastname> _____ ?

• Available	<input type="radio"/> O ₁ CONTINUE
• Not available / call back later.....	<input type="radio"/> O ₂ When would be the best time to call back Ms. _____ ? (Note date and time)
• Refusal.....	<input type="radio"/> O ₉₉ THANK AND TERMINATE

S2 Hello Ms. _____, my name is _____ and I work for Viewpoints Research, a national research firm. On behalf of Western Economic Diversification Canada, we have been engaged to learn about ways in which small- and medium-sized firms develop. The purpose is to help Western Economic Diversification Canada measure and enhance the effectiveness of some of its services. We hope to learn from your experience. We would like to ask you a few questions and we estimate that this will take no more than 15 minutes of your time. We do not think that we will be asking questions that are personal or sensitive in nature. Is this a convenient time?

• Yes.....	<input type="radio"/> O ₁ CONTINUE
• Not a good time.....	<input type="radio"/> O ₂ Ms. _____, when would be the best time to call you back ? (Note date and time) Thank you, we will call you back.
• Refusal.....	<input type="radio"/> O ₉₉ THANK AND TERMINATE

S3 Are you the owner or one of the owners of your company?

• Yes.....	<input type="radio"/> O ₁ CONTINUE
• No	<input type="radio"/> O ₂ MAY I SPEAK WITH HIM/HER (GET NAME) Repeat to S2.
• Refusal.....	<input type="radio"/> O ₉₉ THANK AND TERMINATE

S4 We want to assure you that your participation is voluntary. Your identity and the information you provide will remain confidential. The information will be combined with that of all survey participants and will be used only for research purposes.

Section A	Information on Service Providers
------------------	---

L1 In the last three years, have you participated in any business training, seminars, or one-on-one advising to help with the development of your business?

YES	<input type="radio"/> O ₁ →	GO TO QUESTION A2
-----	--	-------------------

NO	<input type="radio"/> O ₂	PROCEED TO NEXT SECTION
REFUSAL	<input type="radio"/> O ₉	PROCEED TO NEXT SECTION

For the next few questions, I would like you to base your answers on the most recent source of training or advising you have used.

L2 Was the activity best described as:

- (a) a seminar or course? O₁
- (b) one-on-one advising O₂
- (c) other (please describe) O₃

L3 We would like to learn about the topics you covered and to learn how helpful the activity was. To what extent would you agree or disagree with each of the following statements where strongly disagree = 1; neither agree nor disagree = 3 and strongly agree = 5. (do not read: 6=not covered, 7=don't know, refusal, etc.)

- The service helped me to develop the business concept 1-2-3-4-5 6 7
- The service helped me to start the business 1-2-3-4-5 6 7
- The service helped me to improve my operations management skills 1-2-3-4-5 6 7
- The service helped me to better understand financial risks 1-2-3-4-5 6 7
- The service helped me to build my business contacts or network 1-2-3-4-5 6 7
- The service helped me to build my self-confidence 1-2-3-4-5 6 7
- The service helped me to identify opportunities for growth 1-2-3-4-5 6 7
- The service helped me to access financing or loans 1-2-3-4-5 6 7
- The service helped me to improve my strategic management skills 1-2-3-4-5 6 7
- The service helped me to become better able to export 1-2-3-4-5 6 7
- The service helped me to expand my business 1-2-3-4-5 6 7
- The service helped me to evaluate my skills as an entrepreneur 1-2-3-4-5 6 7
- The service helped me to understand my market 1-2-3-4-5 6 7
- The service helped me to set the price of my product / service 1-2-3-4-5 6 7
- The service helped me to improve my personal financial welfare 1-2-3-4-5 6 7
- Other: _____ 1-2-3-4-5 6 7

L4 Since you used the services was the business able to hire additional full time employees or part-time employees, if so, how many? (Full time employees are defined as those working more than 30 hours per week).

- Yes, _____ full time employees
- Yes, _____ part time employees
- No
- Refusal-999

L5 Since you used the services was the business able to increase sales, if so, by what percentage change?

- Yes, by _____ %
- NO (=000%)
- Refusal-999

L6 Before you used the services was the business struggling?

- Yes O₀₁

- No 02
- Refusal 99

L7 Did the service save you from going into a business that probably would have failed?

- Yes 01
- No 02
- Refusal 99

SECTION R	Information about the respondent
------------------	---

In order for your responses to be more meaningful, we would like you to answer some questions that will be used only for statistical purposes. We want to reassure you that your answers will be kept confidential and that your answers will be combined with those of other participants in the survey only to calculate statistics.

R1. Please tell me which age category you are in: _____
(If necessary, read following categories):

- Less than 30 01
- 30-39..... 02
- 40-49..... 03
- 50-59..... 04
- More than 59..... 05
- Refusal (do not read) 09

R2. Are you...? (Read)

	YES	NO	REFUSAL
R3a. a person with a disability	<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 09
R3b. aboriginal	<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 09
R3c. a member of a visible minority	<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 09

R3. What is the highest level of education that you have completed? (If necessary, read following categories):

-Elementary school 01
-High school 02
-Some college 03
-College 04
-Some university 05
-University 06
-Other (specify) 07
-Refusal 09

R4. Did you (the owner) create or participate in the creation of this business?

-Yes 01
-No 02

.....Refusal O₉

R5. Are you (is the main owner) also the manager of the business?

-Yes O₁
-No O₂
-Dk/Na O₉

R6. How many years of business management experience do you (does the owner) have in total?

_____ Years Dk/Na..... O₉₉₉

R7. How many years of business management experience do you (does the owner) have in the present business.

_____ Years Dk/Na..... O₉₉₉

R8. During the next two years, is it your intention to expand the size or scope of your business?

