

**Knowledge Management Processes  
of  
Growth-Orientation SMEs:  
An Atlantic Canadian Perspective**

**by  
H. Douglas MacDonald, B.Comm., M.B.A.**

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when genuine passion moves you, say what you've got to say, and say it hot.”  
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## ABSTRACT

Competitive pressure and desire for success drive enterprises in general to involve in knowledge acquisition and dissemination activities that are becoming increasingly significant in the rapid changing and globalising economic world.

In addition, with the increased mobility of information and the global labour force, knowledge and experience can be transferred instantaneously around the globe; thus, any advantage gained by one company can be eliminated by comparative improvements overnight. Therefore, the only comparative advantage a particular company will face will be its process of innovation – combining market and technology know-how with the resourceful talents of knowledgeable labour to solve a constant stream of competitive problems- and its ability to derive value from information. In this context, internal and external knowledge acquisition, intra-firm knowledge dissemination and management decisions taken in response to the significant information generated and subsequently filtered became the key factors of entrepreneurial success.

This thesis explores how market orientation, learning orientation and entrepreneurial orientation systematically contribute to and are sources of competitive advantage in growth-oriented SMEs. The objective of this study was to investigate the likelihood of a growth-oriented enterprise established in Atlantic Canada to be involved in knowledge acquisition and dissemination activities and to succeed conditional on numerous internal and external factors.

A ‘mixed-methods’ research approach was used in this study, comprised of: 1) a web-based questionnaire to study the knowledge management process and other aspects of entrepreneurial success and 2) ‘semi-structured’ interviews with a sample of the responding entrepreneurs.

The findings suggest that knowledge management practices: external acquisition, intra-firm dissemination and responsiveness, do vary across the levels of entrepreneurial performance among the Atlantic Canadian SMEs investigated in the study. Having a market orientation and investing in human resources of the firm were found to be critical drivers of innovation leading to potential competitive advantage.

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# CHAPTER 1: INTRODUCTION

## 1.1 Introduction

This chapter begins by providing a description of the purpose and background, followed by the rationale to the present thesis. Research objectives and a summary of the methodology are described, concluding with an outline of the structure to this thesis.

### 1.1.1 Purpose

Within the context of a mixed methods design this thesis explores the mediating role of knowledge-management in translating market, entrepreneurial, and learning orientations into sources of competitive advantage (CA) in growth-oriented small-and-medium enterprises (SMEs). Despite an increasing interest in developing growth-oriented firms (GOFs), little empirical research has been conducted on this topic, particularly with regard to marketing, knowledge management and CA. Most researchers (Vyakarnam et al., 1999) study GOFs from entrepreneurship, small business development, survival or failure, or venture capital perspectives (Buss, 2002).

Marketing literature points to the influence of market orientation (Deng and Dart, 1994; Kohli and Jaworski, 1990; Narver and Slater, 1990), learning orientation (Sinkula et al., 1997), and entrepreneurial orientation (Lumpkin and Dess, 1996; Lumpkin and Dess, 2001) on enterprise performance. Recently, Darroch and McNaughton (2003) suggest a knowledge-management orientation (KMO), although grounded in market-orientation theory (Kohli et al., 1993), provides a broader concept for investigating firm behaviour. These four factors can be regarded as comprising an organisation's business orientation, enhancing marketing and knowledge capabilities and ultimately firm performance.

Day and Wensley (1988, p. 16) attempted to clarify the determinants of CA by suggesting the benefit from ... “a balance of customer-focused and competitor-centred methods”; the latter comparing the value chain of firms versus their target competitors. This present thesis however, focuses on the owner/manager’s subjective views of marketing capabilities and knowledge-management orientation when compared to those of competitors as a proxy measure of positions of advantage. Market orientation (MO), learning orientation (LO), and

entrepreneurial orientation (EO) have been viewed as synergistic antecedents of marketing capabilities; a construct of CA. This perspective is compatible with relatively recent marketing views focusing on intangible resources, a co-creation of value, and relationships (Vargo and Lusch, 2004). On the surface, these three orientations seem valuable, rare, inimitable, non-substitutable (Barney, 1991) and highly tacit (Dierickx and Cool, 1989). CA appears to evolve from repeated practice, past mistakes, and managerial experience (Teece, Pisano, and Shuen, 1997), and constitutes core competences (Prahalad and Hamel, 1990).

Enhanced by the organisational routines (Nelson and Winter, 1982) and perspective of a knowledge management orientation (Darroch and McNaughton, 2003), the positive influences of MO, LO and EO become part of a broader concept which enables all the resources of the firm to be used effectively. The scope of a knowledge-management orientation (KMO) encompasses both market-based information and information about non-market factors; technology and internal financial information (Darroch and McNaughton, 2001). Given this breadth of perspective, these authors postulate that KMO firms out-perform those firms identified as market-oriented. Additionally, a firm's knowledge management mediates the benefits derived from MO, LO and EO.

Additionally, Dierickx and Cool (1989) argued that inputs such as culture which cannot be purchased have a potential to be significantly profit-related. This thesis will also explore the role the entrepreneur plays in developing the culture of their firm.

### **1.1.2 Thesis Structure**

This section outlines the structure of this thesis while Chapter 2 provides an extensive literature review, leading to the development of a conceptual framework of GOFs based on theoretical conceptualizations of CA (e.g., Resource-Based View (RBV) – with a customer value based view). An analysis of business orientation as sources of CA is presented, with a discussion of variables comprising an hypothesized model involving firm performance, marketing capabilities, MO, LO, and EO.

Chapter 3 presents the research methodology used in this thesis. 1. This chapter begins with a discussion of relevant methodological and research paradigms employed in this thesis; the

application of a method design underpinning this research, followed by a description of participants, and data collection procedures.

Chapter 4 and 5 provides a presentation and analysis of the findings; the former (Part 1) depicting the quantitative research which was derived via a web-based survey and the latter (Part 2) the qualitative research based on twelve (12) case-study interviews with SME entrepreneur/owners. Following the presentation and analysis of this study's findings, Chapter 6 presents the conclusions and discussion of this thesis.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 The Small Business Sector**

#### **2.1.1 Introduction**

Considerable interest in the management of small enterprises began to emerge in the later quarter of the twentieth century, representing a unique development for this sector. Small firms started to assume an unprecedented economic, political and social importance within the context of contemporary commercial history. Influenced by both major global and local developments and events within the international and regional communities in many of the developed countries, small business management has evolved as an individual and highly differentiated business discipline. A flourishing of associated interest and activity in the form of research, education, services, literature and specialist publications, as well as widespread debate and public discussion at all levels of society has developed (Storey, 1994; Kuratko and Hodgetts, 1995; Karpin, 1995; OECD, 1989; GEM, 2007).

A number of factors have been identified as playing a role in elevating the status of the small business community. Possibly the most significant has been the perception that small and medium-sized firms have the potential to make a significant contribution to addressing the pervasive economic problems experienced by many of the developed countries over the past few decades. Some of these problems have been linked to gruelling recessions, inflationary instability, mass unemployment and uncompetitive business performance particularly among larger enterprises. Small firms, as diverse and abundant commercial entities, have been increasingly heralded as an alternative, a saving force for nations experiencing deteriorating socio-economic conditions by offering the potential to build wealth and prosperity on a local and international level (Stanworth and Gray, 1991; Storey, 1994; Kuratko and Hodgetts, 1995; Karpin, 1995).

In addition, significant developments in the markets for goods and services, such as the trend towards greater product customization and specialisation, the expansion of the services, information and innovation-intensive high-tech sectors, as well as the decline in industrial

mass production have opened up opportunities previously beyond the reach of the smaller operator (Curran et al., 1986; Robinson and Pearce, 1994). The requirement to respond quickly and flexibly to changes in market demand and expectation has been increasingly associated with the small business sector, where companies possess less complex and congested internal infrastructure and hence face fewer organisational obstacles than big business operations. Social factors have also contributed to the rise in small business fortune. These include the opportunity to absorb the victims of labour downsizing initiatives that continue to pervade larger corporations, a growing recognition of the value of creating productive workplaces that promote cultures of loyalty and commitment commonly associated with the smaller firm workplace, as well as changing perceptions about the respectability of the sector and the self-employed entrepreneur. It is in this way that key environmental developments have propelled the small business sector onto centre stage where it now finds itself playing a more prominent and valued role in both the broader business community and society at large (Government of Canada, 1988; Karpin, 1995; Commonwealth of Australia, 1997; OECD, 1989).

The capacity to make a greater commercial and economic contribution in an increasingly competitive business environment has stimulated focus on the dynamics of the small business operation and its management and the factors that enhance or impede company performance. The process of building understanding about these companies has led to the realization that not only is small firm business management a particularly challenging activity but that these companies struggle to survive and grow successfully. Of particular interest have been the factors that influence survival among smaller firms and their progression towards becoming larger business concerns ( DFEE, 1997; Karpin, 1995; ACOA, 1996; GEM, 2005; Industry Canada, 2006).

One of the key issues identified by researchers and those engaged with the small business community in general is that the experience of growing a small enterprise is associated with greater focus on the management of business strategy (Gibb and Scott, 1985; Pleitner, 1989), stimulated by entrepreneurship (Alvarez, 2001). Studies have shown that the growth experience invariably requires firms to develop greater clarity about their longer-term direction and objectives and how these will be achieved. Owner-managers find themselves increasingly preoccupied with the broader more macro dimensions of the business, considering the goals of the company and assessing growth potential in light of the market in

which they are operating and the infrastructure necessary to support a more diversified or larger product base (Churchill and Lewis, 1983; Neil, 1986). Moreover, growing firms are found to undergo significant changes, both in terms of their internal operation and their interface with the external environment. The enterprise is likely to encounter increased operational activity, more diverse logistical issues, higher levels of organisational complexity and greater demands from its customer base. The business and learning relationships with customers, suppliers, financiers, landlords, agents and in some cases members of the owner-manager's family may alter in light of imminent developments within the company (Gibb, 1997). Consideration is required in establishing internal infrastructure to accommodate and support these changes and to introduce methods and mechanisms that provide adequate efficiency, quality and control (Gibb and Scott, 1985; Barber et al., 1989; Bosworth and Jacobs, 1989). Additional resources may be needed which means establishing how these are to be sourced and financed and in turn incorporated into the overall scheme of the existing operation. Particularly critical is the role of a knowledge-management orientation for the firm; the management of the growing workforce, involving the acquisition of knowledge and the appropriate skills, addressing the needs and expectations of a more diverse group, as well as building a cohesive work team able to deliver on business outputs (Scase and Goffee, 1987; Barber et al., 1989).

Ordinarily, owner-managers of small companies assume multiple roles, concerned with personally managing and handling the routine and daily activities of the core business operation and the range of necessary support functions. They control most, if not all, aspects of running a small, centralised business. However, to continue to focus exclusively on the day-to-day business and the immediate operational activity and issues of the firm when faced with the prospect of growth, may undermine or limit the firm's potential as it moves into an expanded business environment. It is recognised that the process of growth can represent a major adjustment for owner-managers, often requiring significant change to the way the business has been managed previously and as such, can be a time when the firm's viability and capacity to survive into the future are particularly at risk. The challenge for owner-managers is to identify how to manage the numerous evolving areas of the business so that these are best structured to meet the growth objectives (Churchill and Lewis, 1983; Scase and Goffee, 1987; Bosworth and Jacobs, 1989; Merz and Sauber, 1995).

### **2.1.2 Significance of the Small Business Sector**

The unprecedented and often dramatic political, economic and social trends that have constituted an increasing part of life in the latter half of the 20th century have had a profound effect on the business environment, particularly among the world's developed nations. But it has not only been the large firms that have experienced the impact of these far-reaching developments leading to major alterations in the way that business and trading now takes place. Small firms have also been swept up in the frequently tumultuous challenges and opportunities of the times (Stanworth and Gray, 1991; Karpin, 1995). Small businesses have always been prolific in regional and urban communities with small business operators and traders being key figures in the local provision of goods and services. However, the importance of this sector within the industrialised countries and the corresponding attention that it has received have become much more pronounced in recent decades (Rainnie and Scott, 1986; Rainnie, 1989; Barber et al., 1989; Storey, 1994; Hendry et al., 1995; Ram, 1999; OECD, 1989).

### **2.1.3 Growth in Prominence of Smaller Firms**

The rise in prominence of the smaller firm has progressed slightly differently from country to country, being driven and influenced by a range of specifically local environmental factors and occurring with varied momentum. However, overall there emerges a reasonably consistent pattern in terms of how this sector has been viewed and the associated developments that have taken place (Storey, 1994). Up until the latter half of the 20th century, the small business sector in the developed countries was generally regarded as in a state of decline (Scase and Goffee, 1987; Rainnie, 1989; Stanworth and Gray, 1991; Hendry et al., 1995; Government of Canada, 1988). Its economic significance was considered only marginal and as such small firms did not receive much public attention in comparison with their larger corporate counterparts (Storey, 1994). Governments, the media and academic interests were usually more focused on the big business sector and in particular on those firms quoted on the Stock Exchange and those contributing in a visibly significant way to private sector output and key economic indicators (Storey, 1994). Although modern economies have been dominated by a comparatively small number of corporate giants their power and influence has been considerable, such that these could and have been used to determine prices, lobby governments and in many instances control market forces (Scase and

Goffee, 1987; Stanworth and Gray, 1991; Hendry et al., 1995). The legacy of the industrial revolution where many businesses grew into mass-producing monoliths, coupled with the surge in consumer demand particularly noticeable in the post-World War II period has meant that the activities of the large enterprises remained at the forefront of general attention and were seen as the principal players in generating national economic growth and prosperity (Scase and Goffee, 1987; Ansoff, 1988; Rainnie, 1989; Stanworth and Gray, 1991).

Part of the historical marginalisation of the small business sector was linked to high levels of government intervention in the economy characterised by close collaboration between the State and corporations and an inability on the part of small businesses to achieve economies of scale available to big business (Rainnie, 1989; Stanworth and Gray, 1991). The State would often protect the larger corporate players through trade regulation and restrictions. The more modest, community-based operators were dismissed for being smaller and in some way, lesser versions of the successful larger firms (Rainnie, 1989; Marlow and Patton, 1993). They were often viewed as technologically backward, inadequately organised and managed by contemporary standards, or simply business failures that lacked the efficiencies and productivity needed to grow. Their inability to achieve the necessary long production runs, to support specialist departments for marketing and product design, to implement the latest equipment and to attract well-qualified managers, consigned them to the bottom of the commercial heap (Rainnie, 1989; Stanworth and Gray, 1991). In general, small firms were not considered to be important players in meeting the needs of modern, developed nations and supporting efforts to build strong and prosperous societies (Rainnie, 1989; Stanworth and Gray, 1991). As the producers of the majority of private sector output, large companies were seen as the ones that mattered (Scase and Goffee, 1987; Ansoff, 1988; Brown et al., 1990).

However, developments around the world have prompted a reversal in this trend of exclusive reliance on the large business sector for industrial leadership and economic prosperity (Scase and Goffee, 1987; Rainnie, 1989; Barber et al., 1989; Stanworth and Gray, 1991).

Governments have faced the mounting challenges of economic decline and stagnation that became increasingly prevalent in many of the developed nations towards the end of the last century. Many of the traditional global macro-economic strategies were failing and governments needed to find ways to avert the emerging crises particularly those that were manifesting themselves in mass unemployment and threatened to dismantle the national and social infrastructure (Hull and Hjern, 1987; Rainnie, 1989; Stanworth and Gray, 1991;

Hendry et al., 1995; OECD, 1989). Large companies in the Western world also found that they were increasingly uncompetitive in their local and international markets. Japan, for example, was surging forward in a range of business fields such as innovation, product development, internal efficiencies and general management practice (Pacale and Athos, 1981). Faced with rapid advances in technology, profound and widespread environmental changes and an inability to adapt to these quickly and effectively meant that large firms could not respond adequately to the rapidly altering arena of production and trade. The large enterprises were increasingly perceived as complex unmanageable entities, unresponsive to changing customer needs and new demands, and stemming from their monopolistic status and ability to manipulate environmental and market forces, even untrustworthy. In sum, big business was increasingly viewed as failing to deliver on the requirements of the newly emerging global economy (Rainnie and Scott, 1986; Scase and Goffee, 1987; Rainnie, 1989; Brown et al., 1990; Stanworth and Gray, 1991; Hendry et al., 1995; Government of Canada, 1988).

#### **2.1.4 Generators of Economic Prosperity**

Since the end of World War II small firms have been increasingly promoted as being an important part of competitive free market economies with a role to play in reversing the endemic economic decline, in supporting more efficient and productive management of local and international markets and in bringing about a range of social improvements as a consequence. Regeneration of the small business sector was increasingly viewed as necessary if ailing economies were to be revitalised (Brown et al., 1990; Marlow and Patton, 1993; Storey, 1994; Holliday, 1995). Consequently, governments started to focus on the small business sector as a means to resolve their economic problems (Hull and Hjern, 1987; Rainnie, 1989; Barber et al., 1989; Marlow and Patton, 1993; Storey, 1994). The United States and the United Kingdom were among those at the forefront of exploring the possibilities and potential of this previously neglected commercial group (Rainnie, 1989; Stanworth and Gray, 1991). In 1985 President Jimmy Carter stated: "Few areas in our national life are as important to our economic health and well-being as small business. Small enterprises represent the economic backbone of communities across the country, the major source of job creation in the United States, and a vital source of the innovation, new products and services which drive our economy. Far from a national abstraction, small business to

each of us represents the very heart of economic opportunity in America and a linchpin of our social and economic cohesion" (quoted by Brown et al., 1990, p. 88)

Similar sentiments were expressed by Sir Keith Joseph in the early 1980s at a Commons debate in the UK on small business and the self-employed: "We are debating a very important subject - nothing less than the prospects for the prosperity of the country and the solidarity of our liberties. The vitality of our economy, the vitality of the country as a whole, and the vitality of individual towns and cities depend not upon large establishments, but upon the untidy, undergrowth of small constantly adaptive, competing businesses... There is a close link between economic, social cultural and political liberties, and at the heart of that link is the small businessman and the self-employed" (Rainnie, 1989, p.18; Ritchie, 1984, p. 14).

At this time, new business ventures were being developed at great pace and in the United States entrepreneurs like Steven Jobs of Apple Computer became celebrities for their creative talents and willingness to take considerable commercial risks (Kuratko and Hodgetts, 1995). As founders of a range of high-tech industries, entrepreneurs were applauded for being the new generation of business leaders and their companies were viewed as powerhouses for looking at new concepts and ideas (Rainnie, 1989; Brown et al., 1990). Kuratko and Hodgetts (1995, p. v) commented that: "The United States has developed into an entrepreneurial economy, and the creation of new ventures is at the centre of the activity. Entrepreneurs have become the heroes of economic development and contemporary enterprises".

Politicians in both the USA and the UK were instrumental in heralding the so-called arrival of small business and stressing the nature of these valuable business entities, not only in economic terms but also in a range of social areas. Some emphasised distinctly socially oriented benefits suggesting that small firms might provide an answer to the problem of dilapidated inner cities, providing a regeneration of these centres of decline and poverty, while creating resurgence in the regional economies (Rainnie, 1989; Marlow and Patton, 1993; Storey, 1994). Supporters of the small business sector declared in the media that small firms should be brought into the fold of mainstream business activity and take a central position in the development of economic strategy. It was no longer thought possible to discuss public policy without understanding the role which small firms played in the economy as a whole or to ignore the sector by leaving it to those with vested interests in small firms alone (Stanworth and Gray, 1991; Storey, 1994).

In the UK, enthusiasm for the small business sector and its ability to contribute in a positive way to national economic development emerged from many groups. Government bodies, the media, academics and other authorities and commentators fuelled support for what became an almost national campaign (Storey, 1994; Bacon et al., 1996). During the Thatcher era (1979 onwards) considerable attention was focused on the small business sector by the British government and politicians were particularly vociferous in their claims about the benefits of small enterprise and its ability to save the country from further financial deterioration and ultimate economic atrophy (Rainnie and Scott, 1989; Stanworth and Gray, 1991; Marlow and Patton, 1993). In July 1986 London's Financial Times newspaper proclaimed:

"Future prosperity will be fed by an enterprise culture which will breed successive generations of entrepreneurs. They will drive the economy on, pulling together their resources to use them more efficiently, creating new products, new markets and new firms." (quoted by Rainnie and Scott, 1989, p. 1).

In stark contrast to what was the reality of the time, the entrepreneurial scene and its promise of economic reprieve was enthusiastically lauded as "dynamic, efficient, competitive and perhaps most important, a new source of jobs", held up as the "...dynamic saviour of a moribund economy" (Rainnie, 1989, p. 1). In effect, as Rainnie (1989, p. 1) commented "small firms have come in from the cold".

The need to understand or justify the promotion of small firms stimulated considerable research and examination into the importance of this sector, and the reasons why and how it could be of value in the broadest socio-economic way. Clarification was also required relating to the significant growth in the stock of small firms during this period and the reasons for the change in perception about their social and economic importance. Key areas of focus for researchers have been the identification of the number of jobs created by the small business sector, the quality of these jobs, the growth of self-employment and the role of small firms in the local labour market (Atkinson and Storey, 1994b; Atkinson and Meager, 1994; Parker, 2002).

A range of theories and factors emerged over time, accompanied by much debate, explaining the principal causal contributors to the emerging importance of small firms. Two important pieces of research were carried out in the USA and the UK which although controversial in terms of their reliability and findings, served to stimulate widespread discussion about the role and contribution of the small business, and which became catalysts for promoting the rise in prominence of the smaller firm. Research conducted in America by David Birch

(1987) at MIT, which claimed to have found that small firms less than five years old with 20 or less employees had generated 66 percent of all net new jobs between 1969 and 1976, provoked much interest (Hull and Hjern, 1987; Brown et al., 1990; Atkinson and Storey, 1994a; Storey, 1994; Bacon et al., 1996). Although not as frequently cited internationally, the Bolton Report (1971) concluded that the health of the British economy rested on the ability to generate large numbers of new businesses and to stimulate the growth of these to the extent that they would be in a position to replace many of the large corporations as important industrial and economic concerns (Rainnie and Scott, 1986; Rainnie, 1989; Stanworth and Gray, 1991; Storey, 1994). To remain reliant on many of the large businesses that currently dominated their industries was thought to be a recipe for disaster.

The Bolton Report (1971) stated that: "We believe that the health of the economy requires the birth of new enterprise in substantial numbers and the growth of some to a position from which they are able to challenge and supplant the existing leaders of industry. We fear that an economy totally dominated by large firms could not for long avoid ossification and decay. This 'seedbed' function, therefore, appears to be a vital contribution of the small firms sector to the long-run health of the economy. We cannot assume that the ordinary working of market forces will necessarily preserve a small firm sector large enough to perform this function in the future" (quoted by Stanworth and Gray, 1991, p.1). "Perhaps the most important and alarming realisation which emerged during the course of our inquiry was the sublime state of indifference, in the United Kingdom generally, to so vital a sector of the economy. All one can say with certainty is that the larger and more virile the small firm sector is in an economy, the faster the rate of growth that economies seem to achieve" (quoted by Rainnie, 1989, p. 15). Research of this type was frequently used to substantiate and reinforce the view that small firms should succeed large corporations as the vehicle for generating economic recovery and moving business practice into a new economic and industrial era (Rainnie, 1989; Stanworth and Gray, 1991).

Prompted by the emerging globalisation of trade and similar problems with under-performing economies, debate on the role and potential contribution of the small business sector began to occur in other developed nations. In 1988, Canada became the first developed nation to adopt a National Policy on Entrepreneurship (ACOA, 1996) while somewhat later, the Howard government in 1996 saw public policy for small business as an increasingly important issue for Australia and was one that appeared clearly on the administration's

agenda. A government commission reinforced the prevailing view that "a healthy small business sector is vital to the Australian economy" (Holmes et al., 1995a; Parker, 2002; Dept. of Industry, Tourism and Resources, 2003, p. 1).

### **2.1.5 Relative Size of the Small Business Sector**

Not only do small firms constitute by far the largest portion of active trading entities, but the stock of active smaller businesses also grew significantly in the latter half of the 20th century (Storey, 1994). Small firms have risen in importance in part because it has actually been acknowledged that they comprise the largest sector, that their number has markedly although not always consistently increased over a number of decades, and for this reason they represent a sector of sufficiently significant and notable size as to merit attention (Rainne, 1989; Brown et al., 1990). In addition, small firms comprise by far the largest body of employers among the stock of active commercial entities (Industry Canada, 2000; Commonwealth of Australia, 1990; Small Business Administration, 2001). By association the ability of these numerous business entities to contribute to economic growth and GDP is, in recent decades, increasingly thought to be considerable. In addition, they have acted to reduce the burden of unemployment (Storey, 1994).

Drawing on data supplied by the US Small Business Administration (SBA) in 1996, Heneman and Berkley (1999, p. 53) described small firms as "dominating" the business landscape with only two percent of organisations having more than one hundred employees and as being "the fastest growing segment of the US economy [while accounting] for all new jobs created in 1995". In 1998, the United States Bureau of the Census indicated that there were 21.3 million employer and non- employer firms and of those, only 16,000 had 500 or more employees and about 100,000 had 100 or more employees. The remainder of employment occurred in small firms with fewer than 100 employees. Of the 108.1 million (private sector non-farm) workers, firms with fewer than 500 employees provided jobs for 55.1 million people and firms with fewer than 100 employees employed 39.7 million (Small Business Administration, 2001). Bearing in mind that US small firms are larger than in other countries in terms of their employee numbers, statistical data from the SBA reported that small businesses represented more than 99 percent of all employers, employed 51 percent of the private sector workers and represented nearly all the self-employed who comprised seven

percent of the civilian workforce. These smaller operations were said to be responsible for generating 75 percent of net new jobs and contributing 51 percent of the private sector output while representing 96 percent of all exporters of goods. The 1998 annual payroll expenditure for small firms was recorded at about US\$1.5 trillion (SBA, 2001). It has been well documented that in the UK the number of small and medium-sized firms grew significantly in the 1980s, with an associated increase in jobs. Figures from the UK government's Small Business Service indicate that in 2000 there existed 3.7 million businesses, 99 percent of which had less than 50 employees and provided 45 percent of the country's non-government employment. Of the 3.7 million businesses, 25,000 were medium-sized (50-249 employees) and less than 7,000 were large (having 250 employees or more). While the most significant increase was in micro businesses (less than 10 employees) and in the number of one-person companies, growth continued steadily in the small firm sector between 1995 and 2000 (Small Business Service, 2001).

Not included in these figures from different countries is the existence of a growing number of large business entities that are linked with and oversee more or less autonomous sub-divisions or business units assuming many of the structural characteristics of a smaller company.

While it is recognised that the number of small companies in operation is very large and quite disproportionate to the quantity of larger corporations, exact figures on active small firms generally remain contentious (Storey, 1994). The number of small firms that operate at any one point in time is not precisely known despite efforts made by government agencies to gather and maintain official statistics on these organisations. The collection of accurate information on small firm activity is partly complicated by the fact that no universal agreement exists regarding the definition of a small business; this varies across different industries and in different countries. Historical studies geared to counting the number of firms in operation have not always been comprehensive and some have been only rough estimations. In addition, many small firms do not register their existence; some are exempt from registration on the grounds of size, while others have such a short lifespan that they completely miss being included in the statistical collection of firms in operation. Although there is sufficient information about small firm activity to corroborate their extensive numbers and to identify a distinctive trend in their increasing presence, precise figures remain

elusive and only estimates can be made. Nevertheless, small businesses comprise the bulk of enterprises operating at any one time (SBA, 2001).

### **2.1.6 Sources of Public Influence**

Linked to the issue of numbers of small enterprises is the fact that being a sector comprising millions of constituents (owning, managing and working therein) it represents a considerable body of political, economic and social influence in society at large (Brown et al., 1990; Storey, 1994). Small firms make up a sizeable voting bloc in every community across all countries. The capacity to join forces and influence public policy and political decisions that impact on the interests of local people is considerable and one that governments can ill-afford to ignore (Brown et al., 1990). Moreover, the traditional underdog image of the small business community and general growth in popularity of the smaller firms has meant that the voting public and the media frequently support and view the concerns of this sector more favourably. The significance of the critical mass of small firms and the impact of their associated activities are reflected in an article published in the Wall Street Journal in 1981 that stated: "In Congress, big corporations have nowhere near the political clout of many groups of small businesses. Far from directing the political current of our time, big business will probably be the last to get the word" (quoted by Brown et al., 1990, p. 75).

### **2.1.7 Important Source of Employment**

The sheer magnitude of the numbers of small firms has been linked with greater job opportunities that such organisations might be able to offer and as such, small firms have been regarded for some time as a possibility in providing the answer to widespread unemployment (Hull and Hjern, 1987; Storey, 1994; Rainnie, 1989; Brown et al, 1990; Atkinson and Storey, 1994b). Faced with chronic growth in unemployment and varying degrees of associated social hardship and disintegration within local communities, governments of some of the developed nations began to direct attention to building a connection between small firms and employment in an attempt to resolve this problem (Rainnie, 1989; Stanworth and Gray, 1991; Storey, 1994). Research studies supported by statistical data started to appear, demonstrating the considerable growth in small firms highlighting their capacity to generate employment opportunities and generally alleviate the

onerous burden of the jobless and occupationally redundant (Hull and Hjern, 1987; Barber et al., 1989; Stanworth and Gray, 1991; Storey, 1994; Brown et al., 1990). A UK research project carried out in 1985 by the Small Business Research Trust, reported that companies employing less than 100 people had created more than half of the new jobs between 1971 and 1981 (Rainnie, 1989 referencing Bannock 1985). In 1984, the UK Prime Minister Margaret Thatcher declared that: "This government believes in small business because small firms are indispensable to the creation of jobs and wealth" (quoted by Rainnie, 1989, p. 17).

Similarly, Kuratko and Hodgetts (1995) highlighted a popular American view of the time that new business formations were the critical foundation for any net increase in US employment. Following studies undertaken in Australia in the mid-1990s, the Federal government likewise reaffirmed the significance of the small business sector for the country's employment needs:

"As Australia's largest employer and main source of employment growth in recent years, the economic health of the small business sector is critical to the well being of the Australian economy" (Commonwealth of Australia, 1997, p.1).

While official statistics from the developed countries demonstrate that small firms are indeed providers of significant amounts of employment, there has nonetheless been considerable debate surrounding the ability of small firms to contribute significantly to providing a solution to unemployment, particularly on a macroeconomic level (Hull and Hjern, 1987; Rainnie, 1989; Storey, 1994; Atkinson and Storey, 1994a; Gibb, 2000). Some have asserted that small businesses have had little or no role in creating job opportunities and that figures which have been used to counter this view are in fact erroneous. Brown et al., (1990) commented that a widespread misconception about small businesses in the US is that they generate the vast majority of jobs and are therefore the key to economic growth. Their research claimed to find that there was proportionately no difference between small business employment activity in the 1950s and in the 1980s.

Various studies have attempted to verify the findings of David Birch, but none have successfully confirmed this data as being a reliable indicator of the potential of small firms to generate such promising employment opportunities and in turn benefits for the economy as a whole (Storey, 1994). Hull and Hjern (1987) concluded from their investigations that on balance younger small and medium- sized firms (SMEs) were able to outperform older and larger companies in creating work prospects but that it was still difficult to draw firm conclusions about how great the contribution. Moreover, various studies have shown that

start-up ventures and micro firms have been particularly vibrant and it has been suggested that it is only these tiny companies that are likely to be the main contributors to any significant employment creation (Atkinson and Storey, 1994b; Gibb, 2000).

Birch (1987) also presented the notion of the *gazelles*, companies that achieve a minimum of 20 percent annual compound sales growth over a five-year period. Gazelles are a type of antelope that is one of the fastest animals on earth and are capable of sustaining high speeds for extended periods of time (Lesonsky, 2007). According to Birch (1995), *gazelles* comprise three percent of all small companies. His observation has added a new lens on the impact and understanding of firm growth.

Furthermore, the optimistic perception of small firms as potential sources of employment has been considerable (Rainnie, 1989; Brown et al., 1990). As large firms trim output during a recessionary climate and dismantle jobs on a wide scale, the smaller operators pick up large business cast-offs. It is not so much that small firms contribute more job openings, but as larger firms withdraw from certain areas of the market, the small companies fill these gaps. When these two trends are viewed alongside each other small firm job-generation capacity looks less immediate (Rainnie, 1989). There has also been concern that research findings and manifestos promoting the job-generation potential of small companies have not always factored the high mortality rates of these enterprises and the consequent job losses.

The tendency of small firms to cease trading during their early years is commonly known and unless statistical data are able to track the churning effect of the associated creation and demise of jobs the ability to predict quantities is greatly reduced. While a range of benefits accruing from a healthy small business sector, such as the contribution to innovatory activity and the provision of employment opportunities for young and inexperienced workers has been generally accepted, the case for favouring small businesses for their employment generation capability has been viewed as oversold (Rainnie, 1989; Brown et al., 1990; Robinson and Pearce, 1994). Nevertheless, driven perhaps by desperation and few other apparent options, governments have accepted whatever the employment limitations might be and have remained committed to a strategy of support that has endured to a greater or lesser extent with the passage of time.

### **2.1.8 Role in the Marketplace**

On a macro level, the emerging prominence of the small business sector has also been attributed to major developments that have occurred in both the manner of production as well as the types of products and services increasingly being delivered to the marketplace (Barber et al., 1989). The movement away from the post-World War II trend of grand scale manufacturing and distribution of standardised products, and the subsequent general decline in these mass markets has played a part (Scase and Goffee, 1987; Stanworth and Gray, 1991). Combined with greater consumer wealth within the industrialised countries, changing patterns of demand for certain specialist products have created niche markets in which more customised goods and services are provided (Brown et al., 1990; Hendry et al., 1995). It is recognised that many industries are not accessible to the smaller firm, in particular large-scale manufacturing which requires considerable outlays on operational infrastructure such as plant and equipment. Examples of these would be petrochemicals, automobiles and the production of steel. These sectors do not provide realistic opportunities for the budding entrepreneur and big business is unlikely to encounter competition or threat from the small-scale operator in these industrial sectors (Scase and Goffee, 1987). However, the infrastructure of the smaller business has emerged as more ideally suited to meet the requirements of manufacture and trade in these specialist markets that cannot be filled competitively by the large-scale operators (Brown et al., 1990; Stanworth and Gray, 1991; Storey, 1994). Small firms have responded to areas of the market that combine well with the small business mode of operation in their ability to deliver limited, specialist lines and to change direction quickly and flexibly according to fickle, individualistic and varying customer demands. Faster turnaround, the ability to use flexible production technology and generate small batches of differentiated products, the maintenance of low inventories and the emergence of loose organic-style organisational structures rather than cumbersome bureaucratic configurations, have become features associated with the successful smaller operation in the new trading environment (Brown et al., 1990; Stanworth and Gray, 1991; Storey, 1994; Hendry et al., 1995; Holliday, 1995).

Small companies have been found to achieve a growing dominance in areas such as small-scale component manufacturing, in parts of the high-tech market such as scientific instruments and electronics, and in consumer products offered through the retail sector such as furniture, domestic items and fashion (Hull and Hjern, 1987). Small firms are regarded as well placed to play a role in the distribution of large business outputs, particularly on behalf

of manufacturers and wholesalers whose customer base extends out to the non-metropolitan and rural communities, or alternatively as suppliers of discrete parts or raw materials to the larger operators. Not only does the sector fill niche markets that are in effect too small for large corporations but it also plays an important role as suppliers to large corporations (Hull and Hjern, 1987; Robinson and Pearce, 1994).

The Commonwealth of Australia (1990) noted that small and large businesses play a complementary role in the economic environment, that one cannot actually survive without the other. In Canada, two Canada-USA trade agreements (i.e. the 1965 Automotive Products Trade Agreement (Auto Pact) and the broader 1988 Free Trade Agreement) provide innovation and niche market opportunities for SMEs, specifically those located in the Kitchener and Windsor, Ontario automotive clusters, by participating in the global production networks of the “Big Three” automakers (Rutherford and Holmes, 2008). In the UK clothes retailer Marks and Spencer for example, rely on tens of thousands of smaller companies to support their core business (Scase and Goffee, 1987; Rainnie, 1989; Meredith, 1993; Robinson and Pearce, 1994). Small firms also play a role in providing healthy competition for larger ones leading to improvements in products, quality and pricing (Stanworth and Grey, 1991; Meredith, 1993).

Moreover, the growth in the information and service industries that is primarily reliant on individual or small team input rather than the use of heavy duty plant and equipment have been found to align more closely with the small firm profile (Scase and Goffee, 1987; Hull and Hjern, 1987; Stanworth and Gray, 1991; Meredith, 1993; Storey, 1994; Karpin, 1995). Although small firms have always been dominant in the labour-intensive service sector (for example, figures show that nine out of ten small firms were located in the service sector in the UK in 1991), the decline of the traditionally dominant manufacturing sector and concurrent growth of a range of service industries (representing an increase of 53 percent between 1977 and 1987 in the UK) resulted in further expansion by smaller entities filling this niche in the marketplace (Storey, 1994).

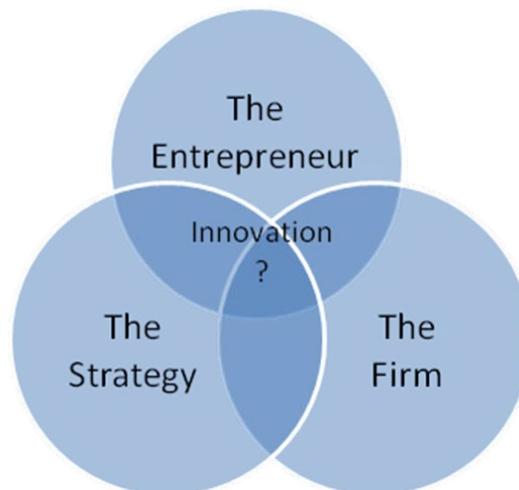
Growth in prosperity and disposable wealth in the developed nations has generated many service opportunities in a range of areas such as domestic and community services, health, maintenance, transportation, security, entertainment, leisure, tourism and travel. These industries have low barriers for entry for the smaller operator and present varied opportunities for many aspiring entrepreneurs and small business owners. The nature of the service sector

and the fact that consumption takes place at the point of purchase, imply that small firms can reside easily within local communities and provide better services in close proximity to their customers. Areas of the service sector such as finance, property, insurance as well as other activities that are professional, managerial or technical in nature have also become increasingly prevalent. In this way, the expansion of service-related products has been linked to the creation of more business opportunities for both start-ups and growing concerns (GEM, 2005).

Small firms have also been increasingly contributing to export markets, sourcing overseas customers and business networks that support economic growth, GDP and the national balance of payments. Some have proposed the view that the small business sector should be encouraged to have an increasingly greater role in the development and marketing of new products and services. Small firms are commonly credited with being strong sources of creativity and innovation, particularly in the area of new, leading-edge technologies (Curran et al., 1986; Rainnie and Scott, 1989; Brown et al., 1990; Barber et al., 1991; Robinson and Pearce, 1994; Matthews, 2002; GEM, 2007). Rothwell et al., (1998) for example, refer to the initial emergence of the semi-conductor industry in California that stemmed from the establishment of small firms able to grow very rapidly.

Storey (1994) commented that what distinguishes the small firm from the large firm is the ability of small firms to provide products and services that are marginally different and to take on innovative challenges (Figure 2.1). They have less rigid bureaucracy and ingrained commitment to existing product lines and organisational practices and they respond more easily to customer needs and associated opportunities, as well as possessing more efficient internal communication (Rainnie, 1989).

**Figure 2.1 Small Business Growth Framework (Adapted from Storey, 1994)**



There has been much support for small firms in their innovative activities, although it is recognised that there exists critical inhibitors to engaging in experimental leading-edge work. These are a scarcity of capital, exposure from the associated costs, limitations on time, talent and organisational infrastructure, as well as the additional burden of carrying staff whose dedicated role is that of research and development, particularly where these are not making an immediate contribution to the bottom-line performance of the business (Rainnie, 1989; Hamel, 2002; Douglas, 2001).

### **2.1.9 Industrial Restructuring**

Changes in the internal operational practices of large firms in recent times have also resulted in a range of business opportunities for the smaller firms. This is prompted in part by competitive behaviour and the desire to achieve business efficiencies through cost minimization (Hull and Hjern, 1987; Scase and Goffee, 1987; Stanworth and Gray, 1991). Whether in the form of divestment of non-core business activity, subcontracting and outsourcing product lines or part of product lines or the processing components of a final product, strategies of this type have opened the door for the small supplier who is interested in offering a discrete product or service to a large customer (Stanworth and Gray, 1991; Robinson and Pearce, 1994; Carson and Cromie, 1989). The nature of this fragmentation within large companies and the subsequent restructuring of the production and delivery of products and services has been diverse, including the decentralisation of production in which large plants are broken up but retained under the same ownership as well as the casting-off of specialist lines into smaller plants and creating new subsidiary companies (Stanworth and Gray, 1991).

In addition, there has been a trend towards the detachment of products or services from a particular firm but maintaining the revenue links in the form of licences or franchises (Scase and Goffee, 1987; Stanworth and Gray, 1991). Other subtle variations on this include the rescinding of units of production and innovation, while retaining market-related control and the power to repurchase the units if desired. In general, there has been a significant increase in subcontracting activity, the disposal of subsidiaries and the subsequent buying-in of services and production previously handled in-house. These activities have been effectively absorbed by many of the smaller specialist operators. A perception of enhanced performance possibilities by the small firm together with a general trend in contraction of the average size of firms suggest that larger firms may have identified their size as being a factor of strategic weakness and are actively seeking to be smaller, devolved and decentralised. This has manifested itself in a greater number of small business units and autonomous profit centres within or associated with a larger organisational entity (Stanworth and Gray, 1991; Storey, 1994).

### **2.1.10 Size as an Organisational Asset**

The proposed reduced reliance on large corporations and the parallel growth in number and prominence of smaller firms have also been attributed to an enhanced perception about the superior performance potential by the smaller operation (Schumacher, 1973; Hull and Hjern, 1987; Arthur and Hendry, 1990; Stanworth and Gray, 1991; Atkinson and Storey, 1994b ). Small firms have been noted to have distinct operational advantages over the large corporations even though it might be unrealistic to claim that smaller firms can outperform their larger counterparts (Hendry et al., 1995). This is most evident in the popular view that smaller firms are likely to be more successful because they are more customer- focused. Smallness is found to produce much closer relationships with those to whom goods and services are being provided. Manager and product line units have also been found to have a greater interface and more immediate contact with their customers (OECD, 2005; Greer, 1995; Hamel, 2002).

A growing trend is enhanced business - to- business (B2B) relationships between customers and suppliers. This occurs where the supplier attains preferred status and is involved in a long-term collaborative relationship with the customer based on mutual dependency and co-operation. The supplier is also increasingly involved in product design and offering features such as just-in-time delivery reflecting the greater emphasis on customer focus and a need to build these connections effectively (Atkinson and Storey, 1994b; Hendry et al., 1995). In large firms where there are more staff, more levels of management and longer lines of authority the ability to communicate effectively and make decisions quickly are reduced. Hamel (2002) suggests that smaller firms typically exhibit faster decision-making and better communication, and that a function of growth is a greater reliance on more impersonal forms of communication, such as e-mails and memos. The ability to be flexible and respond quickly to changing customer and market needs also suggests that small firms are better protected from the impact of fluctuations in demand (Hull and Hjern, 1987). Moreover, it is observed that large companies often have capital tied up in older technologies and processes, and can be reluctant to switch until the prior investment has fully depreciated or is no longer commercially tenable (Commonwealth of Australia, 1990; Stanworth and Gray, 1991; Douglas, 2001).

Even large companies have increasingly begun to recognise the benefits of the smaller organisational configuration, restructuring themselves into independent or semi-autonomous small business units (SBUs) (Schumacher, 1973; Atkinson and Storey, 1994a; Handy, 1995; Greer, 1995) driven by an entrepreneurial spirit (Pinchot, 1985; Timmons and Spinelli, 2003). Richard Branson of Virgin for example has commented that in order to remain vibrant and innovatory "we don't run an empire, we run a lot of small companies" (Hamel, 2002, p. 278).

The management of people is also simplified within the smaller unit configuration. Smaller work groups may generate less conflict because there is less diversity within the group and among the agendas and goals of the individual members (Robbins and Barnwell, 1994). Large groups reduce levels of intimacy between people as it is not possible to know everybody who works in particular location or become particularly involved with them. Schumacher (1973) explained the benefits of small organisations in terms of their ability to offer convenience, humanity and manageability. Gubman (1998) notes that Microsoft's operating units are limited to 35 people so that personal associations develop and there is onus on individuals to assume greater responsibility for their work and its quality without the paternalism that pervades hierarchical structures. Handy (1995, p. 102) summarised his perspective on the benefits of smaller operating units as follows:

"Small units are faster, more focused, more friendly and more fun... small units can get closer to the customer... they can be less bureaucratic and more personal. Most of us fish prefer a smaller pond. In smaller groups there is more chance to be yourself..".

### **2.1.11 Opportunities From Down-Sizing**

Industrial restructuring whereby many larger enterprises have limited their focus to core business activities coupled with the introduction of increasingly sophisticated labour-replacing technology, have led to extensive downsizing activity in recent decades. In many firms layers of management have been abolished and significant reductions in internal jobs previously in place to carry out the work have occurred (Storey, 1994). A large number of skilled workers has consequently made its way into the labour market. In many instances, laid-off employees have opted to start their own companies in the form of consultancies that specialise in their former field or set up businesses in an area of particular personal interest. Historically, entry into self-employment has been associated with economic recession

and monies provided as part of the redundancy package have often realised capital for ventures that might ordinarily have been out of reach (Scase and Goffee, 1987; Tyson, 1995b). There are many examples of services that were once performed within the firm, being effectively offered back to the organisation on an external basis even by former employees. The need for many laid-off employees to secure work in an environment of fewer job opportunities has led to increases in the number of self-employed and absorption of some of this surplus into the small business sector (Scase and Goffee, 1987; Rainnie, 1989; Stanworth and Gray, 1991; Storey, 1994).

### **2.1.12 Reduced Industrial Conflict**

Other benefits that have been identified as likely to emerge as a result of a reduced reliance on the corporate giants include improved business productivity stemming from the reduction of industrial labour conflict (Rainnie and Scott, 1986; Rainnie, 1989; Brown et al., 1990; Storey, 1994). Instances of a poor labour-management climate in Canada and the UK during the 1970s was responsible for disruptive industrial activity, undermining business performance, and in turn the economy as a whole (Godard, 2005; Rainnie, 1989).

Unencumbered by vast bureaucratic organisational structures with complex political agendas and the constraints of union intervention, as well as the difficulties caused by poor communication across large and often diversified workforces, small companies have been seen to offer more functional and productive work settings (Storey, 1994). Working life in the small company is frequently portrayed as more harmonious and family-like, where good relationships potentially exist between management and employees, and there are higher levels of cooperation and support among the members (Rainnie and Scott, 1986; Rainnie, 1989; Storey, 1994). Small groups are credited with being more conducive to building loyalty, commitment and maintaining more fluid operating structures and work arrangements. Where the numbers of employees is high, communication between managers and the workforce becomes more difficult due to the formalisation of management practice and the physical distance that separates individuals (Rainnie, 1989). Control is also reduced in large corporations, as managers are less in touch with what is happening on the factory floor or - out counter, providing opportunity for union organizing and a role in the employment relationship. The idea that small firms are the solution to industrial problems, strikes and work-stoppages has had particular relevance in those countries with deep-rooted industrial

relations problems, characterised by confrontational workplaces and heavily authoritarian management practices. It has been suggested that the trend in structural reconfiguration from large to small may have been driven in part by the desire to reassert control over the labour environment and counter the influence of powerful union bodies supported by large numbers of unified disgruntled workers. In contrast to the harsh and dehumanising experience of working in large organisations, it was thought that small firms might be able to contribute generally to the development of more socially constructive and hence productive working environments (Rainnie and Scott, 1986; Rainnie, 1989; Storey, 1994).

### **2.1.13 Social Acceptability**

The growth in numbers and a more positive perception of small firms have also been attributed to a general change in societal attitudes about their role and value in the community (Brown et al., 1990; Stanworth and Gray, 1991; Handy, 1990). The near hero status of the entrepreneur (OECD, 1989; Zimmerer and Scarborough, 2001; Bygrave, 2000) and his/her leadership of the small firm enhances this view. This general preference for more small firms and less reliance on the bigger firms has emerged to a greater or lesser extent in different countries. Americans, known for their individualism (GEM, 1999) and mistrust of big business complement the almost propagandist-style “enterprise culture” promotion launched in the UK by the Thatcher government during the 1980s. This philosophy highlighted reduced dependency on paternalistic institutions and the so-called “nanny state” (Rainnie, 1989; Brown et al., 1990; Stanworth and Gray, 1991; Storey, 1994). While motivated by economic reasons, government support for the small business sector in the UK assumed a distinctly political and ideological character, representing a transition from the socialist left to the capitalist right and encouraging corresponding social values such as self-reliance, personal responsibility, hard work and independence. This approach to the small business issue was consistent with the broader social and economic goals of the government at the time, which was focusing on privatisation, deregulation, competitive restructuring and the reduction of the power of organised labour. In effect, the increased enthusiasm directed towards entrepreneurial activity and the considerable potential that small firms have been thought to be able to offer in resolving economic and social problems, have created the glamorous aura around entrepreneurship (Brown et al., 1990; Douglas, 2001).

### **2.1.14 Drivers of Support for Small Firms**

Optimistic that they had found the answer to their dilemma, governments became increasingly prepared to acknowledge and promote the importance of the small business sector and to intervene with the provision of support and assistance to help small firms survive and grow (Hull and Hjern, 1987; Rainnie, 1989; Storey, 1994; Stanworth and Gray, 1991; Bennett, 1996; Parker, 2002). Successive governments in countries such as Canada, the USA, the UK, Japan, Germany and Australia began to take action in a range of areas designed to promote new firm formation and small business growth. This has emerged in the form of a wide range of legislation, policies and programmes, encompassing financial assistance, publicity, education, services offering information and advice as well as reforms in business regulation and compliance (Industry Canada, 1988; Stanworth and Gray, 1991; Holliday, 1995; Commonwealth of Australia, 1997; Parker, 2002).

Traditionally most government economic intervention initiatives and legislation have been developed with large firms in mind and the small business was expected to fit into generic policy frameworks accordingly (Brown et al., 1990; Commonwealth of Australia, 1990). There do exist examples of government intervention intended to help small firms compete prior to this period. Historically, the populist movement in the USA in the 1890s looked to protect the modest trader from a hostile market environment and also in 1953 when Congress created the Small Business Administration whose goals were "to aid, counsel, assist and protect, insofar as is possible, the interests of small business" (Brown et al., 1990, p. 6). However, recognising the need to strengthen the role of this sector and address the obstacles restricting small business performance, the latter half of the twentieth century witnessed a dramatic growth in the enactment of different types of legislation and a surge in the provision of aid intended to increase small firm competitive capacity (Storey, 1994; Kuratko and Hodgetts, 1995; Commonwealth of Australia, 1997). Changes in policy gradually gained momentum initially in the USA, with Japan & Germany following suit during the 1950s & 1960s and then in UK in the 1970s after the publication of the Bolton Report (Stanworth and Gray, 1991; Storey, 1994). In the United Kingdom for example, the last two decades of the twentieth century saw a particularly dramatic change in the direction of public policy. Governments with varied political philosophies, both Labour and Conservative, strongly promoted the concept of entrepreneurialism and developed programmes designed to build what was popularly termed an enterprise culture (Rainnie, 1989; Stanworth and Gray, 1991; Storey, 1994). British government policy for small business

incorporated a range of objectives, including increasing employment, lifting the number of firm births, encouraging the faster growth of small firms, as well as creating competitiveness in markets and generating wealth through more efficient market management and the use of technology. Initiatives were put in place in local communities with the aim of developing a culture of enterprise among young people in schools and colleges.

Beginning in the early 1970s, this exercise gained momentum in the 1980s and resulted in the development of a national educational curriculum and a growing focus placed on the development of industry and business awareness. The government introduced elements of business management into college curricula, conducted experiments in building business partnerships and providing work experience in the small firm context for teachers and students (Stanworth and Gray, 1991; Gibb, 2000). Policy was geared towards implementing support structures for enterprising business opportunists and creating networks that provided assistance and education. Loan finance schemes were introduced making it easier for smaller firms to access lines of credit and investment capital (Stanworth and Gray, 1991; Deakins, 1996). It has been estimated that the UK government implemented over two hundred policy measures between 1979 and 1991 at a cost of some 16 billion UK pounds (Rainnie, 1989). In Europe during the 1980s, the European Community (EC) was also making changes in this area and pursuing new small business policy objectives. The combined nations were concerned about the role of small and medium-sized firms in generating market competition, the diversification of products in the marketplace and consistent with its neighbour, the reduction of unemployment. Documentation from the EC indicates recognition at this time of the broader role and importance of the smaller operator in the supply chain, in supporting the large business community, as well as being distributors, wholesalers and retailers of the outputs of large firms. The EC became actively concerned with trying to ensure that small firms interests were widely represented, with encouraging trading, creating opportunities in marketing as well as serving as an institutional repository for information about small business for Community members (deKoning et al., 1992; Storey, 1994).

In Australia, the state has acknowledged for some time the economic and social importance of the small business sector. Since the 1960s sustained interest by the government has resulted in initiatives and legislation, as well as the provision of a range of resources and assistance (Meredith, 1993; Commonwealth of Australia, 1997; Parker, 2002). Clarifying its

role, the government Department of Industry, Tourism and Resources (2005) states: "A healthy small business sector is vital to the Australian economy, accounting for 58 percent of private sector jobs growth and generating an estimated 30 percent of Australia's economic production. The Department helps small business to grow and prosper by providing advice and assistance programs".

In order to plan and implement appropriate government policy and community-based interventions it has been necessary to understand much more about the small business environment, and the nature of smaller enterprise development and growth (Barber et al., 1989). The broad trend to accommodate these aspirations has consequently witnessed a burgeoning of activity relating to the small business sector in many countries. These include the establishment of government agencies, consultancy and service organisations, university departments, literature and journals covering the management of small and medium-sized firms, qualifications in small business management, as well as associations and clubs for small business owners (Gibb, 2000; Huselid, 2003). In the United States for example, networks of state commerce departments, trade and professional associations, the National Chamber of Commerce, as well as coalitions of advocates for smaller firms and new ventures have emerged to focus on the interests of smaller operators (Kuratko and Hodgetts, 1995). Private sector organisations focus on providing services to the small business sector, including assistance with starting, buying or improving a company, developing benchmarking guides for firms to compare performance and making a range of information resources available to this market.

While in Canada, the federal government fine-tuned its national policy commitment to entrepreneurship by establishing in 1987 an integrated and community based agency (ACOA, 1991) to carry out economic development programmes in the disadvantaged region of Atlantic Canada (the setting for this thesis). The primary goal of the Atlantic Canada Opportunities Agency (ACOA) is the development of small and medium sized enterprise while its mission statement became to "...[renew] the entrepreneurial spirit in partnership with Atlantic Canadians" (OECD, 1996, p. 7). This initiative is of particular interest for not only is SME development of critical importance but the promotion of entrepreneurship is also identified as a specific objective. Additionally, a comprehensive strategy to coordinate government support for SMEs was developed. Through these initiatives the Canadian government raised the profile of entrepreneurship, influencing both potential entrepreneurs

but also the general population of the region (Storey, 1993; Savoie, 1994). This strategy is attempting to overcome the findings of Johnstone and Kirby (1999) where geographic areas most depleted in economic resources/infrastructure are least likely to generate new firms and successful small businesses.

Kuratko and Hodgetts (1995) reported that education in entrepreneurship had become one of the "hottest" topics at American business and engineering schools and that by the early 1990s the number of schools teaching a new-venture or similar courses had grown from just a handful 15 years prior to over 500. Similar development are seen in Canada with a 444% increase in the number of undergraduate entrepreneurship courses offered between 1979 and 1999 (Menzies, 2004). In effect, the small and medium-sized business sector has gradually begun to receive previously unprecedented attention at an international and national level from researchers, policy-makers and other interested parties (Huselid, 2003). This attention been concerned with determining how the small business sector should be tackled, the nature of appropriate national and local policy, and the associated infrastructure and interventions that could provide appropriate support (Rainnie, 1989; Kirchoff, 1995). This broad trend is reflected in Kuratko and Hogketts general comments that: "The entrepreneurial spirit may be universal, judging by the enormous growth of interest in entrepreneurship around the world in the past few years" (1995, p. 13).

### **2.1.15 Challenges Facing the Small Operation**

While many may have believed that the key to economic revitalisation had been secured, growth in knowledge and information at this time about the nature and performance of the small business sector indicated that such an outcome was by no means guaranteed. Despite the fact that small firms were expected to bring a change in fortune for the industrialised nations, it was increasingly recognised that this particular commercial sector experiences unique types of business and operational challenges. A range of factors has been found to influence and determine the ability of small firms to compete effectively in their chosen markets (Barber et al., 1989; OECD, 2000; Stanworth and Gray, 1991; Cressy, 1995; Carson and Cromie, 1989; Jennings and Beaver, 1997).

Numerous studies and collected data have shown small firms to be particularly vulnerable as discrete trading entities, having typically to overcome an array of external and internal as

well as real and perceived obstacles, in their efforts to survive and be successful. Some of these difficulties are common to all commercial enterprises while others are found to be unique to the smaller operations. Moreover, research has consistently highlighted the absence of a level playing field where the small business sector is concerned, with small firms facing areas of particular disadvantage when compared with larger corporations (Karpin, 1995; Heneman and Berkley, 1999). Efforts to address these often complex and far-reaching problems by governments and other interested parties have been equally extensive, prompting on-going, widespread debate and often discord about the most appropriate approach to resolving areas of concern (Curran, 2000; Commonwealth of Australia, 1997; OECD, 2005; Cressy, 2002; Keeble and Wever, 1986; Storey in Sexton and Lundstrom, 2002).

### **2.1.16 Early Demise of Small Firms**

For all small firms there is a pervasive threat of early failure and demise. Many small firms start up each year but their success rate is not high (Stanworth & Curran, 1986; Hull and Hjern, 1987; Rainnie, 1989; Barber et al., 1989; Meredith, 1993; Storey, 1994; Ennis, 1999). According to Robbins and Barnwell (1994), it is invariably the smallest and weakest companies that close their doors first. Storey (1994) considered the fundamental characteristic that differentiates large and small businesses other than their size, is the higher probability that small firms will cease to trade. He reported that empirical studies have consistently shown that smaller firms have higher failure rates than larger firms and that this is now a unanimously held view among authorities in the field. Researchers have come to understand that small businesses are more vulnerable than larger firms because exposure to business failure is greatest in the early years of formation. Younger firms are found to fail more often than older ones and small firms are more likely to fail than larger ones (Rainnie, 1989; Stanworth and Gray, 1991; Storey, 1994; Blackburn and Smallbone, 2008).

It has also been suggested that gender of the owner-manager plays a role in firm performance and the rate of failure (Watson, 2003). Also, in Canada 3 out of 5 new firms survive beyond their second year of operation (Government of Canada, 2003) while in Australia a longitudinal study on small firm demise suggests that small firms have only a 27 percent probability of survival in the first five years of formation and that this dips to eight percent over a 10-year period (Commonwealth of Australia, 1990).

The acute vulnerability of the smaller firm has been widely discussed in recent years, based to some extent on the hypothesis that the small business is at a comparative disadvantage to larger firms and that without assistance or support they decline faster and grow less rapidly (Hull and Hjern, 1987; Stanworth and Gray, 1991; Pompe, 2005). The sector has been criticised for its inability to address those impediments that threaten the ability to improve levels of output and productivity, and survive the early phases of establishment (Hull and Hjern, 1987; Bates, 2005).

Schumpeter (cited in Timmons, 1994 p.11) suggests that a level of failure is part of creative self-destruction: "Failure is a part of innovation and economic renewal. Failure is part of the learning process in gaining an entrepreneurial apprenticeship."

Similarly, Gibb (2000) suggests that while the odds in favour of survival for the smaller operators are usually seen as low, this was not necessarily a disaster. He notes that a high rate of business failure could be viewed as a natural and even acceptable part of the cycle of commercial life, and while it would seem prudent to contrive to minimise this, its occurrence may not be the disaster often ascribed. Certain benefits are realised from the death of a business, such as the shifting of resources from an environment of low return to high return and the gaining of valuable experience for those wanting to continue to participate in the sector (Beaver and Jennings, 2005). Where the nature of corporate existence is viewed as a continually dynamic, changing and acceptably hazardous process, the enduring pattern of rapid start-up followed by shutdown presents a slightly less gloomy picture ( GEM, 1999; Gibb, 2000). Nevertheless, small business survival exists as a key macro and micro objective and one of the most important influences on the ability of these companies to survive is thought to be the degree to which they can grow within a short period after start-up (Storey, 1994).

### **2.1.17 Factors in Early Demise**

Many studies have been conducted in an effort to understand the high rate and nature of small firm mortality (Clark, 1986; Hull and Hjern, 1987; Barber et al., 1989; Storey, 1994; Caves, 1998). Although certain patterns in the types of difficulties small firms face have emerged, it may be any combination of these that can lead or contribute to closure (Barber et al., 1989). Particular problems areas identified are market competition (McCarran-Quinn and Carson,

2003), the high cost of doing business, a lack of financial and other resources ( Cressy, 2002), the absence of economies of scale and the disproportionate costs associated with compliance and regulation (Rainnie, 1989; Barber et al., 1989). Also included is a deficit of business management knowledge and skills by owner-managers (Clark, 1986; Hull and Hjern, 1987; Storey, 1994; Gibb, 2000; Martin and Staines, 1994; Industry Canada, 2001).

Studies by Storey (1994) identified a number of generic factors found to play a part in the sustainability of a small firm, including the size and age of the company, the structure of its ownership, the sector in which it operates, the past performance of the company, the external macroeconomic conditions, the management of employees and internal infrastructure, the location of the company and the prevalence of State subsidies. He refers to early research conducted by Berryman (1983) and Argent (1976), who found that small entrepreneurial firms generally reflect the personalities of the individuals who create them and that obstacles to success derive from that individual's personal characteristics. They concluded that failure emanated from business leaders who were unwilling to take advice particularly from expert and qualified sources, who had little formal education and engaged in little reading and who were reluctant to innovate or introduce change (Holliday, 1995; Robson and Bennett, 2000; Mole, 2000; Audit et al., 2007).

Meredith (1993) reported that research investigations in many countries have concluded that poor management is the major factor leading to the failure of small companies. Various studies have attributed success or failure to specific owner- manager characteristics such as age, gender, work experience, educational qualifications and family background. For example, business success was thought to be positively correlated with owner-managers who had prior business ownership, prior managerial experience, experience of unemployment, time spent working in a large firm and in a similar industry, as well as training in business management. Prior business ownership may make owners more aware of the problems of ownership, give them an opportunity to learn the lessons of previous mistakes and carry forward the experience of managing others. Experience of unemployment might provide a stimulus to make individuals more determined that the business does not fail through fear of having to return to the state and stigma of unemployment. Work experience in the same sector would be expected to be positively associated with survival because the owner-manager is likely to have an understanding of the norms and practices of that sector. Similarly, work in a large firm may also provide a breadth of managerial skill and experience,

although this may have been acquired in a narrow specialised field rather than cover the diversity of disciplines associated with small business ownership and management. Survival is thought to be more likely where there is greater availability and use of family networks for financial support and advice, and where the owner-manager comes from a family with a history in business. Higher levels of education are also thought to provide better chances of success because owner-managers have a greater knowledge base to draw on in the management of their business affairs (Stanworth and Curran, 1986a; Storey, 1994).

However, Westhead and Birley (1995) found that in the United Kingdom, owner-manager characteristics at start-up, including human capital factors, do not have much influence on the employment survival or growth of the firm.

### **2.1.18 Demands of the Market**

It has been observed that many hopeful entrepreneurs starting and operating a small business concern lack the essential requirements of successful ownership and management ( Mintzberg, 1989; Kirby, 1990; OPEC, 2002; GEM, 1999; ). Often a new venture commences with an idealised and romantic notion about a particular product or service offered, with little forethought given as to how it will get to market successfully. As with any company, small firms must understand the competitive environment in which they are trading by responding to the strategic positioning of competitors to ensure market share is captured and retained. To do this firms must not only possess a product or service that is marketable and knowledge about that particular market, but also the ability to manage the product and service within the chain of supplier and customer relationships( Carson and Cromie, 1989; McCarthy and Perreault, 1984; Hills and LaForge, 1992). Inexperienced owner-managers may have little understanding about the technical requirements of designing and developing a product or service and an overly optimistic estimation of the funds required to establish and run a small business. Some fail to undertake research and planning to determine the market strategy, or appreciate the importance of the reliability, quality and safety of the product or service they are delivering to the market. Poor timing of the entry into the marketplace, a misjudged distribution strategy, lack of clarity about the exact area of business in which the small firm is competing, and an over-reliance on one or only a small number of customers

can lead to premature demise (Barber et al., 1989; Pelham and Wilson, 1996; Gilmore et al., 2001; Storey, 1994).

Small firms face problems with the competitive and sometimes monopolistic practices of larger companies, the underground economy, with unreliable providers of raw materials and too few customers who do not pay their bills on time (Covin and Slevin, 1989; Stanworth and Gray, 1991; Storey, 1994). Not unexpectedly poor products, product development issues, operational and quality control problems, low sales, inadequate management of inventory, resources and suppliers, as well as ineffective marketing and promotion have been found to contribute to many young firms ceasing to trade at an early stage (Barber et al., 1989; Storey, 1994; Martin and Staines, 1994; Phelps et al., 2007).

The performance of small firms may also be conditional upon geographic and national location. Scarpetta et al. (2002) found that there is a lower degree of firm turbulence, or "churning" in Europe than in the U.S. Distinguishing features of European SMEs from their American counterparts is that they start up at a larger size, have a higher level of labour productivity, and a lower level of employment growth subsequent to entry.

## **2.1.19 Management of Finances**

Particularly common are the difficulties owner-managers encounter with the management of their finances, whether this is maintaining sufficient control over liquidity and cash flow, unrealistic extension of credit to customers, failure to service business debts or the use of inappropriate or inadequate financial structures and systems (Coleman, 2000; Government of Canada, 2003; Kuratko & Hodgetts, 1995; Barber et al., 1989; Dunn, 1993). Sound financial management in small firms is based on the ability to balance revenue with operating expenses and cash received with cash outgoings, a task with which many owner-managers often struggle (Scott, 1975; Dunn, 1993). It is not unusual for smaller firms to encounter problems with having inadequate working capital and cash flow, and maintaining excessive and unrealistic levels of debt. Conversely, there are also dangers associated with the acquisition of large amounts of debt too early in the firm's development and in failing to reinvest back into the business during upturns in business and times of healthy profit. In addition, small firms generally experience greater difficulty getting necessary finance in the form of investment capital due to perceptions of higher levels of risk by financiers and investors in

the face of little collateral security ( Jankowicz and Hisrich, 1987; Haines et al., 1999 ). The evaluation, monitoring and control costs of making a loan to or investing in a new or small business are much higher in relative terms and constitute greater levels of risk for banks or other investment providers ( Levenson, 2000). Being associated with high levels of risk also means that the cost of any finance made available and the corresponding interest rates is often higher (Stanworth and Gray, 1991; ). Owner- managers may also lack information about the different types of sources that are available to provide financial support (Stanworth and Gray, 1991; Storey, 1994; Chittenden, 1996; Westhead and Storey, 1997).

### **2.1.20 Fixed Costs of Running a Business**

In comparison with larger corporations, small firms are disadvantaged due to the fixed cost of doing business (Scase and Goffee, 1987; Stanworth and Gray, 1991; Storey, 1994). A significant proportion of business activity and infrastructure will cost the same regardless of the size of the firm. Their ability to compete in the market is undermined by the absence of economies of scale and the fixed costs associated with operating a business, such as the collection and analysis of market information, the acquisition of finance in capital markets, complying with government regulation and other operational requirements.

Moreover, because margins are generally lower in small firms ( Cunningham and Hornby, 1993) and they are usually more labour intensive in comparison with larger firms, there is relatively greater need to use capital more efficiently (Scott, 1975; Rainnie 1989; Stanworth and Gray, 1991; Storey 1994; Government of Canada, 2003 ). With lower levels of turnover, small firms have less revenue over which to spread these costs (Stanworth and Gray, 1991; Cunningham and Hornby, 1993). Moreover, small firms may adopt a less strategic cost-plus approach to pricing ( Warshawsky and Dennis, 1996) and not have access to discounts that can be acquired through volume-buy arrangements ( Hankinson, 1991; Storey, 1994; Carson et al., 1998).

### **2.1.21 Business Compliance and Administration**

Concern has also grown about the negative impact of government compliance and administration requirements on the small business community. The introduction of regulation

governing business practice without due regard for its affect on small firms has resulted in a disproportionate burden being placed on the smaller operators (Scase and Goffee, 1987; Barber et al., 1989; Bennett, 1997; Curran, 2000). In a recent report, the Canadian Federation of Independent Business, representing 105,000 small business members, estimates that it costs Canadian businesses a staggering \$33 billion a year to comply with the countless rules imposed by all levels of government ( CFIB, 2005). One specific initiative, the introduction of the goods and services tax (GST), similar (in some respects) to European value-added tax (VAT), caused the small business sector to face compliance costs exceeding \$1 billion ( Dana, 2008). The smaller businesses are burdened by an disproportionate share of the administration burden of these initiatives. Managerial time of entrepreneurs is being used for increased accounting and paperwork requirements.

Small firms invariably lack the resources that enable the hiring of others to do this work, so the owner-manager is obliged to devote time to activities that detract from the management and operation of the actual business itself. Regulation sometimes causes smaller operators to raise their prices in order to absorb the various costs, which in turn reduces their ability to be competitive. The fixed cost of compliance has to be borne regardless of the size of the business. Governments have been encouraged to consider the wider less immediately obvious implications of their actions in this respect and to develop policy that creates a fairer trading environment with less onerous compliance tasks and responsibilities for smaller firms (Brown et al., 1990; Kuratko and Hodgetts, 1995; Dana, 2008).

### **2.1.22 Shortage of Management Resources and Skills**

The role of the entrepreneur in a small firm is unique in that it comprises all the tasks and responsibilities required to run a business that in a larger company are shared by a greater number of people. Not surprisingly, time is one of the scarcest resources in small firms ( Martin and Staines,1994; Burns and Dewhurst, 1996;

DUBS, 1990b). The tasks of owner-managers are highly diverse covering a considerable range of managerial, operational and administrative areas including sales, marketing, inventory procurement and management, quality assurance, income generation, receivables, bank relations, financial controls, legal compliance, lease holdings, correspondence, employees management, security and so forth. Not only do most small firms operate on a

lean budget and invariably struggle with small margins when balancing their revenue with the cost of doing business, but they must also come to terms with significant deficits in other types of resources, such as staff to help them manage and operate the business and support in the form of business management expertise ( Beaver and Prince, 2004).

In Canada, a recent challenge confronting Atlantic Canadian business is the outmigration of skilled workers enticed by the opportunities in the booming oil and gas Alberta economy ( The Times-Transcript, 2006). Owner-managers are obliged not only to deal with and fit all these demands into their lengthy working week but also to determine and focus on the right priorities so that their business runs smoothly, pursues opportunities and avert disasters ( DUBS, 1990b; Gibb and Davies, 1992; Storey, 1994; Poutziouris, 2003; Beaver, 2007). To accomplish these goals, some researchers suggest the entrepreneur should adopt a knowledge-management orientation to the leadership of the firm (Carson et al., 1995; Beijerse, 2000; Frey, 2001; Darroch and McNaughton, 2003).

Unlike in large corporations where the General Manager will have a range of reporting specialists responsible for planning, finance, sales and operations and is not personally required to be a specialist in any of these fields, this diversity of skill is required to be held by the entrepreneur in the smaller operation (Barber et al., 1989; Stanworth and Gray, 1991). It is well established that owner-managers of small firms frequently lack the specialised management knowledge and skills that are available within larger corporations (Storey, 1994; Gibb, 1997; Deakins and Freel, 1998; Ibrahim and Soufani, 2004). In most cases small firms do not maintain professional advisers on their payroll; the cost of employing financial personnel or other functional and technical specialists is often prohibitive in the early stages of development (Barber et al., 1989; Robson and Bennett, 2000).

However, it is also unlikely that the full complement of knowledge and skills required to cope with the multitude of tasks and issues related to small business management will be found in only one person and yet this shortfall must somehow be managed ( Birley and Westhead, 1990; Chandler and Hanks, 1994). The owner-manager must manage alone, drawing occasionally, reluctantly or not-at-all, on external suppliers of expertise as when these are needed, affordable and known (Barber et al., 1989; Deakins and Freel, 1998; Heneman and Berkley, 1999; Bennett and Robson, 1999; Dyer et al., 2008). \

### **2.1.23 Addressing the Difficulties Facing Small Operators**

Despite a pessimistic outlook for many small business operations, the commitment to building vibrant economies has fuelled a determination by various nations to help this sector overcome its many hurdles (OECD, 2002; Government of Canada, 1988; Stanworth and Gray, 1991). Over several decades, a range of initiatives has been debated by all developed and developing countries with the intent of addressing these perceived obstacles to survival and growth. They encompass financial injections into the community, reductions in business charges, fees, bureaucracy, red tape and paperwork, limiting intrusive regulation and discriminatory practice, improved consultation with the sector on issues affecting them, as well as the provision of information and educational services ( EU, 2003; Commonwealth of Australia, 1997; Curran, 2000; OPEC, 2006).

### **2.1.24 Concerns Relating to Small Business Policy**

While commitment to the small business community has endured over time to a greater or lesser extent and the number of reforms has escalated and undergone different stages of simplification, repackaging and local focus, these have been subject to criticism relating to their effectiveness, applicability and sufficiency (Rainnie, 1989; Storey, 1994; Crick, 1997; Forman, 1996; McMahon, 1998; Gibb, 2000).

Concerns have been expressed that many of the initiatives are not comprehensive and remain fragmented, failing to be integrated into an overall economic policy (Stanworth and Gray, 1991; Storey, 1994; Parker, 2002). Changes in policy have frequently been made in response to small firm lobby groups (CFIB, 2006) and changes in the macroeconomic and/or business context. Perhaps more significantly, critics have been concerned about the fact that it is not clear whether government interventions and investment actually solve the problems for which they are intended ( Salgado-Banda, 2007). The complex nature of economic infrastructure and its dynamics make it difficult to gauge and measure in a meaningful way, or to make transparent the causal connections, the extent to which initiatives have been appropriate or achieved their objective (Rainnie, 1989; Brown et al., 1990; Stanworth and Gray, 1991; Storey, 1994; McMahon, 1998). Issues have risen on the appropriateness of government intervention in light of trends in broader economic theory and associated practice. Although there has been support for the view that the domination of the trading environment by large

enterprises may not be a desirable situation; that it is helpful to open some of the monopolistic practices by creating genuine competition in the marketplace, public policy that positively discriminates and favours the small business sector remains a contentious issue (Stanworth and Gray, 1991; Kirchhoff, 1991).

Some of the debate relates to the appropriateness of government intervention at a time when the current stance is building free markets and allowing competition to emerge naturally in an unregulated environment without artificial controls. As Atkinson and Storey (1994b) pointed out, it has not been unequivocally demonstrated that government policy helps small firms to grow, that by removing resources from other sectors to promote the small business sector the economic outcome is the most desirable one, or that the assistance provided to these firms actually reduces the levels of unemployment (Brown et al., 1990; Bennett, 1997; Gibb, 2000; Salgado-Banda, 2007; Ramsey and Bond, 2007).

What is apparent is that while there has been a proliferation of explanations for the growth of the small business sector, the causal factors remain complex (Barrett and Rainnie, 2002), often interwoven and a matter of speculation. It is not clear whether the greater numbers and prominence of small firms have contributed to generating changes in the business community or whether the growth of this sector is conversely a result of a dramatically changing broader business context (Stanworth and Gray, 1991). Among the critics on small business policy has been Gibb whose article, *SME Policy, Academic Research and the Growth of Ignorance, Mythical Concepts, Myths, Assumptions, Rituals and Confusions* (Gibb, 2000), challenges some of the contemporary theories and views about the small business community. Gibb (2000) asserts that policy-makers and academics have been responsible for disseminating erroneous and negative assumptions about the small business sector. He criticises the poor understanding and overly simplistic generalisations made by some commentators about the management of small firms, examples of which include the reasons for business failure, the view that providing training to small firms has no value because of their likelihood of demise and the suggestion that owner-managers are generally a low-calibre group unable to keep their businesses afloat.

Gibb's thought provoking assertions reflect the fact there is much still to be discovered about the world of the small business and its inhabitants, and that so far, attempts to leverage the perceived potential of this sector (whether political, economic or social in motivation) have been and continue to be based as much on intuition and speculation as on sound scientific

evidence. It is generally accepted that those factors that define the position of small firms are extremely variable and complex, such that it has been difficult to measure and arrive at clear aggregate conclusions. Nevertheless, the basic philosophy and sustained approach to this sector has been that whatever can reasonably be done to support and aid the smaller firms should be done (Gibb and Davies, 1992; Holliday, 1995; Gibb, 2000; Parker, 2002).

## **2.2 The Nature of Growth in the Small Firm**

Organisational growth research has attracted considerable attention (Buss, 2002; Delmar et al., 2003) with the topic of growth within the small and medium-sized business receiving global attention by researchers and policy-makers (Curran et al., 1986; OECD, 2002; McMahon, 1998; Coviello et al., 1995; OECD, 2005; Industry Canada, 2006). Consequently, there exists a substantial academic and popular literature specifically dedicated to this aspect of organisational activity within the smaller commercial entity.

The importance attributed to growth in small firms has been emphasised to the extent that the subject has developed over time into a field of study in its own right and for scholars and specialists in the field of management of smaller companies, the issue of growth has become a common topic of interest and concern (Curran et al., 1986; Blackburn and Smallbone, 2008). For those with a desire to see the small business community thrive and fulfil its broader socio-economic potential, organisational growth and development is invariably one of the defining considerations (Buss, 2002). For many experts in this field their purpose has been to identify those features, which distinguish "steady-state" or non-growth companies from those which make the journey to becoming larger entities (McMahon, 1998; Brush and Chaganti, 1998).

There are concerns that the building of knowledge in this discipline has not been consistently cumulative and that there is still much to be explored and discovered about the nature of small business growth. The breadth of the associated research activity and debate has nevertheless resulted in a better understanding of the factors that influence the internal development of a small business and the growth process in general (Curran et al., 1986; McMahon, 1998; OECD, 2002).

### **2.2.1 Defining "Growth"**

It is first necessary to clarify some aspects of the terminology and its definition relating to this subject, thereby avoiding the possibility of any semantic confusion. It is important to note that the generic term "small business growth" (as well as the general use of the word "growth" within the literature on small firms) possesses two separate dimensions with regard to meaning and application ( Blackburn and Smallbone, 2008). The first dimension encompasses the concept of the increasing or growing number of small firms that are actively trading in the marketplace at any point in time. The second dimension refers to the internal organisational development and change within individual firms, being single, unique entities operating within the broader SME sector.

This chapter focuses on the latter category, reviewing the experience of growth within context of the single small business operation. The term "small business growth" as applied to the internal development of smaller companies is often bandied about in a manner that suggests a good understanding of what is meant by this phenomenon in a small firm. However, a general examination of the literature on this subject indicates that there exists much complexity associated with its application, which at times creates problems for the development of associated theory and understanding (Gibb and Davis, 1990; Gartner, 2001).

On a superficial level, the term brings to mind increased trading activity, larger numbers of customers, a bigger operation and taking on more employees. It denotes a picture of greater productivity where gainfully employed people are busily engaged in delivering useful and desirable products and services to the community and reaping the rewards of their efforts. Closer investigation reveals that there are in fact many factors incorporated in both the theoretical concept of small business growth on the one hand and the practical realities related to a growing enterprise on the other (Barber et al., 1989, OECD, 2002).

The Chambers 20<sup>th</sup>. Century Dictionary (Kirkpatrick, 1985, p. 554) defines the verb "to grow", from which the noun "growth" is derived, as "... to become enlarged by a natural process: to advance towards maturity: to increase in size: to develop: to become greater in any way: to extend: to pass from one state to another". In addition, the term "growth" is said to possess some additional connotations, including "gradual increase", "progress", "development" and "increase in value".

Although the nature of these definitions assumes both tangible and intangible qualities when used to describe a particular object or concept and when considered individually incorporate very disparate features, it might be agreed that these reflect the wide variety of experiences that comprise small business growth. Growing firms have been associated with many activities, including developing new products and/or markets, creating a marketing function, establishing new customer and supplier relationships, exploiting niches in the market, engaging in innovation, undertaking research and development, using external service providers or investment capital, expanding capital assets, networking, working on strategic planning and business development, building teams, experimenting with new technology, restructuring the business, being entrepreneurial and even owner- managers being able to take more leisure time. Growth can also be about structural changes as in the opening of parallel business units or branches, by way of backward or forward vertical integration and through mergers and acquisitions that offer broader business opportunities (Penrose, 1963; Bosworth and Jacobs, 1989; Barber et al., 1989).

There is no firm agreement among stakeholders about what is meant by the term "small business growth" (Curran, 1986, Gibb, 2000). It is variously taken to refer to: "historical growth, business with potential, businesses wishing to grow, businesses facing step change, businesses in a growth pole, businesses in a cluster (associated frequently with technology), businesses with ambition, businesses actively seeking assistance and businesses trying to export" (Gibb, 2000, p. 6).

Gibb also proposes that the so-called "growth company" has been attributed some incorrect characteristics. For example, growing firms are usually considered to be active firms and not start-up firms. Steady-state firms engaged in routine business activity are not usually regarded as dynamic or undergoing high degrees of change, and organisational growth must be closely associated with high-tech activity. Defining small business growth is also complicated by the fact that growth is found to occur in an organic manner in that one or a number of factors could be said to have grown, (e.g. greater revenue and more employees), and that these growth factors may then contribute to creating other unforeseen internal changes such as greater complexity and new (i.e. more) organisational systems (Bosworth and Jacobs, 1989; Storey, 1994; Jaworski and Kohli, 1993).

Being rather illusive, the term "small business growth" has and could be used to pertain to any reasonable event or set of circumstances that reflects smaller trading entities going

though phases of change that are associated with any connotation generally applied to the notion of growth. However, as has been pointed out, the application of the term is likely to be determined by the way in which a particular company's activities and performance are measured. There are many ways in which growth can be measured, such as profit, net worth of the business, turnover, numbers of people employed, capital employed, market share, customer base, product range, and productivity levels ( DUBS, 1990b, Smallbone et al., 1995). This relativity is reflected in the fact that growth in a firm might be viewed as less significant or immediacies where for example, the overall market in which it competes is also growing rapidly (Barber et al., 1989; Gibb, 2000). Similarly, a small operation that previously did not employ staff and then hires one new person might be viewed as having grown substantially in percentage terms ( DUBS, 1990a). In effect, it is difficult to afford the term "small business growth" a precise definition due to the multiplicity of factors comprising the growth process and the fact that small firms evolve in many different ways and experience change in both tangible and intangible forms (Storey, 1994). propose that growth is simply about "getting from one place at one point of time to a different place at some time in the future".

### **2.2.2 Importance of Growth**

Growth in small firms is considered important because it is associated with positive outcomes such as a more vibrant economy, healthy businesses, employment opportunities, prosperity for the community and individuals, social benefits like reduced crime, better living conditions and even a contented populace ( Birch, 1987; Sexton and Bowman-Upton, 1991).

It is assumed that small business growth is a good and desirable phenomenon and that if small firms were more adept at tackling impediments to their growth these types of objectives could be accomplished (Hull and Hjern, 1987; Barber et al., 1989). It has been established that the failure rate among small, particularly young, firms is very high (Brown et al., 1990; Storey, 1994; Greiner, 1998). The argument presented by growth-enthusiasts is that if firms in this sector could survive those early days of high exposure and vulnerability, and develop some of the resources and infrastructure characteristic of larger firms that provide some protection from uncertainty and crises, their chances of remaining viable entities would increase (Hull and Hjern, 1987; Storey, 1994; Greiner, 1998; Deakins and Freel, 1998;

Ennis, 1999). The economic, social and employment benefits accruing from the growth of firms are significant. The fact that a high proportion of firms cease to trade while still relatively young and the majority of small firms tend to remain small even though they may survive for many years, means that only a relatively small number of firms move towards becoming medium-sized (Hull and Hjern, 1987; Barber et al., 1989; Greiner, 1998; OECD, 2002). Hence, as rapidly growing firms constitute only a small portion of the small firm population their role in supporting the economy and creating employment opportunities is regarded as even more significant ( Birch, 1987; Curran et al., 1986; Barber et al., 1989; Storey, 1994; Kirchhoff, 1994).

As already highlighted, business growth is regarded as important because growing firms are thought to have the potential to become major providers of new job opportunities within the community (Hull and Hjern, 1987; Storey, 1994; Rainnie, 1989; Atkinson and Storey, 1994b). Small growing firms are also important for other small and large organisations and businesses by supplying and purchasing within in the trading chain, products and services needed and produced by these firms (Scase and Goffee, 1987; Bridge et al., 1998; Robinson and Pearce, 1994). In particular, they have been found to generate sources of income and employment for specialists such as accountants, management consultants and financial institutions that offer professional expertise and specific products such as loans and various forms of equity capital. Periods of business growth have been identified generally as times when expanding companies will make greater use of and invest more in external resources to support this transition (Storey, 1994; Day and Wensley, 1988; Bennett and Robson, 1999).

However, while the phenomenon of growth is heralded as a positive and a much sought-after objective for the small business sector, the assumption that its occurrence will lead automatically to an overall betterment of all factors related to the company can sometimes be erroneous (Barber et al., 1989; Holliday, 1995). Where growth implies a dramatic change of direction for the business, such as the launch into a very different type of product or service where there is highly technical specialisation associated with its delivery, or a major geographic relocation for the operation, or the introduction of sophisticated, leading-edge labour-saving technology, the implications for some aspects of the company and its associated environment may be profoundly negative. As Hull and Hjern (1987) point out, organisational growth does not always imply more jobs or even constancy of jobs that are currently in place in the business. It is sometimes necessary to lose jobs in order to develop

the growing business. The nature of the expansion may mean that new and different types of skills are required and consequently, some employees will need to be replaced ( Macperson, 2005).

Similarly, growth may imply the abandonment of certain customers and suppliers, as well as certain physical aspects of the operation such as plant, equipment and technology (Feindt et al., 2002). This all has an impact both on individuals who have some type of relationship or connection with the firm as well as in the form of a ripple effect on the broader environment in which the firm is operating (Barber et al., 1989, Garnsey and Heffernan, 2005 ).

Moreover, an increase in business turnover may not necessarily result in enhanced company profitability. The absorption of greater amounts of financial resources needed for investment in support of a growth initiative can lead to various organisational stresses including cash-flow deficits and compromising other areas of the business that require funds ( Foreman-Peck et al., 2006). While some aspects of the company may be perceived as "growing" and this "growth" is seen to be a positive occurrence, not all areas of the firm will necessarily grow in unison or mutually support each other in achieving the desired outcome. At times, growth can generate conflict, where one area of the business demands that another is sacrificed in order to accomplish the overall intended result ( Jennings and Beaver, 1995). Furthermore, organisational growth for the small operator can represent a high-risk strategy, which if not managed with skill and appropriate judgment can result in disaster ( Boardman, 1981; Holliday 1995). While the successful expansion of a business is likely to be a desirable outcome, the process of growth from small to not-so-small is known to be fraught with difficulties that can impede achievement of this objective, even leading to the demise of the company in its entirety ( Gray, 2002; Kaikkonen, 2006).

With closer investigation it becomes apparent that organisational growth for the small business is a controversial issue and far from being a simple and straightforward strategy. As such, rigorous and detailed analysis by owner-managers of the potential risks and benefits prior to commencement of a growth strategy is found to be prudent and may not necessarily reflect the growth hypothesis in a particularly positive light (Barber et al., 1989; Smallbone et al., 1995; Upton et al., 2001).

### 2.2.3 The Growth Process

The nature of growth signifies a moving, evolutionary process, implying that the firm is in neither a static nor stationary state (Greiner, 1998). Circumstances will determine whether organisational growth is slow or fast, and whether it occurs in a dramatic or subtle manner (Coviello et al., 1995; Delmar et al., 2003). The issue of definition aside, it is difficult to identify when a company is entering or going through a growth phase. Establishing when and where growth begins is problematic. For example, does activity by the owner-manager to pursue more trading opportunities constitute the beginning of a growth phase - what if this search for increased business does not then materialize? Does this negate what might have previously been described as a growth strategy? Could growth be said to occur where the firm is taking on more employees but the business performance indicators such as turnover, revenue and profit, are down at that time? Does the transition into a smaller but more financially lucrative market signify a growth strategy or a regressive strategy (Hills and Hultman, 1999)?

In effect, the advent of growth appears to be more easily identifiable in retrospect, where organisational changes can be viewed as a general manifestation of patterns of growth-type behaviour (Hoy et al., 1992). This might include the signing of a new contract, the purchase of a new piece of equipment or the arrival of new staff. Sometimes, growth will be associated with an organisational crisis (Scott and Bruce, 1987; Macpherson, 2005). The company may experience greater levels of internal disorganisation, insufficient availability of supplies, an increasingly unmanageable workload for a workforce that seems to be in strife, customers experiencing unusual delays in their orders and paperwork mounting uncontrollably in the office. Where business growth occurs rapidly, organisational problems are likely to emerge at a faster rate and with greater intensity (Penrose, 1963; Jennings and Beaver, 1997).

Growth theorists have suggested that business demise among growing firms is invariably linked to the traumatic, or "revolutionary" occurrences that take place as the growing company passes through various stages of organisational development. At the time of this change those in charge fail to make the necessary changes that are critical to the firm's survival (Greiner, 1972; Hull and Hjern, 1987; Jennings and Beaver, 1997). Having arrived at the SME's "tipping-point", the company effectively finds itself at a watershed (Barber, 1987; Kuratko and Hodgetts, 1995; Kauffman, 1997b; Phelps et al., 2007). There are various options for the company: to actively remain in or regress to a place of safety and familiarity where the business feels under control and more manageable, to continue in the state of crisis

without tackling the emerging problems and hence jeopardise the survival of the company through inaction or to overcome the hurdles by making the necessary adaptive changes and introducing management infrastructure that enables the firm to cope (Scott and Bruce, 1987; Barber et al., 1989; Sexton et al., 1997; Bridge et al., 1998; Beaver, 2007).

Greiner (1972) comments that the critical task for management in each period of growth or turbulence, is to find a new set of organisational practices that will become the basis for going forward and managing the next period of evolutionary growth. In this way, it is apparent that owner-managers of growing companies are likely to be under greater pressure than those in steady-state, because of this need to monitor and where possible plan for and anticipate the changes both within their business and in the external market environment so that appropriate realignment and adjustments can be made at regular intervals ( Barber, 1987; Jennings and Beaver, 1997).

The growth process necessitates a conscious determination and commitment by the firm's decision-makers about the direction and manner in which the company will proceed. Inevitably, in order to manage any transition most effectively it is understood that there is a need to recognise the actual point at which adjustments are required within the firm's operational structure to ensure the business is balanced and appropriately supported (Smallbone et al., 1995; Jøcumsen, 2004; Kaikkonen, 2006). This may not be obvious to the owner-manager who is close to the business and will be working hard to maintain business momentum, particularly where the firm appears to be doing well. A surge in the number of customers, escalating turnover, new orders and a fully utilised workforce are factors that are unlikely to signal that change is needed, rather to the contrary. Occurrences of this type that frequently emerge during the growth experience are more likely to suggest that the company has found the correct formula for success and should be continuing along the same path (Greiner, 1998; Pelham and Wilson, 1996).

#### **2.2.4 Theories of Growth**

Research has been undertaken in recent years to explore the nature and associated difficulties of organisational growth, particularly among smaller firms (Penrose, 1963; Bosworth and Jacobs, 1989; Gibb and Davies, 1992; McMahon, 1998). Approached from many different angles, this has generated a range of diverse theories and models attempting to explain how

growth occurs. Most prominent among the different schools of thought to be found are the static equilibrium theories, the stochastic models, the strategic management perspectives, organisational development models and the growth-cycle stage models, although other movements and variations exist, some of which overlap (Penrose, 1963; Stanworth and Curran, 1986; Gibb and Davies, 1992; McMahon, 1998; Ennis, 1999).

McMahon (1998) refers to static equilibrium theories derived from the field of industrial economics that focus on the attainment of economies of scale within a business and the minimisation of long-run unit costs. These models are criticised for being insufficiently concerned with the dynamics of growth and over-emphasising the large firm as the ultimate and ideal outcome of growth, there being no perceived limit as to the size a business can become. Stochastic models have been developed in the field of pure economics and conclude that because so many factors affect growth there can be no one dominant theory. Strategic management perspectives focus on the dimension of achieving growth, exploring the way the owner-manager handles the business at the time of expansion, the types of strategies and policies that are formulated and are then translated into actions that support the growth strategy. Here theorists are concerned with the role of the owner-manager and how this individual perceives the business. The personal characteristics of the owner-manager are central, with his/her desires for the firm and the perceptions surrounding the possible opportunities available or threats the business might face, being the focal point (Gibb and Davies, 1992). McMahon (1998) suggests that the industrial economics and stochastic theories have been useful but are limited by their emphasis on rationalistic and mechanistic features, without regard for the social and behavioural dimension of business development, while the strategic management perspective may be flawed because of doubts relating to the actual existence of strategic activity in smaller firms.

Organisational development in small firms has also been investigated (Gibb and Davies, 1992). Mount, Zinger and Forsyth (1993) focused on the infra-structural changes that take place as small firms grow. Aspects such as the organisational structure, increased functional complexity, additional management layers, changes to work and production arrangements, methods of management and the skill composition of the workforce are examined. Flamholtz (1986) and Roberts (1999) have discussed growth in terms of companies making a transition from an "entrepreneurial management" style to a "professional management" style, effectively becoming a different type of organisation. While the small firm is characterised by

few formal systems and low levels of structure, delegation and regimentation, operating spontaneously according to the demands of the trading environment, larger firms acquire more elements of standardisation, process, control and decentralisation in order to accommodate greater organisational complexity (Flamholtz, 1986; McMahon, 1998; Davila 2005).

In addition, the idea of the small business being fundamentally a social entity has been considered. Stanworth and Curran (1986) proposed that the essence of the small business is contained in the meaning and actions of those who participate in its activities, whether from within or from the outside. Events related to the firm and its development is seen as socially generated, sustained and changed. Hence, the occurrence of growth in the small firm will be a product of the goals and desires for the company as developed and shaped by the members and the subsequent actions that are taken by the parties concerned to achieve these. Penrose (1959, p. 2) commented that "all the evidence we have indicates that the growth of a firm is connected with attempts of a particular group of human beings to do something;..." Where this hypothesis is accepted and the critical role of each owner-manager in making uniquely individual business-related decisions is acknowledged, it is surmised that owing to the immense diversity in owner- managers and their associated motivations, there can be no one single pattern of growth (Penrose, 1963; Stanworth and Curran, 1986a).

### **2.2.5 Examples of Growth Models**

Despite the variety of business issues that emerge during the growth process firms tend to experience some common problems at similar stages of their development (Churchill and Lewis, 1983; Greiner, 1998). An early pioneer in research on small business growth was Flamholtz (1986) who suggested four stages of organisational development in small firms that he termed "new venture", "expansion", "professionalization" and "consolidation". These stages are matched with the estimated revenue and the corresponding focus for the firm's activities, being the market and product, the internal resources, the management systems and organisation's culture respectively (Gibb and Davies, 1992).

It is suggested (Flamholtz, 1986; Vesper, 1980; Timmons, 1990; Miles et al., 2000) that a firm categorised as being in an entrepreneurial management mode is a centralised entity, small enough that its owner-manager comprehends and supervises all its functional parts and

is able to make appropriate decisions for all aspects of the business. There is little need for formal systems, procedures or structure because the business is small enough to be monitored and controlled directly by the owner-manager. It may remain unclear as to what systems the business needs at this time in order to manage the operation most effectively. A company at the professional management stage is larger, where one individual is unable to make all the necessary decisions and these are consequently delegated to other staff and employees, usually holding mid-level management positions. At this stage, the firm has built formal control systems, as the owner-manager is no longer able to make the considerable number of decisions that are now needed to operate the business. These systems are designed to provide guidelines and parameters for the organisation's members and ensure that the desired outcomes in terms of quantity and quality are achieved (Kuratko and Hodgetts, 1995).

Growth or life cycle models as they are usually called present small business expansion in terms of the company undergoing a transition through a series of phases or stages (Penrose, 1963; Gibb and Davies, 1992; McMahan, 1998). This perspective has generated an extensive range of models with subtle variations and different emphases. The concept of the growth model assumes a cyclical, biological metaphor, where organisations are born, grow, decline and finally die (Penrose 1963; McMahan, 1998). Scott and Bruce (1987) illustrate this developmental process by drawing a comparison with the lifecycle of products that are viewed as progressing through stages of growth and popularity and are ultimately discontinued. With organisational growth, at each stage of the company's development the business will acquire new characteristics and features. Similarly, the company finds itself requiring different types of management and attention, and possessing different strengths and weaknesses. A variety of stage models have emerged over time, illustrating the individual stages through which the firm is said to pass; typically these are three or four, sometimes as many as ten (Stanworth and Curran, 1986a). In general terms, the dominant perspective has comprised the highlighting of three principle areas of progress, the first being focus on the individual owner-manager who has an idea for a product or service and sets up a business to deliver this, the second incorporating a reduction in the direct involvement and control of the owner-manager and the division of management tasks among others, and the third consisting of the arrival of the company at some form of maturity and stability, where the internal infrastructure assumes a more rationalised and bureaucratic form and increasingly resembles larger organisations.

In this paradigm, the final stage is usually characterised by features such as the introduction of a Board of Directors, the activities of the firm assuming a strategic dimension with greater focus on a range of management, production and marketing techniques, as well as a recognition of the need to build systematic working relations with other institutions in the broader community (Gibb and Davies, 1992; Robbins and Barnwell, 1994; Kuratko and Hodgetts, 1995). The Enterprise Life-Cycle Model developed by Hanks et al. (1993) illustrates in more detail possible components of organisational growth in small firms (McMahon, 1998). This model comprises four main stages of an organisation's life: start-up, expansion, maturity and diversification. During the start-up phase, for example, the firm is young, small, has a simple, centralised organisational structure with about two levels, operates informally with low functional specialisation and is primarily focused on product development. At the expansion stage, the company is older, larger, has a more complex organisational structure with at least three levels. It has begun to adopt some functional specialisation and the trading focus is on product commercialisation. At maturity, the firm is larger but not necessarily older, has a complex organisational structure with about four levels, is increasingly formalised in its management practices and functional specialisation. Acknowledging that not all firms may proceed in a methodical, linear fashion through the stages, the model includes two other intervening stages. Between start-up and expansion, there are older, larger firms that remain structured like start-ups, but there is no growth in employment. This type of company has disengaged from the growth process after establishing a viable operation at a relatively small size. The cap on its growth may be the result of a conscious decision by the owner-manager to remain small or it may reflect the limited capacity of the small niche market in which it operates. The second intervening stage occurs between expansion and maturity. Firms at this stage are slightly larger than those in the expansion stage and generally older. They are typically less complex than expansion stage firms. As such, the company has disengaged from the growth process after successfully expanding to a modest size after start-up. Sufficiently large and financially healthy to survive, the company is also well established in its particular product market (McMahon, 1998).

Churchill and Lewis (1983) attempted to clarify the stages of organisational growth among smaller firms in terms of the range of common hurdles that are encountered at similar stages of development. They identify five stages, including "existence", "survival", "success", "take-off" and "maturity". In the initial stage, the challenge for a small business is to find customers and deliver products. The firm is supported by a simple organisational structure, has minimal

or no formal systems and is operated almost exclusively by the owner-manager. The goal for the company is to survive. The second stage finds the company with sufficient numbers of customer that can be satisfied by the products they receive. The organisational structure remains simple, sometimes with a few employees who take instructions directly from the owner-manager. The internal systems remain few in number. However, the firm is likely to begin to experience difficulties with managing its cash flow and the focus for the owner-manager is how the financial aspects can be most effectively managed. It is possible at this stage that the company may grow in size and profitability. On arriving at the "success" phase, the decision to remain small or to expand presents itself. The option to grow implies that the firm will need functional managers to undertake certain tasks and appointments are likely to be made in the areas of finance, production and marketing. Planning begins to occur for the operational budgets, resources are sought and cash flow is likely to be good. Internal systems are implemented to support the growth activity and the owner-manager begins to move away from the business to focus on the growth activity because there are now other individuals available to operate the business. The focus for the firm is on the maintenance of the basic business and developing the management team to run the company (Churchill and Lewis, 1983).

At "take-off", the owner-manager is preoccupied with funding the growth initiative, keeping control of cash flow and coping with higher levels of debt. The company has become more decentralised, tasks are increasingly delegated and it may be partially structured into functional divisions. The organisational systems become greater in number and are gradually refined. Operational and strategic planning is carried out, possibly involving some of the management team. While the owner-manager remains the dominant figure in the company, the role is increasingly separate and at this point the option to abandon the firm and sell out may be considered. The final stage of "maturity" is concerned with focusing on consolidation of the company, controlling the financial gains achieved through business growth while attempting to retain the advantages of the smaller organisation in the form of flexibility, responsiveness and creativity. The company will be decentralised in structure, with sufficient staff and resources to carry out detailed operational and strategic planning, and possessing extensive, well-developed systems. The owner-manager and the business are likely to have completed their journey towards financial and operational separation. It is acknowledged that demise or rigidity can occur at any stage of the process, particularly where the larger business

ceases its innovatory activity or loses the capacity to make necessary change (Churchill and Lewis, 1983).

While the life cycle models offer an appealing explanation of what happens during growth or expansion there are those who have still to be convinced that small firms are actually similar to organic entities in that they are born, grow and eventually die. Penrose (1963), in his seminal work “The Theory of the Growth of the Firm”, rejected attempts to understand firm growth using biological analogies. It is suggested that rather than stages of growth, business expansion was in fact chaotic and reactive in nature and that developmental changes are not orderly or sequential, rather they comprise surges of activity that result in a changed state of affairs. Similarly, Miller and Friesen (1984) were of the view that although life cycles may be internally coherent they are very different from one another and not connected in any pre-determined sequence. Rather than being linear, they propose that firms are more likely to move through definable patterns of behaviour relating to their strategy, structure or environment. These may emerge for any number of reasons and could give rise to a small number of common configurations including recurring strategy scenarios, organisational configurations or developmental and/or transitional sequences. This interpretation suggests the value of exploring patterns of growth within the context of functional activity, where the consistent common denominators among firms will better enable the identification of trends and themes in small firm growth behaviour.

Storey (1994) concurred with the doubts about the validity of growth models. He commented that while it seems possible to identify growth characteristics and detect certain patterns, there is no one uniform path along which a business travels when it grows that can be clearly tracked and as such, growth is clearly a random process. Many different aspects of the business infrastructure will alter in the course of growth, but these may not take place in a systematic and predictable fashion as implied by the models. Storey's review of the empirical studies in this field led him to conclude that some patterns in the way small companies grow can be detected but that these do not always necessarily occur. While the growth model provides a reasonably consistent picture of the likely trends that might eventuate during the growth process, a prescribed list of events and features such as these possess, could be misleading. The variables associated with growth can be both unique to each company, with any combination of factors playing a correspondingly unique part in determining the nature of its evolution, as well as common to companies tracking a similar path. While the concerns

about the degree to which the models accurately mirror the progression of growth activity would appear reasonable, it has been acknowledged that they are not without merit through their ability to provide a useful conceptualisation of some of the typical trends (McMahon, 1998).

### **2.2.6 Factors Influencing Small Business Growth**

Researchers have found that the small business sector faces a range of both external and internal factors that influence the capacity and desire of its members to grow into larger commercial concerns (Hull and Hjern, 1987; Barber et al., 1989,). Storey (1994) proposed thirty-five factors that potentially play a part in the decision by an owner-manager of a small firm to undertake a growth strategy and the likelihood of a successful business outcome. Categorised into three areas these include the entrepreneur/resources, the firm and the strategy. In the entrepreneur/resources category, variables include: motivation, unemployment, education, and management experience, number of founders, prior self-employment, family history, social marginality, functional skills, training, age, prior business failure, prior sector experience and gender. Factors relating to the firm include its age, sector, legal form, location, size and ownership. Relating to strategy, variables include: workforce training, management training, external equity, technological sophistication, market positioning, market adjustments, planning, new products, management recruitment, State support, customer concentration, competition, information and advice, and exporting.

Churchill and Lewis (1983) identified eight similar variables that have been found to impact on small firm growth including financial, personnel, systems and business resources, the owner's personal goals and abilities, as well as willingness to delegate and the possession of strategic skills. Barber et al., (1989, p. 13) suggested that growth in small firms: "...lies in the interaction between the inherent motivation and capabilities of the firms themselves and the external environment in which they must endeavour to survive and prosper". Furthermore, there would be a natural economic size in which a business can be competitive and hence determine its potential for growth. This is due to the fact a company trades within a specialised niche market or sells products to a geographically limited area (Penrose, 1963). Market structures and the opportunities that these provide will contribute to the nature and extent of growth. In some instances small firms may not have the opportunity to grow even if

the owner-manager is keen to broaden the company's trading base. Growth may be limited by having too few available customers and being focused on a small or narrow market niche that cannot generate the necessary returns (Barber et al., 1989; Hendry et al., 1995; Holliday, 1995).

A key characteristic of small firms is their high dependence upon either a single or small number of customers. Such heavy dependence presents risk, for failures in these relationships can decimate a significant portion of the business overnight ( DUBS, 1990b; Holliday, 1995). Difficulties associated with developing the technology and infrastructure in line with market requirements are needed to support a larger or more diversified business portfolio and may impede growth activity ( DUBS, 1990b). Although small firms are acknowledged for the role they play in the early stages of developing new technology or products ( Caird, 1994; Simon et al., 2002), the economies of scale needed for production, cost of initial research and development, and the logistical demands of sourcing and securing international markets may be prohibitive (Coviello and McAuley, 1999) and effectively transfer the competitive advantage over to larger firms ( Mosey, 2005; Kanter, 1985).

The ability to build the necessary managerial infrastructure to support a more diverse and large firm is considered critical to a successful growth strategy ( Merz et al., 1994; Jennings and Beaver, 1997; Flamholtz, 1986). Sometimes growth opportunities are secured through mergers or collaborative arrangements between firms ( Ansoff, 1965; Gomes-Casseres, 1997; Robson and Bennett, 2000) effectively joining forces with the competition and by so doing creating expanded market possibilities with access to larger numbers of potential customers (Barber et al., 1989; Gibbons and O'Connor, 2005).

A saturated market, low-level requirements for a particular product or service and logistical constraints relating to the physical environment can also play a part in determining growth openings and sustainability. The smallness of the company may restrict its entry into markets through its inability to achieve the economies of scale of larger competitors. Relationships with customers have to be built sometimes in new and unproven markets ( Gibbons and O'Connor, 2005; Lu and Beamish, 2006). The geographic location of the business may be a factor that influences performance and its capacity to grow. Small firms generally operate within close proximity to their target customers and hence the site of the business will be a critical factor in its ability to generate additional business. Small firms may also be competing in different ways with other small and not-so-small businesses in the locality for

customers, employees and suppliers. Moreover, contracts with key suppliers may require renegotiation and new suppliers may need to be found. Difficulties may be encountered acquiring sufficient raw materials of the correct type ( Moini, 1995; Crick and Chaudhry, 2006).