-Yes O₀₁ **SKIP TO QUESTION R10**
-No O₀₂ **PROCEED TO QUESTION R9**
-Refusal O₉₉ **THANK AND CONTINUE TO**

SECTION B

R9. **ONLY FOR THOSE TO RESPOND 'NO' TO R8.** How important is each of the following factors as a reason for your intention not to expand? Please answer on a scale of 1 to 5 where 1=not at all a reason 5= an extremely important reason.

Market not growing	1	2	3	4	5	6
Do not want to lose control over the business.....	1	2	3	4	5	6
Taxes will become too high	1	2	3	4	5	6
Lack of growth capital	1	2	3	4	5	6
Reluctant to incur additional debt.....	1	2	3	4	5	6
Family obligations.....	1	2	3	4	5	6
Other lifestyle considerations.....	1	2	3	4	5	6
Risks are too high.....	1	2	3	4	5	6
Expansion does not seem feasible	1	2	3	4	5	6
Content with the way things are.....	1	2	3	4	5	6
Are there any other significant obstacles to growth that I haven't mentioned?:						
_____	1	2	3	4	5	6

CONTINUE TO SECTION B

R10. **FOR THOSE WHO RESPONDED 'YES' TO R8.** In what respects do you plan to expand your business?

Product or service lines O₁

Staff	<input type="radio"/> ₂
Assets	<input type="radio"/> ₃
Geographically	<input type="radio"/> ₄
Other	<input type="radio"/> ₅
Refusal	<input type="radio"/> ₉

R11. To meet your objectives, approximately what level of annual sales would you like to reach two years from now? (If the respondent refuses: you can give me your answer in terms of growth percentage):

_____ dollars OR _____% Refusal..... ₉₉₉₉₉₉₉₉₉

R12. In seeking to expand your business, what would you say are the biggest obstacles to the growth or development of your business? To answer, please rate each of the following potential obstacles on a 5-point scale where 1 = not at all an obstacle to growth and 5 = a significant obstacle to growth

(Prompt if necessary by reading and rotating / Several mentions possible)

Finding qualified labour	1	2	3	4	5	6
The need to renew or add to equipment	1	2	3	4	5	6
Instability of demand for product or service	1	2	3	4	5	6
Obtaining financing.....	1	2	3	4	5	6
Government regulations	1	2	3	4	5	6
Management skills, knowledge, business acumen of the management team.....	1	2	3	4	5	6
Low profitability of the sector	1	2	3	4	5	6
Taxation levels	1	2	3	4	5	6
Lack of consumer awareness	1	2	3	4	5	6
Small market base.....	1	2	3	4	5	6
High cost of goods.....	1	2	3	4	5	6
Being taken seriously	1	2	3	4	5	6
Family and social demands outside the business.....	1	2	3	4	5	6
My confidence in my own ability to move forward.....	1	2	3	4	5	6

R13. Again using a five-point scale, how important are each of the following as elements in your strategy towards accomplishment of your revenues goals (1=not at all important; 5=extremely important)?

Adding a new product or service.....	1	2	3	4	5	6
Improving existing products or services.....	1	2	3	4	5	6
Seeking new domestic markets	1	2	3	4	5	6
Seeking new international markets.....	1	2	3	4	5	6
Selling over the internet.....	1	2	3	4	5	6
Expanding advertising and promotion.....	1	2	3	4	5	6
Adding new equipment or operating space.....	1	2	3	4	5	6
Upgrading operations	1	2	3	4	5	6
Employing additional technology or computer systems.....	1	2	3	4	5	6
Hiring additional employees.....	1	2	3	4	5	6
Seeking financing advice	1	2	3	4	5	6
Seeking professional advice.....	1	2	3	4	5	6
Assistance from <name of WEI in province>.....	1	2	3	4	5	6
Improving my business management skills	1	2	3	4	5	6

R14. Are there any other significant obstacles or strategies with respect to your growth objectives that I haven't mentioned?

SECTION B	Information about the Business
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(Interviewer : For all the classification questions, if the respondent will not or cannot provide an exact answer, INSIST on an approximate figure.)

B1. In what year was the business created? _____ Refusal..... O₉₉₉₉

B2. On average, excluding yourself, how many (read) worked for your business during the year 2001:

- *hours/week or more*: *Full-time employees (30*
_____ DK/NA O₉₉₉₉₉
- *30 hours/week*: *Part-time employees (less than*
_____ DK/NA O₉₉₉₉₉

B3. Businesses grow, mature and wind down. Of the following, which would best describe the stage of your business at the present time?

- (Read / Only one mention possible / Read descriptions if necessary)
- **Start-up stage** (The product is clearly defined or the prototype is finished) O₂
 - **Initial growth stage** (initial sales are occurring) O₃
 - **Fast-growth stage** (sales are growing at a rate faster than the economy)..... O₄
 - **Maturity** (the firms is established with steady sales have stopped growing)..... O₅
 - **Turnaround stage** (sales are declining but have potential to recover)..... O₆
 - **Winding down stage** (sales have started to decrease) O₇
 - **Closed** (business is no longer operating) O₈
 - **DK/NA**..... O₉

B4. For the most recent fiscal year, what percentage of your business' total assets were acquired through loans or leases? Would you say....? (Read / Only one mention possible)

- Less than 20% O₁
- 20 to 40% O₂
- 41-60% O₃
- More than 60% O₄
- Dk/Na O₉

B5. For the most recent fiscal year, please tell me approximately what were the business' total revenues? (*This will remain confidential, and will be used only to categorize businesses for statistical purposes.*)

• \$ _____

If your business was operating three years ago, approximately what were the business' total revenues at that time? \$ _____?