Other factors, such as the degree of segmentation in the market, the presence of anti-competitive practices by big business, the market strength of well- established larger firms, the existence of superior or lower-priced products and the extent to which there is potential for creating related niches, as well as the influence of external political, economic, social and legal conditions, can all determine the capacity for business growth or lack of it ( DUBS, 1990b; Sexton et al., 1997; Smallbone et al., 1995). Owner-managers concerns about their ability to generate sufficient turnover in order to provide full employment and pay the salaries of their workers. Difficulties with finding, motivating and retaining quality employees, as well as with workforce flexibility, have also been found to constrain efforts to achieve business growth (Bosworth and Jacobs, 1989; Mazzarol, 2003). Concerns about the prospect of dealing with union intervention should the firm acquire greater numbers of employees and the restrictions and complications associated with employment legislation may also be deterrents in the perceived attractiveness of business growth ( Coviello and Munro, 1995; Deakins and Freel, 1998; Phelps et al., 2007).

### **2.2.7 Growth-Oriented SMEs**

Recent studies has identified a small group of SMEs that contributed disproportionately to the growth in employment and firm profitability (Smallbone et al., 1995; Ireland and Hitt, 1997; Parsley and Dreessen, 2004). Alternatively, other research indicates that these high-growth firms potentially face great financial risks (Fischer and Reuber, 2002). As was presented earlier this growth phenomenon can be regarded as a series of lifecycle phases/stages of development through which businesses pass or fail to pass. Over 20 years ago, Churchill and Lewis (1983) proposed a 5-stage model of small business growth: existence, survival, success, take off, and resource maturity. Organisational factors (financial, personnel, systems, and business resources) change in importance as businesses grow and develop. According to Greiner (1998), young and small organisations in high growth industries (e.g., biotechnology, information and communication technology) seem to experience higher exponential growth

compared to low growth industries (e.g., manufacturing). However, enterprises that experience high growth do not develop continuously, undergo uneven growth trajectories, that is, highs and lows, downturns, and recoveries (OECD, 2002). Notwithstanding, fast growth can be regarded as an indicator of market acceptance and firm success (Timmons, 1998), stimulating national employment growth and contributing favourably to global economies (Birch, 1995). In France, Italy, Netherlands, and Greece, 50%-60% of employment gains have been attributed to high growth firms (OECD, 2002). Furthermore, firms that manage fast growth successfully are viewed as valuable community resources (OECD, 2002).

Sexton, Upton, Wacholtz, and McDougall (1997, p. 2) compared the economic contributions of fast growth firms (FGFs) to gazelles: that is, companies that achieve a minimum of 20 percent annual compound sales growth over a five-year period ( Birch, 1987). Gazelles are a type of antelope that is one of the fastest animals on earth and are capable of sustaining high speeds for extended periods of time (Lesonsky, 2007). According to Birch (1995), gazelles comprise three percent of all small companies. In Australia, FGFs comprise approximately ten percent of all SMEs, contributing substantially to national revenue (Gome, 2003), while in Canada it is estimated that in 2001 seventeen percent of all SMEs were are considered high-growth ( Industry Canada, 2006). Similar proportions are reported for Europe and America (OECD, 2002). Recently, Lesonsky (2007) identified FGFs as generation gazelles 2.0 (p. 19). In the US, these organisations comprise two percent of businesses that generate on average 80 to 90 percent of employment growth. Gazelles 2.0 are also “industry innovators...generate far more revenue per employee...and found in every industry” (p. 19).

There is no commonly accepted definition for the term growth-oriented. Yet, the descriptions fast, high, and rapid-growth are used interchangeably (e.g., Fischer et al., 1997). Cooney and Malinen (2004) regarded fast and high growth as essentially different as fast growth implies rapidity of growth as opposed to high growth which refers to the quantum of growth. Nevertheless, a review of the literature indicates that even though researchers treat the various adjectives that define growth differently, they are in fact describing a similar phenomenon, that is, exceptional sales turnover (more than 20%) and/or employment growth (more than 80%) over a period of at least three years.

For example, in terms of annual sales turnover, Nicholls-Nixon (2005) considered firms to be high-growing when these enterprises experience an annual sale expansion of 20% or more

over a four-year period. Autio et al., (2000) referred to gazelles as firms increasing sales by at least 50% for three consecutive years. Others (e.g., Barringer and Jones, 2002; Barringer et al., 2005) take it a step further, by classifying rapid growth companies as those with three-year compound annual growth rates of 80% or higher.

An alternative definition was proposed by Hoy et al., (1992) who contended that changes in employment levels is the most acceptable method of measuring growth, as such data can be easily gathered, determined, categorized, and are unaffected by inflationary adjustments. Similarly, Barkham et al., (1995) characterized FGFs enterprises experiencing an employment growth of more than 100%. However, increasing levels of employment do not necessarily imply that firms are financially successful.

Delmar et al. (2003) view high-growth firms (HGFs) in a more holistic manner by classifying these enterprises within the top 10% of all firms, when their annual average is within one or more of six categories: absolute total employment, organic employment, and sales growth; and relative percentage of total employment, organic employment and sales growth. Upton et al., (2001, p. 61) defined FGFs as “those willing to take risks, to be innovative, and to initiate competitive actions,” without making any reference to growth rates. This definition is identical to that of entrepreneurially oriented organisations (Covin and Slevin, 1989). Notwithstanding, fast growth is confined primarily to young, small firms that can develop significantly in terms of percentage change across one or more dimensions because their size at the outset is small (Storey, 1996). However for the purposes of this thesis, these enterprises are referred to as growth-oriented firms (GOF). The following section is an examination of the literature on GOFs, and includes a review of entrepreneur/founder characteristics, management and marketing practices, and resources used in these organisations.

### **2.2.8 Entrepreneur/Founder Characteristics**

Entrepreneurs and owner/managers often operate in different worlds when compared to their larger counterparts (Beaver, 2002). Researchers (Feindt et al., 2002; Johnson and Bishop, 2002) indicated that founders play a crucial role in the overall performance of fast- growth companies. In most instances, business creators are also CEOs whose talents and ambitions are key success factors (OECD, 2002). This sub-set of business owners are considered the *crème de la crème* (Lesonsky, 2007). Barkham et al. (1995), in compiling a list of

characteristics associated with growth-oriented entrepreneurs, identified that they tend to be young, successful, owners of multiple firms (Westhead and Wright, 1998) (in fact, those who had several companies performed better), members of professional organisations, and the presence and influence of others led to accelerated growth. In attempting to separate entrepreneurial attributes from the characteristics of firms, Cooney and Malinen (2004, p. 10) opined that profiles of firms reflect decisions made by entrepreneurs, elaborating, “how can we separate the dancer from the dance?”

It has been suggested that personal and managerial preferences of entrepreneurs can act as significant barriers to sustained growth (Packham, 2002). Despite this characteristic, intentions to expand and vision of a desired future state are common amongst GOF entrepreneurs and top managers (Fischer et al., 1997). However, growth is not merely a matter of personal ambition, as a certain amount of start-up capital, basic qualifications, and human capital resources, including that of founders are necessary inputs (Brüderl and Preisendörfer, 2000). Similarly, Barringer et al. (2005) discovered that founders of growth-oriented firms differ from their slow-growth counterparts in terms of college education, and prior industry and personal experiences (when entrepreneurs recalled the sacrifices made to start a business, or when the life experiences of founders spurred them to become entrepreneurs). These researchers identified that 76% of GOFs in their sample (versus 24% for slow-growth firms) had prior experience in closely related industries, and this experience was crucial in providing founders with critical knowledge and advantage including access to a network of contacts needed to overcome such liabilities as their newness and to build growth oriented businesses. Research also indicated that GOF owners regularly consult coaches and peer networks for advice, support, and direction (Fischer and Reuber, 2003; Robson and Bennett, 2000). However, while prior managerial and entrepreneurial experience positively influenced economic performance, its impact on survival is non-significant

(Gimeno et al., 1997). CEOs play leadership roles in their firms besides being entrepreneurs/founders. Fischer and Reuber (2003) found that GOFs require leaders: who “have been there and done that (p. 355). Leadership styles that allow employees the freedom to expand boundaries and provide a share in financial gains are necessary to create an environment for innovation and exploration (Stevenson, 1983; Nicholls-Nixon, 2005).

Current models of venture growth assume that leaders and top management teams can predict directions of growth and control complexities that are created as firms grow (Nicholls-Nixon,

2005). Leaders of GOFs are responsible for creating a vision, hiring the most appropriate people, and building the best infrastructure that encourages innovation and exploration. They are the starting point guiding organisational direction. A firm's penchant towards a particular business orientation is dependent on leadership. For example, when leaders value their customers, learning, and innovativeness, these values will be reflected throughout the organisation (Slevin et al., 1990; Chell and Tracey, 2005).

As presented earlier in this chapter, Storey (1994) identified a theoretical framework of factors that governed rapidly growing firms. Storey highlighted three broad components: starting resources of founders/entrepreneurs (15 elements); strategic orientation (14 characteristics); and firm characteristics. Storey (1994) observed that despite the limited individual resources of entrepreneurs, four strategy elements seem to be important: external equity, market positioning, new product introduction, and management recruitment; all characteristics which necessitate require a management and marketing orientation. The following section is a discussion of management and marketing practices undertaken by GOFs.

### **2.2.9 Management Practices**

Management practices that facilitate growth for larger, mature firms are somewhat different from those of emerging growth-oriented firms (Barringer et al., 1998). For example, human resource management (HRM) practices in GOFs differ from those of slow-growth enterprises in terms of training, employee development, financial incentives, and availability of stock options (Barringer et al., 2005). These observations are elaborated below.

Growth-oriented firms seem to go to lengths to engage the best personnel by employing novel methods of recruitment (Moran, 1998; Cardon and Stevens, 2004). However, qualified new personnel with specialized skills is a scarce resource (Fischer et al., 1997) and difficult for medium-sized GOFs to recruit and retain highly eligible employees when compared to large firms (Tonge et al., 1998). Thus, it is not surprising that founders rely heavily on the abilities and efforts of employees to maintain growth oriented strategies, and motivate staff by sharing in the decision making and internal communication (OECD, 2002). High quality employees are attracted and retained by making them feel that they are a crucial part of the firm (Barringer et al., 2005). Moreover, employee training is focused on knowledge accumulation

and learning, and geared towards advancements. Generally, these firms devote a sizeable amount of their resources to ongoing training of their top staff although in some cases not as effectively as planned (Rutherford et al., 2003).

Notwithstanding, employee experimentation is part of GOF culture where mistakes are viewed as a component of the learning process (Mazzarol, 2003; Chell and Tracey, 2005). In rapidly changing business environments, firms are required to create infrastructures that enable them to tap into the knowledge that is dispersed throughout the enterprise (Beijerse, 2000; Darroch and McNaughton, 2003; Salojärvi, 2005) (knowledge management will be discussed in detail in a later section of this thesis). Therefore, the objective is an open sharing of information, emphasizing regular meetings to bring people together and update them on firm activities. More importantly, relationships between employees and organisations are critical. Nicholls-Nixon (2005) identified GOFs as self organizing enterprises, expecting high demands from employees, and where leaders develop programmes which ensure that staff are given opportunities to attend to personal matters.

Instilling a sense of enjoyment in the workplace is also viewed as a means of defusing organisational politics (Nicholls-Nixon, 2005) and encouraging a willingness to engage in informal, voluntary, and cooperative interactions, which are the basics for self-organizing behaviour (Dyer and Reeves, 1995; Cardon and Stevens, 2004). Employing staff whose values and mindsets are similar to those of an organisation's is considered more relevant than mere qualifications (Mazzarol, 2003). Nicholls-Nixon (2005) advance five management practices that are built on the concept of self-organisation to assist GOFs cope with continuous and unpredictable change: business logic, capturing and sharing meaningful information, building relationships, managing organisational politics, and leadership styles. Business logic includes the need to communicate a clear vision of a company's direction, establish a shared sense of value, and create milestones/objectives that aid in employees' understanding of how their roles fit in with firm ambitions (Nicholls-Nixon, 2005).

In general, GOFs strive to achieve a balance between financial results, long-term performance capabilities, and building and enhancing customer relationships (Tonge et al., 1998). Best performing companies are those which are most active in developing products/services for existing clientele, searching for new markets, broadening customer base, and managing product portfolios, besides taking steps to make their products/services as competitive as possible. The majority, if not all, GOFs identify and respond to new market

opportunities, compared to about half of other surviving firms (Smallbone et al., 1995). GOFs are also market-oriented, (market-orientation of the firm will be presented in a later section of this thesis), cultivating strategies of differentiation which depend on close customer relationships and personalized contacts (Jaworski and Kohli, 1993; Slater and Narver, 1995; Coviello and Brodie, 1998; OECD, 2002). Diligent efforts are made to comprehend customer needs to add unique value and buyer knowledge (Barringer and Jones, 2002). Similarly, customer focus, relationships, and satisfaction are accorded high priority (Gilmore et al., 2001; Darroch et al., 2004).

Obviously there are companies that do not fit this blueprint. In contrast, some manufacturing GOFs are sales, rather than innovation oriented (O'Regan et al., 2006; Larsen et al., 2006). These companies seem to invest less in research and development compared to those with static or declining sales. Such manufacturing firms compete on price (versus product differentiation), placing importance on the ability to sell at a median price in the market.

Researchers have found that successful growth-oriented SMEs in the electronics and service sectors are fast and flexible, avoid head-on competition, and create value for customers (Mondiano and Ni-chionna's, 1986; Feindt et al., 2002; Larsen et al., 2006) and establish an entrepreneurial marketing orientation (Hills et al., 2008; Brunetto et al., 2007). Not surprisingly, some GOFs do not consider competitors as the focal point of their operations, focusing instead on a market-driving orientation (Schindehutte et al., 2008). The next section opens the discussion of marketing in growth-oriented SMEs followed by the development of a competitive advantage framework for this thesis; a framework designed with antecedents from the learning orientation, market orientation and knowledge management literature.

### **2.2.10 Marketing in Growth-Oriented Enterprises**

There are a number of critical factors contributing to growth, including a propensity to invest in future-oriented expenses such as marketing, building of distribution channels, and product research and development (Carson and Gilmore, 2000; O'Gorman, 2001). However, as new firms are relatively unknown entities, customers tend to be unaware of the quality of products/services enterprises offer (Reuber and Fischer, 2005). According to these researchers, reputation signalling is one method used by organisations to position themselves in the marketplace. Customers are crucial signals for GOFs to differentiate their offerings across various competitive contexts, signalling reputation via customers. For example,

entrepreneurs note three types of track record signals: word-of-mouth, product service demonstrations, and formal testimonials. When peers are regarded as trustworthy and credible, existing customers function as opinion leaders. Similarly, when clients show completed work to prospective customers, they provide a track record signal in the form of product demonstration. The third and most common way to signal track records is to ask for formal, written testimonials on promotional materials (Reuber and Fischer, 2005). When compared with word-of-mouth referrals, testimonials can span a wider audience and provide new firms with greater control over their content.

Another aspect that contrasts GOFs with slow-growth SMEs is a propensity to export. Growth and exports are often linked because these enterprises tend to operate in international markets. Exporting appears to be a precondition of growth (OECD, 2002; Stewart and McAuley, 2000). In 2004, eight percent of Canadian SMEs exported goods and services while sixty-five percent of growth-oriented SMEs were engaged in exporting compared to thirty-seven percent of other SMEs ( Industry Canada, 2006). Not surprisingly, the range and intensity of business networks are also markedly higher in firms that grow rapidly (Zhao and Aram, 1995). Networks are important to GOFs who seek inter- organisational relationships to achieve multiple objectives ( Coviello, 2006). For example, CEOs of GOFs co-opt a portion of their resource needs from their partners to speed growth trajectories (Barringer et al., 2005).

Notwithstanding, GOFs are not without problems as dealing with managerial issues that relate to people, finance, processes, resources and marketing (Kazanjian, 1988; Orser et al., 2000). People related issues originate from observations that these firms double/triple in size very quickly. The influx of new employees can cause stress levels of all employees to increase, and skill shortages of new workers can have an adverse impact on firms (Terpstra and Olson, 1993). It is not uncommon for GOFs to be concerned with additional space, equipment, and mechanisms to train, educate, monitor, control, and coordinate a new taskforce (Markman and Gartner, 2002). Securing adequate finance for planning and growth can be added challenges (Todd and Taylor, 1993).

### **2.2.11 Resources in Growth-Oriented Firms**

Some researchers have questioned whether GOFs are a distinct phenomenon caused by some unique identifiable variables, or are merely firms that, through a combination of factors such as good timing, initial resources, and a growing market, reach the high end of performance distribution (Fischer et al., 1999). However, Tonge et al., (1998) pointed out that GOFs also exist in declining industries, refuting the conventional wisdom that growth is only achieved in attractive industries. The probability of fast growth also seems to be independent of market concentration, dynamics, and type of competition (Brüderl and Preisendörfer, 2000). Moreover, fast growth is not a random or chance event, but multidimensional in nature (Delmar et al., 2003), associated with specific firm attributes such as behaviours, strategies, and decisions (Barringer et al., 2005). Few firms merely followed market trends, as in most cases pursue active strategies (regarding products and markets) which are deemed necessary to achieve the desired growth over an extended period (Smallbone et al., 1995).

Resources of innovative and growth-oriented enterprises are also suggested to differ from those of slow-growth niche firms (Brush et al., 2001). During the early stages of formation, identification and acquisition of resources are more crucial to new ventures than the deployment and allocation of activities for long term success. Firms of varying sizes and age are also characterized by resource combinations (Brush and Chaganti, 1998), and as new enterprises grow, it is necessary to develop these resources (Penrose, 1959) to meet changes in market strategy (Chandler and Hanks, 1994). When Lichtenstein and Brush (2001) investigated salient resources in young firms, these researchers found that GOFs were more concerned with soft or intangible resources such as knowledge, reputation, service delivery, alliance relationships, a strong business base, and employees. Certain resources are more important depending on firm goals (Gundry and Welsch, 2001). Similarly, differences between entrepreneurial growth firms and small businesses are determined by decisions of owners on how they start and operate their firms (George et al., 2007). Ambitions, organisational/managerial ability, and willingness to take risks are more important for subsequent stages of development. Activities such as strategic planning and research are undertaken later rather than at the initial stages of formation (Bhide, 2000).

Therefore, it is not unreasonable to propose that market orientation, learning orientation and entrepreneurial orientation are intangible resources. Mediated by knowledge management (Zang et al., 2007), these antecedents will lead to positions of advantage, superior customer

value, and firm performance; the heart of competitive advantage literature. The theoretical framework for competitive advantage is discussed below, followed by the presentation of the literature on knowledge management.

### **2.2.12 Competitive Advantage: Theoretical Frameworks**

There are two dominant perspectives of competitive advantage (CA), namely, the structural/positioning approach (Porter, 1980, 1985), conceptualized as market-based (Makhija, 2003), and the resource-based view (RBV) of the firm (Barney et al., 2001; Barney, 1991; Wernerfelt, 1984). Four related frameworks have emerged from the RBV perspective, including the competence-based position (Prahalad and Hamel, 1990); dynamic capability view (DCV) of the firm (Teece et al., 1997); capability view of the firm (Day and Wensley, 1988) as defined by Vorhies et al., (1999); and resource-advantage (RA) theory (Hunt and Morgan, 1995). Conceptualizations involving capability and competence have not only been used interchangeably (Bogner et al., 1999), but have also led to these distinct constructs being “badly blurred in practice” (Barney, 1997, p. 144). The following section discusses the two dominant perspectives.

The structural approach has been criticised by RBV theorists (Peteraf, 1993) who argued that competitive positioning is ineffective unless firms attain resources and capabilities that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Capabilities basically refer to the means to exploit and combine these resources (Amit and Schoemaker, 1993). Barney (1991) categorized firm resources into physical (e.g., physical technology, plant and equipment, geographic location), human (e.g., experience and knowledge of individuals associated with a firm such as sales personnel), and organisational capital (e.g., history, relationships, trust, and organisational culture). An additional resource category, financial capital (e.g., debt, equity, and retained earnings) was also added (Barney, 1995). In addition to these well-known categorizations, scholars (Amit & Schoemaker, 1993) have suggested different or extended resource type definitions. Alvarez and Busenitz (2001) posited that a new category of entrepreneurial resources should also be added to the list. Entrepreneurial abilities refer to “the capacity to identify, develop, and complete new combinations of existing asset bundles or new asset configurations” (Godfrey and Gregersen, 1999, p. 41).

Resources comprise tangible and intangible assets. Tangible assets refer to fixed and current assets owned or controlled firms. Examples include land, bank deposits, and other capital goods. These assets are generally easy to measure (Hall, 1989), and are relatively imitable and substitutable. Intangible assets refer to all items that do not appear in material reports (balance sheets), and include intellectual property such as trademarks, patents, and brand networks which are relatively resistant to duplication effort.

This thesis adopts the view that resources alone do not constitute competitive advantage. Kay (1993) identified that resources become a source of CA when applied to industries or brought to market. Williams (1992) described management as specifically one of converting resources into something of value to customers, which involves identifying, developing, protecting and deploying a firm's resource base (Amit and Schoemaker, 1993). In contrast, researchers (Fahy, 2000; Fahy and Smithee, 1999; Khalifa, 2004; Slater, 1996) noted that value to customers is imperative to attaining CA, and is an antecedent to superior firm performance (Slater, 1997; Woodruff, 1997). For resources to be potential sources of CA, they must be valuable or lead to value and that “the value of the firm's resources and capabilities is determined by the market context within which the firm is operating” (Barney, 2001, p. 645). Despite an increase in literature devoted to advancing the RBV conceptually and empirically, advocates (Barney, 1997, 2001) and critics (Priem and Butler, 2001a) pointed out that a number of issues require further theoretical and empirical attention (Srivastava et al., 2001), including how resources are applied to create customer value and manage marketplace uncertainty.

The RBV has been criticised for its descriptive vagueness of the value concept and its general description of CA (Priem and Butler, 2001b). Sources of value are associated with specific attributes such as inimitability and lack of substitutability. Within the marketing literature, customer value is perceived, experienced, and understood by customers (Srivastava et al., 2001). Also, while value is identified post hoc within the RBV, marketing claims to identify value ex ante, emphasizing identifying customer needs. Market demand dictates the transformation of firm resources into products/services that customers can view, experience, and decide whether to purchase or otherwise. Firms attain a customer-based advantage when buyers prefer and choose its offering as opposed to that of competitors (Srivastava et al., 2001). According to Srivastava et al. (2001, p. 791), “customer value almost always stems

from a combination of market-based assets and capabilities, extraordinary care must be exercised in designating the relevant rare 'resource'."

Day and Wensley (1988) proposed a framework to clarify the nature of CA. The framework is separated into three distinct outcomes (insert fig): Sources, Positions, and Performance (SPP). Possessing superior skills and resources (i.e., sources of advantage) lead to positions of advantage which take into consideration customer and competitor perspectives. Competitor centred judgments compare the value chains of firms versus those of target competitors. Customer focused viewpoints, in contrast, are measured by comparing the customer's attribute ratings of a firm with those of its competitors (Day and Nedungadi, 1994). Hence, the viewpoints of both customers and competitors are essentially positional advantages (Day and Wensley, 1988). Consequently, performance, defined as customer satisfaction; loyalty; market share; and profitability, is affected. The identification of key success factors and the relative rate of investment in skills and resources form a feedback loop that links performance outcomes to sources of advantage. Day and Wensley's (1988) model has become a benchmark for later publications in marketing (Hunt and Morgan, 1995), and the RBV in strategic management (Barney, 1991).

Subsequently, Hunt and Morgan (1995) developed the resource-advantage (RA) theory which does not explain performance differentials between firms, but rather provides a model of competition in which performance between firms are explained in terms of comparative advantage. This model combines elements of Day and Wensley's (1988) and Dickson's (1996) dynamic disequilibrium paradigm. While Day and Wensley (1988) categorized sources of advantage into skills (distinct capabilities of personnel), and resources (tangible requirements for advantage), Hunt and Morgan incorporated financial, physical, legal, human, organisational, informational, and relational resources as potential sources of CA. Competition is determined by five environmental factors: societal resources which firms draw upon; societal institutions that frame the rules of the game; actions of competitors; consumer behaviour; and public policy decisions (Hunt and Morgan, 1996). Hunt and Morgan's (1995) conceptualization differed from Day and Wensley's (1988) in that the environment influences performance outcomes which are measured only in terms of profits. Influenced by Dickson (1996), the later version of the RA model stressed the importance of learning (Hunt and Morgan, 1996) suggesting that ... "firms learn through competition as a

result of feedback from relative financial performance ‘signalling’ relative market position, which in turn signals relative resources.” (p. 108).

### **2.2.13 Customer Value**

Building on Day and Wensley's (1988) and Hunt and Morgan's (1995) research, Woodruff (1997) suggested that superior performance is associated with firms that possess customer value based organisational cultures. Customer value can be defined as a customer's perceived preference for and evaluation of those product attribute, attribute performances, and purposes in use situations (Woodruff, 1997, p. 142), categorizing customer value to be either a received or desired value. Received value is defined as what customers actually experience from specific product-customer interactions, and making value judgments based on this experience (Flint and Woodruff, 2001). Value judgments can often change, as incidents that draw customers to suppliers are likely to have an impact on the former judgment of the value received, be it negative or positive. However, relatively few companies consciously classify trigger events as perceived by their clientele, that drive changes in customer value and their value judgments (Flint and Woodruff, 2001). Any customer value change can prompt customers to seek, maintain, or move away from their existing relationships with suppliers (Flint et al., 2002).

The concept of value, however, is one of the most overused and misused concepts in social science and management literature (Leszinski and Marn, 1997) and is discussed in many areas of marketing, including relationship marketing, pricing, consumer behaviour, total quality management, and strategy (de Chernatony et al., 2000; Möller, 2006). Slater and Narver (1994b, p. 22) stated that “to create superior value for buyers continuously requires that a seller understands a buyer's entire value chain, not only as it is today but also as it evolves over time.” Market-oriented firms understand their customers and their changing needs. Thus, innovation processes are organized around delivering customer value. A customer value approach focuses on how people choose among competing suppliers (Gale, 1994). Both Gale (2000) and Burgess (2002) cited the 1997 work of PIMS Associates which demonstrated that successful businesses achieved a superior customer value position, and realize average profit margins on sales and ROI that are three times greater than their counterparts who are pushed into an inferior position. Firms which are customer value focused, and complemented by appropriate resources and capabilities, are well suited to attract the necessary capital to expand the scale or scope of their activities (Slater, 1997).

Additionally, some firms might possess more advantages compared to their competitors, such as superior production systems, lower costs, or abilities to deliver superior customer service, but, in the final analysis, it is what customers regards as of value that is of overriding importance to firms (Coyne, 1986).

Ulaga and Eggert (2005) proposed that value is relative to competition. Thus, delivering a better combination of intrinsic quality attributes for product/services can assist firms create CA. As customers are not homogenous, different customer segments possess disparate values within the same products. Woodruff (1997) put forward that customer value should be conceptualized as a means-end chain, with desired product attributes (first level), leading to the achievement of desired consequences in use situations (intermediate level), and fulfilment of customer goals and purposes (highest level). This author indicates that too much emphasis has been placed on product attributes, neglecting customer value delivery at higher levels of the means-end chain.

Flint and Woodruff (2001) proposed that customer value change is contingent upon customer tension (effective strength, and temporal dynamism) and customer environments (changing customer demands, competitor moves, and alterations in the macro environment). Their approach suggested a longer term perspective, in which customers have opportunities to evaluate the performance of products/services. Based on the above line of argument, it appears that gaining CA by the provision of greater value to customers can lead to superior market-based (market share, customer satisfaction) and financial-based (profits, return on investment) performance (Bharadwaj et al., 1993). Notwithstanding, views differ as to how researchers define what constitutes customer value and what customers actually value.

A review of the literature (Combs and Ketchen, 1999) indicates that empirical research utilizing the source, position and performance (SPP) framework and/or a customer value based theory of the firm is scant. Most empirical research on CA focuses on large organisations (Auh and Menguc, 2006), employing the RBV framework (Lichtenstein and Brush, 2001; Michalisin et al., 2004; Morgan et al., 2006) and dynamic capability view of the firm (Zott, 2003). The varying sizes and business cycles of firms are responsible for their disparities in terms of strategies, resources, and attitudes of their owner/managers. As mentioned earlier, Lichtenstein and Brush (2001) noted that intangible resources, such as capabilities are more relevant to fast-growing organisations operating in dynamic environments. Reassessment, reflection, and discussion is an ongoing process for these firms.

This thesis builds on the conceptual works of Day and Wensley (1988), Woodruff (1997), postulating that CA results in superior customer value, which determines firm performance. This perspective provides a framework within which to understand both the drivers and sources of competitive advantage in growth-oriented SMEs. Specifically, this thesis adopts the view that market orientation, learning orientation and entrepreneurial orientation are synergistic sources of CA which is mediated by knowledge management. The latter will be presented in a later section of this thesis while the former will be discussed now.

## **2.3 Market, Learning and Entrepreneurial Orientation: Sources of Competitive Advantage**

Fleisher and Bensoussan (2003) stated that competitive advantage (CA) sources within firms are often multi-factorial in that sources cannot be attributed to one type of resource, suggesting interactions between different kinds of resources as drivers of CA. According to RBV principles (Menguc and Auh, 2006) and marketing literature (Narver and Slater, 1994), MO is considered to an organisational resource that combines the necessary properties to develop CA (Hunt & Morgan, 1995, p. 11). These researchers suggested that:

Market orientation can produce a comparative advantage only if it is rare among competitors. If all competitors adopt a market orientation and implement it equally well, then a comparative advantage accrues to none. A market orientation stresses the importance of using information about both customers and competitors in the formulation of strategy. Therefore, the knowledge about one's competitors-their products, prices, and strategies, for example--gleaned from implementing a market orientation could potentially enable a firm to produce a market offering for some market segments more efficiently or effectively than one's competitors.

Market-oriented firms can be seen as firms knowledgeable of their respective markets (an intangible resource), which are able to turn this knowledge into customer value and adapt to changes in its markets (a higher-order learning capability). Enterprises are able to process market information effectively and efficiently. Slater and Narver (1995) explicitly link MO to customer value and learning, when they define MO as “a learning culture that places the highest priority on the profitable creation and maintenance of superior customer value while

considering the interests of other key stakeholders” (Slater and Narver, 1995, p. 67). Despite an increasing body of evidence regarding the benefits of MO, there is a shift in the literature which argues that creating a MO is only a start (Slater and Narver, 1995, p. 63), indicating that MO, by itself, does not provide the total requisite ability to develop CA because of its focus on detecting rather than anticipating market trends.

Knowledge, derived from learning, is potentially the most productive resource of firms and can be a key source of CA (Grant, 1996). Learning orientation (LO) is valuable to firms and customers because it supports an understanding and fulfilment of customers' expressed and latent needs through new products, services, and determines how businesses should function (Sinkula, 1994). Enterprises are able to create product/services before customer needs become explicit and thus stay ahead of competitors (Slater, 2001). Dickson (1992) went as far as saying that learning is the only source of CA. Likewise, the RBV regards EO as a potential source of CA, as companies are characterized by their ability to proactively seek opportunities (Miles and Snow, 1978) and enter new markets (Lumpkin and Dess, 1996). It is believed that EO is a key source of firm competitive position and financial performance (Zahra, Ireland, & Hitt, 2000). Employees are required to be innovative, proactive, aggressively competitive, and undertake calculated risks, all of which are capabilities that need to be built and enhanced over time.

Notwithstanding, these business orientations need to culminate in superior customer value. Consistent with this view, Badovick and Beatty (1987) added that internal firm values can drive customer evaluation of enterprises. For instance, these authors proposed that personal combined with shared organisational values (e.g., customer service, excellence, service quality, entrepreneurship), evoke a set of role values (e.g., responsibility, honesty, competence, teamwork, innovation) to guide employee behaviour and strategy implementation. These values are partially shaped by culture, society, and personality. Therefore, to recap, CA sources can lead to positions of advantage with objective and subjective performance measures : market- based and financial-based measures.

### **2.3.1 Interactions Between Business Orientations**

The interface between traditionally recognized organisational resources, such as LO and MO as one distinctive resource within the marketing discipline has gained interest among

academics (Baker and Sinkula, 1999b; Hunt and Morgan, 1996). Similarly, market and EO are frequently investigated in entrepreneurship and marketing literatures (Atuahene-Gima and Ko, 2001). More recently, researchers incorporate all three business orientations into their hypothesized research models (Hult et al., 2004).

In an examination of the effects of LO and MO on performance, Baker and Sinkula (1999b, p. 423) found that “the direct independent effects of LO on all three performance measures suggests, as others have theorized, that market-oriented processes are necessary but not sufficient to maintain competitive advantage”. Farrell and Oczkowski (2002), in contrast, argued that MO can encompass LO in explaining market share variations to show that MO alone contributed to an attainment of CA. Notwithstanding, LO and MO are mutually dependent factors that contribute significantly to superior performance (Farrell, 2000). Given their iterative nature, these two factors should not be measured in isolation. Morgan et al. (1998) also postulated that MO is the principal cultural foundation of learning firms.

Slater and Narver (1995, p. 71) submits that “learning organisations are guided by a shared vision that focuses the energies of organisational members on creating superior value for customers.” However, in an earlier paper, Narver and Slater (1990, p.21) stated that “MO is the organisational culture that most effectively creates the necessary behaviours for the creation of superior value for buyers and, thus, continuous superior performance for the business.” In other words, both orientations are theorized to have almost identical effects. Customer- and learning-oriented organisational value systems (customer orientation is one component of MO) are also easier to develop when they are complemented by collective cultural assumptions and supported by strong cultures. In addition, while both the customer and LO facilitate different aspects of firm performance, customer orientation is shown to be more effective in strong cultures, while LO plays a prominent role in contexts where underlying values are not strongly shared among employees (Yilmaz et al., 2005).

Similarly, within the entrepreneurship literature, Morris and Lewis (1995), concluded that MO and EO are highly interdependent. In new ventures, the impact of market and EO might be more significant because firms are still learning to adapt to environments, and the ability of entrepreneurs to react to opportunities and threats quickly should directly impact performance. However, in an exploratory study, Vitale et al. (2003) revealed that start-up and established companies showed few differences in terms of MO and EO.

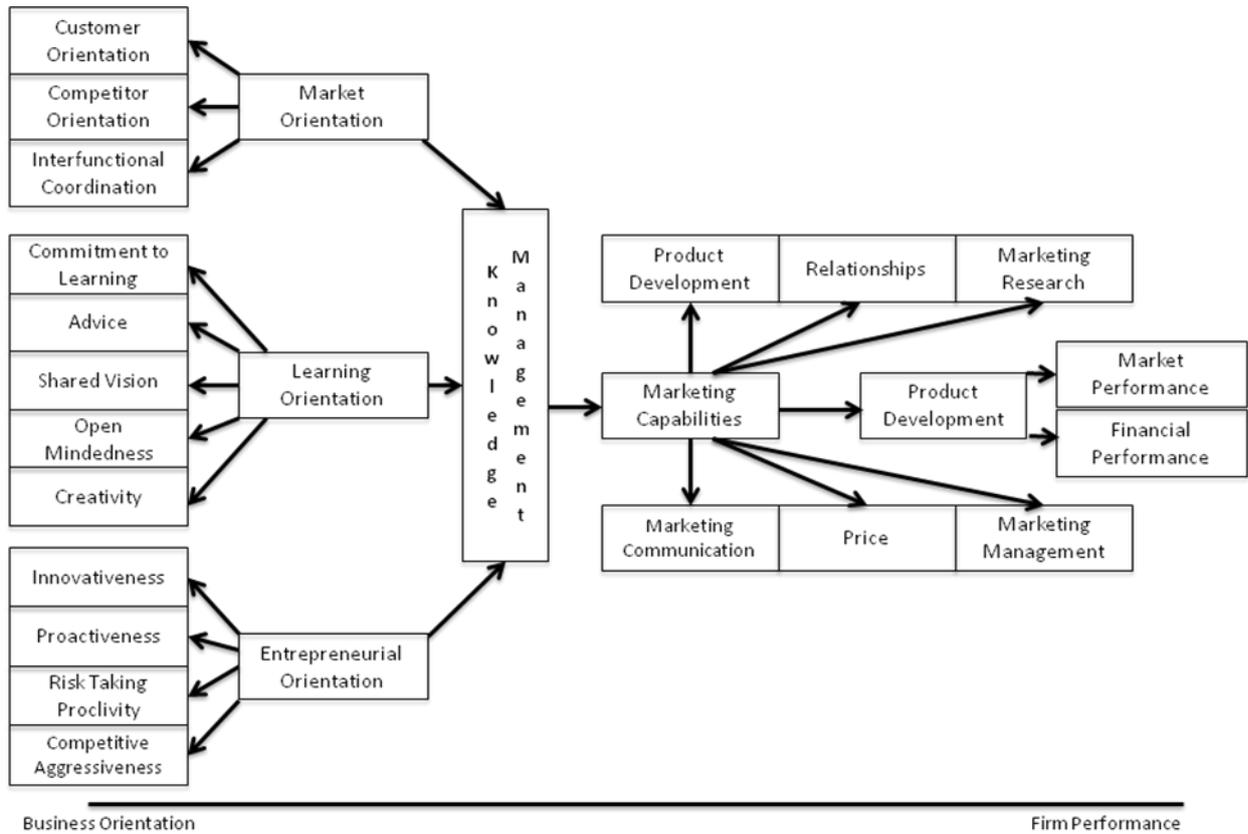
The early work of Miles and Arnold (1991) regarded EO as an antecedent to marketing orientation. For example, when identifying product-market potential, entrepreneurial enterprises should concentrate on customer needs and be marketing oriented. Similarly, Matsuno et al. (2002) indicated that entrepreneurial proclivity has not only a positive and direct relationship with MO, but an indirect and positive effect on MO by reducing departmentalization.

Matsuno and Mentzer (2000) found that prospector archetypes (from Miles & Snow, 1978) benefit from an increase in MO. Prospectors are entrepreneurial firms that emphasize marketing by discovering new niches, study customer needs, and are responsive to changing market conditions (Miles and Snow, 1978). Thus, it is likely that firms with pronounced EO would benefit from strong MO.

Subsequent research conceptualized corporate entrepreneurship as a mediator between MO and firm performance (Barrett and Weinstein, 1998). Bhuian et al. (2005) stated that the best combination is high MO with moderate EO. According to these researchers, highly entrepreneurial firms gather and disseminate market intelligence out of obligation or habit rather than meaningful business practice, suggesting that entrepreneurship is not always desirable in certain market conditions. Nevertheless, whether EO's interactions with MO are high or low, George and Zahra (2002a) suggested that MO strengthens performance implications of being entrepreneurial. Enterprises that are proactive, innovative, and take risks can benefit by developing market-driven capabilities such as intelligence gathering and dissemination.

Extending the literature on business orientation, Hult and Ketchen Jr. (2001) suggested that collectively, MO, entrepreneurship, innovation and organisational learning contribute to the creation of a unique resource. These four elements are necessary but are not by themselves adequate for creating positional advantage (Day and Wensley, 1988), forming a complex web of relationships. These capabilities are not expected to be advantageous as such, but are predicted to be elements that can jointly develop a latent, intangible construct. Based on this review, a preliminary framework is proposed depicting interrelationships between MO, LO, EO, marketing capabilities and firm performance (Figure 2.1). Furthermore, research on the relationships between business orientation and strategy (Dobni and Luffman, 2003; Kumar et al., 2002) and recently Tan and Smyrniotis (2007) shape this framework's three orientations: (1) market (i.e., customer orientation, competitor orientation, and inter-functional

coordination); (2) learning (i.e., commitment to learning, use of external advice, shared vision, and open mindedness); and (3) entrepreneurial (i.e., innovative, proactive, risk taking, and competitive aggressiveness). The affect of these orientations, enhanced via the knowledge management process (to be discussed in Section 2.4), on the positional advantage of firms is depicted in terms of: (a) marketing capabilities (i.e., market/marketing research, product development, marketing communications, relationships (distribution), and marketing management); and how marketing capabilities influences (b) organisational performance.



**Figure 2.2 Framework of Thesis; Business Orientation and Knowledge Management Leading to Marketing Capabilities and Firm Performance (Adapted from Baker and Sinkula, 1999b; Sinkula et al, 1997; Dobni and Luffman, 2003; and Tan and Smyrniotis, 2007)**

The following section reviews literature on this preliminary framework. Following this discussion the concept of a knowledge management orientation (KMO), suggested to play a mediating role in translating a firm’s MO, LO and EO to performance, is introduced (Darroch and McNaughton, 2003; Zhang et al., 2007).

### **2.3.2 Market Orientation**

Narver and Slater (1990) defines MO as an organisational culture comprising three behavioural components of equal importance: customer orientation, competitor orientation, and interfunctional coordination. Customer orientation is realized when firms succeed in creating superior value for customers because sellers understand the entire value chain of buyers. For this to occur, companies must comprehend the cost and revenue dynamics of immediate target buyers and those of other markets. Employees of market-oriented businesses spend considerable time with their clients, and recognize the need to maintain relationships with them as being critical for delivering superior customer value (Slater and Narver, 1994b).

The creation of superior value demands more than a mere focus on customers. Firms are required to understand the nature of competitors, technologies, and products that customers perceive as alternate satisfiers, and to identify and understand the principal competitors' short-term strengths and weaknesses and long-term capabilities and strategies. Competitors can sometimes be sources of ideas for new products, as understanding competitor strengths/strategies can assist firms recognize the types of product markets to enter/avoid (Porter, 1979). All employees within a firm are responsible for generating competitive intelligence (Slater and Narver, 1994b).

MO also includes the coordination of personnel and other resources throughout the enterprise to create value for buyers (Slater and Narver, 2000). For example, engineering and production staff in manufacturing industries should regularly discuss their capabilities and limitations with those in sales and marketing, so that capabilities can be leveraged and limitations avoided, when promoting products/services (Slater and Narver, 1994b). When all functions are geared towards enhancing buyer value, effectiveness and efficiency that benefit customers will be creatively realized.

Kohli and Jaworski (1990) offered a different interpretation of MO, advocating that MO involves behavioural activities including the generation, dissemination, and responsiveness of information on customers and competitors. While Kohli and Jaworski view MO as the implementation of the marketing concept, Hunt and Morgan (1995, p. 11) advocates that MO is the “(a) systematic gathering of information on customers and competitors, both present and potential; (b) systematic analysis of the information for the purpose of

developing market knowledge and (c) systematic use of such knowledge to guide strategy recognition, understanding, creation, implementation, and modification.” Thus, MO is more than a reflection of the marketing concept and is considered supplementary. Lafferty and Hult (2001) summarized MO into five different perspectives: decision making processes (Shapiro, 1988), market intelligence perspective (Jaworski and Kohli, 1993), cultural based behaviour (Narver and Slater, 1990), strategic marketing focus (Morgan and Strong, 1998), and customer orientation (Deshpande and Farley, 1998). The lack of theoretical clarity surrounding these classifications was recognized recently by Homburg and Pflesser (2000) who attempted to clarify MO by defining this orientation as a multi-layered cultural construct comprising shared values, norms, artefacts, and behaviours, which are sub-dimensions of culture, rather than a separate construct.

These conceptualizations of MO revealed three similarities (Day, 1994): a set of beliefs that regard customers as the primary interest (Deshpande et al., 1993); an ability to generate, disseminate, and use information on customers and competitors (Kohli and Jaworski, 1990); and the coordinated application of inter-functional resources to create superior customer value (Narver and Slater, 1990). Within MO literature, value provision is the central objective for firms (Narver et al., 1998).

MO has also been referred to as customer orientation, marketing orientation, and being market-driven. For example, Deshpande et al. (1993) considers customer orientation to be synonymous with MO because these researchers believe that evaluation should be derived from customers. Furthermore, a focus on competitors' strength rather than on unmet needs of customers can be contradictory. Deshpande et al. recommended that firms can only be market-oriented when customers' perceived value has been realized.

Slater and Narver (1994a) views the terms market-driven and market-oriented synonymously. Day (1994, p. 38) also seems to use these terms interchangeably, stating that: “Organisations can become more market-oriented by identifying and building special capabilities that set market-driven organisations apart.” However, Day (1999) defined market-driven firms as those that demonstrate a superior ability to understand, attract and keep valuable customers. Therefore, market-driven approaches are derived from the construct and principles of MO, and can be considered identical (Harris and Cai, 2002).

Researchers also tend to use the terms market and marketing orientation interchangeably. Researchers (Pelham and Wilson, 1996; Spillan and Parnell, 2006) treated these constructs synonymously with no apparent distinction made between the two, although these dimensions are not identical (Slater, 2001). Slater (2001, p. 232) explains, “marketing is only one function of the business.” Enterprises are market-oriented when embracing values implicit therein, business processes are directed at creating superior customer value for buyers, and extend to more than the marketing department to achieve goals (Slater, 2001). However, other researchers (Liu, 1995) considered MO as comprising marketing activities undertaken by firms. Marketing orientation refers to organisational proficiency in performing marketing-related activities (Atuahene-Gima, 1995) and emphasizes the role of marketing in firms (Shapiro, 1988; Uncles, 2000). Being marketing oriented also means having a marketing department that generates new product ideas, employs marketing consultants, and regularly performs marketing research (Miles and Arnold, 1991; Morris and Paul, 1987).

### **2.3.3 Characteristics of Market-Oriented Firms**

This thesis adopts a cultural definition of MO as explained by Narver and Slater (1998). These researchers elaborated that: “If a MO was simply a set of activities disassociated from the underlying belief system of an organisation, then whatever an organisation's culture, a MO could easily be implanted by the organisation at any time. But such is not what one observes” (Narver and Slater, 1998, p. 235). However, MO has also been criticised as being customer-led (Connor, 1999). Slater and Narver (1999), clearly distinguished customer-led from market-oriented strategies. The former focuses on satisfying buyers' expressed needs, while the latter goes beyond satisfying expressed needs to understanding and satisfying customers' latent needs. Day (1999) concurred with this view, explaining that “to be market-driven means seeing past the short-sighted and superficial inputs of customers, to gain a deep-down understanding that gives managers confidence their judgments are right” (p. 12). Consumers know only what they have experienced, and tend to be ignorant of emergent technologies or new materials (Ulwick, 2002).

According to Slater and Narver (1993), market-oriented firms are inclined to act proactively to develop their markets and differentiate themselves from competitors. Foresight was also found to be a major component of market-oriented cultures (Morgan and Strong, 1998).

Researchers (Gounaris, Avlonitis, & Papastathopoulou, 2004) argued that MO is necessary when firms operate in dynamic (new technologies and/or new entrants), competitive, and munificent markets.

MO also raises arguments as to whether this orientation can be considered proactive or reactive. For example, market-driven firms are regarded as enterprises that can evoke both adaptive and generative organisational learning. Day (1994, p. 44) noted that:

They are distinguished by an ability to sense events and trends in their markets ahead of their competitors. They can anticipate more accurately the response actions designed to retain or attract customers, improve channel relations, or thwart competitors. They can act on information in a timely, coherent manner because the assumptions about the market are broadly shared. This anticipatory capability is based on superiority in each step of the process. It is achieved through opened-minded inquiry, synergistic information distribution, mutually informed interpretations, and accessible memories.

Conversely, market-oriented cultures have also been associated with an aversion to risk adoption, which can lead companies to the so-called “tyranny of the served market” (Hamel and Prahalad, 1991). This perspective provides a narrow definition of business, focusing on clients' current needs, ignoring emerging markets and/or competitors. In this sense, it is assumed that MO does not pursue a deep understanding of the current and future demands of customers, which requires the development of adaptive learning. Clearly, both views are opposing.

Limitations outlined in the literature caused Jaworski et al. (2000) and Narver et al. (2000) to revisit the issue of MO with greater clarity. Jaworski et al. (2000) concluded that MO is two dimensional: market-driven and market-driving; while Narver et al. (2000) suggested reactive and proactive forms of MO be included. These four elements are discussed below.

### **2.3.4 Market-Driven Versus Market-Driving**

Market-driven organisations accept the status quo and serve markets by catering to customer demands (Jaworski et al., 2000). Alternatively, market-driving enterprises proactively mould market structures through constructionist, deconstructionist, or functional-modification approaches (Jaworski et al., 2000). Each of these three approaches alters the market by changing either the mixture of players or market functions they perform.

Constructionist and deconstructionist methods imply that firms amend market structures by altering the number of players (e.g., competitors). The functional-modification approach, as outlined by Jaworski et al. (2000), suggests that firms can achieve higher performance levels not by specifically uncovering and addressing latent needs but by shaping the perceived needs of customers which entail shaping perceived benefits customers receive from a particular product. To become market-driving enterprises, Berghman et al. (2006) suggested that firms should employ simultaneous and gradual development of marketing knowledge absorptive capacity, organisational competences, and network competences.

### **2.3.5 Reactive Versus Proactive Market Orientation**

In response to Jaworski et al.'s (2000) re-conceptualization of MO, Narver et al. (2000) posited that proactive MO is not about creating or altering customer preferences but involves satisfying prevailing latent needs by developing new products or processes. Similar to the traditional conceptualization of MO, or what Narver et al. call “reactive” MO, proactive market-oriented firms encourage a focus on an analysis of customer behaviour. Narver et al. argued that by dissecting customer behaviour, firms are in a position to infer latent needs based on gaps discovered from their analysis. Atuahene-Gima et al. (2005) likened responsive MO to a U-shaped relationship with new product programme performance, while proactive MO has an inverted U- shape. Although both orientations are essential, new product programme performance is enhanced when one is placed at a higher level and the other is lower.

### **2.3.6. Empirical Studies of Market Orientation**

On a different though related note, Dawes (2000) stressed that each MO component is not necessarily equally and strongly associated with profitability. Each element comprises unique features, and for this principal reason, MO was assessed from three dimensions rather than one- factor (Langerak, 2003; Noble et al., 2002). Dawes (2000) observed that an outstanding feature of high-profit firms is their ability to be attuned to the activities and characteristics of competitors. Customer orientation has a positive zero order correlation with profitability and also explains little of the variance in profitability when competitor orientation was included in the model. In the same light, Noble et al.'s (2002) study of mass merchandisers

and discount sectors in the retailing industry identified that customer orientation was not a driver of performance, as these firms were focused primarily on selling low margin, high volume products. Firms with higher levels of competitor orientation, national brand focus, and selling orientation exhibited superior performance.

Various researchers (Appiah-Adu, 1997) have examined the effects of MO on firm performance, advocating positive (Kumar et al., 1998), negative (Voss and Voss, 2000), and non-significant findings (Greenley, 1995). Even though Rodriguez- Cano et al. (2004) supported a positive relationship between MO and enterprise performance in their meta-analysis, other research has found inconclusive results (Langerak, 2003); suggesting that the relationships are not so straight forward (Olavarrieta and Friedmann, 1999).

However, although some researchers (Harris, 2001) argued that MO dimensions might not be applicable in small business sectors, others (Pelham and Wilson, 1996) found positive links between MO and performance in small US firms. Slater and Narver (2000) recommended that additional studies with substantive modifications of conceptual and methodological methods to increase confidence in previous findings be undertaken. However, it is possible that contradictory results can be attributed to methodological issues such as the utilization of different MO scales and the application of subjective versus objective performance measures (Noble et al., 2002).

For example, investigations of MO-performance relationships reveal supportive findings (McNaughton et al., 2002), while Chang and Chen (1998) noted that MO assists firms to achieve solid quality levels, ultimately affecting profitability. Olavarrieta and Friedmann (1999) proposed a conceptual model, identifying knowledge-related resources (imitation and market sensing capabilities), and reputational resources (brand equity and firm image) as mediating factors that lead to superior firm performance.

Gounaris et al. (2004) identified four aspects of marketing practices that are influenced by MO development: planning processes, strategy formation and implementation, and control. For instance, companies that adopt a MO approach systematically conduct formal market research, collect and disseminate company-wide intelligence on their markets, and emphasize strategic marketing planning. In addition, these organisations are inclined to segment their markets, and tailor their products, pricing, and promotional strategies to suit targeted segments. MO also influences control over a firm direction by making enterprises

focus more on customer, market and product related information, as well as respond to information gathered.

MO is also found to be positively related to pre-development and launch activities, service quality, product advantage, marketing synergy, and team work (Vorhies and Harker, 2000), all of which comprise product marketing capabilities. Product development is used frequently to impede competitor moves within targeted segments (Vorhies and Harker, 2000).

Nevertheless, Baker and Sinkula (2002) pointed out that MO leads to incremental innovation and product line extensions because market-oriented enterprises are compelled to follow customer demands. In terms of product strategies, overemphasis on customers can, however, result in trivial innovation and myopic research and development.

Vorhies et al. (1999), in their investigation of large manufacturing and service firms in the US, also found that market-driven firms (versus non market-driven) demonstrated higher levels in six marketing capabilities, including, marketing research, targeting/segmenting markets, product strategies, promotional capabilities, relationships with distributors/retailers, and overall marketing management. In another case, managers who view their firms as being highly market-oriented also reported stronger global, marketing, and product/service capabilities when compared to their counterparts (Celucha, Kasoufb, & Peruvembac, 2002).

Slater and Narver (1994a) stated that market-oriented cultures are necessary to build and maintain core capabilities that continuously create superior customer value. A number of researchers (Hooley et al., 1999; Slater and Narver, 1993) discovered that marketing capabilities are regarded as more important than operational ones. Consequently, when firms are up-to-date with information on customers and competitors (market-oriented), these enterprises are capable of effectively handling marketing activities within their organisations.