-Not operating three years ago
-DK
-Refusal

THANK AND TERMINATE

11.2 Methodology and Research Design

The WEI (2001) study employed fieldwork that included:

- a large-scale telephone survey of WEI services and loans clients;
- a large-scale telephone survey of a random sample of Western Canadian business owners;
- in-depth structured telephone interviews with WEI management; and,
- on-site visits and consultations with senior WEI staff regarding WEI service delivery.

To derive sampling frames of potential telephone respondents, it was necessary to draw from the databases of WEI clients in each of the four western provinces. Each of the WEI agencies maintains descriptive and client contact data in electronic form, including client names, telephone numbers, and fax numbers.

Data for the control group of business owners was obtained from a commercial database. Data drawn from WEI client databases provided a preliminary outline of sectors and stages of WEI client firms. The control group data were extracted so as to match, as closely as possible, both stage and sector of firms on the WEI client listings. The detailed sampling plan follows.

11.2.1 Sampling Framework

11.2.1.1 Survey of WEI Services Recipients

Originally, WEI estimated that the four agencies have collectively worked with more than 30,000 training clients and approximately 3,000 business advisory clients. Subsequent inspection of the client databases revealed that it was difficult to separate services clients across these dimensions. Some clients often used both categories of services while, for other clients, contact was fleeting. The majority of the 33,000 clients had relatively little contact with WEI staff. In many cases, contacts comprised either a single training session or a telephone inquiry. To distinguish "frequent" from "infrequent" clients, a two-step procedure was employed.

1. In the first step, within each province, "frequent" and "infrequent" clients were distinguished on the basis of rankings of total number of contact occasions according to the respective WEI client tracking databases. In most instances, "frequent" clients were defined as those who had more than one interaction with the WEI agency. This resulted in 2,493 "frequent" clients and almost 34,638 "infrequent" clients. While somewhat rudimentary, this breakdown formed a reasonable and practical basis for the sampling plan, which sought to gather 1,000 responses by using a census of the population of "frequent" services clients augmented by a 15 percent random sample from among the "infrequent" clients.
2. Of the 8,081 potential contacts, only 4,882 were valid contacts (excludes invalid numbers which included not-in-service numbers (NIS), wrong numbers, fax/modem telephone lines, respondent not the owner). In total, 913 completed questionnaires were obtained, an overall 11 percent response rate

based on 8,081 attempted contacts and a response rate of 18.7 percent based on valid contact information. Each respondent to the survey was asked to describe the nature of her interaction with the WEI agency. On the basis of the answers to the query, respondents were grouped into four categories: clients who had received only business advice or coaching; training-only clients; clients who had received both advice and training ("high intensity clients"); and, clients who had received neither ("low intensity clients").

11.2.1.2 Survey of WEI Loan Recipients

The WEI loan recipient database included a population of 549 unique loans recipients. Among these, the contact telephone numbers extracted from the databases were invalid for 71 individuals, leaving a feasible sample of 468 contactable loans recipients. Of these, 205 completed surveys were obtained (a response rate of 43.8%).

11.2.1.3 Control Group Survey

A control group of business owners was selected randomly from standard commercial databases. The control group was selected by randomly drawing from firms located in the four Western provinces with selections matched to the three sectors most frequently represented among WEI client firms. The resulting sample of 1,002 respondents represented each of the four provinces evenly. The sectoral breakdown of the control group comprised 7.1 manufacturing firms, 34.7 percent services sector businesses, and the balance, 58.4 percent, in the retail and wholesale sector.

The proportion of women owners in the control group, 31 percent, is in line with the proportion of the female owners in the general population, especially given that the control group was selected by matching firms by sector and size (relatively more firms in services sector and trade sectors) with the sectoral and size breakdowns in the WEI client base.

12 Appendix C: Introductory Letter

June 13, 2003

NAME

Name of Firm

Address1

Address2

City, Province

Postal Code

Dear Suffix Last Name:

You may recall participating in a survey last year sponsored by Western Economic Diversification and the Women's Enterprise Initiative. We are contacting you again to ask for your participation in a follow-up survey that seeks to identify the linkage between management experience and business performance. The survey is part of a larger project to develop a practical tool to help small business owners evaluate their skills and management experience.

Dr. Barbara Orser of Carleton University was and is the principal researcher on both surveys. Dr. Orser has contracted Viewpoints Research Limited of Winnipeg to administer the follow-up telephone survey. In the next few days a researcher from Viewpoints Research will call you. The survey will take approximately 20 minutes of your time.

We wish to assure you that any information supplied through the survey will remain confidential and will only be used for statistical and analytical purposes. Neither Industry Canada nor its partners will publish the input from individual companies. Only the collective information, from which the input from individual participants cannot be discerned, will be published.

We will be glad to share the results of this survey with you when the analysis has been completed, expected this fall. When you are contacted you will be asked whether you wish to receive the report. In the meantime, should you have any questions or concerns about this research project, please contact Ginny Devine, President of Viewpoints Research at (204) 988-9253 or, alternatively, Dr. Barbara Orser at (613) 520-2600 ext 2033.

Thank you in advance for your cooperation.

Sincerely yours,

Robert Dunlop
Director General
Small Business Policy Branch

13 Appendix D: Sampling Frame

Sampling Frame: 2001 WEI Survey

The 2001 WEI sampling frame was selected randomly from standard commercial databases. The control group was selected by randomly drawing from firms located in the four Western provinces with selections matched to the three sectors most frequently represented among WEI client firms. The resulting sample of 1,002 respondents represented each of the four provinces evenly (see Table A-1).³⁰ The surveys were conducted by telephone using structured questionnaires approved by the WEI Research Committee.

The proportion of women owners in the sample, 31 percent, is in line with the proportion of the female owners in the general population,³¹ especially given that the control group was selected by matching firms by sector and size (relatively more firms in services sector and trade sectors) with the sectoral and size breakdowns in the WEI client base.