### **2.3.7 Learning Orientation**

Sinkula et al. (1997, p. 309) conceptualizes LO as “giving rise to that set of organisational values that influence the propensity of the firm to create and use knowledge.” According to these researchers, LO influences the degree to which proactive learning occurs. However, Atuahene-Gima et al. (2005) define LO as the extent to which top management attaches value to new skill development, learning enjoyment, curiosity for new ways to enhance

performance, preference for challenging work, and critical reflection on firm assumptions. Learning-oriented firms influence the kind of information gathered, interpreted, evaluated, and shared (Calantone et al., 2002). Hurley and Hult (1998) pointed out that LO is evident at various levels within firms, including strategy, processes, structure, and culture. Benefits of LO include fast market- information processing (Dickson, 1996), development of new products (Stalk Jr., 1988), and superior performance (Baker and Sinkula, 1999a; Slater and Narver, 1995).

LO is associated with three values: commitment to learning, open mindedness, and shared vision (Sinkula et al., 1997). These values contribute to organisational cultures where individuals work towards understanding cause and effect relationships; question long-standing assumptions, beliefs, and routines; and share a sense of purpose and direction that can further motivate learning (Senge, 1990).

Commitment to learning (the degree to which firms value and promote learning), is likely to foster learning climates and encourage organisational learning (Slater and Narver, 1995). For example, managers who support staff who use company time to pursue knowledge outside the immediate scope of their work tend to motivate their employees to learn (Slater and Narver, 1995). Shared vision refers to an organisation-wide focus on learning (Sinkula et al., 1997). Without such a vision, it is difficult for employees to know what to learn even when motivated to do so. Divergent assumptions undermine the ability of management teams to develop focused responses to market trends or environmental shocks (Sinkula et al., 1997). For example, some ideas are not implemented because of a lack of common direction. Finally, open mindedness is the willingness to critically evaluate operational routines of firms and accept new ideas (Sinkula et al., 1997).

Obsolescence rates are high in most industries, as firms wrestle with rapidly changing technologies and turbulent markets. Open mindedness can be related to unlearning detrimental traditional practices. For example, the chief scientist of the Xerox Palo Alto Research Centre explained, “Unlearning is critical in these chaotic times because so many of our hard earned nuggets of knowledge, intuitions, and just plain opinions depend on assumptions about the world that are simply no longer true” (Brown, 1991, p. 192). Encouraging unlearning can be the most important task for entrepreneurs to sustain a momentum for continuous learning (Sinkula, 2002).

More importantly, is the distinction between learning orientation (LO), organisational learning, and learning organisation. As Slater and Narver observed (1995, p. 72), “how does a person assess whether an organisation has actually learned?” Santos-Vijande et al (2005b) added that it is necessary to utilize an indirect estimate for this variable, that is, the presence of values inherent in learning capabilities.

The distinction between organisational learning and learning organisation is not merely semantic (Mavondo et al., 2005). Garvin (1993, p. 80) defines the latter as “organisations skilled at creating, acquiring and transferring knowledge and at modifying behaviour to reflect new knowledge and insights.” Organisational learning refers to the development of new knowledge or insights that have the potential to influence behaviour (Fiol and Lyles, 1985; Sinkula, 1994). Researchers (Argyris and Schön, 1978) propose that such learning takes place along a continuum ranging from adaptive (single-loop) to generative learning (double-loop). The former occurs when individuals/firms operate within the confines of their preset constraints and incrementally learn to improve performance according to changing circumstances, without altering the deeper structures of their firms (Senge, 1994). An example would be learning from mistakes, that is, when firms launch an unsuccessful product, they learn from that failure. Conversely, generative learning takes place when basic assumptions that have been used for a long time are questioned, different perspectives of the environment are considered, and new and radical methods of change are adopted (Argyris and Schön, 1978; Slater and Narver, 1995). Such learning provides firms with an ability to create innovative advances (Slater and Narver, 1995) whereas adaptive learning enables enterprises to respond to changes in their surroundings through incremental innovation (Baker and Sinkula, 1999a). Thus, while LO is the manifestation of a firm's propensity to learn and adapt, organisational learning focuses on activities such as staff training, and mechanisms of knowledge and skill acquisition. Learning orientation (LO) is a wider concept that includes aspects of adaptation and change.

Studies highlight that LO is associated with firm performance. For example, Farrell (1999) identified that LO is related positively to organisational commitment, esprit de corps, and organisational innovativeness. Similarly, Sadler-Smith et al. (2001) demonstrated empirically that higher growth manufacturing firms possess a more active LO, making better use of knowledge assets compared to their lower growth counterparts. However, pure LO can be problematic because of its so-called “inside-out” orientation (Day, 1994). Highly learning-

oriented firms can hold self-centred views of the external world, because of their preoccupation with creating new knowledge and operations, and lack of attention for customers needs and other marketplace actors, thus failing to understand long-term trends in the competitive arena (Yilmaz et al., 2005).

However, Slater and Narver (1995, p. 71) indicated that “learning organisations are guided by a shared vision that focuses the energies of organisational members on creating superior value for customers.” Baker and Sinkula (1999a) noted that, while related, market and LO are distinct concepts, each with potentially independent as well as synergistic effects on organisational processes. LO goes beyond market place focus and is reflected by knowledge questioning values, while MO is portrayed by knowledge-producing behaviours (Baker & Sinkula, 2002). Further elaboration on these points will be made in the forthcoming discussion of knowledge management orientation.

Two schools of thought have emerged on the importance of LO and MO. Farrell (2000) argued that organisations are able to appreciate the value of timely and relevant information (market- oriented), and thus be intelligent enough to challenge existing assumptions about the ways in which markets operate (learning-oriented). In contrast, Day (1994) suggested that market-oriented firms can emerge only when learning processes are examined and altered in ways that enable them to learn about markets. Although the issue of causality remains unresolved, there is agreement that LO and MO are mutually dependent (Bell et al., 2002).

Empirically, Santos-Vijande et al. (2005b) investigated the issue of causality and explained that MO stimulates generative learning, whereas LO influences market-oriented behaviours, but both are mutually dependent on organisational learning. On the contrary, within the context of Greek food and beverage, and textile SMEs, LO is enhanced by stronger customer and technology orientation, leading to the creation of new and unique products for the market (Salavou, 2005).

Similarly, while a number of researchers (Baker and Sinkula, 1999b, 2002; Farrell and Oczkowski, 2002) agreed that market and LO are antecedents to firm performance, Hult et al. (2004) indicated that positive relationships between LO and firm performance are mediated through innovativeness. Weerawardena et al. (2006) also reported that market focused and relational learning capabilities (through networks) lead to high degrees of

organisational innovation, enabling enterprises to achieve sound performance for their brands.

Further evidence is provided by Celucha et al. (2002) who empirically demonstrated that managers who perceive their firm as having higher LO, also report better information systems and marketing capabilities than their counterparts. Moreover, such firms also note stronger products/services, order fulfilment, and external partnering capabilities. As organisations learn to make sense of their markets, they develop rules for processing information which will influence their internal and external organisational actions (Sinkula et al., 1997).

External actions refer to products, promotion, distribution and pricing strategies, and tactics, all of which comprise marketing capabilities. Positive LO results directly in increased market information generation and dissemination, which in turn, affects the degree to which firms make changes to their marketing strategies. Day (1994) also contended that firms which excel in continuously learning about their markets are in a better position to anticipate changes.

While market-oriented firms are expected to be rated significantly stronger on marketing capabilities such as product development, relationships with stakeholders, marketing communications, and overall marketing management, these same effects apply to learning-oriented firms. Pisano (1994, p. 86) advanced that “without learning, it is difficult to imagine from where a firm's unique skills and competencies would come.”

### **2.3.8 Entrepreneurial Orientation**

Miller (1983) offers the earliest operationalization of the EO concept, defining entrepreneurial firms as those engaged in product marketing innovation, undertake risky ventures, and first to introduce proactive innovation. Morris and Paul (1987) extended this concept further by indicating that this orientation is a propensity for top management to take calculated risks, and be innovative and proactive. Lumpkin and Dess (1996) added the attributes of propensity to act autonomously (independent action by individuals/teams that are aimed at bringing forth a business concept or vision and carrying it through to completion) and competitive aggressiveness.

EO focuses less on relationships between organisational culture and business orientation, and more on linkages between firm structure, management style, and performance (Tzokas et al., 2001). Entrepreneurship is a process of creating value by combining resources.

Entrepreneurs are required to consider economies of scale, ability to lock in customers, competitors' growth, resource constraints, internal financing ability, and tolerant customer and personal goals so that growth can be assured (Bhide, 1996). While Stevenson (1983, p. 5) views entrepreneurship as “an approach to management...defined as...the pursuit of an opportunity without regard to resources currently controlled.”

While MO and LO can aid managers create quality products, processes, and ideas to generate superior customer value, EO is likely to provide the stimulus for such activities. As MO is primarily concerned with learning from customers and competitors in markets (Narver and Slater, 1990), entrepreneurship is mainly learning from experimentation (Dickson, 1992). Furthermore, EO embodies innovative and proactive values and behaviours, taking risks, and competitive aggressiveness (Lumpkin and Dess, 1996), the characteristics of which are not explicit in MO. Entrepreneurial values can enhance the prospects of developing breakthrough products/services or identify un-served market segments to attain CA (Hamel and Prahalad, 1994).

On the one hand, the innovative dimension of EO refers to seeking creative, unusual, or novel solutions to problems and needs, and they can be in the form of new technologies, processes, products or services (Lumpkin and Dess, 2001). Innovativeness occurs on a continuum, including a willingness to commit to new technologies or try new product lines (Lumpkin and Dess, 1996). Innovation is a form of creativity (Lucked, 2003). Proactiveness, on the other hand, refers to a posture of anticipating and acting on future wants and needs in the marketplace, thereby creating a first-mover advantage vis-à-vis competitors, and the ability to implement and do whatever is necessary to realize the entrepreneurial concept. Proactive firms strive to be pioneers, capitalizing on emerging opportunities (Lumpkin and Dess, 2001).

Risk taking, in contrast, involves a willingness to commit significant resource opportunities to ventures that might fail, although risks are usually moderated and calculated, largely reflecting companies' preparedness to venture into the unknown. Finally, competitive aggressiveness is an intense effort to outperform industry rivals, characterized by combative postures or aggressive responses aimed at improving positions or overcoming threats in competitive marketplaces (Lumpkin and Dess, 2001).

While a number of researchers (Mostafa et al., 2006) advocated that a single construct comprising three dimensions can be developed, Lumpkin and Dess (1996), and Kreiser et al. (2002), amongst others, argued that EO dimensions vary independently, rather than co-vary with firm performance. For example, relationships between risk-taking, competitive aggressiveness and firm performance are relatively small (Rauch et al., 2004).

Although some studies (Wiklund, 1999) revealed positive relationships between EO and firm performance, findings remain inconclusive (Dess et al., 1997). There is a growing body of empirical research indicating contingent (Lyon et al., 2000) or moderating (Marino et al., 2002) influences rather than direct associations. For example, Yusuf (2002) reported non-significant relationships between EO and performance, possibly because the EO-performance link is dependent on international settings (Arbaugh et al., 2003), and is not universal (Luo et al., 2005). Despite reports identifying direct and significant relationships between EO and change in firm profits, Becherer and Maurer (1997) highlighted that this relationship explained less than four percent of the variance. Perhaps surprisingly, EO is also a non-significant predictor of firm growth (Arbaugh et al., 2003). Yet, other empirical studies reported that the EO-firm performance relationship is contingent upon internal (Covin and Slevin, 1989) and external (Luo et al., 2005; Wiklund and Shepherd, 2005) factors. The positive benefits of EO are experienced by businesses encountering constraints such as limited access to finance and unstable environments. EO is less essential to well financed firms in high growth industries, rather, this orientation is utilized to overcome environmental and resource constraints (Wiklund and Shepherd, 2005). Consistent with this view, Rauch et al. (2004) found that business size moderates the EO-performance relationship, and the effects are higher for micro-businesses than for small and large enterprises.

Researchers (Covin and Slevin, 1989) concluded that the effect of EO on firm performance is positive in hostile environments and contingent upon organisational structures. Specifically, these researchers reported that while enterprises with organic structures exhibit significant relationships between EO and performance, such relationships are absent in mechanistic structures. In contrast, Zahra (1993) established that this relationship is moderated by an enterprise's perceptions of their competitive environments. Exploring the consequences of environmental adversity on EO in new ventures (less than eight years) with domestic and international operations, Zahra and Neubaum (1998) found that these new businesses are less inclined to be entrepreneurial in their foreign operations. These

researchers also revealed that when confronted with adverse environmental conditions, new ventures adopt strong EO, favouring new products, goods, and services. Within the context of Arabian Gulf firms who operate in different industries, Yusuf (2002) indicated that manufacturing firms exhibit EO more frequently than commercial enterprises. Similar to MO, differences in findings can be attributed to disparities in research design or methodological idiosyncrasies, as drawing general conclusions from single studies and low response rates might contribute towards discontinuities in and across findings (Rauch et al., 2004).

Schumpeter (1934) suggested five categories of behaviour associated with entrepreneurial activities: introducing new goods, opening new markets, opening new sources of supply, introducing new methods of production, and industrial reorganisation. The first three characteristics are distinctly marketing related (Smart and Conant, 1994). The ultimate goal of EO and MO is value creation for customers (Sciascia et al., 2006) and both are considered highly interdependent (Morris and Lewis, 1995). When these constructs are measured together empirically, Atuahene-Gima and Ko (2001) observed a significant interaction between entrepreneurial and market-oriented firms (high MO & EO): firms that are more entrepreneurial also tend to demonstrate stronger MO. In an investigation of large Australian firms, Atuahene-Gima and Ko (2001) established that MO and EO significantly affect product performance, while the effect on financial performance was not validated. Similarly, George and Zahra (2002a) showed that the MO-EO interaction is statistically significant in high technology sectors as opposed to low technology industries, subsequently influencing financial performance (e.g., ROA). These results contradict claims (Jaworski and Kohli, 1993) that such a relationship is robust across all industry settings.

Despite disparity in findings, researchers continue to investigate relationships between MO, EO, and firm performance. For example, when studying the impact of MO and EO on business profitability, Slater and Narver (2000) showed that entrepreneurial values are non-significantly related to profitability. They postulated that EO might possibly affect profitability indirectly via product or market development. Tzokas et al. (2001) discovered that firms with strong EO and MO are capable of developing better competencies than those who do not possess these characteristics. This finding compares favourably with those of Porter (1985), who indicated that companies without strategic direction fail to survive in the long run. Weerawardena (2003b) also found that entrepreneurial firms build

and nurture marketing capabilities. Tzokas et al. (2001) demonstrated that enterprises which are ready to take on risk, pursue innovative projects, and at the same time, attend to market needs and competitiveness are more competent than those (especially smaller ones) where such qualities are lacking.

Overall, these studies revealed that the MO/EO-performance link is mediated by a number of variables such as innovation (Han et al., 1998) and marketing capabilities (Tzokas et al., 2001). Further, Hult et al. (2004) noted that the strongest overall drivers of performance are MO, EO, and innovativeness, while the latter partially mediates relationships between these business orientations and performance.

Value can be created via superior marketing capabilities. Researchers (Hills and LaForge, 1992) indicate that EO and MO are two major considerations that directly affect operational competencies. Tzokas et al. (2001) noted that these two orientations contribute synergistically to the emergence of unique marketing techniques and overall firm performance. Consistent with this view, Smart and Conant (1994) asserted that a strong relationship appears to exist between firm EO and distinctive marketing abilities.

### **2.3.9 Firm Performance**

Academic research on firm performance measurement is derived from a wide spectrum of disciplines, including accounting, economics, human resource management, marketing, operations management, psychology, strategic management, and sociology (Marr and Schiuma, 2003). Firm performance measures are defined as metrics employed to quantify the efficiency and/or effectiveness of actions, and have always remained a problematic issue in business research (Fahy et al., 2000). Diversity of such measures used in the literature constitutes additional sources of methodological heterogeneity (González-Benito and González-Benito, 2005). Various approaches that are applied to study performance in research settings together with the lack of agreement on basic terminology, make performance measurement a controversial subject for strategic management researchers (Jogaratham, Tse, & Olsen, 1999).

When undertaking entrepreneurship research, Murphy et al. (1996) recommended that researchers explicitly state specific performance dimensions, provide theory-based rationale, and include multiple measures when feasible. Researchers should also incorporate control variables such as firm age and size, as firm performance can be considered ambiguous. Below is a review of the ways in which firms measure performance (performance measurement systems), followed by academic measures of this variable within empirical business research.

One of the most popular approaches to measure firm performance is the Balanced Score Card (BSC), which was first introduced by Kaplan and Norton (1992) based on a one-year study of 12 companies. These researchers suggested that financial measures alone were insufficient, and other factors such as competence, knowledge, and customer focus were necessary. Principles of the BSC provide a holistic view of firms and examine four important areas: finance (how well firms are doing to satisfy the needs of owners or shareholders who are looking for returns on their investment); customers (how well are customer needs met, so that clients can recommend the business to others); innovation and learning (innovation and development progress in competitive environments); and internal business (how effectively and efficiently businesses balance satisfying customer satisfaction and making profits). In stressing strategy alignment and performance measures, Kaplan and Norton (2005) advocated a balance between these four perspectives to ensure long-term survival and growth. Not surprisingly, since the BSC's inception, more than 50% of Fortune 500 companies use this tool to measure performance (Gumbus, 2005; Marr and Schiuma, 2003) and its use is rare in SMEs (Gumbus and Lussier, 2006). The BSC is not suitable for all companies as there are too many performance indicators, making it difficult for managers to handle (de Waal, 2005). However, in a case study Gumbus and Lussier (2006) found that certain entrepreneurs and firms can benefit from developing and using a BSC.

Researchers also evaluate performance using both hard quantitative financial measures and soft qualitative measures (Vorhies and Morgan, 2005). The former concerns cost elements and tries to quantify performance solely in financial terms. However, many improvements are difficult to quantify directly in monetary value (Ghalayini et al., 1997). According to these researchers, three most common financial measures include profit margin/return on sales (which determine a firm's ability to withstand competition, adverse rising costs, falling prices, and future declining sales); return on assets (which determines the ability to utilize assets);

and return on equity (which is payment of dividends to stockholders). Softer non-financial issues such as customer and employee satisfaction are complemented by hard measurement practice. In an empirical study, Stone and Banks (1997) identified that large firms employing an average of 23,000 employees inclined to favour financial priorities. Their emphasis seemed to be on profitability (43%), customers (24%), and employees (13%), indicating a top priority for profits.

However, customer-based measures are gaining popularity because of the enthusiasm for customer-led quality improvements which ultimately leads to company profits. Such common measures include procedures and surveys on customer complaints (Stone and Banks, 1997). In the case of employees, surveys to reflect their perceptions of culture can form the basis for decision making at all levels. These surveys help to cheque prevailing firm conditions to support suggestions for change in working environments, or to indicate the state of employee welfare and feelings, so that the necessary feedback between distant workers can be obtained (Stone, 1996). Soft measures can also be used to monitor or induce cultural change, improve communications, morale, and team spirit.

For small firms however, subjective performance and non-financial measures appear to be more essential than quantitative measures as indicated by the use of intuitive quality measures. Cash, rather than the maintenance of a smooth cash flow from profit is an important indicator to owner-managers whose objectives are to stay in business (Jarvis et al., 2000). On the contrary, Monkhouse (1995) reported that only 50% of SMEs use non-financial internal benchmarks, ranging in a descending order of importance from quality, competitive performance, resource utilization, flexibility, to innovation. This researcher concluded that non-financial benchmarks are “far from being over- used and abused” (p.49).

Nonetheless, certain quantitative measures such as financial ratios, number of customer complaints, and staff turnover are easy to ascertain compared to qualitative measures such as firm morale, leadership, and customer perception (Pun and White, 2005). More importantly, performance measurement systems must be linked to an achievement strategy which can take a variety of forms: greater focus on stakeholder value, pleasing stakeholders, motivating people, and improving and innovating services and products (Pun and White, 2005). Table 2-1 summarizes the main changes and trends in the development of performance measurement systems and compares traditional and current systems.

**Table 2-1 Evolution of the Performance Measurement Systems**

<b>Traditional Performance Measurement Systems</b>	<b>Emerging Performance Measurement Systems</b>
Based on traditional accounting systems	Based on company strategy
Based on cost/efficiency	Value-based
Trade-off between performance	Performance compatibility
Profit-oriented	Customer oriented
Short-term orientation	Long-term orientation
Prevalence of individual measures	Prevalence of team measures
Prevalence of functional measures	Prevalence of transversal measures
Comparison with standard	Improvement monitoring
Aims at evaluating	Aims at evaluating and involving
Hinders continuous improvement	Stresses continuous improvement

Based on Pun and White's (2005) evaluation of the works of De Toni and Tonchia (2001), and Ghalayini and Noble (1996).

Literature indicates that organisational performance is a multi-dimensional construct that includes financial, operational, and customer related performance domains (Kaplan and Norton, 1992, 1993, 2000; Venkatraman and Ramanujam, 1986). Thus, researchers who conduct empirical studies involving firm performance should provide multi-dimensional perspectives, as indicated below.

Performance can be analysed by measures of effectiveness and efficiency; the former referring to the consolidation of strong market positions (customer satisfaction, image, sales, market share, new product success), while the latter comprises optimal resource allocations (profitability, ROI) (González-Benito and González-Benito, 2005). Yet, there is no absolutely clear way to know when firms are profitable because many opportunities involve sacrificing current and future profits (Walker and Ruekert, 1987). As a case in point, low profits in small growth-oriented businesses are not an indication of poor performance if this is due to investments in product/market development (Covin and Slevin, 1989). An accurate assessment of organisational performance might involve balancing profitability against sales growth (Slater and Narver, 1996).

Firm performance can also be measured subjectively and objectively (Dawes, 1999). The former is based on opinion or estimates provided by respondents who are asked to assess their firm's performance (Covin et al., 1990), whereas the latter is based on independent observable facts, either by asking respondents to report absolute values or by accessing secondary sources (Vorhies and Morgan, 2003), and influenced by industry-specific factors (Miller and Toulouse, 1986). A number of studies (Selnes et al., 1996) reported different conclusions about relationships between MO and firm performance, depending on whether objective or subjective evaluations were adopted for the latter variable. While some researchers (Dawes, 1999; Han et al., 1998) found consistency between objective and subjective measures, more than 50% of the studies (Agarwal et al., 2003; Gray et al., 1998) reviewed by Gonzalez-Benito and Gonzalez-Benito (2005) revealed stronger relationships for subjective as opposed to objective performance. For example, Jaworski and Kohli (1993) discovered only a positive relationship between MO and subjective performance but a non-significant relationship for increases in market share (objective measure). However, in a meta-analysis of the EO literature, Rauch et al. (2004) reported contradictory findings, indicating stronger objective performance relationships.

Examples of subjective firm performance measures include perceived overall performance relative to competitors (Jaworski and Kohli, 1993); expected return on assets (Narver and Slater, 1990); sales growth (Appiah-Adu, 1997; Luo et al., 2005); return on investment (Harris, 2001); new product success (Pelham and Wilson, 1996); new product programme performance (Atuahene-Gima et al., 2005); profitability (Pelham and Wilson, 1996); and marketing programme dynamism (Luo et al., 2005).

Alternatively, researchers (Avlonitis and Gounaris, 1999; Santos-Vijande et al., 2005a) evaluate firm performance relative to pre-established firm objectives, comparing outcomes to expectations. Subjective measures also facilitate cross-sectional analysis through sectors and markets because performance can be quantified in comparison to objectives or competitors (Hooley et al., 1999). Perceptual performance measures are related to business owners' personality characteristics rather than organisational outcomes (Rauch, 2003). However, analysis of performance outcomes can be biased by the so called "halo effect". Response styles or the desire to communicate a positive image can lead to false correlations between both concepts when single respondents are used (González-Benito and González-Benito, 2005). Researchers address this limitation by including more respondents

such as customers within (Slater and Narver, 2000) and outside (Deshpande and Farley, 1998; Jones et al., 2003) firms, and by measuring for social desirability. However, the former two methodological approaches increases direct and indirect costs.

Notwithstanding, Uncles (2000, p. iv) noted that within MO, “virtually all studies rely on self- assessed business performance, rather than formal assessments (e.g., little use is made of formal financial, operational and customer related performance measures).” Although positive links between MO and performance have primarily been based on subjective measures of performance, Jaworksi and Kohli (1993, p. 65) recognized that researchers tended to use a narrow range of performance measures and recommended that, “it would be useful to explore the complexities of the relationship between market orientation and alternative dimensions of business performance in future studies.” Slater and Narver (1994a) and Harris (2001) also supported this view, highlighting the importance of understanding the effects of MO on performance when evaluated objectively. Few researchers use an objective approach because of difficulties associated with obtaining information as firms are reluctant to disclose confidential financial data (Caruana et al., 1998). Objective performance measures include sales growth, profitability (Ruekert, 1992), and ROA (Salavou, 2002). Also, Hult and Ketchen Jr. (2001) obtained positive results when investigating the impact of MO, innovativeness, entrepreneurship, and organisational learning on performance over a five-year average ROI, income change and stock price.

Within entrepreneurship literature however, growth is used as a proxy for business performance (Murphy et al., 1996), because this measure is considered to be more accurate and accessible than accounting measures of financial performance (Zahra, 1991). Empirical studies (Wilkund and Shepherd, 2005) have combined financial performance evaluations (gross margin, profitability and cash flow relative to competitors) and growth (sales and employee growth within a one-year period between surveys). Davidsson and Wilkund (2000) went a step further stating that relative measures of sales growth favour smaller firms. In small firms, \$100,000 over and above a previous year's sales of \$100,000 is regarded as significantly greater than an increase of \$100,000 over the previous year's sales of \$1 million in large organisations. Conversely, absolute growth favours larger firms. Notwithstanding, this review indicates that most researchers adopt subjective measures of performance within the areas of marketing and entrepreneurship literature. The following is a review of marketing capabilities, which is suggested to be related positively to firm performance.

### **2.3.10 Marketing Capabilities**

Resource-Based View (RBV) literature describes capabilities as managerial skills and accumulated knowledge for deploying assets to create competitive advantage (CA) (Teece et al., 1997). Marketing capabilities are defined by Day (1994) as an integrative process designed to apply to collective firm knowledge, skills and resources concerning market related business needs, to enable firms to add value to its goods and services and meet competitive demands. Day (1994) classifies marketing capabilities into three types: outside-in (i.e., assists the comprehension of markets and clientele, and builds firm reputation and relationships with key customers which are cultivated over time); inside-out (i.e., contributes to effective market participation such as financial, human resource, and marketing management); and spanning capabilities (i.e., integrates inside-out and outside-in capabilities such as developing new products, and internal communication). Empirically, Hooley et al. (1999) regarded the outside-in and spanning capabilities as being more significant contributors to performance. Marketing capabilities can also be organized into a hierarchy: marketing culture, marketing strategy, and marketing operations (Hooley et al., 1999). Conant et al. (1990) however, did not distinguish between the three types. Marketing capabilities are also referred to as marketing competencies or marketing related actions such as market knowledge, ability to differentiate offerings, effectiveness of marketing communication, control, and evaluation which firms strive to excel in comparison to competitors.

Researchers (Day, 1990; Guenzi and Troilo, 2006; Möller and Anttila, 1987) identified the development of marketing capabilities as one of the major avenues for achieving CA. Marketing can be considered a key to new firm success (McCartan-Quinn and Carson, 2003) because insightful and professional analyses of target markets can reduce venture failure rates (Gruber, 2004). However, it is reported that marketing is also the most dominant issue encountered by small business owners (Carson et al., 1995; Simpson and Taylor, 2002) because of resource constraints (Collinson and Shaw, 2001), and higher uncertainty levels (Fillis, 2003). New businesses may garner low awareness with potential customers, due to market presence, sometimes, but not always challenged by geographic location (Anderson et al., 2001) and with limited opportunities available to build trust with potential customers and stakeholders (Gruber, 2004).

Small business owners often start their firms without quantitative marketing hypotheses (relying more on belief, motivation, attitude, and objectives, or even gut feeling (Carson and Gilmore, 2000; Siu & Kirby, 1998). Although owners might organize their activities, such planning tend to be informal, haphazard, and generally not documented (Hogarth-Scott et al., 1996). Consequently, rigorous marketing planning, decision making, and other behaviours can be affected (Gilmore et al., 2001). Entrepreneurs tend to adapt marketing tools to current needs, paying little attention to overall organisation, formalized strategy, or customer analysis (Carson and Gilmore, 2000). In short, owners are focused on ongoing competitive pressures rather than the well researched needs of customers in their marketing activities (Stokes, 2000).

In contrast, high performing medium-sized manufacturing firms in the UK seem to adopt proactive planning, and spend more time and effort on enhancing ability to compete in the future (Brooksbank et al., 2003). Higher performing firms are those who self- report (on profit, sales volume, market share, ROI) to be better than their competitors. Brooksbank et al. (2003) also revealed that high performers conduct a broader spectrum of marketing research, including questionnaire surveys and focus group sessions, emphasize longer- term perspectives, recognize that marketing is necessary to ensure future success, whereas lower performing medium enterprises view marketing as a key to increasing sales.

The marketing/entrepreneurship interface has employed the concept of networking as a means of marketing (O'Donnell, 2004; Miles and Darroch, 2008). Network marketing is accomplished through personal contact networks and is considered an inherent entrepreneurial activity (Gilmore et al., 2001). Close relationships between entrepreneurs and customers in both domestic and international markets (Coviello and McAuley, 1999) is seen as a marketing advantage (Zontanos and Anderson, 2004), making relationship marketing effective in smaller entrepreneurial firms (Day et al., 1998).

Small firms also seem to be more flexible and capable of adapting and implementing creative decisions (Fillis and McAuley, 2000) through the utilization of core competencies, compared to traditional marketing frameworks in large organisations (Hill, 2001). The type of marketing adopted by small firms is dependent on enterprise lifecycle stage development (Carson and Gilmore, 2000), and on four categories described by Miles and Snow (1978) which are either prospector, analyser, defender or reactor firms. For example, Conant et al. (1990) revealed that marketing competencies of prospector firms (which are externally

oriented, scan the environment to maximize new opportunities, apply innovation to meet market needs, emphasize flexibility and freedom from constraining company rules and regulations, welcome change and see their environment as 'uncertain') are superior to those of their competitors along a number of marketing competence dimensions compared with analyser, defender and reactor firms. Moreover, in Olson et al. 's (2005) study of large North American manufacturing and service firms, prospector marketing organisations possess the highest levels of innovation orientation and customer orientation and lowest levels of internal/cost orientation compared to other strategic groups. Similarly, O'Regan et al. (2006) found that growth-oriented firms who continually search for new opportunities display prospector characteristics.

Nonetheless, researchers (Stokes, 2000) rarely distinguish differences between small firms in terms of entrepreneurial marketing. Firms are regarded as homogeneous, without taking into account whether these enterprises are emerging or mature. Small firms, as might be the case of micro-firms employing less than five people are highly likely to practice marketing differently from those who engage up to 20 people, but both are considered small. It is also important to note that not all small firms are entrepreneurial in their marketing (Chaston, 1998b).

A well developed set of marketing capabilities is essential to undertake basic marketing activities such as information gathering on market demands, segmentation and selection of target markets (a market planning activity); development of new services to meet targeted segment needs (via product development activities); pricing services/products, and communication of service benefits offered to target markets (Day, 1994). These activities can be achieved through advertising/promotions or personal selling (Vorhies and Yarbrough, 1998).

Vorhies et al. (1999) identified six processes, which are similar to those of Conant et al. (1990), whereby a firm's value added products and services can reach its target customers. The six are based on the marketing principles: marketing research, product development, pricing, channels of distribution, promotion, and marketing management. Marketing research links consumers, customers and the public to businesses via an information network which identifies and defines marketing opportunities and problems, generates and evaluates marketing actions, monitors marketing performance, and improves the understanding of marketing processes (Darroch et al., 2004). A second area is product/service development.

Firms that design products/services which meet customer needs, internal company goals, and outperform competitors' products/services are assumed to have capabilities in product development (Vorhies and Harker, 2000).

A third area is concerned with pricing and is defined as processes needed to competitively price firm products/services and monitor market prices. A fourth capability is the management of channels of distribution involving establishing and effectively managing relationships with distributors. Promotion is another important capability for many firms and entails advertising, sales promotions, and personal selling activities used to communicate with markets and sell products/services. Finally, competent marketing management is yet another important capability. Marketing management capabilities focuses on management of customer acquisition and marketing programmes, and an ability to coordinate activities necessary to implement such programmes (Vorhies and Harker, 2000). Each marketing capability area is conceptualized as existing relative to competitors, and forms a basis of positional advantage.

Marketing processes are often firm specific (Day, 1994), thus unique marketing capabilities can develop when skills and knowledge are combined with other available resources. Firms can be expected to evolve similar, but not identical marketing capabilities (Vorhies and Harker, 2000). These researchers also examined the importance of learning processes in the development of marketing capabilities. The latter is attained via learning processes when employees repeatedly apply their knowledge to solving marketing problems (Day, 1994). Such developments create a set of processes enabling organisations to potentially achieve their strategic goals and realize their desired strategic position (Day, 1994). Firms with higher levels of product development and marketing implementation capabilities demonstrate higher levels of performance than those who are without these vital values (Slater and Narver, 1993).

In a study of small manufacturing enterprises in Greece, Tzokas et al. (2001) demonstrated that certain marketing competencies are strongly associated with performance than others. Examples are development of marketing plans, marketing communications, creating a climate of trust with customers and suppliers, an understanding of competitive environments, payment assistance to customers, and availability of working capital. Marketing capabilities are also associated with innovation intensity and sustained CA for firms (Weerawardena, 2003b).

All things considered, researchers (Fahy et al., 2000; Hooley et al., 1999) postulated that marketing capabilities are more important than operational ones in explaining superior performance. In addition, Vorhies and Morgan (2005) provided empirical support for eight distinct interdependent marketing capabilities (e.g., pricing, product development, distribution, marketing communications, selling, market information management, marketing planning, and marketing implementation) which are associated positively with business performance. These capabilities also influence the financial and operational performance of firms engaged with international markets (Kotabe et al., 2002; Coviello and McAuley, 1999). Finally, the literature on small/entrepreneurial firms (Chaston, 1998a) stressed that marketing has a major influence on small firm performance.

## 2.4. Introduction to Knowledge Management

The purpose of this chapter is to provide a sound basis for understanding the concept of knowledge and knowledge- management ( KM) and how a knowledge- management orientation( KMO) serves as a mediating role in translating a firm's market orientation (MO), learning orientation (LO) and entrepreneurial orientation (EO).into business performance ( Zang et al., 2007). Building on the previous sections discussion of MO, LO and EO, literature from the following disciplines are reviewed: management, decision making, cognitive psychology, organisational planning and development, leadership, innovation and performance.

This section begins by explaining what is meant by the term 'KM' and explains its evolution linking it with the present knowledge economy era. The concept of knowledge, which lies at the heart of KM, is established next. Various types and dimension of knowledge as available in the literature have been discussed. A section is devoted next, to understand the 'stickiness' of the knowledge that explains why it is difficult to transfer the knowledge from one entity to other. This creates a question about the effectiveness of the knowledge usually termed as 'tacit' knowledge that is being captured for use. Hence, the next section explains the often hidden tacit knowledge perspective.

Various researchers have studied KM from different perspectives and dimensions. These dimensions are the focus of discussion of the next section. Having established the basic concept of knowledge and KM, the following section describes successful and unsuccessful KM initiatives and discusses the causes of any failures. The same section also explains what it takes to deliver a successful KM initiative. Hence issues like culture, leadership, rewards and change management are discussed. The next two sections describe KM frameworks identified from the relevant body of research and what sorts of KM tools are currently available. The next few sections establish the role of KM in organisational learning and , an organisation's performance variable e.g. innovation. Two emerging directions in KM research are then discussed, followed by presentation of a framework (linking KM, to MO, LO, and EO) that forms the basis of this research. The chapter ends with a brief summary of various concepts discussed in the chapter.

### **2.4.1 Background**

The quest for obtaining knowledge and effectively utilising it is not new. This struggle is as old as the history of human thought ( Spiegler, 2000). Plato, Descartes and Kant have all made attempts to define and understand the nature of knowledge and to unearth the forces underpinning various phenomena in life. The methodologies used by these philosophers in their pursuit to obtain and construct knowledge still serve today as the fundamental guidelines for basic and applied research.

Research in KM has gained tremendous pace since its inception in the last decade as evidenced by the extensive existing literature and its further growth ( Ponzi and Koenig, 2002). This section describes the concepts of KM in depth and explains its different dimensions .

### **2.4.2 What is Knowledge Management?**

KM is multi-faceted and incorporates different inter-linked processes ( Egbu *et al.*, 2001b). The purpose is to create a thriving working and learning environment that fosters the continuous creation, aggregation, use and reuse of both personal and organisational knowledge in the pursuit of a new business value ( Kikawada and Holtshouse, 2001). Quintas *et al* (1997) express the same view about KM where they consider it as the process of continually managing knowledge of all kinds to meet existing and emerging needs, to identify and exploit existing and acquired knowledge assets to develop new opportunities. The integration of the key management issues and achievement clarity and cross functional awareness is a key to be successful in KM ( Webb, 1998.) Egbu *et al.* (2001b) present their understanding of KM as the identification, optimisation, and active management of intellectual assets to create value, increase productivity and gain and sustain competitive advantage. Egbu *et al.* (2001a) argue that KM mobilises intangible assets (intellectual capital IC) of an organisation that is often of

greater significance to the organisation than its tangible assets (IT). By developing a body of methods, tools, techniques and values through which organisation can acquire, develop, measure, distribute and provide a return on their investment (Snowden, 1999).

Bhatt (2000) explains that it is the interplay between the different types of knowledge that creates a rich and continuous cycle of knowledge development. Because of these complex dimensions, management of knowledge becomes so important. KM encompasses various processes. Ruggles (1997) considers these as generating, codifying and transferring knowledge. Egbu *et al.* (2001a) state that KM is about the processes by which knowledge is created, captured, stored, shared, transferred, implemented, exploited and measured to meet the needs of an organisation. Tiwana (2002) categorise these process as create new, package and assemble, apply, and reuse and revalidate knowledge. This is in accordance with processes mentioned by Siemieniuch and Sinclair (1999b) cited in Carrillo *et al.* (2004) who consider these processes as generate, propagate, transfer, locate and access, and maintain and modify. All these processes can be iterative and cyclic and having different requirements (Laudon and Laudon, 2000).

### **2.4.3 Evolution of KM and Emergence of the Knowledge Economy**

The quest for obtaining knowledge and effectively utilising it is not a new endeavour. The discovery, creation and construction of knowledge encapsulated in a form of various management theories in the twentieth century supported the industrial revolution, which evolved later into the information revolution. In turn, this has made it possible to attain business goals in a more profound and realistic way. But it was not until mid 1980's that individuals and organisations began to appreciate the increasingly important role of knowledge in the emerging competitive environment ( Wiig, 1997).

Tiwana (2002) asserts that KM grew from the 1950's in the form of various management philosophies that have developed and modified over time. Table 2-2b describes such management philosophies and managers tools. The purpose of all these tools is to strive for better performance. KM epitomises all these tools.

**Table 2-1b Manager's Tools Through the Decades (Modified from Tiwana, 2000)**

The 1950s	Management by objective (MBO), Programme Evaluation and Review Technique (PERT), Diversification, Quantitative Management, Electronic Data Processing
The 1960s	Theory Y, Conglomeration, T-groups, Centralisation and Decentralisation
The 1970s	Strategic Planning-Mintzberg and Porter, The Experience Curve, Portfolio management, Automation
The 1980s	Total Quality Management (TQM), Management by Walking Around, Corporate Culture, Theory Z, Downsizing,
The 1990s	Core Competencies; The Learning Organisation; Reengineering; Strategic Information systems, Intranets and Extranets
The 2000s	KM, IC, Enterprise Integration, Knowledge Sharing Culture

For this reason Collins (2000) notes that he was struck by an eerie sense of *déjà vu*' when analysing 'knowledge work'. The current KM philosophies find their roots in many initiatives started in late 1980's and early 1990's under the name of knowledge engineering, artificial intelligence, and expert systems. These initiatives did not achieve strong adoption by the business communities. This failure and non-use is attributed to the complexity and poor usability of such technologies, rendering them ineffective ( O' Brien, 1997).

Wiig (1997) provides the following perspective of evolution of KM by considering the historical economical developments over time as shown in Table 2-3.

**Table 2-3 Evolution of KM: Historical Economical Developments (Adapted From Wiig, 1997)**

Agrarian Economies	Creating products for consumption and exchange
Natural Resource Economies	Natural resource exploitation dominate while customer intimacy was pursued separately by expert tradesmen and guilds
Industrial Revolution	Operational Excellence through efficiency that means emphasise leadership in price and customer convenience by minimizing overhead costs, eliminating intermediate productions steps, reducing transaction and friction costs and optimizing business processes (Treacy and Wiersema, 1993)
Product Revolution	Product leadership through variability and sophistication. Which means emphasise creation of a stream of state-of-the-art products by services by being creative, commercialising ideas quickly and relentlessly pursuing new solutions often by obsolescing their own products (Treacy and Wiersema, 1993)
Information revolution	Continued focus on operational excellence and product leadership
Knowledge Revolution	New focus Customer intimacy which means emphasise tailoring and shaping products and services to fit and increasingly better definition of the customers' needs to personalize offerings to make the customer successful (Treacy and Wiersema, 1993)

The knowledge revolution in the last decade has set the foundation for knowledge economy and it is becoming far more complex and involved. Organisations and individuals are increasingly required to understand more and more about their customers and their customers' needs. Hence to gain a competitive advantage knowledge and understanding is becoming far more important than data and information. The role of knowledge economy is evident in providing value for customers, the way in which each individual plays his/her part and more about how individuals play their part so that continual improvement can be achieved through improving product process and relationships. It is important to know how to get customers to articulate and contribute to innovation through their knowledge and exploration or speculation of what they might want or need. This focus on customer feedback and interaction has developed into a sophisticated interest in customer relationship management that is based on customer knowledge ( Berry, 1983; Gronröos, 1994; Kavali *et al.*, 1999; Coviello & Brodie, 1998).

Hamel and Prahalad (1994) argue that existing approaches to business strategy were failing to deliver true innovation. They argue that the key to creating business sustainability lies in organisations competing for the future by delivering true value to customers and the broader community. They maintain that this can be achieved through a constant cycle of organisations reinventing and re-skilling themselves to be able to anticipate and align themselves with their customer's customer needs in order to deliver unique products and services. They reason that in doing so this would radically transform organisations and reconfigure existing industries and generate entirely new ones.

Intellectual Capital (IC), is considered as critical resource, people being the critical asset and development of new ways of unleashing ideas, intellect, and creative energy as the core response ( Boudreau and Ramstad, 1997).

Knowledge and information is not only used to drive business performance but is also used to enable transformation of opportunities into reality through innovation. The emergence of this knowledge revolution has led to the rise of the perceived value of the knowledge worker. It started in the last quarter of the 20<sup>th</sup>. century with phenomenal growth in the influence of information and communication technologies specialists but now the focus interest and influence has shifted to KM and more recently to developing ways in which human and social resources can be harnessed. The emerging elites are those that enable, energise and are activists in the use of knowledge of a wide and deep range of an empowered workforce to unleash innovation and creativity ( Edvinson, 1997; Sveiby, 1997; von Krogh *et al.*, 2000; Handy, 2001).

Stewart (2000, H15) explains how knowledge about money, finance and other tangible resources has become more valuable than the tangible object itself with an air travel industry example illustrating the growth of the perceived value of knowledge as a product.

‘The air travel industry has become two different industries: the flying industry, which is marginally profitable at best, and the information-about-flying industry, which makes money hand over fist. (2000, pg. 15)’

Although an example from a large company perspective, Boeing has repositioned its business enterprise from being suppliers of aerospace products through to service and maintenance providers and are now providers of strategic and operational information about aerospace

products and services ( Szymczak and Walker, 2003). This is really the 'The Race for the Future', where business is shaped and sculpted around knowledge about tangible goods to provide intangible services.

The notion of shaping the future requires organisations like Microsoft, to move from being an operating software supplier to e-business applications coordinator ( Szymczak and Walker, 2003). These organisations need to continually learn to learn and also how to learn to unlearn. Skills required are not only specific to the technology at hand but also enable organisations to know how to move from delivering one technology, product or service to a new one. These 'competencies and skills relate to acquiring existing knowledge, generating new knowledge, sharing and morphing new and existing knowledge and knowing how to discard or recast knowledge that has exceeded its use-by date.

#### **2.4.4 KM a Fad?**

Spiegler (2000) states "Reading recent KM articles, one cannot escape the impression of a recycled concept" but later concedes "knowledge is the essence of KM without which this new endeavour is a merely recycling of management topics. Without articulating the K word, the whole area may turn out to be yet another fad that will fade away with time". Spiegler was comparing KM with concepts like BPR (Business Process Re-engineering), EIS (Executive Information System), MIS (Management Information System), DSS (Decision Support Systems) etc. All these concepts were put forward to improve the performance of the organisation but their narrow focus on data and information make them different when compared with KM. Kanter (1999) states that broadening the definition of knowledge to include implicit knowledge carried in an individual's mind and not presented in company databases suggests something of a new direction.

Vanhoenacker *et al.* (1999), while criticising Business Process Change and the concept of Business Process reengineering, argue that failure to develop and exploit and capitalize on the organisation knowledge for inducing business change is a key reason behind the unsuccessful applications of business process change methodologies. It is for this reason that after a decade of experience with the business processes phenomenon, there are still fundamental problems restricting its successful applications ( Vanhoenacker *et al.*, 1999).

This suggests KM is far from being a management fad like TQM, BPR, downsizing, etc ( Hilmer and Donaldson, 1996; Wiig, 1997; Kidd, 2001; Malhotra, 2004). It is fundamentally different in both objective and scope. It is broad, multidimensional and covers most aspects of the enterprise activities ( Wiig, 1997). It is paradigm in its own right and occupies a separate domain of investigation.

## **2.5 Understanding Knowledge**

### **2.5.1..What is Knowledge**

The concept of Knowledge can be described by a simple word "understanding". This understanding gives birth to reality that humans construct in their minds as a result of experiences and interpretation. Davenport and Prusak (2000,p5) comprehensively states the concept of knowledge as follows:

‘a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates in and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices, and norms.’

Penrose (1959) implies, the knowledge of an employee is based upon his or her skills and experiences and ability to absorb new knowledge. Therefore, “while knowledge is a resource in its own right, the way in which knowledge is managed and used will affect the quality of services that can be leveraged from each resource owned by the firm. Thus knowledge management is placed in an important supporting role within the firm” (Darroch, 2005p.105).

Stewart (2000) mentions knowledge, while differentiating it from data and information, as 'a conclusion that is drawn from data and information'. Data is just a raw product. It is set of discreet objective facts about events and a collection of any number of required observations on one or more variables ( Levin, 1987; Davenport and Prusak, 2000). When data is processed to provide certain useful context it becomes information and can be used in decision making. Further processing of information provides an understanding and grasp of reality that is then termed as knowledge. Knowledge is the power to act and to make value-producing decisions that adds value to the enterprise ( Polanyi, 1962; Kanter, 1999; Vail, 1999) and is held to be true in a given context to drive people to action ( Bourdreau and Couillard, 1999).

## 2.5.2 Types of Knowledge

Knowledge is a slippery and fragile thing that is hard to define or categorize ( Spiegel, 2000). Egbu *et al.* (2001b) consider knowledge as a 'messy' concept that cannot be characterised by a linear pattern of categorisation. The literature in cognitive psychology and management broadly classify knowledge into two types. These are explicit knowledge and tacit knowledge ( Nonaka and Takeuchi, 1991; Nonaka and Takeuchi, 1995). Best (1989) describes the classification of knowledge as declarative knowledge 'knowledge that' and procedural knowledge 'knowledge how'.

Declarative knowledge or Explicit knowledge is formal and systematic ( Carrillo *et al.*, 2004). It is a type of knowledge that can easily be explained in explicit terms. It is flexible and can often be reorganised to suite our purposes ( Best, 1989). In theory it can easily be recorded for later use in textual, pictorial or other recorded forms. In organisations it exists in a form of code of practice and product specifications. This is the knowledge that is taught in class rooms and available through books. It is easy to communicate and hence share. For this reason it can be easily encoded in programmes to run machines.

On the other hand, tacit knowledge is often embedded in procedural knowledge is 'knowledge how'. The organisation of procedural knowledge is often unknown to us, nor is procedural knowledge usually very describable ( Best, 1989). Tacit, according to the dictionary, means silent, not openly expressed but implied, understood or inferred—from the Latin *taceo* I am silent ( Macquarie, 1987, H1727). This type of knowledge is highly personal, individualistic and concomitant with various surrounding contexts within which it is shaped and enacted. It is the type of knowledge that refers to underlying skilful actions ( Quinn *et al.*, 1996) and follows the saying "it is easier to show than tell". A bicycle rider would find it easier to show his skills by riding a bike rather than telling how he actually rides a bike. Polanyi (1997) explains this concept by giving an example of face recognition. He mentioned that we can recognise a particular person's face, even someone from the past or someone whom we have never met, from the thousands and indeed millions of faces presented to us yet we cannot explain how we know that particular face ( Polanyi, 1997, H136).

Reuber (1997) and Carrillo *et al.* (2004) consider procedural knowledge or tacit knowledge as expertise developed from experience. The hard to formalize nature of tacit knowledge renders it difficult to communicate and share. Fernie *et al.* (2003) argue that tacit knowledge is a problematic esoteric concept that doesn't lend itself easily to codification. Hence a belief that knowledge can be easily captured and shared through machines is not a realistic belief.

Collins (1995) sees three types of tacit knowledge that present challenges to epistemological concerns of management. Embodied knowledge describes a type of knowledge that is a function of the physical environment. It cannot be easily transferred from one brain to another, as it is specific to the unique 'hardware' that accompanies an individual's brain, it is an integral part of the unique make-up of the human body. For example, a boxer's knowledge of fighting may be transferred to a professor but the latter may not be physically able to use that knowledge in practice ( Egbu *et al.*, 2001b). Embrained knowledge describes a type of

knowledge that is specified by the exclusive physicality of an individual brain and encultured knowledge describes a type of knowledge that is embedded within a social context and cannot exist apart from it.

### **2.5.3. Other Knowledge Classifications**

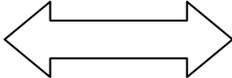
Drew (1999) suggested four types of knowledge: 1). What we know, we know 2). What we know, we don't know 3). What we don't know, we know and 4). What we don't know, we don't know.

Zack (1999, H42) provides the following typology: declarative knowledge (knowledge about or *know what*), procedural knowledge (*know how*), causal knowledge (*know why*), conditional knowledge (*know when*), and relational knowledge (*know with*).

### 2.5.3 Dimensions of Knowledge

Davenport and Prusak (2000, p70) contributed to the understanding of knowledge by proposing seven dimensions (Table 2-4).

**Table 2-4 Dimensions of Knowledge (Davenport and Prusak , 2000)**

<p><b>Scores 1</b></p> <p>1 Tacit</p> <p>2 Not teachable</p> <p>3 Not articulated</p> <p>4 Not observable in use</p> <p>5 Rich in subtext/context</p> <p>6 Complex</p> <p>7 Undocumented</p>		<p><b>Scores 5</b></p> <p>Explicit</p> <p>Teachable</p> <p>Articulated</p> <p>Observable in use</p> <p>Schematic</p> <p>Simple</p> <p>Documented</p>
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This typology provides a basis for gaining valuable insights into how to effectively transfer knowledge. Table 2-4 becomes a guideline to craft a strategy that can address several dimension of knowledge while carrying out KM.

It is clear from Table 2-4 that *tacit* knowledge is difficult to explain through the spoken word or in text form—that is to be made *explicit*. In order for knowledge to be easily transferable and available throughout an organisation, it must be able to be explained explicitly. Some knowledge is *unteachable* in that the only way to learn it is through experience. Faith-based knowledge is an example. Many balance-type sports like bike riding, surfing etc come in this category. Their techniques and theory can be taught (Knowledge What) but it is only by experimenting and experiencing these sensations that let the body's peculiar sensing systems take over from programmed 'rule-based' knowledge to develop the subtle knowledge of the 'how' to balance and why to do so in each of these sports. Some knowledge cannot be easily *articulated* because other physical senses are more useful for this purpose. Culinary skills for example involve using knowledge extracted from the physical senses relating to judgement of taste and consistency of substances like pastry. This knowledge may be explicitly transferable, however, with difficulty by using ingenious and highly resource-consuming means such as the use of multi-media and experiential learning.

Nonaka and Takeuchi (1995) discuss the Japanese invention of a bread-making machine as an example. This innovation required a production design engineer to undergo sustained period of apprenticeship and interaction with an expert pastry chef in order to enable the chef to articulate and make explicit concepts such as dough consistence and kneading techniques. Once this was successfully accomplished the production engineers designed the bread-

making machine by using the chef's transferred knowledge and developed the machine through further experimentation using trial and error.