Table A-1: Sampling Breakdown for WEI 2001 Survey

	Number of Respondent	Women Owners (Proportion)
BC	250	88 (35%)
Alberta	250	73 (29%)
Saskatchewan	252	75 (30%)
Manitoba	250	71 (28%)
Total	1,002	307 (31%)

³⁰ Therefore, its composition reflects the gender balance obtained from a random draw, matched by industry and is not directly generalizable to the wider population of SMEs.

³¹ For example, Statistics Canada (Labour Force Update: The Self-Employed, Ottawa: Catalogue Number 71005-XPB, 1997) women now comprise approximately 34 percent of the total self-employed workforce.

14 Appendix E: Principal Component Analysis of Success Criteria

The following two tables present the results of the principal components analysis for the success criteria scales for respondents of employer firms and non-employer firms, respectively. Factor analysis identified four factors that appear to form much of the basis behind respondents' ratings of the importance of the 18 measures of performance criteria (perceptions of success).

For the 223 employer firms used here, the four factors together explained 56.7 percent of the total variation across the scales. Inspection of the scales that "loaded" on (can be thought of as correlation with the unobservable underlying factor) each of the factors helps identify the nature of these factors.

Likewise, the factor analysis reported for non-employer-firms also identified four factors that together explained 59.0 percent of the underlying variance among the 14 scales.³² Inspection of the items that loaded on each of the underlying factors reveals the nature of the independent forces that generated patterns among the responses.

Inspection of the following tables reveals several similarities or patterns across the two categories of individuals. The 4 factors are broadly similar between the two types of businesses.

- For both sets of respondents, factor 1 embraces variables that relate to personal criteria in various forms and includes performance criteria such as maintaining personal relationships and professional autonomy, work/life balance, customer relations, personal goods acquisition and pursuing intellectual activities.
- Factor 2, external commercial reflects success criteria such as market acceptance including product or service quality, customer relations and market acceptance.
- The third factor includes external and financial outcomes.
- The two groups of owners define the remaining factor somewhat differently, with only the "profitability" variable in common.

³² The four scales that related to employees (as well as that which related to investor relations) were not included in this analysis given that these firms did not have employees and that these scales were not applicable.

Table A-2:
Principal Components: Success Criteria, Employers

	Internal Personal	External Commercial	External Personal	Internal Commercial
Personal goods acquisition	0.73			
Work life balance	0.72			
Generating income	0.68			
Pursuing intellectual activities	0.48		0.41	
Maintaining professional autonomy	0.46			
Product or service quality		0.75		
Customer relations		0.68		
Market acceptance		0.53		
Maintaining personal relationships	0.45	0.52		
Community relations			0.63	
Creating employment			0.62	
Environmental impact			0.61	
Employee relations			0.43	
Profitability				0.72
Operating performance				0.62
Investor relations				0.51
Employee productivity				0.48
Spiritual well-being				0.44
Eigenvalues	4.35	1.55	1.34	1.19

Table A-3:
Principal Components: Success Criteria, Non-Employers

	Internal Personal	Market Acceptance	Financial Outcomes	Personal Well Being
Maintaining personal relationships	0.81			
Work life balance	0.75			
Maintaining professional autonomy	0.64			
Market acceptance		0.80		
Environmental impact		0.68		
Operating performance		0.61		
Product or service quality		0.60		
Customer relations	0.44	0.47		
Profitability			0.82	
Generating income			0.72	
Personal goods acquisition	0.43		0.54	
Spiritual well-being				0.74
Pursuing intellectual activities	0.41			0.56
Creating employment				0.56
Community relations	0.41			0.54
Eigenvalues	3.93	1.85	1.46	1.31

Table A-4 summarizes those success criteria that were common to all respondents.

**Table A-4:
Performance Criteria: Principal Components and Common Scales**

Criteria Common to Employers and non-Employers
<ul style="list-style-type: none">• Personal goods acquisition• Work life balance• Pursuing intellectual activities• Maintaining professional autonomy• Maintaining personal relationships• Product or service quality• Customer relations• Market acceptance• Community relations• Creating employment• Profitability

The common success criteria were then entered into principal components analysis presented in the body of the report. The four scales that related to employees (as well as that which related to investor relations) were not included in this analysis given that these firms did not have employees and that these scales were not applicable.

15 Appendix F: Full MANCOVA Model

Table F1: Full MANCOVA Model: Group Difference

Effect	Hotelling's Trace	F-Statistic	p-value
Owner a university graduate	5.382	114.11	0.000
Age of owner	0.032	0.69	0.635
Owner's experience	0.033	0.70	0.621
Management diversity measure	0.029	0.61	0.696
Gender of owner	0.071	1.50	0.196
Services sector flag	0.053	1.12	0.356
Retail sector flag	0.029	0.61	0.694
Goods sector flag	0.012	0.25	0.938
Age of firm	0.016	0.33	0.895
Owner has participated in training	0.022	0.47	0.796
General management skills	0.042	0.90	0.483
Planning skills	0.067	1.42	0.222
Operations skills	0.037	0.78	0.566
Technology skills	0.038	0.80	0.554
Finance skills	0.071	1.50	0.197
HR skills	0.086	1.82	0.115
Networking skills	0.181	3.84	0.003
Marketing skills	0.114	2.42	0.040
Personal management skills	0.029	0.61	0.696
No growth intention	0.400	8.49	0.000
Growth intention	0.042	0.90	0.487
Market acceptance goal	0.141	2.99	0.014
Personal fulfillment goal	0.505	10.71	0.000
Personal welfare goal	0.354	7.50	0.000
Financial performance goal	0.003	0.07	0.997

Table F2: Full MANCOVA Model: Tests of Between-Subjects Effects

Source	Dependent Variable	F-Statistic	p-value
Model	4-yr Sales Growth	0.64	0.898
	Success on market acceptance criterion	5.44	0.000
	Success on self-fulfillment criterion	6.24	0.000
	Success on personal welfare criterion	7.84	0.000
	Success on financial performance criterion	4.13	0.000
Intercept	4-yr Sales Growth	493.11	0.000
	Success on market acceptance criterion	16.92	0.000
	Success on self-fulfillment criterion	18.97	0.000
	Success on personal welfare criterion	9.90	0.002
	Success on financial performance criterion	0.00	0.945
Owner a university graduate	4-yr Sales Growth	1.03	0.313
	Success on market acceptance criterion	0.53	0.466
	Success on self-fulfillment criterion	0.06	0.810
	Success on personal welfare criterion	0.38	0.537
	Success on financial performance criterion	0.94	0.335
Age of owner	4-yr Sales Growth	0.74	0.391
	Success on market acceptance criterion	0.46	0.501
	Success on self-fulfillment criterion	0.83	0.365
	Success on personal welfare criterion	0.42	0.519
	Success on financial performance criterion	0.57	0.452
Owner's experience	4-yr Sales Growth	0.82	0.368
	Success on market acceptance criterion	1.15	0.286
	Success on self-fulfillment criterion	0.09	0.762
	Success on personal welfare criterion	0.02	0.897
	Success on financial performance criterion	1.31	0.255
Management diversity measure	4-yr Sales Growth	0.67	0.416
	Success on market acceptance criterion	0.51	0.476
	Success on self-fulfillment criterion	1.17	0.282
	Success on personal welfare criterion	0.70	0.403
	Success on financial performance criterion	5.61	0.020
Gender of owner	4-yr Sales Growth	0.49	0.487
	Success on market acceptance criterion	0.04	0.841
	Success on self-fulfillment criterion	0.04	0.845
	Success on personal welfare criterion	4.30	0.040
	Success on financial performance criterion	0.65	0.421
Services sector flag	4-yr Sales Growth	0.10	0.753
	Success on market acceptance criterion	0.60	0.439
	Success on self-fulfillment criterion	0.15	0.702
	Success on personal welfare criterion	0.48	0.490
	Success on financial performance criterion	2.25	0.136
Retail sector flag	4-yr Sales Growth	0.00	0.979
	Success on market acceptance criterion	0.28	0.597
	Success on self-fulfillment criterion	0.22	0.643
	Success on personal welfare criterion	0.12	0.726

Source	Dependent Variable	F-Statistic	p-value
	Success on financial performance criterion	0.74	0.393
Goods sector flag	4-yr Sales Growth	0.02	0.886
	Success on market acceptance criterion	0.71	0.401
	Success on self-fulfillment criterion	0.24	0.626
	Success on personal welfare criterion	0.00	0.962
	Success on financial performance criterion	0.02	0.881
Age of firm	4-yr Sales Growth	0.02	0.891
	Success on market acceptance criterion	0.03	0.872
	Success on self-fulfillment criterion	0.32	0.574
	Success on personal welfare criterion	1.65	0.202
	Success on financial performance criterion	0.59	0.445
Owner has participated in training	4-yr Sales Growth	1.10	0.296
	Success on market acceptance criterion	0.64	0.424
	Success on self-fulfillment criterion	1.18	0.281
	Success on personal welfare criterion	0.89	0.347
	Success on financial performance criterion	2.64	0.107
General management skills	4-yr Sales Growth	0.31	0.582
	Success on market acceptance criterion	5.12	0.026
	Success on self-fulfillment criterion	4.09	0.046
	Success on personal welfare criterion	2.50	0.117
	Success on financial performance criterion	1.31	0.255
Planning skills	4-yr Sales Growth	0.01	0.935
	Success on market acceptance criterion	3.33	0.071
	Success on self-fulfillment criterion	0.07	0.797
	Success on personal welfare criterion	0.36	0.551
	Success on financial performance criterion	0.67	0.416
Operations skills	4-yr Sales Growth	0.40	0.528
	Success on market acceptance criterion	0.33	0.564
	Success on self-fulfillment criterion	0.59	0.442
	Success on personal welfare criterion	0.18	0.676
	Success on financial performance criterion	2.67	0.105
Technology skills	4-yr Sales Growth	0.01	0.913
	Success on market acceptance criterion	5.62	0.020
	Success on self-fulfillment criterion	0.46	0.500
	Success on personal welfare criterion	3.76	0.055
	Success on financial performance criterion	0.60	0.442
Finance skills	4-yr Sales Growth	0.09	0.766
	Success on market acceptance criterion	0.37	0.547
	Success on self-fulfillment criterion	1.31	0.255
	Success on personal welfare criterion	1.35	0.248
	Success on financial performance criterion	7.69	0.007
HR skills	4-yr Sales Growth	0.11	0.737
	Success on market acceptance criterion	1.87	0.174
	Success on self-fulfillment criterion	0.56	0.457
	Success on personal welfare criterion	0.25	0.621
	Success on financial performance criterion	12.39	0.001
Networking skills	4-yr Sales Growth	1.52	0.220