Some knowledge is not observable—hidden inside the mind. An example is the creative thought processes of artists, musicians and elite sportspeople. Knowledge may be schematic, easily reducible to rules and patterns, or be so rich in context (known only from using multiple senses) that definition clouds all clarity that might be sought to explain this kind of knowledge. Schematic knowledge lends itself to being framed in tables, rules and other forms of clear representation. Complexity versus simplicity also defines ends of a knowledge spectrum. Knowledge about predictions like weather predictions or any other types of prediction represent this dimension. Finally, some knowledge is documented and other is not. Knowledge of ancient languages is dependent of documented sources—whether inscribed upon rock, on papyrus or paper

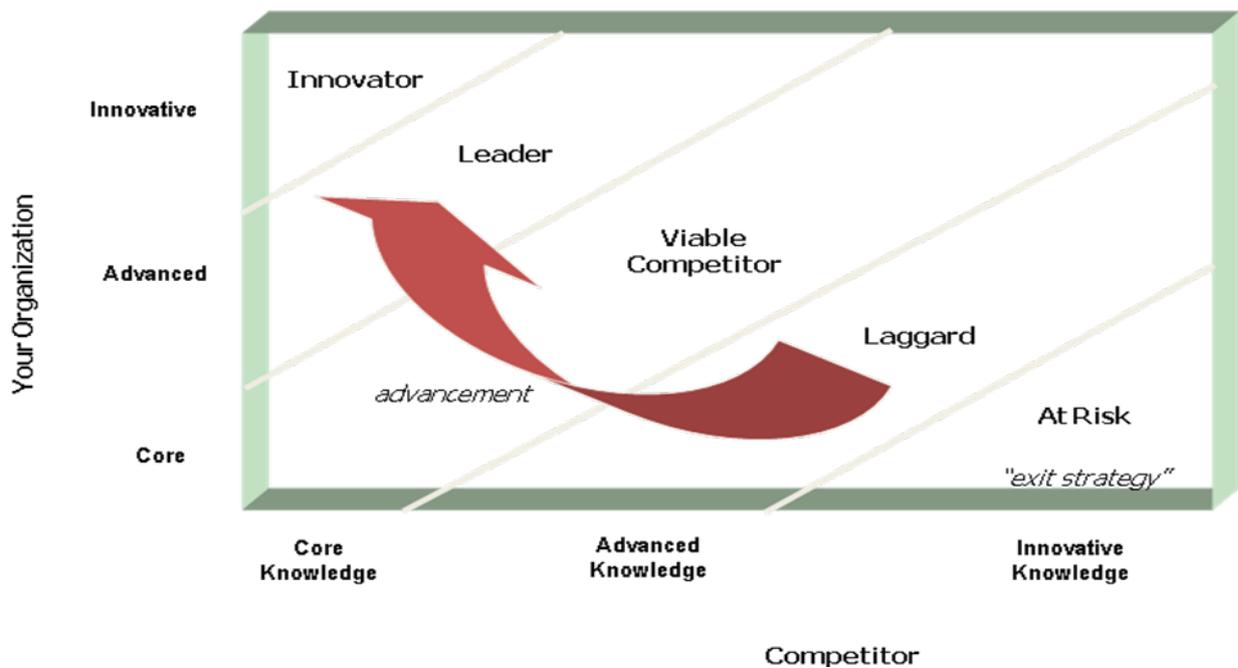
Knowledge has also been viewed as somewhat like an iceberg. ( Scharmer, 2001, p70). Above the water line is found explicit knowledge. Below the water line can be identified as embodied tacit knowledge (knowledge in use) and what is called self-transcending knowledge (not yet embodied knowledge) This notion led Scharmer categorise four types of action in using knowledge; delivering results that create value (performing); improving the process of performing (strategising); reframing the assumption of performing (mental modelling); and re-conceiving the identity of performing (sculpting). A categorization of knowledge into twelve elements (three types of knowledge and four actions of knowledge) was developed and is illustrated in Table 2-5.

**Table 2.5 Twelve Types of Knowledge (adapted from Scharmer, 2001, p70)**

<b>Knowledge type (E)</b>	<b>E1: Explicit</b>	<b>E2: Tacit</b>	<b>E3: Self-transcending</b>
<b>Action type (A)</b>			
A1: Performing	Know-what	Knowledge in use	Reflection in action
A2: Strategising	Know-how	Theory in use	Imagination in action
A3: Mental modelling	Know-why	Metaphysics in use	Inspiration in action
A4: Sculpting	Know-who	Ethics/aesthetics in use	Intuition in action

## 2.5.4 Strategic Implications of the Knowledge

Zack (1999, p.139) proposed a process for analyzing the development of a knowledge strategy, as depicted in Figure 2.3.



**Figure 2.3 Development of a Knowledge Strategy (Zack, 1999, p. 139)**

The author stresses that organisations need to have '*core knowledge*'; the minimal knowledge they require to stay in the business. *Advanced knowledge* enables a firm to be viable relative to its competitors, while it may have generally similar scope and quality of knowledge to its competitors but it may be able to have specific differentiated knowledge that places it in a niche market situation. *Innovative knowledge* allows it to lead its industry segment(s) and significantly differentiate itself from competitors.

Zack argues that knowledge is dynamic- advanced knowledge today would just become core knowledge tomorrow. In Figure 2.3 he provides a useful map to illustrate the competitive positions of organisations in terms of being 'at risk', a 'laggard', a 'viable competitor', a 'leader' and an 'innovator'.

This model depicts the value of having advanced and innovative knowledge in order to have the potential of stay ahead among competitors. Dixon (2000, pg.149) shares the same notion advocating for a "*shift from thinking about knowledge as a stable commodity to thinking of knowledge as dynamic and ever changing*". This knowledge is seen not as a commodity locked in a warehouse, but as a flow like water across the organisation.

### **2.5.5 Knowledge Stickiness**

Stickiness can be characterised as a property of knowledge by which it makes its transfer from one mode to other or from one individual to other difficult. In simple words, it is to refer to barrier to knowledge transfer. Burton-Jones (1999) describes some kinds of tacit knowledge as 'sticky', that is, difficult to codify or explain-it tends to stick to the person with that knowledge and is only transferred with a fair bit of consideration and effort. Stickiness of knowledge poses considerable problems for organisations wishing to maximise the conversion of tacit knowledge in people's heads into explicit knowledge that has been codified.

Kulkki and Kosonen (2001) proposed a model for conversion of knowledge from tacit to Explicit recognizing that the conversion process is not an easy and simple one. Szulanski (2003) discusses stickiness of knowledge in great depth by conducting a series of studies into the transfer (often failure to fully transfer) of best practice within organisations and concluded that the three major sources of knowledge stickiness (barriers to transfer of knowledge) were absorptive capacity, causal ambiguity and the quality of the relationship between source and recipient of knowledge.

Absorptive capacity essentially is a capacity to absorb knowledge. Cohen and Levinthal (1990) argue that this is largely a function of prior related knowledge—people learn best by association, linking related accumulated knowledge and experience. For example, for this reason that if you get used to 'toolbar' on any one application in Microsoft Suite of Office products, you will find a similar 'feel' for other applications. Companies that encourage R&D or who encourage their employees to undertake training and development courses find it less difficult to be prepared for knowledge transfer. Thus an absorptive capacity is a crucial factor in knowledge being transferred either from tacit to tacit or tacit to explicit—the recipient is bounded by his/her absorptive capacity to understand the shared knowledge

content and context. Causal ambiguity is the inability to be able to make a cause and effect link. If a link cannot be made, then mistakes are repeated. This will become an inability to replicate best practice and the management of valuable knowledge becomes extremely difficult. The third major influence on knowledge stickiness is the relationship between the source and recipient of knowledge. If the source disseminated the knowledge in a user friendly way, the recipient will get it easily. For example in the case of search engines as a source, and we as recipient, we get either few 'matches' or we get an overwhelming number of them that hinders our capacity to deal with the information provided. When the source is people and the recipient is also people (people to people), the issue of culture and communication plays a major and often critical role. An organisational culture can encourage or inhibit knowledge sharing.

## 2.5.6 Knowledge Transfer for Overcoming Knowledge Stickiness

Dixon (2000, H169) identified 5 types of knowledge transfer (Table 2-6). As can be seen below, 'Far, strategic and expert knowledge transfer' involves high profile impact upon organisations. Serial and near knowledge transfer provides high level overall rewards and benefits, along with far transfer due to the value gained from frequently reaping rewards.

**Table 2-6 Five Knowledge Transfer Strategies (Dixon, 2000, p. 169)**

Serial Transfer	<p>the knowledge a team has learned from doing its task that can be transferred to the next time that particular team does the task in different setting (context). Such tasks are frequent and non-routine using both tacit and explicit knowledge.</p> <p>Examples include the US Army's After Action Reviews (AAR) and BP's "Learning during" reports and Bechtel - Steam Generator group reports;</p>
Near Transfer	<p>the explicit knowledge a team has gained from doing a frequent and repeated task that the organisation would like to replicate in other teams that are doing very similar work. Such tasks are frequent and routine using explicit knowledge.</p> <p>Examples include Ford's use of best practice replication; Texas Instruments' Alert Notification, and Ernst &amp; Young's Knowledge Web;</p>
Far Transfer	<p>the tacit knowledge a team has gained from doing a non-routine task that the organisation would like to make available to other teams that are doing similar work in another part of the organisation. Such tasks are frequent and non-routine using tacit knowledge. Examples include BP's Peer Assist, Chevron's Project Development &amp; Execution Process CPDEP, and Lockheed Martin's LM21 Best Practice;</p>
Strategic Transfer	<p>the collective knowledge a team needs to accomplish a strategic task that occurs infrequently but is of critical importance to the whole organisation. Such tasks are infrequent and non-routine using both tacit and explicit knowledge. Examples include BP's Knowledge Assets, the US Army's Centre for Army Lessons Learned CALL and also their use of Learning Histories;</p>
Expert Transfer	<p>the technical knowledge a team needs that is beyond the scope of its own knowledge but can be found in the special expertise of others in the organisation. Such tasks are infrequent and routine using explicit knowledge. Examples include Beckman Labs' Techforums, Tandem's Second Class Mail, and Chevron's Best Practice Resource Map</p>

Dixon (2000, pg 147) explains the above transfers by developing a decision tree based on four questions:

1. Will the same team be using the lessons learned?
2. Is the knowledge tacit?
3. Does the knowledge impact upon the whole organisation?
4. Is the task both routine and frequent?

Holden (2002) , a linguistics. researcher, carried out research on cross-cultural knowledge transfer process which he views as knowledge translation He studied four transnational companies (TNC's) case studies, Novo Nordisk and Lego both of Scandinavian origin, Matsushita (Japanese origin) and , Sulzer Infra (Swiss based). Each of these case studies was concerned with cultural adjustment across these TNCs' international operations to 'roll out' the corporate systems, processes and organisational culture (Holden, 2002). The interesting aspect of these studies were that Holden looked at these case studies as examples of knowledge transfer. Considering, Dixon's framework, Holden's case studies could be classified as being 'strategic transfer' and also, to a lesser extent, expert knowledge transfer. He argues that as tacit knowledge (in particular) is exchanged and socialised it is translated into different contexts and worldviews and thus both parties gain benefit from gaining a glimpse into the other's way of internalising this knowledge. This truly takes knowledge transfer to a state of knowledge creation.

Knowledge is sticky and both expensive (in terms of transaction costs) and difficult to transfer because knowledge is more than just facts and information. Knowledge is about context, the history and hidden myriad inferences and cause and effect loops that explain why something did or did not happen in a particular way. Documented manuals and procedures fail to cover all eventualities and are time consuming to access and absorb. The next section sheds light on another side of tacit knowledge, often hidden.

### **2.5.7 The Hidden Side of Tacit Knowledge**

The main focus of current KM research is to capture the knowledge that tacitly resides in the employees' heads and to turn it into the explicit form for others to use. Researchers agree that knowledge is a very 'messy' and esoteric concept. Therefore, capturing it is a task fraught

with difficulties. But if captured and put into explicit form, tacit knowledge is a driving force behind any sort of innovation, be it new technology, new process or a new technique. Tacit knowledge, by its very nature, actually 'emerges' from the people's heads. The various mental processes that shape and construct certain types of knowledge are very difficult to comprehend. This sort of knowledge is a key behind exercising judgment in human decision-making and employing intuition or 'gut-feeling'. It is seen in experienced managers; because of their tacit knowledge and expertise based on this sort of knowledge, they are able to make better-informed and effective intuitive decisions. However, there is also a probability of these managers making a wrong judgment ending up in wrong decisions. This section, using cognitive psychology literature, examines (when trying to capture tacit knowledge) what can be done to make sure that tacit knowledge stays effective when captured and used in decision-making

### ***2.5.7.1 Human Information Processing: Factors Affecting Knowledge Construction***

It is important to know how human information processing occurs as sensing information and utilizing it is a key to further knowledge construction in a human mind.

### ***2.5.7.2 Perception and Recognition***

Human information processing that facilitates knowledge construction is firstly based on the perception of the event, with memory giving this perception recognition ( Kolasa, 1982).

Perception occurs through stimuli generated by various sensory inputs ( e.g. vision, audition, smell and taste).

This system recognizes the information, assembles it, and makes comparisons with previously stored material (knowledge). Knowledge is used, reused and iteratively reconstructed.

Perception is a selective process and certain amounts of information from the outside are selected because not all of the information coming in can be assimilated. Perception is affected by factors such as attitudes, values, motives, stress and a person's background.

### ***2.5.7.3 Cognitive Styles***

Gigch van (1991) defines cognitive style as "an individual's way of performing perceptual and intellectual activities". It depends upon genetic makeup and environmental factors such as education and experience. Managers or thinkers can be classified as systematic, intuitive, receptive and perceptive. The diversity in their education and experience causes differences in their perception and judgment thus rendering their cognitive styles different. Their cognitive structure guides their decision making style whether heuristic or deterministic or a mixture of the two. Cognitive style may also be referred to as high analytical or low analytical.

### ***2.5.7.4 Heuristics and Biases in Judgment***

'Heuristic' is a term used by psychologists to denote general problem solving procedures that often work in solving everyday problems. It is a rule-of-thumb, a guideline for coming up with a solution ( Best, 1989). Skitmore et al. (1989) argue that cognitive heuristics or principles are systematic rules that operate instead of a detailed analysis of the available information thus conserving mental effort.

Busenitz and Barney (1997) argue that entrepreneurs often use heuristics, especially in deal-making. Although employment of heuristics enables the mind to analyse very complex situations, it sometimes leads to severe and systematic errors or biases. Biases have high potential for coming into play when a decision task has a high degree of complexity, high degree of procedural uncertainty and when it is performed under circumstances involving a high degree of stress and time pressure. The susceptibility of human judgment to errors and biases can be attributed to the limitations of human cognitive capacity - the capacity to store, retrieve and process information.

Tversky and Kahnemann (1974) have described three common heuristics: Representative, availability, adjustment and anchoring. The representative heuristic states that the probability that event A is related to event B is evaluated by the degree to which A resembles B. The representative heuristic involves search and compare strategies ( Chi and Fan, 1997). The answer to the more familiar problem is adopted as the most likely solution to the present one. Availability of heuristics determines the instances of large classes of problem solutions being

usually recalled better and faster than instances of less frequent classes. Events that are easily computed are perceived as more common and are consequently more available than events whose likelihood is hard to compute ( Best, 1989). Adjustment and anchoring refers to the development of beliefs by starting from a particular reference and adjusting it according to the available information. This adjustment process is often faulty. Baron (1998) finds that the influence of this heuristic appears to be quite strong and occurs unintentionally and unconsciously.

### ***2.5.7.5 Functional Fixedness and Mental Set***

Baron (1998) describes 'functional fixedness' as a tendency to use a device or things in a way they have been used in the past and not thinking of creative uses. A mental set is the impact of past experience on present problem solving, specifically the tendency to retain methods that were successful in the past even if better alternatives now exist. It is common in business deal with repetitively occurring problems in a routine way, even if better ways are available.

### ***2.5.7.6 Mental Models***

Best (1989) describes mental models as internal representations of problems that are formed over a period of time by various experiences of a similar nature. Organisms do more than react to their environment, they learn about it. Learning consists of building representations of the environment that are consulted prior to behaviour. These representations are known as cognitive maps ( Tolman, 1948) cited in ( Vandenbosch and Higgins, 1996)). Barlett (1932), cited in ( Vandenbosch and Higgins, 1996) proposes that memory is guided by a mental structure called a schema, an active organisation of past reactions, and past experiences. The active nature of a schema is that it is emergent in nature and constantly changing and developing in response to experiences. These mental models determine how environmental stimuli will be interpreted and incorporated or synthesized. Mental models also make knowledge and information processing more efficient by making it unnecessary to construct understanding from the start each time similar stimuli are encountered. They facilitate learning by allowing humans to fill gaps in both information and memory.

### ***2.5.7.7 Variations in Learning Style and Knowledge Acquisition***

Every human has a unique learning style. Learning depends on the ability of the individual for the acquisition of information and for using it properly and in a timely way for effective decision-making. The key to better decision-making lies in obtaining relevant, accurate and timely information and using the cognitive capacity of the individual, then translating information into knowledge and decision-making ( Wilson, 1995). Learning emerges from the interaction of the stimulus and the mind of the learner and results in the change of the learner's mental model (Vandenbosch and Higgins, 1996). Ford and Ford (1983) observe that individuals differ in ways in which they can and do structure information in learning and problem solving contexts. Norman (1982) cited in (Vandenbosch and Higgins, 1996) identifies three modes of learning: 'Accretion' is the addition of new knowledge to existing schemata. This is the most common mode of learning. 'Structuring' is the formation of new schemata. The existing models are not sufficient to handle the problem faced so new models have to be developed. 'Tuning' is the fine adjustment of knowledge to a task. Adjustment is needed because the existing schemata are too general or because they are mismatched to the particular use that is required of them.

### ***2.5.7.8 The Importance of Context***

Fernie et al.(2003) discuss the importance of context when comparing organisations with a view of utilizing knowledge gained in one sector and applying to other sectors. They emphasized that while doing so - industry context, which involves political, economic, social, technological, legal, environmental and structural factors inherent in each sector - must not be overlooked. Knowledge needs to be extracted from one context and be converted and adapted to another context. Thompson et al. (2001) consider this process as re-contextualization. Sometimes re-contextualization alters knowledge to such an extent that it represents new knowledge ( Fernie et al., 2003).

Capturing tacit knowledge without capturing the context in which it was constructed may seriously jeopardize its effectiveness. Entrepreneurs and managers need to be fully aware of this aspect of knowledge elicitation. When the captured knowledge is to be further shared and used, related context must also be communicated. It becomes necessary to re-contextualize it to reflect the changes in the context to use it efficiently.

### ***2.5.7.9 Importance of Timing***

The human mind has a lot of limitations and one of the severe limitations is that the knowledge starts to lapse from memory or become faded and confused over time. Where activities are heavily repetitive, this limitation may not be a problem. However, for unique and innovative tasks, delay in timing to capture a constructed knowledge may pose problems in the validity and effectiveness of the knowledge captured. Aligned with the concept of KM is a concept of project histories or project databases that may be maintained as a part of KM initiative in an organisation and contains knowledge generated in various projects to be used on future projects. Schindler and Eppler (2003) have identified various ways to harvest project knowledge. with continuous learning viewed as the most effective.

### ***2.5.7.10 Dimensions of KM***

The above discussion on knowledge and KM paves the way for developing more understanding in the area of KM. KM research has seen a variety of conceptual models and dimensions advanced. McAdam and McCreedy (1999) would prefer to call these as models of KM. Because these models express different dimensions of KM and represent a certain school of thought in the debate of KM, it is logical to classify these as 'dimensions' instead of presenting them as mere 'models'. A review of KM literature presents three dimensions of KM. McCreedy (1999) identified three models of KM: category, IC and socially constructed. A dimension based taxonomy will consider these as Categorical Dimension, IC Dimension of KM and Socially Constructed Dimension of KM

### ***2.5.7.11 Categorical Dimension of KM***

The Nonaka and Takeuchi (1995) SECI dimension illustrated in Figure 2.4 serves as a useful starting point in understanding this dimension of KM and how knowledge creation occurs as a flow from tacit to explicit knowledge and a combination of knowledge push and pull. Nonaka and Takeuchi (1995, p71) explain the process as beginning with a Socialisation phase, sharing and exchange of tacit to tacit knowledge. Tacit knowledge is more difficult than explicit knowledge to create, capture, codify, communicate and transfer because it is highly intellectually energy intensive.

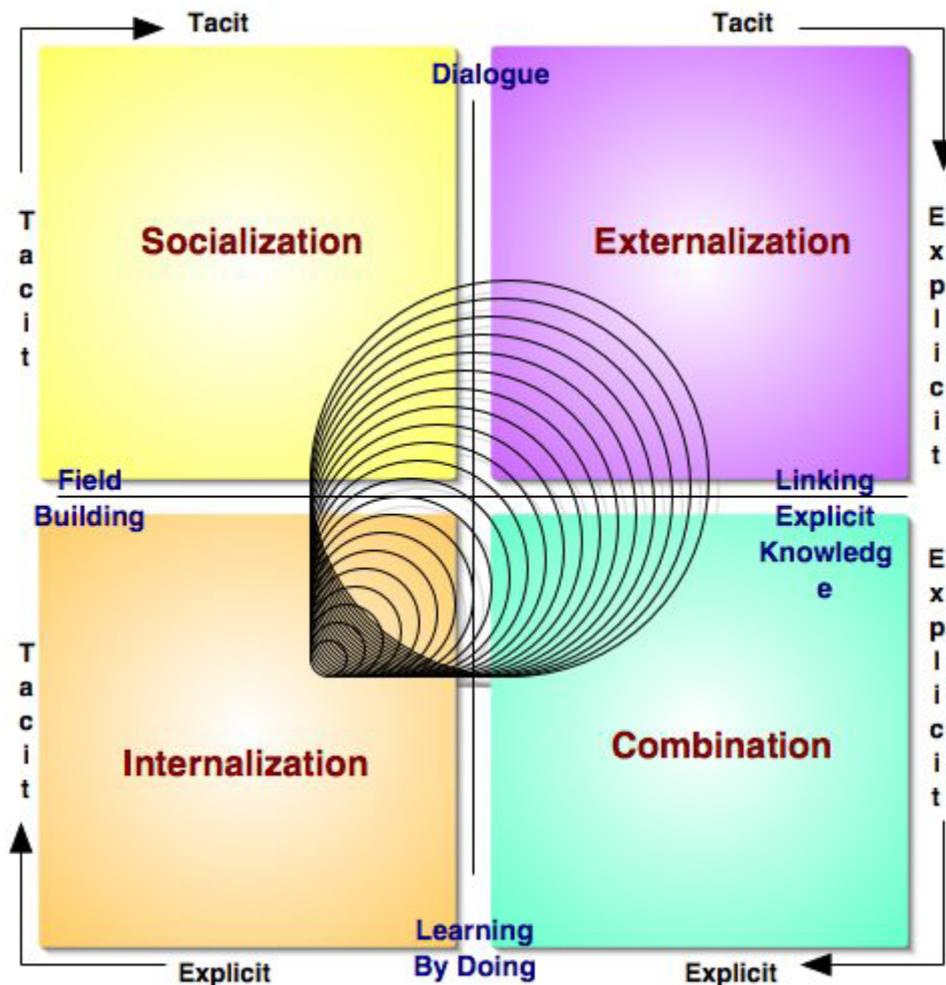


Figure 2.4: The SECI Knowledge Creating Process Model (Nonaka and Takeuchi, 1995)

Explicit knowledge is openly available in books and recordings on all kinds of communications media. However, explicit knowledge often does not have an accompanying explanation of the context of that knowledge. While explicit knowledge may be conveniently available, it is of less value than sound tacit knowledge because tacit knowledge embeds context. When people socialise their tacit knowledge they swap stories about contexts and experiences and thus expand their repertoire of how to use that knowledge. The output from this process is externalisation, involves turning value-added tacit knowledge into an explicit form often through metaphors for example ‘it is like this’ when designing something or planning an action using existing knowledge in a novel way. This includes documentation, explanation or recording the cumulative experience of the situation under consideration. This allows knowledge combination to occur where the new knowledge is combined with existing

knowledge stocks to make the result explicit. This leads to people internalising the knowledge whereby they experiment and then reshape in their mind how this knowledge is of use and how it can be usefully deployed. Essentially, the SECI dimension incorporates learning as well as a knowledge creation and the cycle continues in a spiral rather than a circular mode. This SECI model will be expanded upon in Chapter 3, Section 3.4.3.

#### ***2.5.7.12 Conclusion***

With the exception of the use of external advice, as a component of a firm's learning orientation, the preceding sections presented the literature on business orientation (comprised of market orientation, learning orientation and entrepreneurial orientation), the knowledge management process as a construct to marketing capabilities and its impact on firm performance. The following section presents the literature on the use of external advice by SME's, completing the analysis of the theoretical framework for this thesis.

## **2.6 The Role of External Advice in the KM Process**

### **2.6.1 Introduction**

The aim of this section is to present the issues surrounding SMEs' use of external advice with specific focus on the relationship between advice and knowledge management.

After the Introduction, Section 2.7.2 explores the reasons why SME's search for decision-making information via external advice. Section 2.7.3 proceeds to explore business advice firstly from the perspective of the external accounting advisory sector. This approach is taken as external accountants are consistently found to be the primary source of business advice by all type and size of firms (Bennett and Robson, 1999). Additionally the prominence and experience of the accountant helps to shed light on the experience of other professional advisors. Section 2.7.4 discusses theoretical predictions on the demand for advice in the SME environment. This is followed by in turn by Sections 2.7.5 and 2.7.6 which respectively review the market for business advice and its impact on firm performance. This discussion on external advice concludes with a review on the linkage between the use of advice in the knowledge management process of SMEs.

The literature views external advisors as virtually any individual or organisation involved directly or indirectly in offering assistance to a firm or individual employed by a firm (Saxton, 1995) and can include consultants (i.e. marketing and human resource), accountants, lawyers, and bankers (Robinson, 1982). Saxton (1995, p. 48) defines external advisors (or third parties) as "any individuals or organisations formally contracted by the principal (a company) as an agent to provide information or input for strategic decisions". For the purpose of this study, I have expanded the scope of external advisors to include the firm's customers and suppliers; industry associations; educators/trainers; government support officials plus the informal members of a SME's network (i.e. family, friends and other acquaintances).

Specific to consultants, Greiner and Metzger (1983, p. 8) identify six reasons for their use by clients:

- (1) They provide independence and unbiased judgment.
- (2) They present new ideas and a fresh approach.
- (3) They possess the ability to diagnose problems and evaluate solutions.
- (4) They perform tasks with technical skills infrequently needed.
- (5) They supplement present skills of staff and management.
- (6) They implement systems and train employees.

External advisors are said to serve three roles in assisting their clients in strategic decision making (Saxton, 1995, p.4-5):

1. “The expert. As an expert, the third party brings specific knowledge or skills related to an industry or function which are otherwise unavailable inside the domain of the principal.
2. The provocateur. As a provocateur, the third party is integrated into the early stages of the strategic decision-making process to help identify critical information needs, ask difficult and perhaps unanticipated questions, and challenge the status quo.
3. The legitimizer. Finally, as a legitimizer, a third party may be brought in to verify or elaborate further on information the principal already suspects or believes may be true, or legitimize a particular strategic decision.”

The use of external advice is seen as being important as it can affect the organisational culture, and knowledge management processes, that determine the sustainability and growth potential of the firm (Chrisman and McMullan, 2004). In Canada, total revenue for the consulting services industry in 2007 amounted to \$11.4 billion; derived from both large and small client firms. Revenues were comprised of \$7.7 billion in management consulting

services and \$3.6 billion for the environmental and other scientific and technical consulting services industry, representing an overall growth in revenues of 9.9% from 2006 (Statistics Canada, 2009). With the exception of the traditionally robust regions of Ontario and Quebec, all other regions of the country showed substantive growth in industry revenues, including the Atlantic Region which posted a 25% increase.

Given the economic importance of SMEs, governments throughout the world are seeking ways to improve support for SME entrepreneurs (OECD, 1999). Not only are they providing business advisory services directly to SMEs, but in Atlantic Canada the federal government, through the Atlantic Canada Opportunities Agency (ACOA) has also supported the training of private-sector small business counsellors (Profit, 1996). A Small Business Counsellors Certificate Programme, developed and certification by the Acadia Centre for Social and Business Entrepreneurship (ACSBE) at Acadia University (Nova Scotia) is located in the geographic setting of this thesis, and has both a domestic and international take-up (ACSBE, 2010).

Similarly, in Britain there is a growth in the use of external advice. While only 86 per cent of British SMEs sought external advice in 1991, the usage had increased to 93 per cent by 1997 and 94 per cent in 2002 (Bennett and Robson, 1999,2003). Additionally, it is often suggested that SME owners and managers are unaware of all the advice services that exist, may question their relevance and their value, and therefore be reluctant to seek external advisors. In response, government have developed initiatives to stimulate the consultancy and advice market (Gibb and Dyson, 1984; Storey, 1994) resulting in an increased use of external advisors by SMEs.

Nevertheless, in spite of the considerable funds allocated by governments to assist the growing number of SME support initiatives the survival rates of Canadian SMEs have only slightly improved (Audet et al., 2007).

### **2.6.2 The Firm's Search for Decision – Making Information**

The following section begins the discussion of the SME's process of knowledge acquisition of external advice by focusing on the most frequently used advisor, the accountant.

The search for information by SMEs as a way to explain demand for accounting services, and by association other business advice, in the SME environment is found in Benson (1985). Benson argues that among owner- managed firms, external accountants can not only attest to the credibility of financial information used to monitor performance, but can also provide expertise (a form of information) in the design and installation of reporting and control systems. The implication is that the accountant can provide information in the form of advice and guidance on the management and operation of such systems. It is argued that that the lack of accounting expertise within the typical owner- managed SME means that the day-to-day activities and discipline imposed on staff and management by the accountant's services is essential for the production of reliable and consistent financial information for internal and external users.

### **2.6.3 Accounting Consultants: The Evolving Market for Professional Services**

External accountants have traditionally provided a range of compliance and monitoring services (e.g. taxation, compilation and audit). The common theme of these traditional services is the interpretation of financial data within existing rules and standardised formats (i.e. Generally Accepted Accounting Principles (GAAP)).

However the market for professional services has undergone a major change in recent years, and external accountants have accordingly expanded the range of services they offer in order to support the changing information needs of both external and internal stakeholders (Fogarty et al., 2006; Greenwood et al., 2002). In particular, they have developed expertise in providing broad-ranging business advice.

External accountants no longer regard themselves as "just accountants"; they also consider themselves business advisors servicing an expanded range of client needs (Greenwood et al., 2002). The changing nature of client information needs is illustrated by Behn et al. (1997), who reported that the most popular suggestion by financial controllers wishing to improve audit client satisfaction was for the external auditor "to be more proactively involved in business, providing services beyond GAAP compliance and making value-added suggestions" (H100). By broadening their range of competencies to include business advice,

external accountants have grown their revenue base by attracting new clients, as well as by selling additional services to existing clients.

The current public messaging in the marketing literature of three of Canada's professional accounting organisations illustrate the broader service focus and the positioning of the different accounting designations.. The business expertise of the external accountant is apparent in the current advertising promotions of the profession:

The Canadian Institute of Chartered Accountants (i.e. the CA is the oldest and most highly regarded of the professional designation) state "we are Canada's most valued, internationally recognized profession of leaders in senior management, advisory, financial, tax and assurance roles." (CICA, 2009). Alternatively, the Certified Management Accountants pronounce that they "represent leading strategic management accounting professionals who integrate accounting expertise with advanced management skills to achieve business success (CMA Canada; 2009) while, "CGAs see more than numbers, Certified General Accountants see what those numbers say about your business...a CGA finds efficiencies, creates opportunity and maximizes value (CGA, 2009)".

Berry et al. (2006) indicate that external accountants in the UK, particularly the Institute of Chartered Accountants in England and Wales (ICAEW), have also in recent years been heavily promoting members' services for business support in addition to traditional (monitoring) services. Both large and small practices typically promote a multi-disciplinary structure, offering both traditional services and a range of business advisory and other services. Small and medium-sized external accounting practices retain a strong focus on traditional services (Fogarty et al., 2006), but consistent with the large firms, the message presented by their websites identifies business advice as a core service.

### **2.6.3.1 The Nature of Business Advice**

The services of an external accountant, and other external advisors, who also offer business advice, can be described as "business advisory services", "management advisory services", or "management consulting services". Management consulting services is viewed as the rendering of professional services in the course of assisting or advising clients in any aspect

of business management whether the client is engaged in commerce, industry, government, semi-government or non-profit making enterprises.

In the SME environment, business advice may be used to gain specialist knowledge, fill a gap in internal staff or management expertise, for specific and one-off tasks, and to develop new internal procedures and processes (Bennett and Robson, 2005; Robson and Bennett, 2000). Firth (1997) defines a management consulting service as the hiring of an outside firm to make recommendations and/or plan and implement some course of action. Virtually all management consulting services could potentially be provided in-house by hiring relevant expertise as full-time employees (Firth, 1997). However, the hiring of full-time staff is not always a quick process and there are problems associated with removing staff if they are no longer needed. While larger organisations may have the resources to hire specialised full-time staff as the need arises, smaller organisations will be less able to do so due to resource constraints.

Business advice is primarily directed at assisting management in the operation of the firm in order to promote business sustainability and growth. Business advice might provide decision-making information relevant to either operational or financial performance; and, for example, in the case of marketing consultants, decision-making information on strategy, marketing, advertising and supply-chain issues.

#### **2.6.4 Theory Explaining the Market for Business Advice**

While management consultants have developed both a broad and specialized service offering there is no established theory explaining the source of demand for business services. This section explores potential theoretical explanations around the market for business advice and specifically business advice in the SME environment. Using the accounting profession as a reference point this section begins with a discussion of theory explaining why an external accountant might provide business advice to their clients. The discussion identifies the nature of the decision-making information an external accountant might provide to their SME clients, focusing on services designed to enhance SME performance.

Accountants have developed a range of services to address the changing information needs of both external and internal stakeholders (Fogarty et al., 2006; Greenwood et al., 2002). The

financial advice, which may include insights gleaned from the undertaking of an audit, might provide information to management that is both credible and useful in improving management decision making (Çhow et al., 1988), and/or useful in improving the systems of internal control (Abdel-khalik, 1993). Therefore, in providing business advice as a separate service, the external accountant is simply extending the range of decision-making information to enhance their SME client's performance.

#### ***2.6.4.1 Business Advice and the Strategic Management Literature***

Insight into the market for business advice, designed to assist SME management, is found in the strategic management literature. The fundamental question facing all firms is how to achieve and sustain competitive advantage. The strategic management literature focuses on the source of a firm's competitive advantage as the basis for its business success. By means of this understanding, it also identifies a potential role for the external accountant, and other business advisors, in helping the firm to achieve superior operating performance. Adapting an argument drawn from the strategic management literature, Gooderham et al. (2004) argue that business advice provided by a professional accountant to their small business clients can encapsulate a range of competencies providing an important source of competitive advantage.

By way of background, the major paradigms in strategic management include the competitive forces approach (Porter, 1980), the strategic conflict approach based on game theory (Shapiro, 1989), and models of strategy emphasising firm-level efficiency and organisation as a source of competitive advantage, such as the resource-based perspective (Teece et al., 1997; Wernerfelt 1984). While the competitive forces approach advocated by Porter is concerned with economic profits from product market positioning, models emphasising efficiency focus on rents accruing upstream from the market to the firm's specific resources (i.e., firms' idiosyncratic resources, such as their approach and competency in knowledge management). The latter approach focuses on economising as being of more fundamental importance than strategising, or to put it differently, "that economising is the best strategy" (Teece et al., 1997, p 528). The literature increasingly steers management towards creating distinctive competitive advantage and avoiding games with customers and employees. This literature is based on the notion that the way the business is organised by management will impact firm

performance (Teece et al., 1997; Garvin, 1988; Clark and Fujimoto, 1991; Henderson and Clark, 1990).

The external accountant can support the competitive advantage of a firm with their broader range of services. While there may be a role in providing advice on market positioning (consistent with the competitive forces approach described in Porter 1980) or in "gaming" with competitors (as in the strategic conflict approach described in Shapiro 1989), it is within systems and processes that the external accountant has longstanding expertise. Teece et al. (1997) argue that the competitive advantage of a firm lies in managerial and organisational processes (i.e., routines and systems, patterns of practice and learning; all foundations of the knowledge management process) shaped by asset position (i.e., specific endowments of technology, intellectual property, customer base) and the paths available to the firm (i.e., strategic alternatives realistically available to the firm). As was extensively presented in Chapter 2.4 of this thesis, the literature highlights that managerial and organisational processes are the foundation of knowledge management.

In particular, it is in "processes" that the external accountant has longstanding expertise. A firm might therefore engage their external accountant to directly assist performance (e.g., strategic advice on growing revenue), or an advisory service might indirectly impact performance by contributing to the improvement of management processes and systems (e.g., advice on regulatory compliance, risk, systems etc.); all components of the acquisition, dissemination and use of knowledge.

#### ***2.6.4.2 Transaction Cost Economics (TCE)***

Transaction Cost Economics (TCE) provides a framework for understanding the firm and thus similarly helps identify a potential role for the external advisor in aiding business performance. TCE has been used to analyse a wide variety of organisational activities and to explore the role of efficient governance in explaining the firm as an institution for organising economic activity (Williamson, 1979). Briefly, transaction costs are those costs associated with an economic exchange that vary independent of the competitive market price of the goods and services exchanged. A central argument of the transaction cost perspective is that the organisation of economic activities at the firm level is driven by the minimization, not only of production costs, but also of the associated transaction costs. TCE is concerned with

the choice of firm structure; implicit in this literature is the assumption that minimising transaction costs is central to business success. The external accountant might offer business advice to management on how to reduce internal transaction costs (i.e., control system design, management reporting), or might advise on (or be the source of) the contracting out (i.e., outsourcing) of services (financial statement compilation, payroll, compliance with regulatory requirements). In both instances, the external accountant might contribute to firm performance by aiding in cost control. Where the external accountant provides business advice to their client, the benefit is in the impact on firm performance.

#### ***2.6.4.3. Incumbency: Linking the Services Accountants and Business Advice***

It is in the nature of any professional service that clients may be uncertain as to its benefit, particularly when buying that service for the first time. Professional services are often intangible and normally comprise complex activities (Jones et al., 1998). Kirby et al. (1998) argue that the intangible nature of accountancy services in general makes them prone to ex-ante information problems which may inhibit their uptake. Business advice is particularly intangible, and will normally comprise complex activities. Buyers face the problem of ex-ante information asymmetries which make it difficult to accurately predict and/or assess the performance of an external advisor that is providing them with business advice (Bennet and Robson, 2005).

External accountants convey information about the nature and quality of their services through their reputation, which is developed at professional, firm-wide and client levels. The designation "professional accountant" suggests expertise and ethics, and as presented earlier marketing initiatives by the profession have attempted to elevate public perception of its members as business advisors. It is noteworthy that Fogarty et al. (2006) argues that there has been very little explicit discussion as to the functionality of multidisciplinary practices and whether values are transferable to a broader range of services. Fogarty et al. (2006) suggests that the high standard of professionalism exhibited by professional accountants when undertaking traditional compliance and monitoring services is assumed to translate into business advisory services.

Against the backdrop of the accounting profession's professional reputation, other advisory and consulting bodies have developed their own professional certification. The Certified Management Consultants (Canada) seek to "To advance the practice and profile of management consulting in Canada through education and certification of consultants, promotion of ethical standards and professional competency, and advocacy for the profession in public and government settings."(CMC, 2009) while The Marketing Research and Intelligence Association (MRIA) is a Canadian not-for-profit association representing all aspects of the market intelligence and survey research industry (MRIA, 2009).

The reputation an incumbent external accountant develops while performing traditional services can mitigate client uncertainty concerning the benefit of business advice. Podolny (1994) suggests that in the face of uncertainty, an organisation is more likely to trade with a firm they have dealt with in the past, suggesting a level of reputation transferability between services. Incumbency gives the external accountant a competitive advantage in the market for business advice.

Another source of competitive advantage to the incumbent external accountant in selling business advice to an existing client is the economic efficiency flowing from the joint production of services. Previously, Transaction Costs Economics (TCE) was identified as a useful framework for understanding how an external accountant, or business advisor, may help their client to reduce transaction costs and thus enhance performance. TCE may also be used to explain a further source of economic efficiency when the external accountant provides business advice in addition to compliance or monitoring services (e.g. accounting, taxation or assurance). In particular, there will be savings in associated transaction costs when appointing the incumbent external accountant as a business advisor rather than appointing an outside consultant (provider). Transaction costs associated with search, information, and bargaining will be higher when dealing with an unknown provider (Hodgson, 1993).

## 2.6.5 The Market for Business Advice in the SME Environment

In this section a review is undertaken of the empirical research investigating voluntary demand for business advice in the SME environment.

In an early empirical study of micro and small businesses in Australia, Holmes and Nicholls (1989) find that owner-managers of small businesses typically engage external accountants for statutory services, but rarely for other services. (Other services were defined as information prepared by the external accountant in addition to statutory information.) Of the 928 respondents to a questionnaire-based survey, 75% were micro- businesses (< 5 employees) and 25% were small businesses (6-20 employees). The main statutory services purchased from an external accountant were preparation of tax returns (88.8%) and balance sheet and profit/loss statements (69.3%). Other than budgeted information (profit and loss statements, 26.6%; and cash flow statements, 16.3%), less than 5% of respondents purchased other "non-statutory" services from their external accountant. An analysis of the impact of environmental factors on the decision to purchase additional information from the external accountant revealed that larger clients and younger clients were more likely to purchase a combination of "statutory/budgetary and additional information". It is noteworthy that there was no separate analysis of the impact of environmental factors on the decision to purchase non-statutory services.

Cameron (1995) investigated perceptions of the value derived from the external accountant's fee by 882 New Zealand "small" businesses (Employing <20 staff). While traditional compliance services were regarded as cost-beneficial (value for money), small business owners were neutral in their perception of the value for money of the business services supplied. Business advisory services were perceived as less cost- beneficial than compliance services.

There have been a number of studies in the UK investigating providers of business advice in the SME environment. External accountants are consistently found to be the most frequent source of business advice in the SME environment (Deakin et al., 2001; Bennett and Robson, 1999; Kirby and King, 1997). Bennett and Robson (1999) report that 95% of the 2474 SMEs who responded to a 1997 UK survey used external advisors. The main advisors were accountants (83%), banks (62%), solicitors (56%), customers (47%), suppliers (36%),

consultants (32%) and trade/professional associations (31%). The finding that 83% of SMEs use their external accountant as an advisor indicates only that the firm purchases some types of service from an external accountant. The service of an external accountant might take the form of basic statutory and compilation advice, or business advice on more complex business matters (i.e., systems or processes). A limitation of the research design is that it draws no distinction between traditional services (taxation, compilation and audit) and the purchase of business advice designed to assist management.

It is noteworthy that Bennett and Robson (1999) describe accountants and lawyers as "high trust" providers. They argue that accountants and lawyers work within a government-backed self-regulatory framework and achieve a high level of institutional trust. They conjecture that it is trust which distinguishes this group of suppliers and explains why accountants and lawyers are the most frequently used source of advice. Nevertheless, as was presented earlier, other professional advisory groups, such as the Certified Management Consultants of Canada (CMC, 2009) see the benefit of enhancing their "high trust" perception by the market through their professional development programming and certification of firm and individuals wishing to practice in the field.

Kirby et al. (1998) distinguish the purchase of statutory (i.e. taxation) from the purchase of non-statutory (i.e. business advice) services in the SME environment. In a 1996 survey of micro and small businesses in the north of England (336 usable responses), Kirby et al. (1998) found that although accountants were the most likely source of "non- statutory services", only 37% (123/336) of respondents indicated that they use their external accountant for "general financial advice" (p58). The authors speculate that the high cost of services is likely to be the major impediment to small businesses voluntarily buying business advice. In this study, micro and small businesses were defined as per the UK Companies Act (1985): turnover < £2.8 million, employees <50 and net assets < £1.4 million, which on the high end, overlaps the medium size firm category in Canada.

In a study undertaken in the UK, 85% of the 140 small business respondents used their external accountant as a source of advice (Berry et al., 2006). This aggregate result is consistent with that reported in Bennett and Robson (1999). Berry et al. (2006) also report that while 69% of respondents use their external accountant for "statutory advice", consistent with Kirby et al. (1998), only 33% see the role of their external accountant "as one of business management advice", and 31% engage their external accountant "in financial

management support work" (H38-9). The only descriptive data on respondent firm size reported in Berry et al. (2006) was that the average turnover of respondents in the manufacturing and service industries was £5.5 million and £3.6 million respectively.

Using semi-structured interviews with the owner-managers of 15 small companies in the UK (i.e., turnover < £350,000) in 1998, Marriott and Marriott (2000) find limited use of management accounting information by small businesses, and concluded: "there appears to be significant potential for accountants to expand the management accounting services they provide to smaller companies" (H475). They find that the potential role of the accountant as a provider of any service beyond statutory financial reporting compliance is not well recognized by respondent small businesses. The main barrier to small business requesting additional services from the external accountant appears to be their perception of the likely high cost of such services.

From another perspective, Bennett et al. (2001) analyse the influence of location (measured as physical distance between client and business advisor) on the extent to which external advice is used by SMEs in the UK, using the same 1997 survey data as Bennett and Robson (1999). The analysis indicates that for private sector advisers (external accountants, consultants etc.) the intensity of use does not vary significantly with geographic location.

Gooderham et al. (2004) investigate factors associated with small firms relying on their external accountant as a business advisor. In a telephone survey of 305 micro and small Norwegian businesses (< 20 employees) in 1998, Gooderham et al. (2004) report that most firms rely on their external accountant as a business advisor. Gooderham et al. (2004) measured on a 7-point Likert type scale "The degree to which the firm uses its external accountant as a business advisor" (where 1 = not at all and 7 = to a very large degree). Eighty-five percent (85%) of micro and small businesses responded with a score of 3 or greater. The perceived competence of the external accountant and the receptiveness of the client to business advice were associated with the dependent variable (i.e., reliance on the external accountant as a business advisor). Non-significant predictors were client size, the quality of the relationship between the external accountant and their client (a binary measure of whether the firm had changed accountants in the last 5 years), the degree of competition in the client's business environment, and the fee rate for business advisory services.

### **2.6.6 Business Advice and SME Performance**

In this section I review findings from the relatively sparse empirical literature investigating the link between the business advice of an external accountant and SME performance.

Bennett and Robson (1999) provide evidence from the SME environment that engaging the services of an external accountant is associated with employment growth. SME respondents placed themselves into one of three growth categories: (i) declining/stable, (ii) medium growth, and (iii) fast growth. The proportion of SMEs that use an accountant (for any purpose measured as a binary variable) was higher in the fast growth category (89.9%) than in the medium growth category (84%) and the declining/stable growth category (77.3%). This finding is interpreted by the authors as indicating that the services of an external accountant are associated with SME growth. However, this result should be treated with caution because the univariate methodology does not control for the myriad factors likely to be associated with SME employment growth.

Drawing on the same data used in Bennett and Robson (1999), a subsequent paper by Robson and Bennet (2000), which adopted a multivariate analysis, did not find a relationship between the business advice provided by an external accountant (a binary measure of whether the SME uses the services of an external accountant) and SME performance. There were three measures of SME performance (i.e., change in number employed by client, percentage change in firm turnover, and change in profitability per employee) and the study controlled for size, age, industry (manufacturing and high technology) innovation, workforce skill, exporters, and number of competitors. Significant control variables found to be associated with performance were size (+), age (-), manufacturing industry (-) and exporters (+).

Berry et al. (2006) explored the relationship between the four types of advice provided by an external accountant and SME performance (growth). They found that the average growth of users of "financial management support" (9.94%) was significantly higher than the average growth of "non-users" of "financial management support" (6.46%). It is noteworthy that for the service category "business advice", there was no difference in average growth rate between "users" (7.56%) and "non-users" (7.56%). The authors found, however, that the average growth of "users" of "statutory advice" (8.11%) was significantly higher than the average growth of "non-users" of "statutory advice" (6.49%). Berry et al. (2006) conclude:

"The degree of use of a range of external advice was positively related to the growth rate of SMEs" (H33). This conclusion is based on their finding of a difference in average annual growth rate for "users" and "non-users" of "financial management support". As in Bennett and Robson (1999), the conclusion is based on a univariate analysis.

Empirical evidence is similarly weak as to the association between advice and SME performance when looking more broadly to other business advisors (i.e., solicitors, banks, consultants, government, suppliers etc). In the paper by Bennet and Robson (1999) discussed previously, SME performance was not found to be associated with accountants, banks, consultants, and the range of government departments and support agencies. Only the advice of solicitors (binary measure) was found to be associated with performance. The only other paper to consider a broader range of external advisors and SME performance is Wren and Story (2002). The study assesses the association between business support in the marketing area and SME survival rate (a measure of SME performance). The marketing support to business was provided by private sector consultants employed by the UK Department of Trade and Industry. While marketing advice had no impact on survival rates for small firms, an association was found for medium-sized firms. Wren and Story (2002) conclude that medium-sized firms may derive greater benefit from external advice.

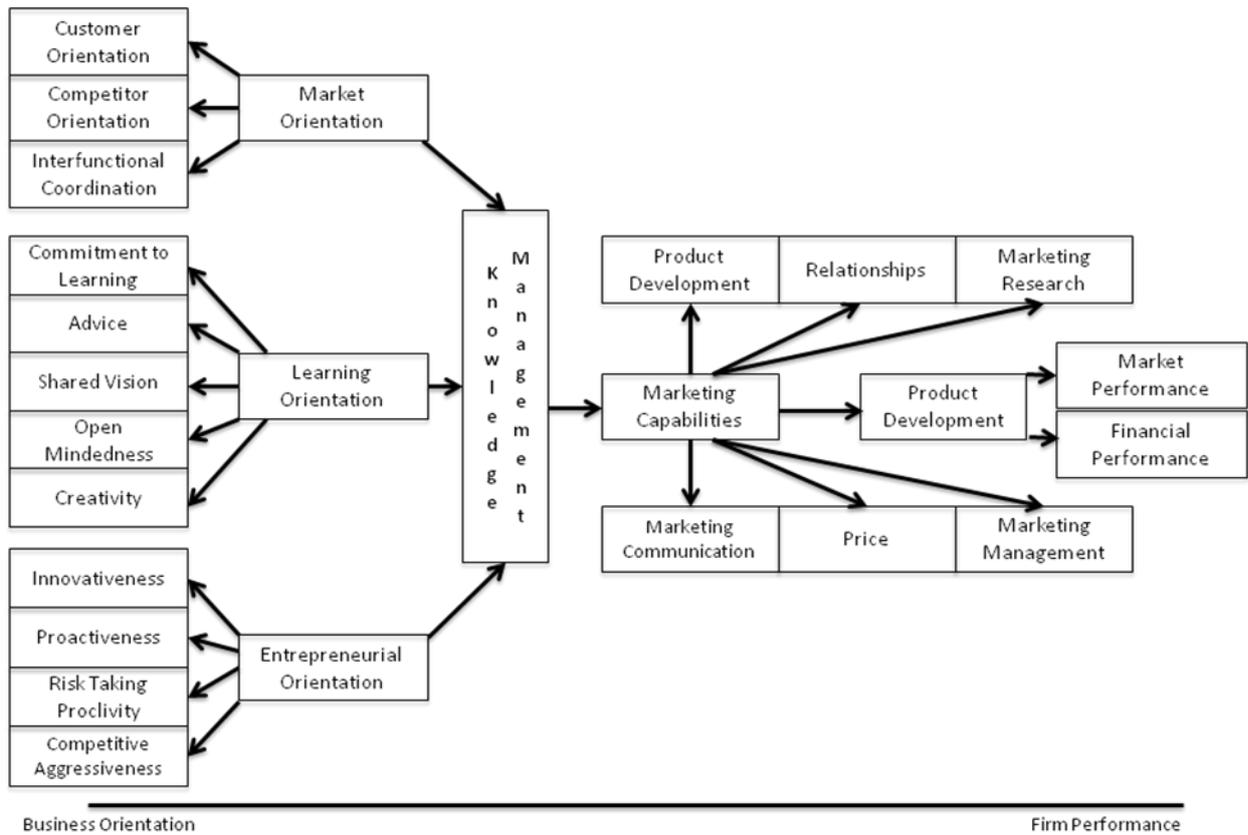
Empirical results confirm that the majority of SMEs buy business advice from their external accountant, which suggests a perceived benefit. Empirical findings are, however, mixed and inconclusive as to whether SMEs derive a benefit in terms of enhanced performance when they purchase business advice from their external accountant. While a positive association between the business advice of an external accountant and SME performance is reported in two studies employing a simplistic univariate methodology (Berry et al., 2006; Bennett and Robson, 1999), results from the only study to use a multivariate methodology find no association between the services of an external accountant and SME performance (Robson and Bennett, 2000).

### **2.6.7 Conclusion**

This section has identified and discussed the literature on the use of external advice by specifically SMEs and the relationship of the use of advice in the knowledge management process of the firm. Due to their prominence in the advisory market, the external accounting consultant was used as a lens to view the issues all advisors face in their interactions with clients. The use of external advice has been identified as a component of a firm's objective to learn for their external environment and is therefore included in the construct of a learning orientation within this thesis' framework (Figure 2.5). The next section provides a recap of the literature review.

## **2.7 Literature Review Conclusions**

Chapter 2 presented the constructs and their associated literature for a framework of this thesis. The literature review identifies and discusses the interrelationships between Market Orientation, Learning Orientation and Entrepreneurial Orientation, and serves as the foundation for the Knowledge Management Process of the firm in its efforts to derive marketing capabilities, innovation and influence the goal of competitive performance (Figure 2.5). This chapter underpins the hypotheses proposed for this thesis, which are presented and tested in Chapter 3 and Chapter 4, via the quantitative and qualitative researches for this thesis.



**Figure 2.5 Framework of Thesis; Business Orientation and Knowledge Management Leading to Marketing Capabilities and Firm Performance (Adapted from Baker and Sinkula, 1999b; Sinkula et al, 1997; Dobni and Luffman, 2003; and Tan and Smyrniotis, 2007)**

## **CHAPTER 3 RESEARCH METHODOLOGY**

### **3.1 Overview**

In the previous chapter, the literature review identified the prior research and theory which is found to have an impact on the process of knowledge management as viewed from a SME perspective. The chapter culminated with the development of a theoretical framework and identification of research issues. This chapter begins with the basic hypotheses that informed the study. Next the research philosophy and methods are discussed. The justification for applying a dialectical framework and a mixed-method design to underpin this research is highlighted in this section. The chapter then follows in sequence the research design, the measurement of variables, and the data collection procedures.