Source	Dependent Variable	F-Statistic	p-value
	Success on market acceptance criterion	5.09	0.026
	Success on self-fulfillment criterion	7.21	0.008
	Success on personal welfare criterion	0.06	0.799
	Success on financial performance criterion	0.01	0.922
Marketing skills	4-yr Sales Growth	0.04	0.835
	Success on market acceptance criterion	0.78	0.378
	Success on self-fulfillment criterion	0.06	0.813
	Success on personal welfare criterion	0.12	0.728
	Success on financial performance criterion	0.77	0.381
Personal management skills	4-yr Sales Growth	0.51	0.479
	Success on market acceptance criterion	2.02	0.158
	Success on self-fulfillment criterion	0.63	0.430
	Success on personal welfare criterion	40.33	0.000
	Success on financial performance criterion	5.31	0.023
Growth Intention	4-yr Sales Growth	0.64	0.425
	Success on market acceptance criterion	0.39	0.535
	Success on self-fulfillment criterion	0.79	0.376
	Success on personal welfare criterion	1.24	0.268
	Success on financial performance criterion	0.51	0.478
Market acceptance goal	4-yr Sales Growth	0.00	0.964
	Success on market acceptance criterion	7.78	0.006
	Success on self-fulfillment criterion	8.55	0.004
	Success on personal welfare criterion	0.55	0.461
	Success on financial performance criterion	0.02	0.876
Personal fulfillment goal	4-yr Sales Growth	3.96	0.049
	Success on market acceptance criterion	5.00	0.027
	Success on self-fulfillment criterion	52.37	0.000
	Success on personal welfare criterion	2.55	0.113
	Success on financial performance criterion	1.34	0.250
Personal welfare goal	4-yr Sales Growth	0.31	0.578
	Success on market acceptance criterion	0.96	0.328
	Success on self-fulfillment criterion	6.08	0.015
	Success on personal welfare criterion	35.34	0.000
	Success on financial performance criterion	5.44	0.022
Financial performance goal	4-yr Sales Growth	0.07	0.785
	Success on market acceptance criterion	0.05	0.832
	Success on self-fulfillment criterion	0.01	0.911
	Success on personal welfare criterion	0.05	0.821
	Success on financial performance criterion	0.09	0.760

Table F3: Full MANCOVA Model: Parameter Estimates

Dependent Variable	Explanatory Variables	Coefficient Estimate	t-value	p-value
4-yr Sales Growth	Intercept	14.24	22.23	0.000
	Owner a university graduate	-0.08	-1.01	0.313
	Age of owner	0.01	0.86	0.391
	Owner's experience	0.00	-0.90	0.368
	Management diversity measure	0.02	0.82	0.416
	Gender of owner	-0.08	-0.70	0.487
	Services sector flag	-0.06	-0.32	0.753
	Retail sector flag	0.00	-0.03	0.979
	Goods sector flag	0.03	0.14	0.886
	Age of firm	-0.01	-0.14	0.891
	Owner has participated in training	-0.10	-1.05	0.296
	General management skills	-0.07	-0.55	0.582
	Planning skills	-0.01	-0.08	0.935
	Operations skills	0.06	0.63	0.528
	Technology skills	-0.01	-0.11	0.913
	Finance skills	-0.02	-0.30	0.766
	HR skills	-0.02	-0.34	0.737
	Networking skills	-0.10	-1.23	0.220
	Marketing skills	0.02	0.21	0.835
	Personal management skills	0.05	0.71	0.479
	No growth intention	-0.08	-0.80	0.425
	Growth intention	0.00	.	.
	Market acceptance goal	0.00	-0.05	0.964
	Personal fulfillment goal	-0.10	-1.99	0.049
Personal welfare goal	-0.02	-0.56	0.578	
Financial performance goal	0.01	0.27	0.785	
Success on market acceptance criterion	Intercept	2.20	4.16	0.000
	Owner a university graduate	0.05	0.73	0.466
	Age of owner	0.00	-0.68	0.501
	Owner's experience	0.00	-1.07	0.286
	Management diversity measure	-0.01	-0.72	0.476
	Gender of owner	-0.02	-0.20	0.841
	Services sector flag	0.12	0.78	0.439
	Retail sector flag	0.08	0.53	0.597
	Goods sector flag	0.15	0.84	0.401
	Age of firm	0.01	0.16	0.872
	Owner has participated in training	0.06	0.80	0.424
	General management skills	0.23	2.26	0.026
	Planning skills	0.12	1.83	0.071
	Operations skills	0.05	0.58	0.564
	Technology skills	-0.11	-2.37	0.020
	Finance skills	0.03	0.60	0.547

Dependent Variable	Explanatory Variables	Coefficient Estimate	t-value	p-value
	HR skills	0.07	1.37	0.174
	Networking skills	0.15	2.26	0.026
	Marketing skills	-0.07	-0.89	0.378
	Personal management skills	0.09	1.42	0.158
	No growth intention	-0.05	-0.62	0.535
	Growth intention	0.00	.	.
	Market acceptance goal	0.12	2.79	0.006
	Personal fulfillment goal	0.09	2.24	0.027
	Personal welfare goal	0.03	0.98	0.328
	Financial performance goal	-0.01	-0.21	0.832
Success on self-fulfillment criterion	Intercept	2.54	4.28	0.000
	Owner a university graduate	-0.02	-0.24	0.810
	Age of owner	0.00	-0.91	0.365
	Owner's experience	0.00	0.30	0.762
	Management diversity measure	-0.02	-1.08	0.282
	Gender of owner	0.02	0.20	0.845
	Services sector flag	-0.06	-0.38	0.702
	Retail sector flag	-0.08	-0.46	0.643
	Goods sector flag	-0.09	-0.49	0.626
	Age of firm	-0.03	-0.56	0.574
	Owner has participated in training	0.09	1.08	0.281
	General management skills	0.23	2.02	0.046
	Planning skills	-0.02	-0.26	0.797
	Operations skills	-0.07	-0.77	0.442
	Technology skills	-0.04	-0.68	0.500
	Finance skills	0.07	1.14	0.255
	HR skills	0.04	0.75	0.457
	Networking skills	0.20	2.69	0.008
	Marketing skills	0.02	0.24	0.813
	Personal management skills	0.05	0.79	0.430
	No growth intention	0.08	0.89	0.376
	Growth intention	0.00	.	.
	Market acceptance goal	0.15	2.92	0.004
	Personal fulfillment goal	0.34	7.24	0.000
	Personal welfare goal	0.10	2.47	0.015
	Financial performance goal	-0.01	-0.11	0.911
Success on personal welfare criterion	Intercept	1.75	3.05	0.003
	Owner a university graduate	-0.04	-0.62	0.537
	Age of owner	0.00	0.65	0.519
	Owner's experience	0.00	-0.13	0.897
	Management diversity measure	-0.02	-0.84	0.403
	Gender of owner	-0.20	-2.07	0.040
	Services sector flag	0.11	0.69	0.490
	Retail sector flag	0.06	0.35	0.726
	Goods sector flag	0.01	0.05	0.962