#### **3.1.1 Introduction**

This thesis employs a mixed-methods design; a quantitative approach for Phase 1 followed by a qualitative approach in Phase 2. Mouton (1998) makes it clear that the choice of methodology depends on the research problems and objectives. Consequently, the methodology used in this study is based on the research problems and objectives stated in Chapter one. In promoting the application of mixed data for triangulation, Jick (1979) argued that, as a system of cheques and balances, quantitative and qualitative data are equally important to researchers. For example, quantitative data can demonstrate relationships not immediately evident to investigators, and limit the possibility of developing misleading impressions derived from solely using qualitative data. Additionally, quantitative data can generalize specific observations and cast new light on qualitative findings (Cresswell and Clark, 2007). By the same token, qualitative data can promote the development of an understanding of theory underlying relationships that surface from quantitative procedures (Dooley, 2002). Qualitative methods also enable the collection of in-depth background information that might have been overlooked in a quantitative study, and help avoid elite bias (talking only to high-status respondents). To reinforce the research context the next section highlights the research objectives of this study. This is followed by a discussion of the

appropriateness of different research paradigms/positions concluding with the justification for the selection of a mixed-method design.

### **3.1.2 Research Objective**

The research objective for this thesis is: To further our understanding of the knowledge management process in SMEs and its contribution to innovation and performance. The research problem is seen as: How does the knowledge management process contribution to innovation and performance in ‘growth-oriented’ Atlantic Canadian SMEs? The research hypotheses are based on the literature questions:

**H1:** Do knowledge management processes positively affect innovation in growth-oriented SMEs?

**H2:** Do firms in Atlantic Canada differ according to the extent to which knowledge management practices have been adopted?

**H3:** What knowledge management practices are associated with different levels of performance

**H4:** Are different approaches to the use of external advice associated with different levels of performance?

### **3.1.3 Justification of the Paradigm for This Research**

This section discusses the selection and justification of the appropriate research paradigm. The term paradigm, as used in this research, refers to the philosophies and beliefs that provide guidelines and principles in relation to how research is conducted (Guba and Lincoln, 1994; Hussey and Hussey, 1997; Ticehurst and Veal, 1999). A research paradigm is a framework of assumptions that guides researchers in their work ( Healy and Perry, 2000; Thompson and Perry, 2004).

A number of research paradigms exist including positivism, realism, critical theory and constructivism ( Healy and Perry, 2000; Perry, Riege and Brown, 1999); positivist and critical interpretive ( Ticehurst and Veal, 1999); and positivist and phenomenological ( Hussey and Hussey, 1997). Although there is much debate amongst scholars regarding which

paradigm is 'best', it is perhaps more useful to regard the alternatives as points on a continuum, with a paradigm and associated methodologies being chosen because they best suit the task at hand ( Gummesson, 2003; Hussey and Hussey, 1997; Ticehurst and Veal, 1999). Table 3-1 summarizes the key features of the two paradigms considered for this research, positivistic and phenomenological.

**Table 3-1 Features of the Two Main Paradigms (Hussey & Hussey, 1997, p. 54)**

<b>Positivistic Paradigm</b>	<b>Phenomenological Paradigm</b>
Tends to produce quantitative data. Uses large samples. Concerned with hypothesis testing. Data is highly specific and precise. The location is artificial. Reliability is high. Validity is low. Generalizes from sample to population.	Tends to produce qualitative data. Uses small samples. Concerned with generating theories. Data is rich and subjective. The location is natural. Reliability is low. Validity is high. Generalizes from one setting to another.

Phenomenological research is also referred to as interpretive ( Hussey and Hussey, 1997), or critical interpretive ( Ticehurst and Veal, 1999), while Gummesson's (2003) view is that all research is interpretive. He states that words and numbers both require interpretation, *Statistical tables need interpretation just as badly as data from in-depth interviews and focus groups.* (p. 486). Associated with these statements, Gummesson believes that hermeneutics, as a general methodology for interpretation, is required for all research, taking it through an upward spiral of pre-understanding through interpretation to understanding. This spiral is a cycle with the end of one cycle feeding into another, so that understanding from one cycle becomes pre-understanding for the next and so on until the explanation stage is reached. This approach was incorporated into the methodology for this research.

### **3.1.4 Which Paradigm?**

Research paradigms have three elements that assist with distinguishing between them. They are: ontology, the 'reality' that researchers investigate; epistemology, the relationship between that reality and the researcher; and methodology, the technique used to discover reality (Healy and Perry 2000, p. 119). These elements can be used to assess the appropriateness of a paradigm for a particular research problem, and as criteria for judging quality in research (Healy and Perry, 2000). Table 3-2 provides an application of these criteria and a useful comparison of the characteristics of quantitative and qualitative research.

**Table 3-2 A Comparison Between Quantitative and Qualitative Research**

<b>Quantitative Research</b>	<b>Qualitative Research</b>
Research problem: who (how many)? what (how much)?	Research problem: how? why?
Literature review: explanatory - what are the relationships between the variables which have been previously identified and measured? hypotheses are developed	Literature review: exploratory - what are the variables involved? constructs are messy research issues are developed
Paradigm: positivist	Paradigm: critical realism/interpretive
Ontology: reality is real and apprehensible	Ontology: reality is 'real' but only imperfectly and probabilistically apprehensible
Epistemology: possible to obtain hard, secure objective knowledge objectivist: findings true	Epistemology: understood through 'perceived' knowledge  modified objectivist: findings probably true
Methodology: concentrates on description and explanation  examples: survey or experiment	Methodology: concentrates on understanding and interpretation examples: case study research or action research
Researcher's Role: detached, external observer	Researcher's Role: experience what they are studying

Source: Adapted from (Carson et al., 2001, p. 6; Healy & Perry, 2000, p. 119)

After considering the options summarized in the previous two tables, the paradigm chosen for this research was a dialectical framework and a mixed-methods design. A mixed-methods design is defined as: *the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study* (Johnson and Onwuegbuzie, 2004, p. 17), and is regarded as the *third methodological movement* (Tashakkori and Teddlie, 2003, p. 679) that fits within a pragmatic paradigm (Tashakkori and Teddlie, 1998) or dialectical positions (Greene and Caracelli, 1997). Greene and Caracelli (1997) considered these to be positions (pragmatic versus dialectical) rather than more philosophically complex paradigms.

Mixed- method approaches encompass three stances: purist, pragmatic, and dialectical positions (Cresswell and Clark, 2007). Two purist perspectives are advocated by positivists (and post- positivists) and constructivists. The former assumes that reality and some degree of

causal linkage can be claimed. This is possible when researchers keep their values out of their research and employ primarily deductive logic and quantitative methods of research (Maxwell and Delaney, 2004). A number of studies (Carson and Coviello, 1996; Romano and Ratnatunga, 1995) noted a strong predominance of positivistic methods in small firm/entrepreneurship research. However, Hill and McGowan (1999b) suggest that positivist research does not yield a rich understanding of key issues that might affect small firm potential for enterprise development.

Conversely, so called qualitative purists (constructivists) reject positivism and view constructivism, idealism, relativism, humanism, hermeneutics, and postmodernism as superior (Lincoln and Guba, 2000). These purists live in a world of multiple mental realities and accept that individuals view their world differently, each according to their own paradigm. In order to portray this world, researchers reconstruct realities as seen by others. For any situation, multiple realities exist, that is, those of researchers, research participants, and the audience (Cresswell, 1994). The inherent epistemological stance requires investigators to interact closely with participants (Hill and McGowan, 1999b). Inductive logic and qualitative methods are used to help understand a particular phenomenon within its social context. From this perspective, inquiry is considered to be value laden.

Hill and McGowan (1999b) advocated a constructivist approach to entrepreneurial SME research. SMEs can only be described as entrepreneurial because of their managerial characteristics which form a component of complex antecedent variables and ongoing business influences (Hill and Wright, 2001). Therefore, given the impact of such characteristics on the management activities of SMEs, researchers need to interact closely with participant entrepreneurs to maximize the quality of information collected (Hill and McGowan, 1999b).

Advocates (Tashakkori and Teddlie, 1998) of mixed-methods research support pragmatism which can be characterized by the following five main qualities:

- Applying both qualitative and quantitative research procedures within the same or multistage research study. A pragmatist position employs whatever philosophical and/or methodological approach that works for the particular research problem under study (Tashakkori and Teddlie, 1998, p. 5), holding no *a priori* commitment to the use of mixed methods. Mixing occurs only when researchers decide that this process enhances data collection and analyses and increases data accuracy (Rocco et al., 2003).

- Placing importance on the overarching research question rather than on the methods used, that is, the *dictatorship of the research question* (Teddlie and Tashakkori, 2003, p. 21). Different techniques associated with various paradigms can be combined and adapted to address research objectives.
- Rejecting a seemingly forced choice between post-positivism and constructivism.
- Avoiding the use of metaphysical concepts (e.g., truth, reality) that often culminate in longstanding debates among academics.
- Presenting practical and applied research philosophies.

In contrast, within a dialectical position, there is prior commitment to use mixed methods to reach the same goals in a complementary rather than a compatible manner. Advocates (Greene and Caracelli, 1997) of this position maintain that different philosophical paradigms are important and should not be ignored:

*To think dialectically is to invite the juxtaposition of opposed or contradictory ideas, to interact with the tension involved by these contesting arguments, or to engage in the play of ideas (Greene and Caracelli, 2003, pp. 96-97).*

Similarly, the application of disparate tools should take into account the integrity of different philosophies from which these techniques originate (Greene and Caracelli, 1997).

Researchers, who adopt a dialectical approach, seek both universal objective realities and multiple subjective realities by analyzing quantitative data and information in the case of the former, and conducting constant comparative analyses of open ended survey questions in the case of the latter. Both approaches can be combined sequentially/interactively, using information gained from one to make decisions on the other, or in simultaneous/parallel portions which are brought together only in the final analysis of the research project. These procedures can contribute to a triangulation of findings, enhancing internal- (cause-effect relationships) and external validity (generalization of findings), interpretability, and ...*complimentarity of measures that overlap but also different facets of a phenomenon* (Greene et al., 1989, p. 258).

Consistent with this argument, this thesis adopts a dialectical position (Greene and Caracelli, 1997) that integrates post-positivist and constructivist paradigms, and draws from each paradigm to explain firm reality, knowledge, and values. The principal assumption underlying this research is enhanced when paradigms are mixed (Rocco et al., 2003).

Moreover, researchers who adopted a dialectical approach believed that mixed methods have a capacity to represent plurality of interests, voices, and perspectives (Greene and Caracelli, 1997). The next section reports on the research design of this thesis, where to reiterate, the objective is to test the following four hypotheses:

**H1:** Do knowledge management processes positively affect innovation in growth-oriented SMEs?

**H2:** Do firms in Atlantic Canada differ according to the extent to which knowledge management practices have been adopted?

**H3:** What knowledge management practices are associated with different levels of performance?

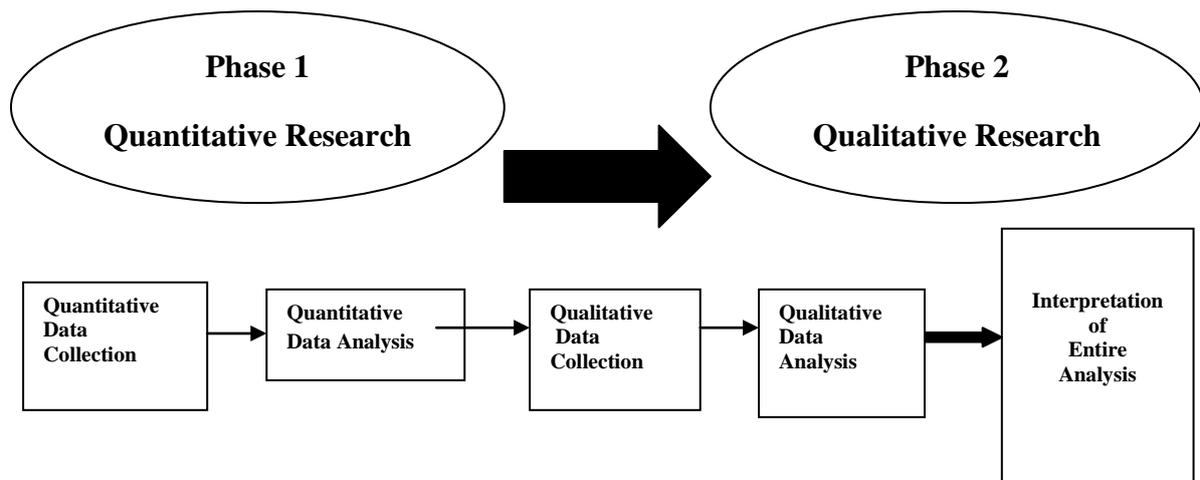
**H4:** Are different approaches to the use of external advice associated with different levels of performance?

### **3.2. Research Design Multiple Method Designs**

Research using more than one method or worldview is regarded as having adopted multiple method designs which comprise three broad categories: multi-method, mixed method, and mixed model research (Teddlie and Tashakkori, 2003). Within multi-method studies, research questions are answered using two data collection procedures (e.g., participant observation and oral histories) or two research methods (e.g., ethnography and case study), each of which arises from a similar qualitative or quantitative tradition. By contrast, mixed methods designs incorporate mixed method and mixed model research. The latter has to meet more stringent assumptions than the former or multi-method research, and involves multiple research questions that are rooted in distinct paradigms, and multiple inferences that correspond to different worldviews (Teddlie and Tashakkori, 2003).

This thesis incorporates a two-phase mixed- methods design, employing both qualitative (Phase 1) and quantitative (Phase 2) approaches (Cresswell, 2003). Cresswell, Clark, Gutmann, and Hanson (2003) identified six major mixed methods designs (i.e., sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent nested, and concurrent transformative) that are defined by four criteria: implementation, priority, integration stage, and theoretical perspective.

As depicted in Figure 3.1, this thesis uses a sequential explanatory design by undertaking quantitative data collection and analyses (Phase 1) prior to qualitative data collection and analyses (Phase 2). Through this design qualitative research helps explain and interpret findings from quantitative studies (Morse, 1991). These two methods are integrated during the interpretation phase. Implementation might (might not) be guided by specific theoretical perspectives.



**Figure 3.1 Sequential Explanatory Design of Thesis:  
A Quantitative to Qualitative Research Process**

### 3.2.1 Quantitative Data

Phase one of the data collection process was quantitative in nature and was similar in many respects to work carried out (Darroch, 2003) with the exception that in this study data was collected via a web-based survey. The sample was comprised of a key informant (the owner/senior manager) from the target population, growth-oriented Atlantic Canadian SMEs, was invited to complete the survey. The survey measured four constructs: (a) knowledge management of the firm, comprised of three inter-related attributes 1) knowledge acquisition; 2) knowledge dissemination; and 3) responsiveness to knowledge; (b) the networking behaviour of the firm; (c) the use of external advice by the firm and (d) the firm's performance. Using SPSS, appropriate statistical techniques were applied to analyse the reported data.

### **3.2.2 Qualitative**

Phase two was the qualitative component of this research. The qualitative research comprised semi-structured interviews with key informants from a sample of the organisations who participated in phase one. Data collected at this stage details (a) issues surrounding the knowledge management process; (b) the leadership approach taken by the firm's owner; (c) management practices within the organisation; (d) employee participation within the firm; and (e) the firm's interaction with the external environment.

The quantitative questionnaire was used to measure the level of knowledge management behaviour that exists within the respondent firms and to identify any relationships between the four constructs. The qualitative component collected more in-depth data regarding the attitudes of the owner/manager to the internal and external environment as a means of exploring relationships between the firm's performance within this context.

### **3.2.3 Target Population**

The population for this study is defined as: "Growth-oriented SMEs who are located in the Atlantic Provinces of Canada." Small and medium-sized enterprises (SMEs) are defined as firms with fewer than 500 employees (Industry Canada, 2007). (working on the 'growth-oriented' aspect)The rationale for selection SMEs to study was four fold. Firstly, within Atlantic Canada, SMEs are the predominant business type representing 97% of all businesses measured by number of employees (ACOA, 2007). Secondly, key stakeholders, including government, see SMEs as a key vehicle for economic and community development for the region. Thirdly, the author has a keen personal interest in SMEs, having founded and operated two SMEs over the past twenty years. Finally, research on and interaction with SMEs, and specifically growing SMEs, is a strategic focus of the author's employer; the Bissett School of Business, Mount Royal College, Calgary, Alberta, Canada.

### **3.2.4 Unit of Analysis**

de Vaus (1995) states that the unit of analysis is the unit from which we obtain information; it is the unit whose characteristics we describe. This study examines the relationship within the knowledge management process of firm and at the firm level. Hence, this study uses the SME firm as the unit of analysis with data collected from one key informant, the owner/senior manager of the enterprise.

Darroch's (2005) findings, which this thesis is in-part built upon, also used the firm as the unit of analysis. Similarly, studies which informed Darroch and McNaughton's (2003) thinking, such as Jaworski and Kohli (1993) and Narver and Slater (1990), used the Strategic Business Unit (SBU), arguably the equivalent of the firm. However, these studies differ from this thesis as they investigated large firms while this study focuses on the SME. Table 3-3 highlights a sample of studies, including their methodologies and contexts, which support the firm as the unit of analysis and which influenced this thesis.

**Table 3-3 Framework of Relevant Studies Using the Firm as the Unit of Analysis**

<b>Authors</b>	<b>Data</b>	<b>Country</b>	<b>Unit of Analysis</b>	<b>Sample Size</b>	<b>Analytical Method</b>
Kumar et al., (1998)	Mail Survey	USA	FIRM One Informant +	159	Regression Analysis
Han et al., (1998)	Mail Survey	USA	FIRM One	134	Regression Analysis
Pelham (1997)	Mail Survey	USA	SBU++ Multiple +	160	Structural Equation Modelling
Greenley (1995)	Mail Survey	UK	FIRM One +	240	Regression Analysis
Diamantopoulos and Hart (1993)	Interview	UK	FIRM One +	87	Regression Analysis
Darroch and McNaughton (2003)	Mail Survey	NZ	FIRM One +	443	Structural Equation Modelling
Jaworski and Kohli (1993)	(2) Mail Survey	USA	SBU++ Multiple+	1 <sup>st</sup> . 222 2 <sup>nd</sup> . 230	Regression Analysis
Narver and Slater (1990)	Mail Survey	USA	SBU One+	140	Regression Analysis

Note: + = Number of Informant(s); ++ = Strategic Business Unit

### **3.2.5 Sample Methodology**

In this study two samples of SMEs were used to obtain sufficient data. This was necessary due to the low response rate. The first sample was drawn from a proprietary 2007 data-set of Atlantic Canadian SMEs developed by the Atlantic Canadian Opportunities Agency (ACOA). The Atlantic Canada Opportunities Agency (ACOA) is a Canadian federal

government agency mandated to serve the four eastern Atlantic Canadian Provinces of: Newfoundland and Labrador; Nova Scotia; Prince Edward Island and New Brunswick. ACOA's goal is to improve the economy of Atlantic Canadian communities through the successful development of business and job opportunities ( ACOA, 2008). The author secured access to this database after a long and protracted one and a half year process. ACOA's data-set was comprised of 575 SMEs who expressed interest in or participated in export programming sponsored by the government agency. The internationalization orientation perspective/strategy of these SMEs speaks to a potential growth orientation which is unique and worthy of exploration. The data-set was comprised of SMEs representing all regional industrial sectors including firms in the natural resource, manufacturing, processing, science and technology plus professional service sectors.

A very low response rate of only 29 firms (or 5%) was received from the first sample. Severely impacting this response was that nearly 35%, or 199 of the invitations inviting firms to participate in the study were returned undelivered. This raises the issue of the high turnover of SMEs plus the difficulty in tracking firms in this sector by interested stakeholders. These issues will be discussed in X.XX. However, if the untraceable firms are removed from the sample, the effective response rate climbs to 7.7%. In an attempt to bolster the number of SMEs in the study, a second sample of firms was developed from published directories and industry contacts. Sixty-five (65) SMEs, not in the original sample, but displaying a similar firm profile, were identified and invited to participate using the original invitation protocol. Completed responses were received from 11 firms representing a 17% rate of return for the second sample. Therefore the effective return rate for the quantitative portion of this study was 12% or 54 firms.

As was discussed in Chapter 2, this study is influenced by entrepreneurial behaviour and the response by the firm to opportunity through the knowledge management process. Eckhardt and Shane's (2003) definition of entrepreneurial opportunity:

"situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends or means-ends relationships p.336"

is characterized by the opportunities to form a new venture ( Gartner, 1990; Low and MacMillan, 1988), to create or extend a new product/brand, or to enter international markets ( Davidsson, 2004). The orientation or action of internationalization by SMEs represented in this data-set provides a valuable opportunity to investigate this somewhat understudied firm

segment ( Stewart and McAuley, 2000) within a dynamic context and through the lens of the knowledge management process.

Bemish (1990., p. 77) definition of internationalization, "...the process by which firms both increase their awareness of the direct and indirect influence of international transactions on their future, and establish and conduct transactions with other companies."... is interoperated with a holistic view by Coviello and McAuley (1999) and provides an additional lens for the investigator. Integrating the learning of the firm, with its patterns of investment plus its recognition that internationalization is comprised of both behavioural and economic components, speaks directly to this study.

The author also sought this data-set as it had the potential of including 'growth-oriented' SMEs, the target population of this research. However, it should be pointed out that this sample is not necessarily exactly representative of the total Atlantic Canadian SME population, in that there is a very large number of small business owners (as discussed in Chapter 2, i.e. sole traders, freelancers, so-called "lifestyle" businesses) who have no intention to grow. On the other hand, given the commitment in time to participate in ACOA programming and the potential focus on growth, a firm participating in the programme is likely to be not only ambitious to grow but strongly committed to growth. If there is a link between knowledge management, innovation and business growth, then one might infer that this sample is likely to be more interested in innovation, and more innovative, than the average Atlantic Canadian SMEs.

As discussed in Chapter 2, Birch (1989) showed that the vast majority of job creation happens in a small proportion of high growth SMEs - firms he called "gazelles". He then drew the implication that government and private sector small firm initiatives would have the most beneficial effect on economic development and job/wealth creation by targeting these "gazelles".

While it is unlikely that the sample for this survey is exclusively made up of "gazelle" firms, it should be accepted that the sample is likely to be made up of firms which are more ambitious and committed to growth than the average. For the same reason as Birch gives, it is argued that these are precisely the firms which policy makers, small business advisors and entrepreneurs should be interested in understanding and supporting. Finally, since the survey was web-based, completion of the survey required access to the internet which could be argued reflects a more innovative firm.

## 3.3 Research Execution: Quantitative Methods

### 3.3.1 Internet Survey

In this study, a self-administered questionnaire using an Internet survey software, SurveyPro, was selected as the quantitative research method to collect data. As internet usage has grown in all social-economic groups so have the applications to leverage this tool. Products such as SurveyGizmo, SurveyMonkey, Zoomerang and SurveyPro are just a few of the commercial survey software available to researchers.

According to Zikmund (2003), an Internet survey is a self-administered questionnaire posted on a Web site. Respondents provide answers to questions displayed on screen by highlighting a phrase, clicking an icon, or keying in an answer. Internet surveys have become are the wave of the future.

However, like every other type of survey, Internet surveys have both advantages and disadvantages. The following advantages and disadvantages of the Internet surveys are adopted and edited from Zikmund (2003, pp. 221-226).

*First:* Speed and cost effectiveness Internet surveys allow researchers to reach a large audience, to personalize individual messages, and to secure confidential answers quickly and cost effectively. These computer-to-computer self-administered questionnaires eliminate the costs of paper, data entry, and other administrative costs.

*Second:* Visual appeal and interactivity The researcher can use more sophisticated lines of questioning based on the respondents' prior answers. Many of these interactive surveys utilize colour, sound and animation, which may help to increase respondents' cooperation and willingness to spend more time answering the questionnaires.

Of course, a major disadvantage of Internet surveys is that some individuals in the general population cannot access the Internet. And, all people with Internet access do not have the same level of technology. Many individuals with low speed Internet connections (low bandwidth) cannot quickly download high-resolution graphic files. However, it is estimated that over 97% of all Canadian Professional, Scientific and Technical workers have Internet access at work or place of business ( Statistics Canada, Innovation Analysis BulletinVol. 10, no.1 (May 2008) Catalogue No. 88-003-x) (Pg.22-25). Therefore since the focus of this thesis is SMEs who are pursuing a growth business strategy, and that the use of technology is seen

as a key tool in this endeavour ( Oke, 2007), basic access and competency on the internet should not be a limitation.

Nevertheless, the researcher has considered potential problems by designing a professional regular Web site, which does not incorporate any encumbering features (i.e. colour, sound, or animation).

*Third:* Respondent participation and cooperation Participation in some Internet surveys occurs because computer users intentionally navigate to a particular Web site where questions are displayed. For many other Internet surveys, respondents are initially contacted via e-mail or by more traditional forms of communication i.e. postal, fax or telephone invitation.

In this study, potential respondents were invited to participate via a postal letter invitation (Appendix X). Each invitation was sent on Bissett School of Business, Mount Royal College stationary featuring both MRC's and the University of Stirling's crest to add credibility and status to the request. The invitation explained the purpose and scope of the study; the adherence to hold all information in confidence and the anonymity feature built into the software to ensure this attribute; plus, contact information of the researcher. Finally, and most importantly, the invitation provided encouragement and instructions on accessing the survey via the URL at: <http://survey.mtroyal.ca/smesurvey> Upon opening the survey's web-site the participant was greeted by a welcome screen which served as a means to gain the respondents' cooperation and provides brief instructions.

*Fourth:* Accurate real-time data capture The computer-to-computer nature of an Internet survey means that each respondent's answers are captured directly by the researcher's computer software.

*Fifth:* Real-time data capture allows for real-time data analysis A researcher can review up-to-the-minute sample size counts and tabulation data from an Internet survey in real-time.

*Sixth:* Response rates and respondent anonymity Computer surveys can increase response rates and increase self-disclosure ( Kiesler and Sproull, 1986; Martin and Nagao, 1989; Sproull, 1986; Waterton and Duffy, 1984; Cobanoglu et al, 2001). Computer surveys convey little social information, hence respondents experience less evaluation anxiety than when they respond in other ways of survey administration ( Erdman et al., 1985; Servan-Schreiber and Binik, 1989; Sproull and Kiesler, 1986).

Therefore, respondents are more likely to provide sensitive or personal information when they can remain anonymous. For example, Moon (1998) finds that consumers revealed a great deal of personal information when completing a computer-mediated survey.

Thus, online surveys produce a higher response quality than some other offline methodologies such as self-completion postal survey. For example, online surveys result in fewer items being omitted by respondents ( Kiesler and Sproull, 1986; Schaefer and Dillman, 1998; Sproull, 1986; Cobanoglu et al, 2001). In addition, because respondents are guided more closely through the questionnaire, fewer mistakes are found in the online surveys compared with offline self- completion methods ( Kiesler and Sproull, 1986).

However, the biggest difference between online and offline methods, is that electronic surveys produce richer responses to open ended questions ( Mehta and Sivadas, 1995; Bachman e al., 1996; Comley, 1997; Schaefer and Dillman, 1998). Finally, unlike mail surveys, Internet surveys do not offer the opportunity to send a physical incentive, such as a dollar bill, to the respondent.

As has just been presented there is no 'best' form of survey. To complete this discussion Table 3-4, which has been adapted from Zikmund (2003, p. 228) presents a summary of the major advantages and disadvantages of three survey types; telephone, mail and Internet surveys.

**Table 3-4 Advantages and Disadvantages of Typical Survey Methods of Collecting Data**

	<b>Telephone</b>	<b>Mail@</b>	<b>Internet@</b>
Speed of Data Collection	Very fast	Slow	Instantaneous
Geographical Flexibility	High	High	Worldwide
Respondent Cooperation	Good	Moderate	Varies Depending on Web Site
Versatility of Questioning	Moderate	Standardized	Extremely versatile
Questionnaire Length	Moderate	Varies	Individualized
Item Non-Response	Medium	High	Potentially high
Rate of Misunderstanding	Average	Highest	High
Interviewer Influence	Moderate	None	None
Supervision of interviewers	Med. - High	Not Applicable	Not Applicable
Anonymity of Respondent	Moderate	High	Based on Design
Cost	Low - Med.	Low	Medium
Special Features	Adaptable	Low	High: Multi-Media

Personal Interview @ Self-Administered

Source: Zikmund (2003, p. 228)

### **3.3.2 Key Informant**

This study adopted a 'key informants' method of gaining insights into the intra-organisational and process behaviour of the firm (Kumar et al., 1993). Of the eight (8) previously cited studies using at least one of this investigation's constructs (Table 3-4) each used the key informant technique. Key Informants generalize about "patterns of behaviour, after summarizing either observed or expected organisational relations" ( Seidler, 1974, pg 819) and can provide useful insights to the researcher not available from other methodologies.

This study uses a key informant technique by collecting data from a selected individual who has specific insights into both the knowledge management process, innovation and performance activities of the firm. This technique is appropriate for this study because the completion of the questionnaire requires detailed information, which cannot be expected from general respondents (Kumar et al., 1993). For this study the owner or senior manager was targeted as the potential key informants as they were considered to possess the knowledge and motivation to share this information (Kumar et al., 1993). All correspondence was directed to the key informant (name and position title) to ensure that the identified key informants were targeted effectively.

There are, however, limitations associated with the key informant technique; one of those is informant bias due to the level or role played in the organisation by the respondent ( Golden, 1992; Kumar et al., 1993; Seidler, 1974). The view of the senior manager may be different to that of the owner. Another form of bias may be "subconscious attempts to maintain self-esteem, or impression management" (Kumar et al., 1993:1640).

### **3.3.3 Questionnaire and Pilot Testing**

Data was collected through the use of a fully structured on-line questionnaire. A pre-test of 5 to 10 representative respondents is usually sufficient to identify problems with a questionnaire ( Burns and Bush, 2006). The questionnaire was pre-tested with 5 informants drawn from SMEs from three different industry sectors; two from manufacturing and one informant each from wholesale trade, information services and professional services. The pre-test respondents were advised of the internet web-site, completed the questionnaire and were subsequently interviewed about the experience. The on-line survey format was new to all respondents but posed no contextual problems. The respondents were asked about clarity, ambiguous questions, bias and relevance to their business. They were also asked about the sequencing of questions, timing and wording.

As a result of this pre-test, the survey was slightly modified; specifically reducing the length of the introduction to a few questions. The final survey is presented in Appendix 3.1.

### **3.3.4 Data Collection Procedure**

In this study 640 SMEs were invited to participate in this study as described in section 3.x.x. A letter, personally addressed (where possible) to the owner/senior manager of each SME was sent via postal mail to solicit participation in this web-based survey (Appendix 3.x). Two weeks after the first invitation was mailed a second personally addressed reminder letter was sent to each firm in the data-set. As indicated earlier, of the 640 invitations to complete the survey, 54 web-based questionnaires were completed representing a 12% response. Each response was reviewed for completeness.

### **3.3.5 The Survey Instrument**

A robust questionnaire, containing a total of eighty-five questions distributed over six sections, was used in this study. Questions in each section, where appropriate, were predominately drawn from the available research instruments used by other researchers. However, where necessary, questions were designed on the basis of published academic articles relevant to the area of investigation. The first section of the questionnaire asked for information about the firm while the next three sections inquired about the firm's knowledge management processes using, based to a great extent on, a scale developed by Darroch (2003). The latter three sections were comprised of questions focused on knowledge acquisition (including a segment on the firm's approach to networking), knowledge dissemination and responsiveness to knowledge. The fifth section inquired on the firm's experience with external advice while the sixth and final section asked for information on owner/manager demographics and the business performance of the firm.

All questions (Appendix 3.1 for a copy of the questionnaire) were designed to gather subjective assessments by the respondent. Given that a positive relationship exists between the number of scale points and reliability (Churchill and Peter, 1984), where appropriate, all constructs were measured on five-point Likert scales that ranged from Strongly Agree to Strongly Disagree. Alternatively, other response formats (Wren, 1997) were also used. As the questionnaire was designed in segments of information categories for flow and convenience of the respondent, constructs, such as knowledge management, appear in

appropriate parts of the instrument. However, for clarity of presentation of the detailed discussion in the next part of this thesis, the sequencing of the questionnaire sections will be re-ordered and begin with the measurement of knowledge management.

## **3.4 Measure of Knowledge**

### **3.4.1 Management Introduction**

The management of organisational knowledge and the intangible dimensions of the organisation has been of prominence in recent management literature ( von Krogh *et al.*, 2001). Competitiveness and success is said to depend on the firm's ability to create, utilize and develop its knowledge-based assets ( Hill *et al.*, 2002; Morrison, 2001; Teece, 2000; Nonaka and Takeuchi, 1995). However, knowledge management is still very much a new discipline ( Preiss, 1999; Shariq, 1998) and it seems that very little is known about what effective knowledge management really means (Nonaka and Takeuchi, 1995).

As was introduced in Chapter 2, Darroch & McNaughton (2000, p. 4), defined knowledge as follows:

*“Knowledge comprises two types: tacit and explicit. Tacit knowledge is highly people dependent and is created when insights or experiences are added to information. Tacit knowledge resides within individuals or becomes embedded in organisational routines and procedures. It is non-verbal and so is difficult to articulate, codify, measure, spread and store. Explicit knowledge is less dependent on people and can be codified, measured, spread or stored. Information is data that has had context or meaning added. Data are a collection of records or facts. Together, information and data make up explicit knowledge. “*

Furthermore, Darroch & McNaughton (2000, p.6) propose a definition of knowledge management:

*“The management function that creates or locates knowledge, manages the flow of knowledge within the organisation and ensures that knowledge is used effectively and efficiently for the long-term benefit of the organisation.”*

Building on this early work Darroch (2003) develop an instrument to measure knowledge management. This current study uses the instrument as the critical component for its questionnaire (Appendix 3.x1) to collect the required information for this investigation. The instrument which Darroch (2003) developed is based on the Kohli-Jaworski market-orientation instrument (Kohli et al., 1993) that was developed to measure a firm's ability to

acquire, disseminate and use market information. As was seen in the preceding chapters, market orientation refers to the organisation- wide generation, dissemination, and responsiveness to market intelligence (Kohli and Jaworski, 1990) and involves a number of areas of the business other than marketing (Shapiro, 1988). Intelligence about the market is obtained and analysed, with a view to ascertaining the current and future needs of the market (i.e. the customer or end user). Once digested, the information is shared with key stakeholders within the firm so as to enable the development of strategies or activities directed at satisfying customer needs, or the relevant customer needs for a particular product.

### **3.4.2 Knowledge Acquisition and Responsiveness Sections**

Darroch used questions drawn from the Kohli-Jaworski market-orientation instrument (Kohli et al., 1993) in two specific segments of the questionnaire; the knowledge acquisition and responsiveness sections. Questions specific to knowledge acquisition focused on information inputs from customer, competitors, the firm's industry, financial, employee, technological and collaboration. For this thesis six (6) knowledge acquisition factors totalling twenty (20) questions were used in the survey. The questionnaire was enhanced by incorporating four (4) questions on networking (Coviello, 2006; Gibb, 1994) bringing the total knowledge acquisition section to seven (7) factors with twenty-four (24) questions. Table 3-5 provides a Questionnaire Framework for all factors used in this thesis.

The responsiveness section incorporated questions on the firm's response to customers, changes to marketing, competitors, technology, industry, environment, financial information, employees and internal implementation processes. This thesis adopted four (4) responsiveness to knowledge factors from the Kohli-Jaworski market-orientation instrument (Kohli et al., 1993) totalling twelve (12) questions. The questionnaire was also enhanced by incorporating one (1) question on the firm's flexibility and openness to opportunities (Sinkula et al., 1997) bringing the responsiveness to knowledge section to five (5) factors with thirteen (13) questions.

### **3.4.3 The Knowledge Creation Process in a K M-Oriented Firm**

Darroch (2003) suggests that any study of knowledge management should have an expanded measure of information dissemination. In the context of knowledge management, this means capturing the processes that enhance the creation, conversion and use of knowledge within an

organisation. These processes are said to have more impact on the long term benefits to the firm (Day, 1994; Fahey & Prusak, 1998; Teece, 1998) since, one could argue, that all firms more or less have access to the same types of information.

To enhance the creation, conversion and use of knowledge management Darroch (2003) incorporated the work of Nonaka & Takeuchi (1995) into the Kohli-Jaworski market-orientation instrument (Kohli et al., 1993). The contribution from Nonaka & Takeuchi (1995) was their knowledge-creating spiral that identifies four categories of knowledge flow; each category has its own particular selection of knowledge management practices to facilitate knowledge flow (Figure 3.2).

Essentially, an organisation's knowledge capacity can be increased as knowledge moves along a spiral that sees it being converted from tacit knowledge to explicit knowledge to tacit knowledge etc. (Nonaka & Takeuchi, 1995). The following expands on this concept. Seen through another lens knowledge creation is "the degree of socialization, externalization, combination, and internalization" ( Lee and Choi, 2003, p. 222). The basic argument underlying the generation and exploitation of knowledge in an organisational context concerns two critical processes that take place simultaneously ( Hedlund and Nonaka, 1993; Nonaka, 1991): a mutual exchange between tacit and explicit knowledge. This implies an interaction between tacit and explicit knowledge rather than tacit or explicit knowledge acting separately; this is the essence of knowledge creation.

Tacit and explicit knowledge represent the epistemological dimensions of Nonaka and Takeuchi's (1995) model and the transfer of knowledge between individuals, organisational units, and the close surrounding environment; the latter constitutes the ontological dimension. The importance of Nonaka and Takeuchi's (1995) model, unlike other contributions ( Anderson, 1983; Kogut and Zander, 1992; Garud and Nayyar, 1994), lies in two aspects. • It involves a bi-directional transformation of the knowledge by means of the inter-relationships between the two dimensions ( Weick, 1976); and, it adopts a multilevel perspective that implies a new spiral of knowledge creation, expanding horizontally and vertically between individuals, groups and work teams across organisations ( Nonaka et al., 2000). According to Nonaka and Takeuchi (1995), this spiral model has the following five distinguished phases: • the sharing of tacit knowledge • the creation of concepts • the justification or validation of concepts created • the construction of archetypes or prototypes • the mobilization or transference of the new concept and prototype to all the levels of the organisation (Figure 3.2)

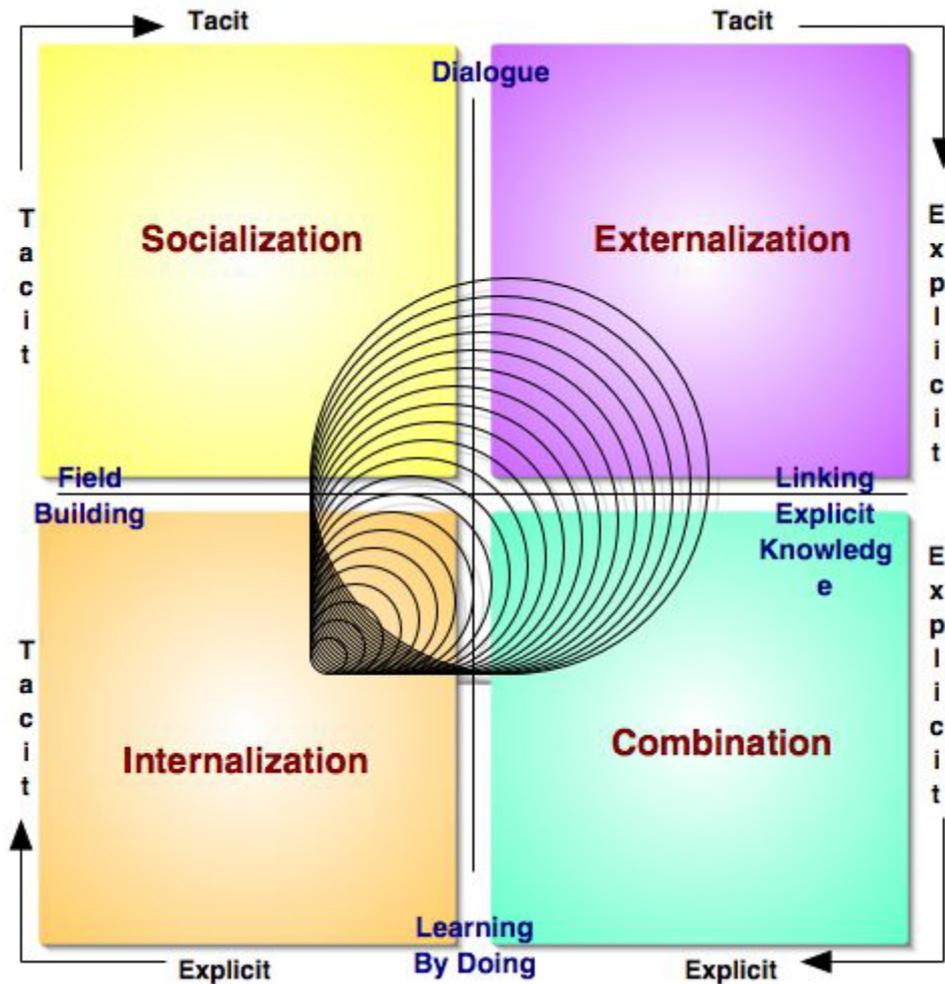


Figure 3.2 The SECI Knowledge Creating Process Model (Nonaka and Takeuchi, 1995)

The above-mentioned five knowledge creation phases (steps) will be discussed based on Krogh et al. (2000).

*First phase:* Sharing tacit knowledge. Tacit, explicit, individual and social knowledge are all available to companies. Tacit knowledge related to highly complex tasks is harder to capture in formal organisational procedures. Instead, it relies on the sharing of experiences and expertise over time between senior employees and novices, and among a fairly stable group of professionals. Tacit knowledge is shared through the deep socialization of a project team, or a micro-community of knowledge. The transfer of tacit knowledge is likely to take time and energy, and involves a good blend of reflection about group work and a mixture of observation, imitation, narration, experimentation, and joint execution.

*Second phase: Creating concepts.* In this phase of knowledge creation, a micro-community attempts to externalize its knowledge, making its tacit knowledge explicit. To externalize knowledge means to express shared practices and judgments through language. A language has two functions, as an instrument of communication and as a vehicle of thought. A figurative language using metaphor and analogies is of particular importance for concept creation. A concept captures the blend of experience and imagination; it also comes about through throwing together already existing ideas.

*Third phase: Justifying concepts.* After a concept has been created, evaluation of it needs to follow. Typically, the micro-community is allowed to present its concept, then, open dialogue about the concept, with constructive criticism, follows. Concept justification should also be expanded to employ criteria that accounts for individual experiences and expressions, since knowledge is so intimately tied to people. Companies should develop aesthetes, or people able to see the many meanings and aspects of a concept. Skills in aesthetic judgment demand a certain kind of imagination called, "synthetic imagination" (Ibid, p.88). Regarding the concept, participants in the justification process must be able to review it in terms of the company's history. How does the concept relate to other knowledge, business, products and markets for the company? They must also be able to project what the world would be like if the concept were introduced and developed into a product or service offering.

*Fourth phase: Building an archetype.* A database with standardized components is vital for identifying those components that fit with the concept; at the same time, it allows for economies of scope. A library of best practices in product design and manufacturing will help participants to identify previous lessons in product design.

*Fifth phase: Cross-levelling knowledge.* The outcome of these four phases results in one of two things: a possibility of final product/service innovation, or raw knowledge that can be utilized in the innovation process. A company's advancement strategy can enhance the cross-levelling of knowledge throughout an organisation, even if a particular initiative doesn't yield a viable idea. Raw knowledge represents what may be called organisational capital.

Management has three responsibilities for organisational capital, all of which involve moving knowledge across many levels:

- First, managers should shorten the time between knowledge created and knowledge received.
- Second, management should document the knowledge created.
- Third, management must ensure re-circulation of created knowledge.

Successful knowledge companies create sustainable value through the creation and use of knowledge and know-how. Sternberg (1999) indicates that successful SMEs are characterized by creating new knowledge within the process of innovation. Organisations generate innovations and knowledge through dynamic interaction.

### **3.4.4 Knowledge Conversion Modes**

Knowledge conversion modes comprise socialization, externalization, combination, and internalization. These conversion modes are discussed below.

*Socialization*: "the degree of tacit knowledge accumulation, extra-firm social information collection, intra-firm social information gathering, and transfer of tacit knowledge" ( Lee and Choi, 2003, p. 222). within the spiral, socialization refers to the exchange of tacit knowledge between individuals in order to impart personal knowledge and experience.

*Externalization*: "the degree of creative dialogue, deductive and inductive thinking, use of metaphors, and exchanged ideas ( Lee and Choi, 2003, p. 222). Externalization describes the transforming processes and simultaneously means the conversion of tacit into explicit knowledge and the exchange of knowledge between individuals and a group.

*Combination*: "the degree of acquisition and integration, synthesis and processing, and dissemination" ( Lee and Choi, 2003, p. 222). Combination refers to the transformation of explicit knowledge into more complex organized explicit knowledge ( Nonaka, 1999). Different fields of explicit knowledge coalesce with each other and make new knowledge available on an organisation wide basis. The systemization and refinement of explicit knowledge increases the practical value of existing knowledge and increases its transferability to all organisational units ( Seufert et al., 1999).

*Internalization*: "the degree of personal experiences, simulation, and experimentation" ( Lee and Choi, 2003, p. 222). Internalization consists of the transfer of the organisation- wide, explicit knowledge into the tacit knowledge of the individual. According to Nonaka and Takeuchi (1995) and Seufert et al. (1999), this conversion is dependent on the individual being able to recognize personally relevant information within the organisation. For this thesis five (5) knowledge dissemination factors totalling fifteen (15) questions were uses in the survey. Table 3-5 provides a Questionnaire Framework for all factors used in this thesis.

### **3.4.5 Remaining Questions in Knowledge Management Questionnaire**

As was presented earlier, the questionnaire for this thesis contains a total of eighty-five (85) questions distributed over six (6) sections. The above discussion has dealt with the middle three sections of the questionnaire; the knowledge management-orientation. The following discusses the remaining three sections of the questionnaire. The first section of the questionnaire asked for information about the firm and is comprised of nine (9) questions. The remaining two sections focus on the firm's experience with external advice while the sixth and final section seeks information on owner/manager demographics and the business performance of the firm. Each of the latter two questionnaire sections is comprised of twelve (12) questions. Table 3-5 provides a Questionnaire Framework for all factors used in this thesis.

**Table 3-5 Thesis Questionnaire Framework By Knowledge Management Constructs, Number of Questions and Representative Theory**

	#	
<b>About the Firm</b>	<u>9</u>	Industry Canada (2005)
<b>Knowledge acquisition (7 Factors):</b>	<u>24</u>	
KAF1. Firm values employees' attitudes and opinions	5	Nonaka and Takeuchi, 1995; Gavin, 1996
KAF2. Well developed financial reporting systems	4	Goebel <i>et al.</i> , 1998
KAF3. Firm is sensitive to changes in the market place	6	Kohli and Jaworski, 1990
KAF4. Science and technology human capital profile	1	Nonaka and Takeuchi, 1995
KAF5. Works in partnership with international customers	2	Kohli & Jaworski, 1990; Nonaka & Takeuchi, 1995
KAF6. Firm gets information from market surveys	2	Kohli & Jaworski, 1990; Nonaka & Takeuchi, 1995
KAF7. Networking: impact on firm's social capital	4	Coviello, 2006; Gibb, 1994
<b>Knowledge Dissemination (5 Factors):</b>	<u>15</u>	
KDF1. Market information is freely disseminated	6	Bennett & Gabriel,1999; Kohli & Jaworski, 1990
KDF2. Knowledge is disseminated on-the-job	3	Davenport and Prusak, 1998
KDF3. Specific techniques used to disseminate knowledge	1	Nonaka and Takeuchi, 1995
KDF4. Firm uses technology to disseminate knowledge	1	Bennett & Gabriel,1999
KDF5. Firm prefers written communication	4	Geisler,1999; Nonaka and Takeuchi, 1995
<b>Responsiveness to Knowledge (5 Factors):</b>	<u>13</u>	
KRF1. Responds to customers	3	Kohli and Jaworski, 1990
KRF2. Well-developed marketing function	3	Ruekert,1992, Kohli and Jaworski, 1990
KRF3. Responds to technology	2	Kohli and Jaworski, 1990
KRF4. Responds to competitors	4	Kohli and Jaworski, 1990
KRF5. Firm is flexible and opportunistic	1	Sinkula et al., 1997
<b>Use of Advice:</b>	<u>12</u>	Bennett & Robson,1999; Wren & Storey, 2002
<b>Owner/Manager Demographics plus Performance:</b>	<u>12</u>	Narver & Slater,1990; Darroch & McNaughton, 2003
<b>Total Questions</b>	<u>85</u>	

## **CHAPTER 4: ANALYSIS AND RESULTS**

### **4.1 Introduction**

This chapter presents the quantitative analyses of the data and reports results of the descriptive statistics, exploratory factor analyses and homogeneity and validity tests of the knowledge management scales, correlation analyses, and cluster analysis based on the knowledge management factors and the profile. In the first section, characteristics of the sample are noted, including demographics of the respondents, a profile of the firms surveyed, the firm's experience with external advice, and a profile of the firm surveyed by industry sector.

The second section describes the results of the mean values, standardized deviation, and reliability cheques undertaken on the four scales of knowledge management: including knowledge acquisition, knowledge dissemination, responsiveness to knowledge, and external advice. In the third section, exploratory factor analyses with the reliability tests for the four knowledge management scales were performed to purify measures (Churchill, 1979) and to refine scales (Singh & Rhoads, 1991).

The fourth section presents the results of homogeneity and validity tests of the knowledge management factors, including internal homogeneity and convergent and discriminate validity. The fifth section reports the results of the relationships between the knowledge management scales and other key factors such as gross sales from last year and change of sales revenue. In the final section, results of cluster analysis based on the knowledge management factors and the profile of the cluster are presented to identify the differences between the clusters and explore characteristics of the clusters.

## 4.2 The Sample Profile

### 4.2.1 Demographic Characteristics of the Sample

The sample profile of respondents is shown in Table 4-1. The quantitative survey results for this study collect a total number of 81 samples. Out of these, 21 observations were discarded due to being improperly completed. Consequently, the total number of growth-oriented SMEs studied in this analysis was 60 firms. The majority of the founders in the sample are male (77.6%), while the female account only for 11.7% . For the remaining 11.7% the gender was not stated (Table 4-1).

When it comes to human capital endowment operationalized by highest level of education completed, 33.3% stated holding graduate/ undergraduate degree, 30.0% undergraduate degree and 16.7% college certificate/ diploma. In sum, I can conclude that the level of human capital endowment is rather high and I expect that this would affect positively the knowledge management process outside and within the firm. Finally, regarding the current position in the firm, 68.3% were CEO, chair, president, vice president or general manager and 76.7% indicated having equity position in the firm.

Table 4-1: Demographic Characteristics of the Sample

	N (Total = 60)	%
<b>Gender</b>		
Male	46	76.7%
Female	7	11.7%
Not Stated	7	11.7%
<b>Highest Level of Education</b>		
High School Credential	5	8.3%
Vocational/Trade School	2	3.3%
College Certificate/Diploma	10	16.7%
Undergraduate Degree	18	30.0%

	N (Total = 60)	%
Graduate/Postgraduate Degree	20	33.3%
Not Stated	5	8.3%
<b>Current Position in the Firm</b>		
CEO/Chair/President/Owner	30	50.0%
Vice President/General Manager	11	18.3%
Director	8	13.3%
Manager	3	5.0%
Other	2	3.3%
Not Stated	6	10.0%
<b>Equity Position in The Firm</b>		
Yes	46	76.7%
No	7	11.7%
Not Stated	7	11.7%

#### 4.2.2 A Profile of the Firms Surveyed

A descriptive profile of the firms surveyed is presented in Table 4-2. The total numbers of observations in this analysis were 60 firms. The industry sectors represented in the conducted sample closely mirror the sector profile of Atlantic Canada with a slight over-representation of manufacturing (30.0%) and IT/professional (31.6%) firms. It was found that 60.0% of the firms were involved in research and development (R&D) or systematic improvement activities (SIA) related to equipment, management procedures, production process and/or products. These firms involved in R&D and SIA approximately spent 12.0% of their total sales revenue.

Of the total 60 firms surveyed, 40% were located in Prince Edward Island, 30% in Nova Scotia, 17% in New Brunswick, and 12% in Newfoundland and Labrador. Of these firms, only 8% were a franchise but 90% traded with the customers on a year round full-time basis. The firms had 75 full-time employees and 11 part-timers on average. Of these, the firms had, on average, 12 full-time employees and 3 part-timers engaged in marketing activities. Further, the firms were lead by the person who was more than 50 years old (43.4%).

In terms of years of business ownership or management, 65% of the firms were more than 10 years. Little more than 48% of the firms were established in between 1980 and 1999 and 75% were founded as a new start-up venture. According to entrepreneurial experience of the firm's owner, 35% currently own one business and has no prior business owners and 28% own two or more business at the same time. On average, while market share within the province where the head office is located accounted for 50%, market share with other Atlantic Canada regions accounted for 18%. For the region under investigation, the firms represent robustness; over 60% had sales above \$1.0M with over 33% posting revenue gains above 20% over the past three years.

Table 4-2: A Profile of the Firms Surveyed

	N (Total = 60)	%
<b>Industry Sector of the Firm</b>		
Agriculture, Fishing, Forestry and Hunting	3	5.0%
Mining, Oil and Gas Extraction and Utilities	1	1.7%
Construction	6	10.0%
Manufacturing	18	30.0%
Retail Trade	5	8.3%
Wholesale Trade	2	3.3%
Information, Cultural Industries, Arts and Recreation	1	1.7%
Information Technology Services	8	13.3%
Professional, Management, Scientific and Technical Services	11	18.3%
Other	5	8.3%
<b>Research and Development or Systematic Improvement Activities</b>		
Yes	36	60.0%
No	23	38.3%
Not Stated	1	1.7%
<b>% of R&amp;D from Sales Revenue</b>		
Most Recent Year	11.8% <sup>a</sup>	(19.2) <sup>b</sup>
Previous Year	12.0% <sup>a</sup>	(19.3) <sup>b</sup>
<b>Location of the Firm's Head Office</b>		
Nova Scotia	18	30.0%
Prince Edward Island	24	40.0%
New Brunswick	10	16.7%
Newfoundland & Labrador	8	13.3%
<b>Franchise of the Firm</b>		
Yes	5	8.3%

	N (Total = 60)	%
No	55	91.7%
<b>Firm is based on:</b>		
A year round full-time basis	54	90.0%
A year round part-time basis	3	5.0%
A seasonal basis	3	5.0%
<b>Total Number of Employees</b>		
Full-time (N=32)	74.8 <sup>a</sup>	(221.0) <sup>b</sup>
Part-time (N=29)	11.0 <sup>a</sup>	(31.4) <sup>b</sup>
<b>Number of Employees engaged in Marketing Activities</b>		
Full-time (N=28)	12.4 <sup>a</sup>	(19.8) <sup>b</sup>
Part-time (N=15)	2.7 <sup>a</sup>	(5.6) <sup>b</sup>
<b>Age of the Person with the Largest Share of Ownership in the Firm</b>		
Less than 30 years	1	1.7%
30-39	6	10.0%
40-49	19	31.7%
50-64	22	36.7%
65 years and over	4	6.7%
Refused	8	13.3%

Note: <sup>a</sup> Mean values; <sup>b</sup> Standard deviations

Table 4-2: A Profile of the Firms Surveyed (cont'd)

	N (Total = 60)	%
<b>Years of Business Ownership or Management</b>		
Less than 5 years	4	6.7%
5-10 years	8	13.3%
More than 10 years	39	65.0%
Refused	9	15.0%
<b>Year of the Firm established:</b>		
Before 1950	5	8.3%
1951 – 1979	8	13.3%
1980 – 1999	29	48.3%
After 2000	11	18.3%
Not Stated	6	10.0%
<b>Type of the Firm established</b>		
As a new start-up venture	45	75.0%
Purchased as an existing business	6	10.0%
Inherited or assumed a family business	3	5.0%
Not Stated	6	10.0%
<b>Entrepreneurial Experience of the Firm's Owner</b>		
Currently owns one business and has no prior business owners	21	35.0%
Have sold or closed an original business but at a later date	8	13.3%
Own two or more businesses at the same time	17	28.3%
Hold an equity position with several businesses but do not have a controlling	1	1.7%
None of the above	6	10.0%
Not Stated	7	11.7%

	N (Total = 60)	%
<b>Market Share (%) of the Firm's Last Year Sales</b>		
The Province where your head office is located	49.8% <sup>a</sup>	(34.3) <sup>b</sup>
Other Atlantic Canadian Provinces	18.1% <sup>a</sup>	(18.2) <sup>b</sup>
Other Canadian Provinces	12.2% <sup>a</sup>	(19.0) <sup>b</sup>
The United States of America	15.9% <sup>a</sup>	(27.3) <sup>b</sup>
Other International Markets	3.9% <sup>a</sup>	(8.8) <sup>b</sup>
<b>Firm's Gross Sales</b>		
Under \$249,999	8	13.3%
\$250,000 to \$499,999	3	5.0%
\$500,000 to \$999,999	1	1.7%
1 million to \$4,999,999	20	33.3%
5 million to \$9,999,999	5	8.3%
10 million to \$24,999,999	4	6.7%
Over \$25,000,000	8	13.3%
Not Stated	11	18.3%
<b>Change in Firm's Sales Revenue over the Past Three Years</b>		
No change	6	10.0%
Increased by 1-9%	5	8.3%
Increased by 10 - 19%	12	20.0%
Increased by 20 - 49%	16	26.7%
More than 50%	5	8.3%
Decreased	7	11.7%
Not Stated	9	15.0%

Note: <sup>a</sup> Mean values; <sup>b</sup> Standard deviations

### **4.2.3 A Profile of the Firms Surveyed by Industry Sector**

Table 4-3 presents a profile of the firms surveyed by industry sector. The initial 10 industry sectors were categorized into three industry sectors: manufacturing firms (30%), information technology/professional services (32%), and other (38%). Given industry dynamics (\* source?) of the manufacturing and information technology/professional services should have a higher portion of R&D and SIA than other industry sector. Information technology/professional services were the most likely to reinvest certain amount of their sales revenues in R&D. Interestingly, the manufacturing sector was the least likely to invest in R&D from sales revenue.

In these samples, while manufacturing firms were the most surveyed from Nova Scotia and New Brunswick, information technology/professional services were from Newfoundland & Labrador and other industry sectors were from Prince Edward Island. Of the total surveys, franchise firms in the information technology/professional services were 5.3% and franchise firms in other industry were 17.4%. (\* cheque).

In terms of total number of employees, information technology/professional services were more likely to have full-time and part-time employees than manufacturing and other industry sectors. In contrast, other industry sectors were more likely to have employees engaged in marketing activities than information technology/professional services and manufacturing firms.

Most of all of industry sectors were lead by the person who was more than 50 years old, owned more than 10years, established in between 1980 and 1999, and established as a new start-up venture. According to entrepreneurial experience of the firm's owner, while manufacturing and other industry sectors' firms were more likely to own two or more business at the same time, information technology/professional services tended to currently own one business and has no prior business owners. All of industry sectors were more likely to share their markets with the same province, have the firm's gross sales above \$1.0M with posting revenue gains above 20% over the past three years.

Table 4-3: A Profile of the Firms Surveyed by Industry Sector

	Industry Sector			
	Manufacturing (N=18)	Information Technology/ Professional Services (N=19)	Other (N=23)	Total (N=60)
<b>Research and Development or Systematic Improvement Activities</b>				
Yes	82.4%	68.4%	39.1%	61.0%
No	17.6%	31.6%	60.9%	39.0%
<b>% of R&amp;D from Sales Revenue <sup>a</sup></b>				
Most Recent Year	7.4	15.5	14.5	11.8
Previous Year	7.9	14.2	17.3	12.0
<b>Location of the Firm's Head Office</b>				
Nova Scotia	33.3%	31.6%	26.1%	30.0%
Prince Edward Island	38.9%	31.6%	47.8%	40.0%
New Brunswick	22.2%	15.8%	13.0%	16.7%
Newfoundland & Labrador	5.6%	21.1%	13.0%	13.3%
<b>Franchise of the Firm</b>				
Yes	0.0%	5.3%	17.4%	8.3%
No	100.0%	94.7%	82.6%	91.7%
<b>Firm is based on:</b>				
A year round full-time basis	88.9%	100.0%	82.6%	90.0%
A year round part-time basis	11.1%	0.0%	4.3%	5.0%
A seasonal basis	0.0%	0.0%	13.0%	5.0%
<b>Total Number of Employees <sup>a</sup></b>				
Full-time (N=32)	54.2	126.1	50.8	74.8
Part-time (N=29)	3.4	15.8	13.6	11.0

Table 4-3(cont'd): A Profile of the Firms Surveyed by Industry Sector

	Industry Sector			
	Manufacturing (N=18)	Information Technology/ Professional Services (N=19)	Other (N=23)	Total (N=60)
<b>Number of Employees engaged in Marketing Activities <sup>a</sup></b>				
Full-time (N=28)	6.5	9.3	19.2	12.4
Part-time (N=15)	0.8	1.0	5.0	2.7
<b>Age of the Person with the Largest Share of Ownership in the Firm</b>				
Less than 30 years	0.0%	5.9%	0.0%	1.9%
30-39	6.3%	11.8%	15.8%	11.5%
40-49	25.0%	29.4%	52.6%	36.5%
50-64	56.3%	52.9%	21.1%	42.3%
65 years and over	12.5%	0.0%	10.5%	7.7%
Refused				
<b>Years of Business Ownership or Management</b>				
Less than 5 years	6.3%	5.9%	11.1%	7.8%
5-10 years	12.5%	29.4%	5.6%	15.7%
More than 10 years	81.3%	64.7%	83.3%	76.5%

Note: <sup>a</sup> Mean values

Table 4-3(cont'd): A Profile of the Firms Surveyed by Industry Sector

	Industry Sector			
	Manufacturing (N=18)	Information Technology/ Professional Services (N=19)	Other (N=23)	Total (N=60)
<b>Year of the Firm established:</b>				
Before 1950	18.8%	0.0%	15.8%	11.1%
1951 – 1979	12.5%	10.5%	21.1%	14.8%
1980 – 1999	50.0%	63.2%	47.4%	53.7%
After 2000	18.8%	26.3%	15.8%	20.4%
<b>Type of the Firm established</b>				
As a new start-up venture	68.8%	94.7%	84.2%	83.3%
Purchased as an existing business	31.3%	5.3%	0.0%	11.1%
Inherited or assumed a family business	0.0%	0.0%	15.8%	5.6%
<b>Entrepreneurial Experience of the Firm's Owner</b>				
Currently owns one business and has no prior business owners	18.8%	57.9%	38.9%	39.6%
Have sold or closed an original business but at a later date	31.3%	10.5%	5.6%	15.1%
Own two or more businesses at the same time	37.5%	21.1%	38.9%	32.1%
Hold an equity position with several businesses but do not have a controlling	0.0%	0.0%	5.6%	1.9%
None of the above	12.5%	10.5%	11.1%	11.3%
<b>Market Share (%) of the Firm's Last Year Sales</b>				
The Province where your head office is located	30.8	48.7	67.9	49.8
Other Atlantic Canadian Provinces	19.7	14.8	19.9	18.1
Other Canadian Provinces	14.1	13.7	9.2	12.2
The United States of America	29.6	16.9	2.8	15.9
Other International Markets	5.9	6.0	0.2	3.9

Table 4-3(cont'd): A Profile of the Firms Surveyed by Industry Sector

	Industry Sector			
	Manufacturing (N=18)	Information Technology/ Professional Services (N=19)	Other (N=23)	Total (N=60)
<b>Firm's Gross Sales</b>				
Under \$249,999	6.7%	20.0%	21.1%	16.3%
\$250,000 to \$499,999	0.0%	6.7%	10.5%	6.1%
\$500,000 to \$999,999	0.0%	6.7%	0.0%	2.0%
1 million to \$4,999,999	46.7%	53.3%	26.3%	40.8%
5 million to \$9,999,999	26.7%	0.0%	5.3%	10.2%
10 million to \$24,999,999	6.7%	0.0%	15.8%	8.2%
Over \$25,000,000	13.3%	13.3%	21.1%	16.3%
<b>Change in Firm's Sales Revenue over the Past Three Years</b>				
No change	12.5%	18.8%	5.3%	11.8%
Increased by 1-9%	6.3%	6.3%	15.8%	9.8%
Increased by 10 - 19%	12.5%	31.3%	26.3%	23.5%
Increased by 20 - 49%	37.5%	25.0%	31.6%	31.4%
More than 50%	12.5%	6.3%	10.5%	9.8%
Decreased	18.8%	12.5%	10.5%	13.7%

Note: <sup>a</sup> Mean values

#### **4.2.4 The Firm's Experience with External Advice**

Table 4-4 depicts the results according to the firm's experience with external advice. The majority of the firms surveyed considered external advice in the past years. More than 60% in the past year were used accountant, customer, friends/associate/mentor, lawyer, and business or industry association, as the main sources of external advice. In addition, more than 68% used external advice for strategic purpose and accountants (66%), Lawyer (46%), private sector business consultant (46%), and financial institution (43%) were main sources of the external advice for strategic purpose. In terms of scope of the strategic external advice, a majority of the firms dealt with a specific problem (83%) and sought to capitalize on a business opportunity (73%).

Table 4-4: Experience with External Advice

	N	%
<b>External Advice Sources: Past Year <sup>a</sup></b>		
Accountant	49	81.7%
Business or Industry Association	37	61.7%
Financial Institution	35	58.3%
Friends/Associate/Mentor	45	75.0%
Supplier	32	53.3%
Customer	48	80.0%
Family	30	50.0%
Government Official	24	40.0%
Lawyer	38	63.3%
Educator/Trainer	19	31.7%
Private Sector Business Consultant	17	28.3%
Private Sector Marketing Consultant	16	26.7%
<b>External Advice Sources: Two Years Prior <sup>a</sup></b>		
Accountant	30	50.0%
Business or Industry Association	21	35.0%
Financial Institution	19	31.7%
Friends/Associate/Mentor	28	46.7%
Supplier	23	38.3%
Customer	28	46.7%
Family	20	33.3%
Government Official	20	33.3%
Lawyer	17	28.3%
Educator/Trainer	13	21.7%
Private Sector Business Consultant	15	25.0%
Private Sector Marketing Consultant	12	20.0%

Table 4-4 (cont'd): Experience with External Advice

	N	%
<b>Use of External Advice for a Strategic Purpose <sup>b</sup></b>		
Yes	41	68.3%
No	15	25.0%
Not Stated	4	6.7%
<b>External Advice used for Strategic Purposes <sup>c</sup></b>		
Accountant	27	65.9%
Business or Industry Association	14	34.1%
Financial Institution	18	43.9%
Friends/Associate/Mentor	15	36.6%
Supplier	11	26.8%
Customer	14	34.1%
Family	12	29.3%
Government Official	10	24.4%
Lawyer	19	46.3%
Educator/Trainer	6	14.6%
Private Sector Business Consultant	19	46.3%
Private Sector Marketing Consultant	15	36.6%
<b>Scope of the Strategic External Advice <sup>c</sup></b>		
Deal with a specific problem	34	82.9%
Seek to capitalize on a business opportunity	30	73.2%
Respond to pressure from competition to improve performance	16	39.0%
Qualify for private funding	16	39.0%
Qualify for government funding	16	39.0%

Note: <sup>a</sup> Multiple responses (Total N =60); <sup>b</sup> Total N =60; <sup>c</sup> Multiple responses (Total N = 41)

## 4.3 Descriptive Statistics

### 4.3.1 Knowledge Acquisition

The total scale reliability alpha for the knowledge acquisition items was .85, which is high. Item-to-total correlations for 20 items out of 24 were higher than .30. In terms of mean values, KA10 (Real market needs rather than internal politics usually drives new product development), KA8 (I have good financial information on our organisation), KA11 (The key task of managing a business is the daily handling of transactional and other relationships with the firm's network of stakeholders), KA16 (I often collect industry information by informal means), KA5 (I have regular meetings with employees), KA18 (Our firm seeks “key business relationships” with individuals who themselves have active network relationships), KA20 (I meet with customers at least once a year to find out what products or services they will need in the future), KA6 (I know exactly how much each of our products or services cost us) were more relatively positive perceived to the respondent.

On the other hand, KA19 (I have a large number of people employed here who are trained in math, science, technology, information technology or engineering), KA22 (Our organisation does a lot of market research), KA21 (I often acquire new ideas through export activities), KA15 (Information about our competitors is collected by more than one department within our firm), KA23 (I survey end-users at least once a year to assess the quality of our products and services) were more relatively negative perceived.

Table 4-5: Knowledge Acquisition

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha ( $\alpha$ ) If Item Deleted
KA1. Managers frequently try to find out employees' true feelings about their jobs	3.87	0.82	0.61	0.85
KA2. I have regular staff appraisals in which I discuss the needs of our employees	3.91	1.10	0.47	0.85
KA3. Employees are encouraged to attend training seminars and conferences	3.94	0.99	0.56	0.85
KA4. I encourage employees to take time to think about our business	3.91	0.97	0.51	0.85
KA5. I have regular meetings with employees	4.06	0.99	0.44	0.85
KA6. I know exactly how much each of our products or services cost us	4.02	0.92	0.39	0.86
KA7. I know exactly how much it costs us to service each customer	3.55	0.95	0.47	0.85
KA8. I have good financial information on our organisation	4.13	0.85	0.52	0.85
KA9. I often analyse the contribution of our products or services	3.87	0.92	0.43	0.85
KA10. Real market needs rather than internal politics usually drives new product development	4.36	0.67	0.67	0.85
KA11. The key task of managing a business is the daily handling of transactional and other relationships with the firm's network of stakeholders	4.11	0.96	0.45	0.85
KA12. People, other than those in the marketing area, interact directly with customers to learn how to serve them better	3.96	0.81	0.49	0.85
KA13. I am quick to detect changes in our customers' preferences	3.89	0.81	0.59	0.85
KA14. I acquire knowledge on a 'need-to-know', 'how to' and 'who with' basis	3.62	0.95	0.31	0.86
KA15. Information about our competitors is collected by more than one department within our firm	3.49	1.06	0.34	0.86
KA16. I often collect industry information by informal means	4.09	0.80	0.27	0.86
KA17. Government initiated training and educational initiatives "have not" assisted our firm in solving problems	3.79	1.10	0.16	0.87

Table 4-5 (cont'd): Knowledge Acquisition

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha ( $\alpha$ ) If Item Deleted
KA18. Our firm seeks "key business relationships" with individuals who themselves have active network relationships	4.06	0.70	0.46	0.85
KA19. I have a large number of people employed here who are trained in math, science, technology, information technology or engineering	3.06	1.26	0.38	0.86
KA20. I meet with customers at least once a year to find out what products or services they will need in the future	4.06	0.99	0.25	0.86
KA21. I often acquire new ideas through export activities	3.28	1.12	0.20	0.86
KA22. Our organisation does a lot of market research	3.26	1.01	0.55	0.85
KA23. I survey end-users at least once a year to assess the quality of our products and services	3.47	1.27	0.48	0.85
KA24. I develop a network of mutually beneficial relationships with our firm, our customers and our stakeholders	3.98	0.71	0.38	0.86

Note: Items were measured by a five-point Likert-type scale ranged from 1 (strongly disagree) to 5 (strongly agree); Total number of items = 24; Total Cronbach's Alpha (Standardized) = .85 (.86)

### **4.3.2 Knowledge Dissemination**

The total scale reliability alpha for the knowledge dissemination items was .85, which is high. Item-to-total correlations for 14 items out of 15 were higher than .35. In terms of mean values, KD4 (I keep a database of customer information that is easy to access), KD7 (Our workspace is set up make it easy for people to talk to each other), KD9 (I frequently step back and reflect on what went well or did not go well in aspects of our business) were more relatively positive perceived to the respondent.

On the other hand, KD12 (A large number of written reports circulate within our organisation), KD13 (I frequently update policy and procedure manuals), KD15 (I periodically circulate documents about our business to external stakeholders) were more relatively negative perceived.

Table 4-6: Knowledge Dissemination

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha ( $\alpha$ ) If Item Deleted
KD1. Marketing people in our organisation frequently spend time discussing customers' future needs with people in technical departments	3.83	0.92	0.50	0.84
KD2. When people in our organisation need information about marketing issues they know exactly who to ask	3.98	0.87	0.23	0.85
KD3. There are regular meetings between departments to discuss market trends and developments	3.83	0.94	0.52	0.84
KD4. I keep a database of customer information that is easy to access	4.23	0.96	0.53	0.84
KD5. Information about customer satisfaction is disseminated to all levels of our organisation on a regular basis	3.64	1.07	0.59	0.83
KD6. I often record internal best practices	3.53	1.10	0.60	0.83
KD7. Our workspace is set up make it easy for people to talk to each other	4.09	1.04	0.44	0.84
KD8. I encourage people with similar interests to work together to solve a problem	3.98	0.87	0.46	0.84
KD9. I frequently step back and reflect on what went well or did not go well in aspects of our business	4.06	0.70	0.53	0.84
KD10. Our organisation actively encourages mentoring or coaching	3.72	1.04	0.35	0.85
KD11. I make good use of technologies to share information on products and processes within the organisation	3.60	1.06	0.55	0.84
KD12. A large number of written reports circulate within our organisation	3.13	1.12	0.52	0.84
KD13. I frequently update policy and procedure manuals	3.23	1.03	0.40	0.85
KD14. Employees are expected to provide feedback to others whenever they attend conferences, seminars or exhibitions	3.87	0.88	0.61	0.83
KD15. I periodically circulate documents about our business to external stakeholders	3.30	1.06	0.44	0.84

Note: Items were measured by a five-point Likert-type scale ranged from 1 (strongly disagree) to 5 (strongly agree); Total number of items = 15; Total Cronbach's Alpha (Standardized) = .85 (.85)

### **4.3.3 Responsiveness to Knowledge**

The total scale reliability alpha for the responsiveness to knowledge items was .84, which is high. Item-to-total correlations for 11 items out of 13 were higher than .33. In terms of mean values, RK1 (When I find our customers are unhappy with the quality of our services, I react immediately), RK2 (I usually respond to changes in our customers product or service needs), RK3 (When I find that a customer would like us to modify a product or service, the departments involved make a concerted effort to do so), RK7 (I manage to keep up to date with technological developments that could affect our business), RK9 (When something important happens to a competitor, the whole organisation knows about it quickly) were more relatively positive perceived to the respondent.

On the other hand, RK13 (I often change the range of products or services that I offer), RK12 (I often change our procedures for doing things), RK5 (Our organisation seems to be able to implement marketing plans effectively) were more relatively negative perceived.

Table 4-7: Responsiveness to Knowledge

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha ( $\alpha$ ) If Item Deleted
RK1. When I find our customers are unhappy with the quality of our services, I react immediately	4.61	0.49	0.39	0.84
RK2. I usually respond to changes in our customers product or service needs	4.49	0.58	0.55	0.84
RK3. When I find that a customer would like us to modify a product or service, the departments involved make a concerted effort to do so	4.41	0.70	0.12	0.86
RK4. Market research, rather than technological advances usually drives our business direction	3.51	1.01	0.21	0.86
RK5. Our organisation seems to be able to implement marketing plans effectively	3.49	1.05	0.73	0.82
RK6. I frequently look for ways to improve the cost effectiveness of our selling and promotional activities	3.80	0.89	0.69	0.82
RK7. I manage to keep up to date with technological developments that could affect our business	4.06	0.79	0.68	0.83
RK8. Information about new technological developments that might affect our business is circulated quickly	3.82	0.95	0.65	0.83
RK9. When something important happens to a competitor, the whole organisation knows about it quickly	4.00	0.85	0.61	0.83
RK10. I are quick to implement strategies in response to significant changes in our competitors pricing structures	3.65	1.04	0.70	0.82
RK11. If a major competitor launches an intensive campaign targeted at our customers, I would implement a response immediately	3.75	0.98	0.58	0.83
RK12. I often change our procedures for doing things	3.25	0.96	0.37	0.85
RK13. I often change the range of products or services that I offer	3.16	0.99	0.33	0.85

Note: Items were measured by a five-point Likert-type scale ranged from 1 (strongly disagree) to 5 (strongly agree); Total number of items = 13; Total Cronbach's Alpha (Standardized) = .84 (.85)

### 4.3.4 External Advice

The total scale reliability alpha for the external advice items was .70, which is marginal. Item-to-total correlations for all three items were higher than .43. While the variable of EA1 (The advice received satisfied our objective) was more relatively positive perceived to the respondent, the EA3 (The advice received matched our ideal view of the advice sought) was more relatively negative perceived.

Table 4-8: External Advice

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha ( $\alpha$ ) If Item Deleted
EA1. The advice received satisfied our objective	4.08	0.72	0.51	0.61
EA2. The advice received confirmed our expectations before engaging the advisor	3.92	0.80	0.43	0.72
EA3. The advice received matched our ideal view of the advice sought	3.73	0.80	0.62	0.46

Note: Items were measured by a five-point Likert-type scale ranged from 1 (strongly disagree) to 5 (strongly agree); Total number of items = 3; Total Cronbach's Alpha (Standardized) = .70 (.70)

## 4.4 Factor Analysis for the Knowledge Management Scales

### 4.4.1 Knowledge Acquisition

Exploratory factor analysis (EFA) using principal components analysis (PCA) approach with a varimax rotation was performed on the 24 items to delineate the dimensions of knowledge acquisition and 18 items were loaded saliently within 6 domains. Table 4-9 displays the domain descriptors, the number of items in each domain, corresponding alpha reliability coefficient, factor loadings, communalities, eighteen and a percentage of variance explained by individual domain.

The EFA generated six dimensional factors that explained 67.91% of a total variance. The six factors had eigenvalues of 4.91, 2.17, 1.59, 1.50, 1.38, and 1.19, respectively. Cronbach's alpha coefficients for individual knowledge acquisition domains ranged from a lowest of .52 to a highest of .84 with a total scale reliability of .85. Only one domain's reliability coefficient

was lower than 0.55 (Environmental Diversity = .55). Appropriateness of factor analysis determined by examining the Kaiser’s measure of sampling adequacy was .76 (critical value of .60 according to Tabachnick & Fidel, 1989). Salient factor loadings on the six factors were all over .56 (critical value = .40; Hattie, 1985). The items had acceptable communalities of over .50. Overall, this indicates that the variables exhibited a strong to moderate correlation with their factor grouping and thus internally consistent. Six knowledge acquisition factors were labelled as “financial knowledge”, “employment engagement”, “market knowledge”, “knowledge about market changes”, “government roles and technology human capital”, and “scanning market”.

Table 4-9: Results of Factor Analysis for the Knowledge Acquisition Scales

Items	Factor Loading	Communalities	Eigen-value	% of Variance Explained	Reliability Alpha	Mean (Std. D.)
<b>KAF1: Financial Knowledge</b>			4.91	27.29	0.84	3.96
I know exactly how much each of our products or services cost us	0.83	0.77				(0.73)
I know exactly how much it costs us to service each customer	0.80	0.75				
I often analyse the contribution of our products or services	0.80	0.74				
I have good financial information on our organisation	0.77	0.70				
<b>KAF2: Employment Engagement</b>			2.17	12.08	0.79	3.95
Managers frequently try to find out employees’ true feelings about their jobs	0.80	0.73				(0.76)
I have regular staff appraisals in which I discuss the needs of our employees	0.78	0.73				
Employees are encouraged to attend training seminars and conferences	0.77	0.65				
I have regular meetings with employees	0.63	0.78				

Table 4-9 (con't): Results of Factor Analysis for the Knowledge Acquisition Scales

Items	Factor Loading	Communalities	Eigen-value	% of Variance Explained	Reliability Alpha	Mean (Std. D.)
<b>KAF3: Market Knowledge</b>			1.59	8.85	0.52	3.67
I often collect industry information by informal means	0.81	0.68				(0.62)
Our organisation does a lot of market research	0.59	0.73				
I acquire knowledge on a 'need-to-know', 'how to' and 'who with' basis	0.58	0.52				
<b>KAF4: Knowledge about Market Changes</b>			1.50	8.35	0.62	3.90
I often acquire new ideas through export activities	0.82	0.71				(0.64)
I are quick to detect changes in our customers' preferences	0.64	0.69				
Real market needs rather than internal politics usually drives new product development	0.56	0.66				
<b>KAF5: Government Roles and Technology Human Capital</b>			1.38	7.68	0.58	3.39
Government initiated training and educational initiatives "have not" assisted our firm in solving problems	0.88	0.83				(0.65)
I have a large number of people employed here who are trained in math, science, technology, information technology or engineering	0.69	0.76				
<b>KAF6: Scanning Market</b>			1.19	6.61	0.55	3.82
I survey end-users at least once a year to assess the quality of our products and services	0.78	0.74				(0.89)
I meet with customers at least once a year to find out what products or services they will need in the future	0.60	0.70				

Note: Factor analysis was employed principal component analysis with Varimax rotation using the 18 knowledge acquisition scale items out of 24 items; Total variance explained = 67.91%

#### 4.4.2 Knowledge Dissemination

Exploratory factor analysis (EFA) using principal components analysis (PCA) approach with a Varimax rotation was performed on the 15 items to delineate the dimensions of knowledge dissemination and loaded saliently within 5 domains. Tables 4-10 presents the domain descriptors, the number of items in each domain, corresponding alpha reliability coefficient, factor loadings, communalities, eighteen and a percentage of variance explained by individual domain.

The EFA generated five dimensional factors that explained 67.91% of a total variance. The five factors had eigenvalues of 4.71, 1.85, 1.42, 1.19, and 1.02, respectively. Cronbach's alpha coefficients for individual knowledge dissemination domains ranged from a lowest of .66 to a highest of .71 with a total scale reliability of .70. Appropriateness of factor analysis determined by examining the Kaiser's measure of sampling adequacy was .71. Salient factor loadings on the six factors were all over .56. The items had acceptable communalities of over .52. Overall, this indicates that the variables exhibited a strong to moderate correlation with their factor grouping and thus internally consistent. Five factors for knowledge dissemination were labelled as "specific techniques to share knowledge", "sharing market information", "written communication", "on-the-job knowledge dissemination", and "communication knowledge".

#### 4.4.3 Responsiveness to Knowledge

Exploratory factor analysis (EFA) using principal components analysis (PCA) approach with a varimax rotation was performed on the 13 items to delineate the dimensions of responsiveness to knowledge and loaded saliently within 3 domains. Table 4-10 shows the domain descriptors, the number of items in each domain, corresponding alpha reliability coefficient, factor loadings, communalities, eigenvalues and a percentage of variance explained by individual domain.

The EFA generated five dimensional factors that explained 62.27% of a total variance. The three factors had eigenvalues of 4.94, 1.95, and 1.20, respectively. Cronbach's alpha coefficients for individual responsiveness to knowledge domains ranged from a lowest of .66 to a highest of .83 with a total scale reliability of .80. Appropriateness of factor analysis determined by examining the Kaiser's measure of sampling adequacy was .73. Salient factor loadings on the three factors were all over .60. The items had acceptable communalities of over .54. Overall, this indicates that the variables exhibited a strong to moderate correlation with their factor grouping and thus internally consistent. Three factors for responsiveness to knowledge were labelled as "responds to technology and competitors", "responds to customers", and "well-developed marketing function".

Table 4-10: Results of Factor Analysis for the Knowledge Dissemination Scales

Items	Factor Loading	Eigen- value	% of Variance	Reliability Alpha	Mean (Std. D.)
	Commun-				

		alities	Explained			
<b>KDF1: Specific Techniques to Share Knowledge</b>			4.71	31.38	0.71	3.94
Our workspace is set up make it easy for people to talk to each other	0.78	0.68				(0.76)
I encourage people with similar interests to work together to solve a problem	0.77	0.71				
Our organisation actively encourages mentoring or coaching	0.72	0.56				
<b>KDF2: Sharing Market Information</b>			1.85	12.30	0.70	3.82
Information about customer satisfaction is disseminated to all levels of our organisation on a regular basis	0.77	0.76				(0.66)
There are regular meetings between departments to discuss market trends and developments	0.71	0.75				
When people in our organisation need information about marketing issues they know exactly who to ask	0.58	0.62				
Marketing people in our organisation frequently spend time discussing customers' future needs with people in technical departments	0.56	0.52				
<b>KDF3: Written Communication</b>			1.42	9.48	0.72	3.35
I frequently update policy and procedure manuals	0.84	0.78				(0.81)
A large number of written reports circulate within our organisation	0.72	0.70				
Employees are expected to provide feedback to others whenever they attend conferences, seminars or exhibitions	0.65	0.67				
<b>KDF4: On-the-Job Knowledge Dissemination</b>			1.19	7.96	0.70	3.79
I frequently step back and reflect on what went well or did not go well in aspects of our business	0.82	0.79				(0.78)
I often record internal best practices	0.74	0.73				
<b>KDF5: Communicating Knowledge</b>			1.02	6.82	0.66	3.67
I make good use of technologies to share information on products and processes within the organisation	0.75	0.69				(0.75)
I periodically circulate documents about our business to external stakeholders	0.75	0.68				
I keep a database of customer information that is easy to access	0.58	0.54				

Note: Factor analysis was employed principal component analysis with Varimax rotation using the 15 knowledge dissemination scale items; Total variance explained = 67.91%

Table 4-11: Results of Factor Analysis for the Responsiveness to Knowledge Scales

Items	Factor Loading	Eigen-Commun- value	% of Variance	Reliability Alpha	Mean (Std. D.)
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		alities	Explained			
<b>KRF1: Responds to Technology and Competitors</b>			4.94	38.02	0.83	3.69
I frequently look for ways to improve the cost effectiveness of our selling and promotional activities	0.75	0.67				(0.62)
I often change the range of products or services that I offer	0.68	0.59				
I are quick to implement strategies in response to significant changes in our competitors pricing structures	0.66	0.71				
I often change our procedures for doing things	0.65	0.54				
I manage to keep up to date with technological developments that could affect our business	0.64	0.59				
When something important happens to a competitor, the whole organisation knows about it quickly	0.62	0.62				
Information about new technological developments that might affect our business is circulated quickly	0.60	0.62				
<b>KRF2: Responds to Customers</b>			1.95	15.03	0.69	4.49
I usually respond to changes in our customers product or service needs	0.79	0.74				(0.49)
When I find that a customer would like us to modify a product or service, the departments involved make a concerted effort to do so	0.76	0.59				
When I find our customers are unhappy with the quality of our services, I react immediately	0.69	0.53				
<b>KRF3: well-developed Marketing Function</b>			1.20	9.23	0.66	3.59
Market research, rather than technological advances usually drives our business direction	0.82	0.69				(0.73)
If a major competitor launches an intensive campaign targeted at our customers, I would implement a response immediately	0.66	0.60				
Our organisation seems to be able to implement marketing plans effectively	0.62	0.74				

Note: Factor analysis was employed principal component analysis with Varimax rotation using the 13 Responsiveness to knowledge dissemination scale items; Total variance explained = 62.27%

#### 4.4.4 External Advice

Exploratory factor analysis (EFA) using principal components analysis (PCA) approach with a varimax rotation was performed on the 3 items to delineate the dimensions of external advice and loaded saliently within 1 domain. Table 4-12 shows the domain descriptor, the number of items in the domain, corresponding alpha reliability coefficient, factor loadings, communalities, eigenvalue and a percentage of variance explained.

The EFA generated one factor that explained 62.27% of a total variance. The three factors had eigenvalues of 4.94, 1.95, and 1.20, respectively. Cronbach’s alpha coefficients for individual responsiveness to knowledge domains ranged from a lowest of .66 to a highest of .83 with a total scale reliability of .80. Appropriateness of factor analysis determined by examining the Kaiser’s measure of sampling adequacy was .69. Salient factor loadings on the three factors were all over .60. The items had acceptable communalities of over .56. Overall, this indicates that the variables exhibited a strong to moderate correlation with their factor grouping and thus internally consistent. One factor was labelled as “external advice”.

Table 4-12: Results of Factor Analysis for the External Advice Scales

Items	Factor Loading	Communalities	Eigen-value	% of		Mean (Std. D.)
				Variance Explained	Reliability Alpha	
<b>EAF1: Strategic External Advice</b>			1.81	60.28	0.67	3.95
The advice received satisfied our objective	0.71	0.62				(0.56)
The advice received confirmed our expectations before engaging the advisor	0.63	0.56				
The advice received matched our ideal view of the advice sought	0.57	0.73				

Note: Factor analysis was employed principal component analysis with Varimax rotation using the 3 external advice scale items; Total variance explained = 60.28%

## **4.5 Homogeneity and Validity of the Knowledge Management Scales**

### **4.5.1 Internal Homogeneity**

Table 4-13 shows that many of factors were significantly and positively correlated ( $p < .05$ ) indicating that there exist a halo effect across scales and a degree of multi-collinearity (Anderson and Ist, 1996). The halo effect suggests that respondents might exaggerate the presence of knowledge management factors. The correlations also provide evidence that the knowledge management factors converge onto a common construct. As a result, the scales have content validity because the questionnaire was based on extant literature.

The relationships among the six factors of knowledge acquisition scales are significant at the 0.05 level, excluding correlations between financial knowledge (KAF1) and market knowledge (KAF3) and government roles and technology human capital (KAF5), scanning market (KAF6) and between employment engagement (KAF2) and government roles and technology human capital (KAF5), and between knowledge about market changes (KAF4) and government roles and technology human capital (KAF5).

Correlation coefficients among the five factors of knowledge dissemination scales are significant at the 0.05 level. However, there were two exceptions: the relationships between specific techniques to share knowledge (KDF1) and sharing market information (KDF2) and written communication (KDF3). In responsiveness to knowledge scales, while the relationships between responds to technology and competitors (KRF1) and responds to customers (KRF2) and well-developed marketing function (KRF3), correlation coefficients between responds to customers (KRF2) and well-developed marketing function (KRF3) were not significant.

Table 4-13: International Homogeneity of the Knowledge Management Scales

Knowledge Acquisition	KAF1	KAF2	KAF3	KAF4	KAF5	KAF6
KAF1: Financial Knowledge	1.00					
KAF2: Employment Engagement	0.36@	1.00				
KAF3: Market Knowledge	0.18	0.31*	1.00			
KAF4: Knowledge about Market Changes	0.34@	0.32*	0.28*	1.00		
KAF5: Government Roles and Technology Human Capital	0.84	0.17	0.38@	0.05	1.00	
KAF6: Scanning Market	0.21	0.31*	0.27*	0.37@	0.27*	1.00

Knowledge Dissemination	KDF1	KDF2	KDF3	KDF4	KDF5
KDF1: Specific Techniques to Share Knowledge	1.00				
KDF2: Sharing Market Information	0.23	1.00			
KDF3: Written Communication	0.24	0.43@*	1.00		
KDF4: On-the-Job Knowledge Dissemination	0.29*	0.47@*	0.37@	1.00	
KDF5: Communicating Knowledge	0.33*	0.43@*	0.44@*	0.46@*	1.00

Responsiveness to Knowledge	KRF1	KRF2	KRF3
KRF1: Responds to Technology and Competitors	1.00		
KRF2: Responds to Customers	0.29*	1.00	
KRF3: well-developed Marketing Function	0.60@*	0.20	1.00

Note: \*  $p < .05$ ; @  $p < .01$ ; @\*  $p < .001$

### 4.5.2 Convergent and Discriminate Validity

The presence of uni-dimensionality means that the items in each factor can be summed to give an overall factor score and these factor scores can, in turn, be summed to give an overall score for each knowledge management component (Law, Wong, and Mobley, 1998). To cheque for convergent and discriminate validity, these aggregates were correlated with the additional factors used in this study for establishing validity: use of strategic external advice, gross sales from last year, and change of sales revenue. The results of the bivariate correlations are given in Tables 4-14 and 4-15.

All of the relationships between the three constructs of knowledge manage scales and uses of strategic external advice are significant at the .05 level. In addition, all of the relationships

between the three constructs of knowledge management scales and gross sales from last year are significant. However, only the relationship between change of sales revenue and responsiveness to knowledge of the three constructs of knowledge management scales is significant. Thus, convergent and discriminate validity was confirmed.

Table 4-14: Correlations of the Knowledge Management with Use of Strategic External Advices

	Knowledge Acquisition	Knowledge Dissemination	Responsiveness to Knowledge	Uses of Strategic External Advice
Knowledge Acquisition	1.00			
Knowledge Dissemination	0.74@*	1.00		
Responsiveness to Knowledge	0.69@*	0.73@*	1.00	
Uses of Strategic External Advice	0.35@	0.32*	0.44@*	1.00

Note: \*  $p < .05$ ; @  $p < .01$ ; @\*  $p < .001$

Table 4-15: Correlations of the Knowledge Management with Use of Strategic External Advices

	Knowledge Acquisition	Knowledge Dissemination	Responsiveness to Knowledge	Gross Sales from Last Year	Change of Sales Revenue
Knowledge Acquisition	1.00				
Knowledge Dissemination	0.74@*	1.00			
Responsiveness to Knowledge	0.69@*	0.73@*	1.00		
Gross Sales from Last Year	0.27*	0.22*	0.23*	1.00	
Change of Sales Revenue	0.21	0.11	0.28*	0.12	1.00

Note: \*  $p < .05$ ; @  $p < .01$ ; @\*  $p < .001$

## **4.6 Cluster Analysis Based on the Knowledge Management Factors and the Profile**

### **4.6.1 Result of Cluster Analysis**

The 60 firms surveyed were neatly identified into two cluster groups based on the six factors of knowledge acquisition, five factors of knowledge dissemination, and three factors of responsiveness to knowledge as shown in Table 4-16. Determination of number of clusters is based on the examination of F-statistics from a two-, three-, four-, and five-cluster solution derived from a K-means cluster analysis (Milligan and Cooper, 1985; Reynolds and Beatty, 1999). As a result, a two-cluster solution appeared to be most meaningful and interpretable.

The ANOVA statistics revealed that all differences are significant at  $p < 0.05$  with respect to all factors of knowledge management scales. Based on the mean scores of two clustering groups on each knowledge management factor along with number of respondents classified into each group, the clusters were significantly different across the 14 factors used in the grouping. Any outlying item was not found in two cluster groups.

Consequently, the firms surveyed were clustered into two groups based on the mean scores recorded on a number of questions concerning perceptions of knowledge management. Of the 60 cases, 55% were highly involved in knowledge management and were termed “highly oriented KM firms,” while 45% reported low involvement in knowledge management and were termed “lowly oriented KM firms.”

Table 4-16: Characteristics of the Cluster and Results of Analysis of Variance

	Cluster 1: (55%)	Cluster 2 (45%)	Total	F-value
<b>Knowledge Acquisition</b>				
KAF1: Financial Knowledge	4.27	3.57	3.96	17.60@*
KAF2: Employment Engagement	4.37	3.43	3.95	36.24@*
KAF3: Market Knowledge	3.97	3.30	3.67	24.50@*
KAF4: Knowledge about Market Changes	4.16	3.58	3.90	14.84@*
KAF5: Government Roles and Technology Human Capital	3.58	3.17	3.39	6.45*
KAF6: Scanning Market	4.17	3.39	3.82	14.06@*
<b>Knowledge Dissemination</b>				
KDF1: Specific Techniques to Share Knowledge	4.26	3.55	3.94	15.95@*
KDF2: Sharing Market Information	4.21	3.36	3.83	40.29@*
KDF3: Written Communication	3.67	2.95	3.35	14.58@*
KDF4: On-the-Job Knowledge Dissemination	4.16	3.34	3.79	22.24@*
KDF5: Communicating Knowledge	4.06	3.20	3.67	28.46@*
<b>Responsiveness to Knowledge</b>				
KRF1: Responds to Technology and Competitors	4.04	3.27	3.69	35.29@*
KRF2: Responds to Customers	4.71	4.22	4.49	18.52@*
KRF3: well-developed Marketing Function	3.96	3.14	3.59	27.16@*

Note: Cluster 1 was labelled “Highly Oriented KM firms” while Cluster 2 was termed “Lowly Oriented KM firms” based on the mean scores of the 14 knowledge management factors; \*  $p < .05$ ; @\*  $p < .001$

## **4.6.2 A Profile of the Cluster**

To determine whether there were any significant differences between the clusters based on the knowledge management factors with respect to characteristics of the firms, experience with external advice, and perceptions of networking or relationship issues, Chi-Square analysis for categorical variables, simple cross-tabulation analysis for multiple responses questions, and t-tests for continuous variables were run.

### ***4.6.2.1 The Cluster and Industry Sector***

As shown in Table 4-17, statistically significant difference between the clusters based on the knowledge management scales were found in industry sectors. The members of cluster 2 (lowly oriented KM firms) were the most likely to be in manufacturing firms. On the other hand, the members of cluster 1 (highly oriented KM firms) were more likely to be in various industry sectors such as professional, management, scientific and technical services, manufacturing, retail trade, and information technology services.

### ***4.6.2.2 The Cluster and Research & Development (R&D) Activities***

Table 4-18 presents the relationship between the clusters and research & development (R&D) activities. Significant difference between the clusters and R&D activities was not found. Nonetheless, it was found that the cluster 1 (highly oriented KM firms) was more likely to invest R&D than the cluster 2 (lowly oriented KM firms).

### ***4.6.2.3 The Cluster and Percent of R&D From Sales Revenue***

As presented in Table 4-19 statistically significant differences were not found across the clusters in regard to average percent of R&D from sales revenue. However, it was found that percent of R&D investment from sales revenue of the cluster 1 (highly oriented KM firms) was higher than that of the cluster 2 (lowly oriented KM firms).

Table 4-17: Industry Sector by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Agriculture, Fishing, Forestry and Hunting	6.1%	3.7%	5.0%
Mining, Oil and Gas Extraction and Utilities	3.0%	0.0%	1.7%
Construction	0.0%	22.2%	10.0%
Manufacturing	21.2%	40.7%	30.0%
Retail Trade	15.2%	0.0%	8.3%
Wholesale Trade	3.0%	3.7%	3.3%
Information, Cultural Industries, Arts and Recreation	3.0%	0.0%	1.7%
Information Technology Services	15.2%	11.1%	13.3%
Professional, Management, Scientific and Technical Services	21.2%	14.8%	18.3%
Other	12.1%	3.7%	8.3%
Chi-Square Statistics: $\chi^2 = 16.91, d.f. = 9, p = .050$			

Table 4-18: Research & Development Activities by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Yes	69.7%	50.0%	61.0%
No	30.3%	50.0%	39.0%
Chi-Square Statistics: $\chi^2 = 2.37, d.f. = 1, p = .179$			

Table 4-19: Percent of R&D from Sales Revenue by the Cluster

	Cluster 1:		Total	t-value
	Highly Oriented	Lowly Oriented		
	KM Firms (55%)	KM Firms (45%)		
Most Recent Year	15.2	5.83	11.8	1.74
Previous Year	15.7	6.1	12.0	164

#### 4.6.2.4 The Cluster and Location of the Firm's Head Office

To determine whether there was significant difference between the KM clusters with respect to location of the firm's head office, Chi-Square analysis were run. As presented in Table 4-20, significant difference between the clusters was not found in location of the firm's head office. Other than statistical difference, while highly oriented KM firms were more likely to be in Nova Scotia and Newfoundland and Labrador, lowly oriented KM firms were more likely to be in Prince Edward Island and New Brunswick.

Table 4-20: Location of the Firm's Head Office by the Cluster

	Cluster 1:		Total
	Highly Oriented	Lowly Oriented	
	KM Firms (55%)	KM Firms (45%)	
Nova Scotia	39.4%	18.5%	30.0%
Prince Edward Island	30.3%	51.9%	40.0%
New Brunswick	12.1%	22.2%	16.7%
Newfoundland & Labrador	18.2%	7.4%	13.3%
Chi-Square Statistics: $\chi^2 = 6.08, d.f. = 3, p = .108$			

#### 4.6.2.5 The Cluster and Franchise of the Firm

As shown in Table 4-21, statistically significant difference between the KM clusters were found in franchise of the firm. Franchise firms in the cluster 1 (highly oriented KM firms) were more likely to be larger than the cluster 2 (lowly oriented KM firms).

Table 4-21: Franchise of the Firm by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Yes	15.2%	0.0%	8.3%
No	84.8%	100.0%	91.7%
Chi-Square Statistics: $\chi^2 = 4.46$ , $d.f. = 1$ , $p = .050$			

#### 4.6.2.6 The Cluster and Firm's Operation-Time

To identify the difference between the two clusters with respect to firm's operation-time, Chi-Square analysis was performed. As shown in Table 4-22, statistically significant difference did not show between the clusters in firm's operation-time. Both the two clusters tended to operate their firms based on a year-round full-time basis.

Table 4-22: Firm's Operation Time by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
A Year round Full-time Basis	93.9%	85.2%	90.0%
A Year round Part-time Basis	3.0%	7.4%	5.0%
A Seasonal Basis	3.0%	7.4%	5.0%
Chi-Square Statistics: $\chi^2 = 1.26$ , $d.f. = 2$ , $p = .531$			

#### 4.6.2.7 The Cluster and Total Number of Employees

To determine whether there was significant differences between the clusters with respect to total number of full-time and part-time employees, t-tests were run. The results are reported in Table 4-23. Significant differences between the clusters were not found in total number of employees. However, the results show that the members of the cluster 1 (highly oriented KM firms) were more likely to have larger number of full-time and part-time employees than the cluster 2 (lowly oriented KM firms).

Table 4-23: Total Number of Employees by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total	<i>t</i> -value
Full-time Employees	101.1	43.7	74.8	0.994
Part-time Employees	17.4	3.0	11.0	1.711

#### ***4.6.2.8 Cluster & Number of Employees Engaged in Marketing Activities***

To determine whether there was significant differences between the clusters with respect to total number of full-time and part-time employees engaged in marketing activities, t-tests were run. The results are reported in Table 4-24. There were no significant differences between the clusters in the total number of employees engaged in marketing activities. However, the results show that the members of the cluster 1 (highly oriented KM firms) were more likely to have larger number of full-time and part-time employees engaged in marketing activities than the cluster 2 (lowly oriented KM firms).

Table 4-24: Number of Employees engaged in Marketing Activities by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total	<i>t</i> -value
Full-time Employees	14.9	9.2	12.4	1.026
Part-time Employees	3.9	0.8	2.7	1.331

#### ***4.6.2.9 The Cluster & Age of Largest Shareholder in the Firm***

To identify the difference between the two clusters with respect to age of the person with the largest share of ownership in the firm, Chi-Square analysis was run. As shown in Table 4-25, statistically significant difference was not found between the clusters in age of the person with the largest share of ownership in the firm. However, both the cluster 1 and the cluster 2 were more likely to be a person who was over 50 years old.

Table 4-25: Age of the Person with the Largest Share of Ownership in the Firm by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Less than 30 years	3.8%	0.0%	1.9%
30-39	11.5%	11.5%	11.5%
40-49	38.5%	34.6%	36.5%
50-64	42.3%	42.3%	42.3%
65 years and over	3.8%	11.5%	7.7%

Chi-Square Statistics:  $\chi^2 = 2.05$ ,  $d.f. = 4$ ,  $p = .726$

#### 4.6.2.10 The Cluster and Year of Business Ownership or Management

To identify the difference between the two clusters with respect to year of business ownership or management, Chi-Square analysis was performed. As shown in Table 4-26, statistically significant difference was not found between the clusters in year of business ownership or management. However, both the cluster 1 and the cluster 2 were more likely to be more than 10 years in terms of year of business ownership or management.

Table 4-26: Year of Business Ownership or Management by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Less than 5 years	8.0%	7.7%	7.8%
5 – 10 years	12.0%	19.2%	15.7%
More than 10 year	80.0%	73.1%	76.5%

Chi-Square Statistics:  $\chi^2 = 0.51$ ,  $d.f. = 2$ ,  $p = .776$

#### 4.6.2.11 The Cluster and Year of the Firm Established

To identify the difference between the two clusters with respect to year of the firm established, Chi-Square analysis was performed. As shown in Table 4-27, statistically significant difference was not found between the clusters in year of business ownership or management. The result shows that both the cluster 1 and the cluster 2 were more likely to start their business between 1980 and 1999.

Table 4-27: Year of the Firm Established by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Before 1950	7.1%	15.4%	11.1%
1951 –1979	17.9%	11.5%	14.8%
1980 – 1999	60.7%	46.2%	53.7%
After 2000	14.3%	26.9%	20.4%

Chi-Square Statistics:  $\chi^2 = 2.78$ ,  $d.f. = 3$ ,  $p = .427$

#### 4.6.2.12 *The Cluster and Type of the Firm Established*

To identify the difference between the two clusters with respect to type of the firm established, Chi-Square analysis was performed. As shown in Table 4-28, statistically significant difference was not found between the clusters in type of the firm established. The result shows that both the cluster 1 and the cluster 2 were more likely to start their business as a new start-up venture.

Table 4-28: Type of the Firm Established by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
As a new start-up venture	82.1%	84.6%	83.3%
Purchased as an existing business	10.7%	11.5%	11.1%
Inherited or assumed a family business	7.1%	3.8%	5.6%
Chi-Square Statistics: $\chi^2 = 0.28$ , $d.f. = 2$ , $p = .869$			

#### 4.6.2.13 *The Cluster and Entrepreneurial Experience of the Firm's Owner*

To identify the difference between the two clusters with respect to entrepreneurial experience of the firm's owner, Chi-Square analysis was performed. As shown in Table 4-29, statistically significant difference was not found between the clusters in entrepreneurial experience of the firm's owner. However, the result shows that while the cluster 1 (highly oriented KM firms) were more likely to currently own business and have no prior business owners, the cluster 2 (lowly oriented KM firms) tended to own two or more business at the same time.

Table 4-29: Entrepreneurial Experience of the Firm's Owner by the Cluster

	Cluster 1:		Total
	Highly Oriented	Lowly Oriented	
	KM Firms (55%)	KM Firms (45%)	
Currently owns one business and has no prior business owners	50.0%	28.0%	39.6%
Have sold or closed an original business but at a later date	10.7%	20.0%	15.1%
Own two or more businesses at the same time	21.4%	44.0%	32.1%
Hold an equity position with several businesses but do not have a controlling	3.6%	0.0%	1.9%
None of the above	14.3%	8.0%	11.3%
Chi-Square Statistics: $\chi^2 = 5.82, d.f. = 4, p = .213$			

#### 4.6.2.14 The Cluster & Market Share (%) of the Firm's Last Year Sales

No statistically significant differences were found across the clusters in regard to average market share of the firm's last year sales. The results show that both the cluster 1 and cluster 2 were more likely to have higher percent of market share of the firm within the province where the head office is located.

Table 4-30: Market Share (%) of the Firm's Last Year Sales by the Cluster

	Cluster 1:		Total	t-value
	Highly Oriented	Lowly Oriented		
	KM Firms (55%)	KM Firms (45%)		
In Province of head office	51.2	48.4	49.8	0.296
Other Atlantic Canadian Provinces	13.4	23.1	18.2	-0.973
Other Canadian Provinces	14.7	9.6	12.2	0.962
The United States of America	16.9	14.9	15.9	0.260
Other International Markets	3.8	4.0	3.9	-0.094

#### 4.6.2.15 The Cluster and Firm's Gross Sales

To identify the difference between the two clusters with respect to firm's gross sales, Chi-Square analysis was performed. As shown in Table 4-31, no statistically significant difference was found between the clusters in firm's gross sales. However, both the cluster 1 and the cluster 2 were more likely to have more than 1 million in their gross sales.