Dependent Variable	Explanatory Variables	Coefficient Estimate	t-value	p-value
	Age of firm	-0.08	-1.28	0.202
	Owner has participated in training	0.08	0.95	0.347
	General management skills	0.17	1.58	0.117
	Planning skills	0.04	0.60	0.551
	Operations skills	0.04	0.42	0.676
	Technology skills	-0.10	-1.94	0.055
	Finance skills	0.07	1.16	0.248
	HR skills	-0.03	-0.50	0.621
	Networking skills	0.02	0.25	0.799
	Marketing skills	0.03	0.35	0.728
	Personal management skills	0.42	6.35	0.000
	No growth intention	0.10	1.11	0.268
	Growth intention	0.00	.	.
	Market acceptance goal	0.04	0.74	0.461
	Personal fulfillment goal	0.07	1.60	0.113
	Personal welfare goal	0.23	5.94	0.000
	Financial performance goal	0.01	0.23	0.821
Success on financial performance criterion	Intercept	0.01	0.01	0.989
	Owner a university graduate	-0.10	-0.97	0.335
	Age of owner	0.01	0.76	0.452
	Owner's experience	-0.01	-1.14	0.255
	Management diversity measure	-0.07	-2.37	0.020
	Gender of owner	-0.11	-0.81	0.421
	Services sector flag	0.34	1.50	0.136
	Retail sector flag	0.19	0.86	0.393
	Goods sector flag	-0.04	-0.15	0.881
	Age of firm	-0.06	-0.77	0.445
	Owner has participated in training	0.19	1.63	0.107
	General management skills	0.17	1.14	0.255
	Planning skills	0.08	0.82	0.416
	Operations skills	0.20	1.63	0.105
	Technology skills	-0.05	-0.77	0.442
	Finance skills	0.23	2.77	0.007
	HR skills	0.26	3.52	0.001
	Networking skills	0.01	0.10	0.922
	Marketing skills	0.10	0.88	0.381
	Personal management skills	0.21	2.30	0.023
	No growth intention	0.09	0.71	0.478
	Growth intention	0.00	.	.
	Market acceptance goal	0.01	0.16	0.876
	Personal fulfillment goal	0.07	1.16	0.250
	Personal welfare goal	0.12	2.33	0.022
	Financial performance goal	0.02	0.31	0.760

16 References

- Abraham, S., Karns, L., Shaw, K., and Mena, M. (2001) Managerial competencies and the managerial performance appraisal process. Journal of Management Development, 2001, Vol. 20 Issue 9/10, p842-853.
- Aliouat, B., Camion, C. and Gasse, Y. (1999) "Managerial Practices and Core Competencies of Entrepreneurs: A Contingency Framework of Performance." Frontiers of Entrepreneurship.
- Analoui, F. (1995) "Management skills and senior management effectiveness." International Journal of Public Sector Management, Vol. 8 Issue 3, p52.
- Baldwin, J. (1993) Strategies for Success. A Profile of Growing Small and Medium-sized Enterprises (GSMEs) in Canada, Ottawa: Statistics Canada, Ottawa.
- Baldwin, J., Chandler, C and Papailiadis, T. (1994) Strategies for Success: A Profile of Growing Small and Medium-Sized Enterprises (GSME) in Canada, Ottawa: Statistics Canada Catalogue No. 61-523R.
- Baldwin, J. (1997) Failing Concerns: Business Bankruptcy in Canada, Ottawa: Statistics Canada Cat. No. CS61-525-XPE.
- Boyatzis, R. (1982), The Competent Manager, A Model for Effective Performance, New York: John Wiley & Sons.
- Chambers and Rylska (2001) Portraits of Small Business Growth and Change in Western Canada: 1988 - 1999. University of Alberta.
- Cressy, R. (1994) "Staying With It; Some Fundamental Determinants of business Start-up Longevity." Warwick, England; Warwick Business School Small and Medium Enterprise Centre, Working Paper No. 17.
- Dyke, L., Fischer, E. and Reuber, R. (1992), An Inter-Industry Examination of the Impact of Owner Experience on Firm Performance, Journal of Small Business Management, October, pp. 72-87.
- Ehrlich, S. DeNobel, A., Jung, D., Pearson, D. (2001) "The Impact of Entrepreneurship Training Programs on an Individual's Entrepreneurial Self-efficacy. Paper presentation to the 2001 Babson-Kauffman Foundation Annual Conference, Sweden.
- Freel, M. (1999) "Where are the skills gaps in innovative firms?" International Journal of Entrepreneurial Behaviour & Research, Vol. 5, No. 3.
- Gasse, Y. (1998) "Entrepreneurial Competencies and Practices of Growing SMEs." Conference Proceedings from the 1998 Babson College Annual Conference.
- Hines, T. (1994) "Managerial Competence and the Smaller Firm in the U.K. Unpublished paper, Manchester Metropolitan University.
- Industry Canada (2001). Micro-enterprise Survey 2000. A Progress Report. Ottawa: Small Business Policy Branch.

Industry Canada (2003) Key Small Business Statistics. Ottawa: Industry Canada, ISBN 0-662-33416-7.

Jacobs, R. & Pons, T. (1995) "Developing a New Model of Individual and Team Competence in Small Business." Cambridge: Transitions – Enterprise Research and Development.

Lee-Gosselin and Grise, J. (1990) "Are women owner-managers challenging our definitions of entrepreneurship? An in-depth survey." Journal of Business Ethics, vol. 9, no. 4&5, pp. 423-233.

Lefebvre, L & Lefebvre, E. (2000) SMEs, Exports and Job Creation, Ottawa: Industry Canada, Occasional Paper, No. 26.

Mason, C. and Harrison, R. (2001) "Influences on the Supply of Informal Venture Capital in the UK: An Exploratory Study of Investor Attitudes." International Small Business Journal, Jul-Sep2000, Vol. 18 Issue 4, p11-29.

Mathews, D. "A Banks Perspective on Funding Growth SME's" in Financing SMEs – A Comparative Perspective Sweden: Swedish National Board for Industrial and Technical Development (NUTEK), pp. 177-184.

Newton, K. (1995) Management Skills Development in Canada, Ottawa: Industry Canada Occasional Paper, No. 13.

Newton, K. (2001) Management Skills for Small Business Ottawa: Small Business Policy Brand, Industry Canada.

Orser, B. and Hogarth-Scott, S. (1995) Growth, Gender and Managerial Capacity: An Exploratory Study of Canadian Small and Medium Businesses." Conference Proceedings of the 18th Institute of Small Business Affairs Annual Conference, Paisley, Scotland.

Orser, B., Gasse, Y. & Riding, A. (1996). Factors Relating to SME Growth: A Review of Research Findings, Ottawa: Entrepreneurship and Small Business Office, Industry Canada.

Orser, B. (1997). The Influence of Intention, Managerial Experience and Gender on Small Firm Growth, Unpublished PhD Thesis, University Of Bradford, Bradford, UK.

Orser B., Hogarth-Scott, S. and Wright, P. (1998), On the Growth of Small Enterprises: The Role of Intentions and Experience. Babson-Kauffman Foundation Annual Conference, Belgium, Spring, 1998.

Orser, B. and Dyke, L. "Perceptions of Success, Success Expectations and Career Intentions Among Managers and Business Owners: An Exploratory Study." Unpublished working paper, Ottawa: Eric Sprott School of Business, Carleton University.

Orser, B., Riding, A. and Hogarth-Scott, S. (2000) "Performance, Firm Size and Management Problem Solving", Journal of Small Business Management, Vol. 38, No. 4, pp. 42-58.

Orser, B. and Riding, A. (2002) An Analysis of the Impact of the Women's Enterprise Initiative, Edmonton: Western Economic Diversification.

Orser, B., Riding, A. and Hogarth-Scott, S. (2003) "Opting for Growth: Gender Dimensions of Choosing Enterprise Development", Canadian Journal of Administrative Sciences, Vol. 19, No. 3, 2003, pp. 284-300.

Penrose, E. (1957, reprinted in 1995) The Theory of the Growth of the Firm. London: Basil Blackwell.

Parker, B. and Chusmir, L. (1992) "A Comparison of Men and Women Manager's and Non-Managers' Perceptions of Success, Human Resource Development Quarterly, vol. 3, Spring.

Ray, D. and Trupin, D. "Cross-national comparison of entrepreneurs perceptions of success, Entrepreneurship & Regional Development, vol. 1, pp. 113-127.

Ray and Trupin (1993) "Understanding the Entrepreneur: Entrepreneurial Attributes, Experience and Skills, Entrepreneurship & Regional Development, vol. 3, pp. 345-357.

Riding L. and Haines, G. (2001) "Loan Guarantees: Costs of Default and Benefits to Small Firms." Journal of Business Venturing, November 2001, Vol. 16 Issue 6, p. 595 - 613.

Sapienza, H., Almeida, J., Hay, M. and Levie, J. "The Role of Contractual Governance Flexibility in Realizing the Outcomes of Key Customer Relationship." Journal of Business Venturing, Nov., Vol. 16 Issue 6, p. 529 - 554.

Schein, E. (1975) "How Career Anchors Hold Executives to Their Career Paths." Personnel, vol. 52, May/June.

Slipowitz (1992) Professional Women's Concepts of Success and Achievement. Doctoral thesis, Massachusetts: Massachusetts School of Professional Psychology.

Stevens, J. (2002). Applied Multivariate Statistics for the Social Sciences, Lawrence Erlbaum Associates, New Jersey.

Sturges, J. (1999) "What it means to succeed: personal conceptions of career success held by male and female managers at difference ages. British Journal of Management, vol. 10, pp. 239.

Tanton, M. (1994) "Female entrepreneurs – success by whose standards?" (Ed. M. Tanton), In Women in Management: A Developing Presence, London.

Tarnowieski, D. (1973) American Businessmen enrolled in the General Management Division of the American Management Associations (An AMA Survey Report). American Management Association.

Tucker, M. & McCarthy, A., (2001) Presentation Self-Efficacy: Increasing Communication Skills Through Service-Learning. Journal of Managerial Issues, Summer, Vol. 13 Issue 2, p227, 18p.

Watson Wyatt (2000) The Human Capital Index: Linking Human Capital and Shareholder value. Summary Report. New York: Watson Wyatt.

Yen, D., Lee, S., and Koh, S. "Critical knowledge/skill sets required by industries: an empirical analysis." Industrial Management & Data Systems, vol. 101, no. 8, pp. 432-442.

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