Table 4-31: Firm's Gross Sales by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Under \$249,999	19.2%	13.0%	16.3%
\$250,000 to \$499,999	0.0%	13.0%	6.1%
\$500,000 to \$999,999	0.0%	4.3%	2.0%
1 million to \$4,999,999	46.2%	34.8%	40.8%
5 million to \$9,999,999	7.7%	13.0%	10.2%
10 million to \$24,999,999	11.5%	4.3%	8.2%
Over \$25,000,000	15.4%	17.4%	16.3%

Chi-Square Statistics:  $\chi^2 = 6.34$ ,  $d.f. = 6$ ,  $p = .386$

#### 4.6.2.16 Cluster & Change in Firm's Sales Revenue Over the Past 3 Years

To identify the difference between the two clusters with respect to change in firm's sales revenue over the past three years, Chi-Square analysis was performed. As shown in Table 4-32, no statistically significant difference was found between the clusters in firm's gross sales. However, both the cluster 1 and the cluster 2 were more likely to increase over 20% in firm's sales revenue.

Table 4-32: Change in Firm's Sales Revenue Over the Past Three Years by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
No change	11.1%	12.5%	11.8%
Increased by 1-9%	3.7%	16.7%	9.8%
Increased by 10 - 19%	25.9%	20.8%	23.5%
Increased by 20 - 49%	29.6%	33.3%	31.4%
More than 50%	14.8%	4.2%	9.8%
Decreased	14.8%	12.5%	13.7%

Chi-Square Statistics:  $\chi^2 = 3.91$ ,  $d.f. = 5$ ,  $p = .562$

### 4.6.3 The Firm's Experience With External Advice by the Cluster

#### 4.6.3.1 The Cluster and External Advice Sources: Past Year

Table 4-33 shows the firm's experience with external advice in the past year by the cluster. Most of the firms sampled used external advice in the past years. More than 70% of the members of the cluster (highly oriented KM firms) were more likely to use accountant, customer, and lawyer as the main sources of external advice in the past year. On the other hand, more than 80% of the members of the cluster 2 (lowly oriented KM firms) tended to use accountant, friends/associate/mentor, and customer as the main sources of external advice in the past year.

Table 4-33: External Advice Sources (Past Year) by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Accountant	78.8%	85.2%	81.7%
Business or Industry Association	69.7%	51.9%	61.7%
Financial Institution	69.7%	44.4%	58.3%
Friends/Associate/Mentor	69.7%	81.5%	75.0%
Supplier	60.6%	44.4%	53.3%
Customer	78.8%	81.5%	80.0%
Family	57.6%	40.7%	50.0%
Government Official	42.4%	37.0%	40.0%
Lawyer	75.8%	48.1%	63.3%
Educator/Trainer	42.4%	18.5%	31.7%
Private Sector Business Consultant	33.3%	22.2%	28.3%
Private Sector Marketing Consultant	30.3%	22.2%	26.7%

Note: Multiple responses

#### ***4.6.3.2 The Cluster and External Advice Sources: Two Years Prior***

Table 4-34 shows the firm's experience with external advice in the past two years by the cluster. Most of the firms sampled used external advice in the past two years. Both cluster 1 and cluster 2 were more likely to use accountant, friends/associate/mentor, and customer as the main sources of external advice in the past two years.

Table 4-34: External Advice Sources (Two Years Prior) by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Accountant	54.5%	44.4%	50.0%
Business or Industry Association	39.4%	29.6%	35.0%
Financial Institution	39.4%	22.2%	31.7%
Friends/Associate/Mentor	51.5%	40.7%	46.7%
Supplier	48.5%	25.9%	38.3%
Customer	51.5%	40.7%	46.7%
Family	39.4%	25.9%	33.3%
Government Official	42.4%	22.2%	33.3%
Lawyer	39.4%	14.8%	28.3%
Educator/Trainer	24.2%	18.5%	21.7%
Private Sector Business Consultant	30.3%	18.5%	25.0%
Private Sector Marketing Consultant	30.3%	7.4%	20.0%

Note: Multiple responses

#### ***4.6.3.3 The Cluster and Use of External Advice for Strategic Purposes***

To identify the difference between the two clusters with respect to use of external advice for strategic purpose, Chi-Square analysis was performed. As shown in Table 4-35, statistically significant difference was not found between the clusters in use of external advice for strategic purpose. However, the result indicates that both the cluster 1 and the cluster 2 were more likely to use external advice for strategic purpose.

Table 4-35: Use of External Advice for Strategic Purposes by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Yes	76.7%	69.2%	73.2%
No	23.3%	30.8%	26.8%
Chi-Square Statistics: $\chi^2 = 0.39$ , $d.f. = 1$ , $p = .560$			

#### 4.6.3.4 The Cluster and Types of External Advice Used for Strategic Purposes

Table 4-36 presents types of external advice used for strategic purpose by the cluster. While the cluster 1 (highly oriented KM firms) were more likely to use accountant, lawyer, private sector business consultant, business or industry association for strategic purpose, the cluster 2 (lowly oriented KM firms) tended to use accountant, financial institution, friends/associate/mentor, and private sector business consultant for strategic purpose.

Table 4-36: Types of External Advice used for Strategic Purposes by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total
Accountant	73.9%	55.6%	65.9%
Business or Industry Association	52.2%	11.1%	34.1%
Financial Institution	52.2%	33.3%	43.9%
Friends/Associate/Mentor	39.1%	33.3%	36.6%
Supplier	39.1%	11.1%	26.8%
Customer	43.5%	22.2%	34.1%
Family	30.4%	27.8%	29.3%
Government Official	30.4%	11.1%	22.0%

	Cluster 1:	Cluster 2:	
	Highly Oriented	Lowly Oriented	Total
	KM Firms (55%)	KM Firms (45%)	
Lawyer	60.9%	27.8%	46.3%
Educator/Trainer	17.4%	11.1%	14.6%
Private Sector Business Consultant	56.5%	33.3%	46.3%
Private Sector Marketing Consultant	47.8%	22.2%	36.6%

Note: Multiple responses

#### ***4.6.3.5 The Cluster and Scope of the Strategic External Advice***

Table 4-37 displays scope of the strategic external advice by the cluster. Most of the firms were more likely to deal with a specific problem, seek to capitalize on a business opportunity when they experience with external advice for strategic purpose.

Table 4-37: Scope of the Strategic External Advice by the Cluster

	Cluster 1:	Cluster 2:	
	Highly Oriented	Lowly Oriented	Total
	KM Firms (55%)	KM Firms (45%)	
Deal with a specific problem	95.7%	80.0%	89.5%
Seek to capitalize on a business opportunity	90.0%	85.7%	88.2%
Respond to pressure from competition to improve performance	60.0%	40.0%	53.3%
Qualify for private funding	41.2%	60.0%	50.0%
Qualify for government funding	50.0%	58.3%	53.3%

Note: Multiple responses

#### 4.6.3.6 *The Cluster and Perceptions of Strategic External Advices*

To determine whether there were any significant differences between the groups of KM clusters with respect to perceptions of strategic external advices, a series of t-tests were analysed. As presented in Table 4-38, no statistically significant differences between the clusters were found in perceptions of strategic external advices. However, it was found that the cluster 1 (highly oriented KM firms) were more likely to have higher perceptions of strategic external advices than the cluster 2 (lowly oriented KM firms).

Table 4-38: Perceptions of Strategic External Advices by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total	<i>t</i> -value
The advice was used to construct a business plan, but within six months, our firm didn't look at all like the plan	3.00	2.50	2.76	0.934
The advice received satisfied our objective	4.29	3.94	4.13	1.527
The advice received confirmed our expectations before engaging the advisor	4.10	3.79	3.97	1.148
The advice received matched our ideal view of the advice sought	3.90	3.56	3.76	1.308

#### 4.6.4 Perceptions of Networking or Relationship Issues by Cluster

To determine whether there were any significant differences between the groups of KM clusters with respect to perceptions of networking or relationship issues, a series of t-tests were analysed. As presented in Table 4-39, statistically significant differences between the clusters were found in perceptions of networking or relationship issues. Overall, it was found that the cluster 1 (highly oriented KM firms) were more likely to have higher perceptions of networking or relationship issues than the cluster 2 (lowly oriented KM firms).

Table 4-39: Perceptions of Networking or Relationship Issues by the Cluster

	Cluster 1: Highly Oriented KM Firms (55%)	Cluster 2: Lowly Oriented KM Firms (45%)	Total	t-value
The key task of managing a business is the daily handling of transactional and other relationships with the firm's network of stakeholders	4.41	3.85	4.15	2.47*
I acquire knowledge on a 'need-to-know', 'how to' and 'who with' basis	3.97	3.26	3.63	3.02@
Government initiated training and educational initiatives "have not" assisted our firm in solving problems (R)	3.68	3.85	3.76	-0.61
Our firm seeks "key business relationships" with individuals who themselves have active network relationships	4.30	3.77	4.05	2.77@
I develop a network of mutually beneficial relationships with our firm, our customers and our stakeholders	4.31	3.78	4.07	3.14@

Note: \*  $p < .05$ ; @  $p < .01$

## **4.7 Does Knowledge Management Activities Foster Firm Performance?**

This final section of the quantitative research results and analysis, explores two sub-propositions of SMEs' knowledge management process by using the techniques of discrete choice modelling. In this context, I propose:

*Proposition 1:* Engaging in external knowledge acquisition is positively related to entrepreneurial success of growth-oriented SMEs.

*Proposition 2:* Involving in intra-knowledge dissemination is positively related to entrepreneurial success of growth-oriented SMEs.

### **4.7.1 Review of Thesis Research Context and Methods and Data: Sample Design**

The empirical analysis in this study is based on a detailed unique survey of 81 growth-oriented SMEs venturing in Atlantic Canada. The survey was conducted by means of web-based questionnaire to study the knowledge management process and other aspects of entrepreneurial success.

Within this background, this study adopted the work of Darroch (2003) for the development of the survey instrument to gather qualitative data on knowledge management processes of growth-oriented SMEs in Atlantic Canada. The instrument, which Darroch (2003) developed, and which was enhanced through additional questions by the author of this thesis, is based on the Kohli-Jaworski market-orientation instrument (Kohli et al., 1993). The objective of the final instrument used in this research was to measure a firm's ability to acquire, disseminate and use knowledge.

Table 4-40 (which is reproduced from Chapter 2) depicts the framework for the 85 question survey in addition to identifying the theoretical constructs for each factor.

The instruments are divided into six sections. (1) firm-specific characteristics; (2) knowledge acquisition; (3) knowledge dissemination; (4) responsiveness to knowledge; (5) use of external advice; and (6) entrepreneur's profile.

**Table 4-40: Thesis Questionnaire Framework By Knowledge Management Constructs, Number of Questions and Representative Theory**

	#	
<b>About the Firm</b>	<u>9</u>	Industry Canada (2005)
<b>Knowledge acquisition (7 Factors):</b>	<u>24</u>	
KAF1. Firm values employees' attitudes and opinions	5	Nonaka and Takeuchi, 1995; Gavin, 1996
KAF2. Well developed financial reporting systems	4	Goebel <i>et al.</i> , 1998
KAF3. Firm is sensitive to changes in the market place	6	Kohli and Jaworski, 1990
KAF4. Science and technology human capital profile	1	Nonaka and Takeuchi, 1995
KAF5. Works in partnership with international customers	2	Kohli & Jaworski, 1990; Nonaka & Takeuchi, 1995
KAF6. Firm gets information from market surveys	2	Kohli & Jaworski, 1990; Nonaka & Takeuchi, 1995
KAF7. Networking: impact on firm's social capital	4	Coviello, 2006; Gibb, 1994
<b>Knowledge Dissemination (5 Factors):</b>	<u>15</u>	
KDF1. Market information is freely disseminated	6	Bennett & Gabriel,1999; Kohli & Jaworski, 1990
KDF2. Knowledge is disseminated on-the-job	3	Davenport and Prusak, 1998
KDF3. Specific techniques used to disseminate knowledge	1	Nonaka and Takeuchi, 1995
KDF4. Firm uses technology to disseminate knowledge	1	Bennett & Gabriel,1999
KDF5. Firm prefers written communication	4	Geisler,1999; Nonaka and Takeuchi, 1995
<b>Responsiveness to Knowledge (5 Factors):</b>	<u>13</u>	
KRF1. Responds to customers	3	Kohli and Jaworski, 1990
KRF2. Well-developed marketing function	3	Ruekert,1992, Kohli and Jaworski, 1990
KRF3. Responds to technology	2	Kohli and Jaworski, 1990
KRF4. Responds to competitors	4	Kohli and Jaworski, 1990
KRF5. Firm is flexible and opportunistic	1	Sinkula et al., 1997
<b>Use of Advice:</b>	<u>12</u>	Bennett & Robson,1999; Wren & Storey, 2002
<b>Owner/Manager Demographics plus Performance:</b>	<u>12</u>	Narver & Slater,1990; Darroch & McNaughton, 2003
<b>Total Questions</b>	<u>85</u>	

#### 4.7.2 Model Specification

In our methodological framework, the unit of analysis is the individual firm, which enables us to apply the techniques of the discrete choice modelling. For comparability purpose, we distinguish three levels of entrepreneurial performance: under 1 million, 1-5 million and over 5 million Canadian dollars gross sales. The propensity of a firm to be associated with one of above mentioned performance levels are modelled as a generalized multinomial logit.

Formally, consider an enterprise  $i$  choosing among  $m$  alternatives for venture performance in

a choice set of  $m=3$ . Let  $\pi_{ik}$  denote the probability that enterprise  $i$  prefers alternative  $k$ , let  $X_i$  represent the characteristics of enterprise  $i$ . The choice probability that enterprise  $i$  selects alternative  $k$  as performance level is given by equation (1):

$$\pi_{ik} = \frac{\exp(\beta_k' X_i)}{\sum_{l=1}^m \exp(\beta_l' X_i)} = \frac{1}{\sum_{l=1}^m \exp[(\beta_l - \beta_k)' X_i]} \quad (1)$$

where  $\beta_1, \dots, \beta_m$  are  $m$  vectors of unknown regression parameters (each of which is different, even though  $X_i$  is constant across the cooperation alternatives) to be estimated. Since  $\sum_{k=1}^m \pi_{ik} = 1$ , the  $m$  sets of parameters are not unique. Therefore, by setting the last set of coefficients to null (that is,  $\beta_m = 0$ ), the coefficients  $\beta_k$  represent the effects of the  $X$  variables on the probability of choosing the  $k$  the performance alternative over the last one.

The regression parameters  $\beta_1, \dots, \beta_m$  were estimated by employing the maximum-likelihood procedure (e.g. Ben-Akiva and Lerman 1985). The absolute values and the signs of the estimated parameters are of great interest in our empirical analysis. In particular, if the sign is positive, an increase in the independent variable results in an increase of the dependent one. For a negative sign this effect turns to the opposite. Finally, the estimates of the changes in the explanatory variables on the odds ratios are of significant interest. Recall that the multinomial logit model estimates  $k-1$  models, where the  $k$  th equation is relative to the referent group.

If the model was to be written out in an exponentiated form where the predictor of interest is evaluated at  $X\delta$  and at  $X$  for outcome  $m$  relative to the referent group, where  $\delta$  is the change in the predictor we are interested in ( $\delta$  is traditionally is set to one) while the other variables in the model are held constant. If we then take their ratio, the ratio would reduce to the ratio of two probabilities, the relative risk. In this sense, the exponentiated multinomial logit coefficient provides an estimate of relative risk. However, the exponentiated coefficients are commonly interpreted as odds ratios. Standard interpretation of the relative risk ratios is for a unit change in the predictor variable, the relative risk ratio of outcome  $m$  relative to the referent group is expected to change by a factor of the respective parameter estimate given the variables in the model are held constant.

## **4.7.3 Construction of Variables**

### ***4.7.3.1 Dependent Variables***

The effect of entrepreneurial performance was measured by the volume of gross sales in million Canadian dollars. A multinomial variable was coded 1 if the enterprise surveyed indicated a volume of sales under 1 million, 2 if the company realised 1-5 million and 3 if the enterprise reached over 5 million Canadian dollars gross sales. This was done to better understand the relationship between performance and knowledge management practices.

### ***4.7.3.2 Independent Variables***

As independent variables for our empirical investigations, I used variables deducted from the knowledge management literature. The knowledge acquisition variable was operationalised employing seven (7) factors. Six (6) of them were included - financial knowledge, market knowledge, knowledge about market changes, scanning market, employment enlargement, and government roles and technology human capital - into the multinomial logistic model. Moreover, the knowledge dissemination was measured using five (5) factors such as specific techniques to share knowledge, sharing market information, preferring written communication, on-the-job knowledge dissemination and communicating knowledge. Finally, the responsiveness to knowledge was also taken into consideration. This variable was operationalised by five (5) factors following the previous literature.

### ***4.7.3.3..Control Variables***

Various control variables were included in the empirical analysis . For instance, human capital such as university degree, work experience, and non-formal education, are investments that might increase labour productivity. Human capital was controlled for in two ways. First, the entrepreneurs indicated the formal education they had completed. Secondly, the age of the company as proxy for working experience was considered into the analysis. The impact of gender and new start ups on the entrepreneurial performance was also controlled.

#### 4.7.4 Results and Conclusions

I estimated two different econometric specifications of the proposed multinomial logit model, referred to as baseline and full model, employing the maximum-likelihood procedure and the obtained results are depicted in Table 4-41. For each of the specifications computed, the coefficient estimates were presented with  $p$ -values shown in parenthesis underneath. In the adjacent column, I showed the odds ratios.

The main findings suggest that knowledge management practices - external acquisition, intra-firm dissemination and responsiveness do vary across the levels of entrepreneurial performance among the Atlantic Canadian SMEs investigated in the study. According to the base line model, knowledge about the market changes as measure of knowledge acquisition practices indicates to be more significant for enterprises with gross sales under 1 million dollars relative to the reference group. The estimated odds ratio accounts for 21.68.

Among the considerable knowledge dissemination drivers are such as written communication and communicating knowledge. Written communication, for instance, reduces the propensity of an enterprise to generate higher gross sales by a factor of 3.03. In contrast, communicating knowledge raises the sales volume by 12.33 for the first and by 11.57 for the second level of venture performance. Finally, the well-developed marketing function as indicator for firm responsiveness is associated with a negative impact on the entrepreneurial performance relevant to the reference group.

How did our empirical evidence change when including firm-specific control indicators? I was surprised to encounter that founder's formal education has a positive impact on the gross sales only for enterprises in the second performance level while for the companies generating under 1 million dollars the impact is negative. The estimated odds ratio yields 0.03 contrasted with 7.45 for companies generating 1-5 million dollars per year. Gender and industrial sectors do not impact significantly the entrepreneurial success. Finally, the effects regarding the knowledge management practices remain robust while incorporating the control variables.

Overall, the empirical evidence shows that different knowledge management practices are associated with different levels of venture performance according to the growth-oriented SMEs operating in Atlantic Canada. Firm-specific characteristics such as formal education, industrial sector and region do not play a significant role on the entrepreneurial success.

In conclusion, the findings from this section showed that knowledge management practices do vary across the growth-oriented businesses considered by this thesis.

**Table 4-41: Impact of Knowledge Management Practices on Firm Performance (Multinomial Logit Estimates)**

Independent Variables	Baseline Model		Full Model	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
<b>Performance Level 1: Gross Sales under 1 million Canadian Dollars</b>				
<i>Constant Term</i>	9.679 (0.208)	-	24.140 (0.027)	-
KAF1: Financial Knowledge	0.511 (0.642)	1.667	1.667 (0.234)	5.294
KAF2: Employment Engagement	-1.021 (0.287)	0.360	-1.859 (0.155)	0.156
KAF3: Market Knowledge	0.080 (0.952)	1.083	-1.896 (0.165)	0.150
KAF4: Knowledge About Market Changes	3.076 (0.044)	21.675	3.406 (0.049)	30.146
KAF5: Government Roles and Technology Human Capital	0.970 (0.433)	2.639	0.728 (0.591)	2.070
KAF6: Scanning Market	-0.722 (0.352)	0.486	-1.718 (0.068)	0.179
KDF1: Specific Techniques to Share Knowledge	1.810 (0.056)	6.113	1.055 (0.433)	2.873
KDF2: Sharing Market Information	-0.461 (0.661)	0.631	1.526 (0.299)	4.599
KDF3: Written Communication	-3.025 (0.026)	0.049	-2.910 (0.039)	0.054
KDF4: On-the-Job Knowledge Dissemination	-1.951 (0.127)	0.142	-3.282 (0.034)	0.038
KDF5: Communicating Knowledge	2.512 (0.105)	12.333	3.469 (0.131)	32.113
KRF1: Responds to Technology and Competitors	2.290 (0.141)	9.871		

**Table 4-41 (Cont'd): Impact of Knowledge Management Practices on Firm Performance (Multinomial Logit Estimates)**

Independent Variables	Baseline Model		Full Model	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
KRF2: Responds to Customers	-2.630 (0.193)	0.072		
KRF2: Well-developed Marketing Function	-4.643 (0.005)	0.010		
EAF1: Strategic External Advice	0.669 (0.673)	1.952	-2.331 (0.409)	0.099
Female			3.962 (0.114)	52.582
New Start-Up			-2.808 (0.174)	0.060
Company Age in Years			-5.491 (0.007)	0.004
Graduate/ Postgraduate Education			-3.635 (0.150)	0.026
<b>Performance Level 2: Gross Sales 1-5 million Canadian Dollars</b>				
<i>Constant Term</i>	-3.253 (0.629)	-	-2.050 (0.722)	-
KAF1: Financial Knowledge	-0.683 (0.458)	0.505	-0.445 (0.617)	0.641
KAF2: Employment Engagement	-0.211 (0.778)	0.810	-0.977 (0.313)	0.377
KAF3: Market Knowledge	-1.115 (0.347)	0.328	-0.662 (0.529)	0.516
KAF4: Knowledge About Market Changes	1.876 (0.103)	6.524	0.363 (0.735)	1.437
KAF5: Government Roles and Technology Human Capital	1.559 (0.176)	4.755	1.056 (0.362)	2.876
KAF6: Scanning Market	-0.158 (0.811)	0.854	-0.309 (0.633)	0.734
KDF1: Specific Techniques to Share Knowledge	0.991 (0.165)	2.695	2.227 (0.033)	9.276

**Table 4-41 (Cont'd): Impact of Knowledge Management Practices on Firm Performance (Multinomial Logit Estimates)**

Independent Variables	Baseline Model		Full Model	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
KDF2: Sharing Market Information	0.078 (0.993)	1.081	1.205 (0.312)	3.335
KDF3: Written Communication	-3.598 (0.007)	0.027	-2.845 (0.17)	0.058
KDF4: On-the-Job Knowledge Dissemination	-1.240 (0.226)	0.289	1.315 (0.265)	0.268
KDF5: Communicating Knowledge	2.449 (0.064)	11.572	-0.592 (0.637)	0.553
KRF1: Responds to Technology and Competitors	1.177 (0.383)	3.245		
KRF2: Responds to Customers	-1.613 (0.350)	0.119		
KRF3: Well-developed Marketing Function	-1.708 (0.101)	0.181		
EAF1: Strategic External Advice	3.256 (0.40)	25.945	3.875 (0.020)	48.193
Female			2.828 (0.187)	16.919
New Start-Up			-0.060 (0.968)	0.942
Company Age in Years			-1.958 (0.061)	0.141
Graduate/ Postgraduate Education			2.008 (0.110)	7.451
Number of Observations	60		60	
Cox and Shell R-squared	0.553		0.640	
Nagelkerke R-squared	0.625		0.723	
LR Statistic (Probability)	77,113 (0.032)		64,771 (0.003)	

**Note:** *P*-values are set in parentheses. The shadowed area indicates significance at the 1%, 5% and 10% level. The reference group for the dependent variable is "Gross Sales over 5 millions Canadian Dollars"

# CHAPTER 5: QUALITATIVE ANALYSIS AND RESULTS

## 5.1 Introduction

The previous chapter presented the Phase One results and data analysis of the quantitative web-based survey developed from the research hypotheses presented in Chapter Two of this thesis.

This chapter presents and discusses the qualitative results and findings of Phase Two of the research investigation for this thesis. It is designed to enhance the results of the quantitative research and shed a different lens on the opinions of the interviewees. The qualitative research comprised semi-structured in-person interviews with twelve (12) owner/manager entrepreneurs from the firms that participated in Phase One research. The firms declared to participate in a face-to-face interview by volunteering via the self administered web-survey. At the time of the web-survey fifteen (15) expressed interest, however in the end only twelve entrepreneurs were able to participate.

The interviewees represented eight (8) of the ten (10) industrial sectors; excluding Mining, Oil and Gas Extraction and Utilities plus the Other category. Two (2) of the twelve (12) entrepreneurs were female. All firms' head offices were located in either the province of Nova Scotia or Prince Edward Island and represented firms from rural and urban settings. All firms traded in regional and national markets while four (4) of the firms also trade in international markets. Table 5.1 summarizes the basic characteristics of the respondent firms.

The approach and data collected in Phase Two explores the Knowledge Management hypotheses of this thesis along with their interrelated constructs:

**H1:** Do knowledge management processes positively affect innovation in growth-oriented SMEs (i.e. market orientation plus knowledge acquisition and dissemination by the firm)?

**H2:** Do firms in Atlantic Canada differ according to the extent to which knowledge management practices have been adopted (i.e. leadership by both the firm's owner and employees)?

**H3:** What knowledge management practices are associated with different levels of performance (i.e. outcomes: innovation and firm performance)?

**H4:** Are different approaches to the use of external advice associated with different levels of performance?

Table 5.1: Interviewee Firm’s Characteristic By Industry Sector

<b>Case</b>	<b>Industry Sector</b>	<b>Age of Firm</b>
A: 1	Agriculture, Fishing, etc. (A)	25 yrs.
C: 1	Construction ( C )	12 yrs.
MFG: 1	Manufacturing (MFG)	16 yrs.
MFG: 2	Manufacturing (MFG)	14 yrs.
R: 1	Retail Trade ( R )	13 yrs.
R: 2	Retail Trade ( R )	9 yrs.
W: 1	Wholesale Trade (W)	5 yrs.
Arts: 1	Info/Cultural Ind./Arts and Recreation (Arts)	10 yrs.
IT: 1	Information Technology Services (IT)	14 yrs.
PS: 1	Professional, Science/Tech Services (PS)	27 yrs.
PS: 2	Professional, Science/Tech Services (PS)	13 yrs.
PS: 3	Professional, Science/Tech Services (PS)	15 yrs.

## 5.1 Semi-Structured Interview Instrument

To seek the reliability and validity of the in-person interview protocol, the interview questions were tested using a university professor who also founded and managed several SEMs during his career. The pilot test resulted in changes to the wording of several questions and their order of presentation. A copy of the interview protocol is located in the Appendices.

## 5.2 Qualitative Research Results

The semi-structures qualitative research interviews were conducted with twelve (12) growth-oriented SMEs. Themes and specific comments obtained from the Interviewees will be presented in this section beginning with the identification of key words used by the interviewees when speaking of their firm’s Knowledge Management experiences. This will be followed by a presentation of the more detailed findings from the interviews around the context of the four (4) thesis hypotheses. Finally, conclusions will be drawn on the findings from the Phase Two research.

When discussing Knowledge Management and the strategies taken by these representatives of growth-oriented Atlantic Canadian SMEs, an overriding sentiment was expressed:

“We invest in both the human and financial resources of our firm to help us aggressively tackle market opportunities.” Interviewee IT 1

Common words/phrases used by the entrepreneurs in discussing their firm’s business experiences and thoughts around the concept of Knowledge Management are presented in Table 5.2. Their words are presented alphabetically, not in order of prioritization or frequency of occurrence.

**Table 5.2: Common Words/Phrases Used By Interviewees in Discussing Knowledge Management**

Accountability	Employee	people (our)
accountants (external)	end-user	Performance
advice	Entrepreneurship	Positioning
attitude	Export	Price
B2B (business-to-business)	external environment	Processes
balance (personal)	Faith	Products
bureaucracy	Fast	Profit
businesses	functional area (department)	Resources
capacity	Government	Responsibility
cautious	growing firm	Risk
channels of distribution	Idea	Sales
coaching	Informal	Service
communication	Innovation	Skills
competitors	inter-firm (department)	Slow
conflict	Knowledge	Strategy
consultants (external advisors)	large firms (competitors)	Support
co-operation	life cycle	Team
creativity	Manage	Technology
customers	Market	Traditional
depressed (region)	Meetings	Trust
development	Mentorship	Use
drive	Networks	value chain
economy	Opinions	

On the whole the words used by the entrepreneurs were up-beat and outward looking. Only in two cases, a larger family enterprise and a smaller sole owner firm, was more cautious wording used and in a somewhat risk-adverse tone when describing their approach to business:

“I’m cautious about growing too fast as I have been burnt by both the market (customer acceptance of product) and by some employees.” Interviewee MFG: 2

### **5.3 Impact of KM on Innovation In Growth-Oriented SMEs**

From the literature review in Chapter 2 it was found that understanding the firm’s interaction and response to their competitive environment has the potential of being related to market orientation, innovation and the overall Knowledge Management Process of the firm. Several interviewees mentioned their approach to understand their competitive environment and how they learn from this experience and the strategies which were applied.

Closeness to customers, a key element of a market orientation was regarded as a driving source of competitive advantage, especially noted by the SMEs that had launched national or international initiatives:

"We simply cannot afford to take on the big firms. Our strength lies in our ability to develop tailored solutions that meet our customer needs better than the standardised solution provided by the major firms" Interviewee MFG: 2

Innovation was found to be connected with the environment external to the firm, specifically in the form of collaboration with other firms in the SME’s channel of distribution or accessing resources outside of the firm’s control. This ability to learn and innovate - both strongly linked with a market orientation - were considered as key sources of competitive advantage by several firms:

"Many of our customers are very sophisticated and extremely demanding. They search the market for solutions for their problems in order to lower their operating costs and provide the best designs. If we want the business, many times we have no choice but to develop a unique solution which may require a partnership with another firm. Understanding your customer’s needs and finding a creative way using new skills to satisfy this need opens our firm to even further opportunities." Interviewee PS: 2

Another firm has positioned itself so they are able to access unique resources:

"We have pro-active formal programmes for promoting innovation. One is to collaborate with external organisations, such as universities, where we have a technology idea but not necessarily the resources available to explore that idea and we will contact the university that may have the expertise in that area and contract them to pursue that further for us. In another life, I actually taught with one of these partners"

Interviewee PS: 1

In a totally different industry sector, another firm approached the the use of knowled, in a similar way:

“Our product is a commodity which we market throughout North America. We invest in quality, especially in new technology to enhance our product. Over the years we have joined with other producers to focus on innovation and development of new products, resulting in one whole new business. I’m the lead on this and thrilled with how our employees get involved in looking at things in a new way. If we had stayed focused on price we wouldn’t have seen the opportunities nor seen our people grow.”

Interviewee A: 1

Information and understanding the needs of customers was seen as important for the innovation process and information about customer requirements was seen as a key component to the innovation process in the case of all interviewees. For example, Interviewee MFG: 1’s company manufactures plastic component inputs for other fabricators. This firm approached innovation from both the view and needs of their customers, but also those of the end users of their product:

"We approach the process from two parallel routes. We work from the end-customer backwards, trying to understand their needs while at the same time learning from our fabricator’s perspective. We seek to understand both to ensure the best fit for our products."

Interviewee MFG: 1

Another firm also designed and produced products that were sold by other organisations to the end users. It conducted innovation and product development in conjunction with outside organisations while at the same time conducted innovation in order to launch a new product from the firm’s perspective of a market gap, or in traditional marketing language, using a ‘push strategy’. Finally, this firm had also developed a reputation for innovation and a quick turnaround of customized jobs based on specific customer requests. These competencies require the firm to demonstrate the acquisition of either information or willingness and skills to work with actors in the external environment.

"Our approach to serving our customers, current and future, is through innovation by understanding customer needs and promoting ourselves as such. This takes a employee group who is not only technically sharp but also having marketing savvy. A powerful combination, and a formula we want to enhance upon."

Interviewee IT: 1

All interviewees stressed the importance of information about customer (or end user) requirements in guiding the innovation process and that they seek to identify innovation:

“We get market information first, not in a liner process but from all members of our team. It is top-of-mind to capture this information and share it in a formal and informal manner with all members of the team.” Interviewee C: 1

One player in the firm’s external environment, competitors, could be perceived as holding a fundamental role; however, it was not mentioned within the concept of innovation. This was interesting given the discussion, in at least the practitioner literature, on the merits of the ‘benchmarking’ strategy. Instead, the interviewees valued the information from customers, or end users of their services and especially, information derived from members where they were part of a value chain. The latter could generate layers of insights important for innovation.

As stated earlier, not only does the marketing team have customer contact but in fact a variety of areas in the organisation: i.e. production and engineering teams :

"As a strategy, both the production and engineering levels of our firm have an ‘out-bound’ focus and complement nicely the perspective from our marketing team. In the end, we seek products from this investment.” Interviewee C:1

The role played by all areas of the firm in the marketing process and the path it took the firm to get there is best illustrated by Interviewee MFG: 2. He presented how the marketing team had been reduced over recent years because of the involvement of members of other operational areas of the firm in the marketing function:

“For us, a market orientation means that the marketing group and most in the engineering team activity talk to customers and the teams work together on a project, backing each other up. In the past we had a larger marketing team but they tended to work in isolation from the technical side which generated tension. With a smaller marketing team they seem to appreciate the engineering team more and there is a more timely and project focused information flow.

Shifting to this model was not an easy sail for both groups; actually we lost a good employee who couldn’t cope with the new culture and responsibilities.”

Interviewee MFG: 2

There is recognition in Interviewee IT: 2’s comments of the importance of knowledge of customers when he states that they do not know enough about some of their customer needs:

"Quite honestly, we have some weak spots in our marketing orientation which we are addressing. We're not as in tune or communicative with some customers segments as we could be. We are strong in our core business, but need to develop our skills in emerging markets, or they won't happen." Interviewee IT: 2

Further evidence of the position of a market orientation within these companies is provided by Interviewee PS: 3 who maintains that it is the responsibility of everyone within the company to be involved in the marketing effort, in particular to feed back information on the company's customers:

"We don't need to have a marketing department to be a marketing company. We just need everyone's focus to be in the marketing mind space."

Interviewee PS: 3

Interviewees also discussed how their market had changed, and was changing. Global conditions and relations, especially when doing business in the United States, require special attention. For example:

"We've chosen to move to a niche strategy where we are saying we are going to focus on being world class, in a narrow area and go to the world and find markets. We can build on our North American strengths, but there is a growing global market with the ability to afford and use our products." Interviewee PS: 1

Some Interviewees commented on market hostility and actions of competitors. These discussions of competitors were limited to a consideration of how the competitor acted in the marketplace, and how the Interviewees' firm responded to the action of the competitor. For example:

"There can be keen competition where it boils down to firm size and your power in the market. In some cases, price cutting is attempted and we respond aggressively but on a strategic front. Before we move on this front we ask: what are the implications if we are underbid? What will our response be?"

Interviewee C: 1

Interestingly, no Interviewee linked advances in innovation to a response to market hostility via pricing. Pricing is viewed as a marketing lever, not part of the process of innovation.

The discussion has already highlighted that both market orientation and innovation occur within the firm; all construct of the KM process. The data has shown that customers and competitors are monitored, and the information so obtained is fed back through the firm for different purposes. In the case of competitors the information was often obtained directly from them, and influences specifically the functional components of marketing. The way external information is collected was found to speak to the market orientation of the firm.

Interviewee W: 1 represents the approach taken by the majority of the firms:

"We don't collect it (*information*) per se, we absorb it, we keep it and we discuss what our need is and how will we use these diverse perspective and data"

Interviewee W:1

How to refine the dissemination of this information within the firm is a critical component of the KM process and was discussed earlier in the literature review. One Entrepreneur helps in the understanding of this process they use:

"It's basically just information gathering, and we report monthly on some, not on market information we see, but what other customers out there are saying."

Interviewee MFG: 2

Other companies were more formal in the way information obtained about the market was disseminated:

“This information is disseminated at a monthly meeting, what we call our “Monthly” (communications meeting) and that is communicated to every single person in the organisation. We even have a report form called “The Monthly” which is posted on our server for future reference.”

Interviewee IT: 1

The analysis of the external environment above established that the group of companies studied monitored market activity of competitors and especially the needs of customers. My discussions revealed that the respondent companies were practicing market orientation in a form that concurred with the definition within the literature. These companies were

- (a) monitoring customer information (customer orientation),
- (b) monitoring competitor information (competitor orientation),
- (c) reporting that this information was disseminated throughout the organisation while all areas were involved in satisfying customer needs (inter-functional co-ordination).

The respondents overwhelmingly stressed that they considered information from the market first before deciding to innovate and this feedback was important in determining product features and thus benefits to the consumer. Interviewee PS: 1 offered this point:

“As I was saying, in regard to your question of knowledge acquisition and dissemination, our strategy is about engaging customers. We use every opportunity we can to learn more about what their issues are and what’s of value to them which is used to drive your innovation agendas so in those cases we look for innovation to solve problems that our customer have.”

Interviewee PS: 1

Several firms expanded on the reach and impact of Knowledge Management where the innovation was not on product (or service) development but on process improvement. Their examples revealed operationally how the direction of the innovation process was either to reduce the costs of the respondent firm or to add value to customers or in some instances both. Interviewee MFG: 2 discussed how an employee suggestion, as part of their involvement in the innovation process, led to a change in a particular manufacturing process

which delivered cost savings for the firm (increasing the firm's profit margin) as well as delivering extra value to the customer:

"Someone suggested a change and we revamped the tooling process which increased the die life by 35% and also reduced our manufacturing costs to-boot. This was great, a win-win. We improved our margins, the customer improved the life of their tooling costs and we have a happy customer who sees us as having a competitive edge over the competition. All because one of our team thought about the process when thinking about the needs of the customer and was willing to put the idea forward."

Interviewee MFG: 1

Implicitly, adding value for the customer leads to customer loyalty and, hopefully, increased sales, which will have a direct impact on firm performance. Interviewees reported that many of their new products and services, which evolved out of a focus on being close and understanding the customer, as part of a Knowledge Management Process, generated meaningful contributions to the firm's total revenues and profitability.

Furthermore, they reported that the process of innovation, using an integrated and firm-wide Knowledge Management approach, led to cost reductions which meant higher margins. In these ways it can be argued that there was a consensus among the interviewees that Knowledge Management had a positive impact on firm performance and positioned the adopting firm with a competitive advantage in the market.

## **5.4 KM Leadership & Performance: Behaviour of the Entrepreneur and Employees**

This chapter has analysed Knowledge Management from the perspective of the firm's approach to market orientation and the innovation process, and demonstrated that interviewees report that these processes served as a key foundation to the marketing function and the overall KM process. The respondents, all classified as growth-oriented SMEs, used KM to position themselves for sustainability and growth in their industry sector.

In this section the role of employees will be presented as viewed the Interviewees' perspective and capture their activities in the functions of market orientation, innovation and Knowledge Management within an ever changing market environment. Through this lens

insights on the behaviour of both employee and the entrepreneur, owner/manager, will be explored.

Firstly, it is helpful to capture an understanding of the market environment employees and owners of SMEs in Atlantic Canada operate. Interviewee MFG: 1 provides a context for this insight:

“Although this region’s economy doesn’t go through the peaks and troughs like Alberta (*petroleum driven*) it has a base of robustness which allows us to test a concept before launching in a more competitive market. Our strong base of local client and network allows us to learn locally and then act globally. This doesn’t work with all products as the market opening is very narrow so when we see it we move fast to implement (*in more promising markets*).”

Interviewee MFG: 1

These market realities reflect in a growth strategy which enable the integration of information gathering on customers, the interaction with customers and a innovation process which are all components of the Knowledge Management Process.

"So, as I say, our strategy is far more about engaging customers, which prompts our employees to be more pro-active. For focus and a higher success rate, we target the customers who we are seen as leaders, and if (*we are*) successful, the potential of becoming a member of their value chain. This network approach pays back to a better work climate for all in the firm. It also drives our agenda to use innovation to solve problems that our customers have, helping us to look outward to new markets.”

Interviewee PS: 3

However, not all firms involved every employee in the innovation process, Interviewee MFG: 2 reported that only a limited number of senior people were involved in the innovation process in his organisation:

"In the innovation process, probably only our key supervisors and managers are involved in this process as compared to the majority who seek the collection of information from customers and through their day-to-day activities.”

Interviewee MFG:2

However, when asked to elaborate on who instigated the idea his response suggested that more employees were involved:

"Oh ya, our sales people and sometimes through suggestions from our ‘suggestion box’.”

Interviewee MFG: 2

This suggests that the ideas for innovation come from a far wider pool than those who carried out the product development.

Geographic factors and the presence of government in the firm's external environment offer interesting challenges to the leadership skills of the entrepreneur:

“Being somewhat geographically isolated from Halifax (*the largest city in Atlantic Canada and capital of Nova Scotia*) has positives and negatives. We are able to recruit and retain a certain group of professionals and skilled people because they want to live here...Family roots, partner has a good job, that's a win, win all around, or lifestyle. Our products and services can go to any market from this base: therefore, with a balanced life we can get a better buy-in from associates on our approach to business. If we were based in Halifax, we would be competing with other firms and government for talent. Also, if a partner loses their job here, or can't find one, then we have problems. All contribute to our performance.”

Interviewee PS:3

Another Interviewee offered how he manages the 'people side', both his employees and his role in running his business:

“Hire right, and hold onto them when you snag one. But you have to know what you want and need. Ensure they have the right attitude not just a piece of paper or an impressive resume. We are trying to build on gaps we have identified in the market. By creating and nurturing a buzz around our firm and giving and expecting responsibilities we can have an open, innovative and productive work environment.”

Interviewee IT: 1

Notwithstanding the general optimism of many Interviewees, one gave a sobering comment on the personnel realities of his firm:

“Sometimes 'market competition' comes from unsuspected corners. It can come on non-product areas, our people, and from our own dollars, government. Some days I have thought about joining them (*in government*).”

Interviewee PS: 2

Once employees were in place, one firm reported that it used a formal committee of employees who participated in the innovation process, reviewing ideas for further investigation and potential development:

"This formal group who reports to a product development group, involves a wide scope of our people, and they give us a first cut at an idea. Membership is a confidence builder and we use it for that and as a opportunity to develop a culture of applying broader thinking to solve a problem."

Interviewee W: 1

From the interviews it was also very evident that the entrepreneur has to also juggle, with energy and skill, a variety of issues and stakeholders in order to be in a position to capture potential opportunities:

"In my industry (*artistic and entertainment*) long lead-times are the norm, specifically in order to secure funding for a project so I have to be optimistic, determined and able to juggle a number of market and organisational factors, one key being keeping my technical and creative people in the loop until it's a go."

Interviewee Arts: 1

What is clear from the discussions is that employees are an important component to carrying out both the market orientation and innovation processes within a firm. Employees (to a greater or lesser extent) participate in the interpretation of data gathered in the market orientation (acquisition) process and the decision which is then made, and which influences the innovation agenda of the firm. However, not all seek to participate in the process:

"Well funnily enough, we do, have some people who don't want to be involved in the decision making processes or stretch themselves. It maybe their background of risk-aversion, but this can be pretty harsh environment."

Interviewee MFG: 2

## **5.5 Approaches to the Use of External Advice**

As was seen in the literature, the use of external advice by the firm is viewed as a strategy to be employed as part of the information acquisition process in knowledge management. The interviewees ' experience with external advice is varied and in some cases very specific to the unique needs of their firm.

With the exception of lawyers, all firms see their external accountant as the most frequently used source of business advice, and in most cases have a long-standing relationship and friendship:

“I’ve used my accountant for over 20 years, he is a confidant and a personal friend. He has opened doors for me in the past and gives valuable counsel. I don’t specifically use him for broader needs, and defiantly not in the (*science of my industry*), however he can be, and is, brought in for strategic decisions”.

Interviewee A: 1

Aside for the use of accountants to prepare financial statements and to comply with taxation requirements, the firms suggested that they use external advise for two broad purposes:

“In general we use the advice for two broad purposes: to assist in reducing our business costs and to determine ways to increase our sales and profits plus to help me cope with the diverse business problems I faces, hopefully this assists me in developing my managerial skills.”

Interviewee R: 1

In several cases a consulting engagement was used to address a very specific problem, one where the firm did not have the internal expertise:

“It (obtaining *advice*) was done for a specific reason, so we could develop a specific marketing piece designed for a new market.”

Interviewee W: 1

However , the interviewees provided a mixed opinion on the quality and variety of advisory types , from marketing consultants to scientific specialists. One comment reflected on the difference between providers of advice from the private sector to that supplied by the public sector:

“I love what I do in business and for my people. However, stay away from government. They want to help (*advice and project funding*), but seem to want to fit you in a box and they have programme advice but not practical business insight. They can also push you to expand faster and bigger before you are ready. My ego kicked in and unfortunately we suffered a market-setback... Yes, the learning was mostly for me as I didn’t have staff strong enough to pull me back. I’m now trying to focus on more than just service skills in my people.”

Interviewee R: 2

Several Interviewees identified networks, specifically ones with value chain connections, as strategic sources of informal advice:

“Networks, with the tactical and strategic information contained with a member, are rich sources of timely and specific information needed by a firm like ours. As we discussed earlier (*in the interview*) this is another way to leverage our market orientation to seek new opportunities or enhance our innovative strategy.”

Interviewee C: 1

The use of external advice is viewed by all Interviewees as a source of information, and therefore plays a role in a firm's Knowledge Management process. If managed appropriately, the Interviewees' experience with external advisors has generally been that the engagement contributed to company operations and provided a different and beneficial perspective on their market. However, almost as often, the engagement didn't generate the expected outcome, drawing some to conclude that they might be better off, except in specific technical functions, to develop their firm's human capital and to find solutions through suppliers or from value chain networks.

## 5.6 Conclusion

This Qualitative Research section, (Phase 2) of this thesis, presents themes and specific comments obtained from twelve (12) entrepreneurs representing the entrepreneurial leadership and/or ownership of their growth-oriented SMEs. The research is designed to enhance and shed light on the findings of the study's Quantitative Research work, completed in Phase 1.

The Interviewees spoke on issues surrounding their firm's Knowledge Management experience which was guided by the author using semi-structured questions. The discussion was framed using questions drawn from the study's four hypotheses:

**H1:** Do knowledge management processes positively affect innovation in growth-oriented SMEs (i.e. market orientation plus knowledge acquisition and dissemination by the firm)?

**H2:** Do firms in Atlantic Canada differ according to the extent to which knowledge management practices have been adopted (i.e. leadership and behaviour by both the firm's owner and employees)?

**H3:** What knowledge management practices are associated with different levels of performance (i.e. outcomes: innovation and firm performance)?

**H4:** Are different approaches to the use of external advice associated with different levels of performance?

Given these Hypotheses, three (3) integrated themes were developed to help guide the discussions with the Interviewees:

1. Impact of KM on Innovation In Growth-Oriented SMEs
2. KM Leadership & Performance: Behaviour of the Entrepreneur and Employees
3. Approaches to the Use of External Advice

Summarise the finding of the interviews, the majority of Interviewees reported that there was significant interaction between the constructs of Knowledge Management i.e. market orientation, innovation and the entrepreneurial leadership of owners and the employee team. It was suggested that pro-active engagement with the firm's external environment was critical for the potential of achieving desired performance results.

The collection of information on customers, competitors and on the market place environment, along with a somewhat seamless dissemination of this information throughout the company, is a key component of an effective knowledge management process. However, the firms placed greater emphasis on their customers and market environment, than on their competitors. The Interviewees presented that information collected through this process was used, in part, for innovation within the firm and is the result of a culture of outward looking market orientation by the firm.

From their experiences the Interviewees suggested their firms derive benefits from the KM process which contributed to firm performance, not only on the revenue side but also on the development of the firm's human capital leading to a position of competitive advantage for the firm. Interviewees also gave examples of occasions where their focus on market orientation and overall KM contributed to not only innovations in products and services but also in process improvements.

The entrepreneur may lead in the focus on KM but it was found in most cases that involvement of employees was critical in creating a culture of innovation. This was not surprising given that the sample was drawn from growth-oriented SMEs. Nevertheless was interesting to hear how the Interviewees supported and coached this behaviour. However, it

was also presented that not all employees bought-into the process and demonstrated risk-adverse tendencies.

Finally, the use of external advise by the firm confirmed the literature on the use of accountants as their most popular resource (lawyers were actually first but not on the broad, day- to-day operational and strategic side of business activity). It was also interesting to hear from this sample of growth-oriented entrepreneurs that they valued the potential benefits derived from taking a pro-active and strategic position (i.e. market and entrepreneurial orientation) with external networks (along with the network's value chain) plus the information derived from suppliers and customers as a whole.

The next chapter will be the conclusion of this thesis and present summary conclusions and discussion of the findings.

## **CHAPTER 6: DISCUSSION AND CONCLUSIONS**

### **6.1 Introduction**

The competitive pressure and desire for success drive enterprises in general to involve in knowledge acquisition and dissemination activities that are becoming increasingly significant in the rapid changing and globalising economic world.

In addition, with the increased mobility of information and the global labour force, knowledge and experience can be transferred instantaneously around the globe; thus, any advantage gained by one company can be eliminated by comparative improvements overnight. Therefore, the only comparative advantage a particular company will face will be its process of innovation - combining market and technology know-how with the resourceful talents of knowledgeable labour to solve a constant stream of competitive problems- and its ability to derive value from information. In this context, internal and external knowledge acquisition, intra-firm knowledge dissemination and management decisions taken in response to the significant information generated and subsequently filtered became the key factors of entrepreneurial success.

Although the literature has provided important theoretical and empirical insights showing that the involvement in ongoing knowledge-acquisition activities, both before and after venture start-up, is related to firm performance, there exist only few studies that have attempted to address the interplay between external knowledge acquisition, intra-firm knowledge dissemination activities and firm responsiveness as indicator for the speed and coordination with which the management actions are implemented and periodically reviewed.

### **6.2 Summary of the Quantitative Findings**

This thesis set out to explore the role of knowledge management in translating market orientation (MO), entrepreneurial orientation (EO) and learning orientation (LO) into sources of competitive advantage. The focus of this research was on growth-orientated SMEs, identified as firms that are trading both geographically within and/or outside of their domestic

market or have demonstrated intentions to consider undertaking such a strategy.

The geographical focus was on SMEs located in the four province of Atlantic Canada which provided an added dimension to the study. The Atlantic setting allowed for an investigation of SME performance where the firms were based in a peripheral region of the Canadian and North American market. Additionally, the unit of analysis for this study enabled the author to gain a perspective on how firms perform and behaved within an economy in transition; from one with an economically depleted natural resource base to one which has an emerging knowledge based structure.

This thesis used a 'mixed-methods' research methodology; featuring in Phase 1, a quantitative web-based survey followed in Phase 2 by qualitative research via mini-case interviews with entrepreneur/owners of Atlantic SMEs. Phase 1 featured the testing, for the first time, of a new and unique survey instrument, based on enhancements to an established marketing/entrepreneurship interfaced instrument. For the foundation of the quantitative research portion of this study, the work of Darroch (2003) was adopted for the development of the survey instrument to gather qualitative data on knowledge management processes of growth-oriented SMEs in Atlantic Canada. The instrument, which Darroch (2003) developed, is based on the Kohli-Jaworski market-orientation (MARKOR scale instrument (Kohli et al., 1993). The author of this thesis contributed to the evolution of the instrument by integrating the use of external advice by SMEs into the instrument. The resulting survey instrument was administered, in Phase 1 of the research plan, to explore the behaviour of growth-oriented Atlantic Canadian SMEs in acquiring, disseminating and using knowledge.

Phase 1's research sample was drawn from a proprietary government database of Atlantic Canadian SMEs which was comprised of firms which had participated in either export orientation training, had participated in government/industry sponsored trade missions and/or were exporting, thereby having embarked on an internationalization strategy for their business. The empirical analysis in this study is based on the results of the detailed and unique survey of 81 growth-oriented SMEs venturing from their base in Atlantic Canada. The survey was conducted by means of a web-based questionnaire to study the knowledge management process and other aspects of entrepreneurial success.

The qualitative research section, Phase 2 of this thesis, explored themes and specific questions from twelve (12) entrepreneurs representing the entrepreneurial leadership and/or ownership of their growth-oriented SMEs. The objective was to shed light and enhances the findings of the thesis' quantitative research work, completer in Phase 1.

The literature review (Chapter 2) established that, while much work has been conducted on the SME sector in general from a variety of perspectives and using a range of methodologies, significant opportunities existed for this thesis to make an original contribution. This contribution goes beyond studying the growth of SMEs, by instead embracing the notion of knowledge management and exploring how it linked to market orientation, learning orientation and entrepreneurial orientation for the pursuit of competitive advantage.

An additional novel contribution made by this study was through the exploration of the role external advice plays, provided by a broad spectrum of advisors, in a firm's process of knowledge management. Finally the study explored the approaches taken by the SMEs' entrepreneurial owner and his/her employees in the knowledge management process.

A theoretical framework, developed and enhanced from the literature, was constructed and used to guide this thesis. The framework is presented at the end of Chapter Two.

These results of this thesis present, for the first time, a snap-shot of Atlantic Canadian SMEs on two planes: 1) growth-oriented SMEs; and 2) the knowledge-management orientation and behaviour of this firm type. For these reasons the results of this study do not represent the general SME population. However, insights from this study will be helpful in understanding the knowledge management behaviour of growth-oriented SMEs along with the firm's human capital dimension (i.e. behaviour of their lead entrepreneur(s) and their employees).

Given the sample, the responses, from the key decision makers in the firms, represent a diver's distribution and scope firms. The following provides a general overview of the results from this survey:

### **6.2.1 Demographic and Firm Characteristics of the Entrepreneurs**

- gender is presented as an issue within Atlantic Canadian SME as over 75% of the entrepreneurs were male
- leaders of these SMEs held a higher than average level of education with over 80% holding a post-secondary degree and a third with a graduate/postgraduate degree
- the industry sectors represented in this sample closely mirror the sector profile of Atlantic Canada with a slight over-representation of manufacturing (30%) and IT/professional (22%) of sample firms. Nevertheless, this profile represents the key and growing sectors of the economy

- of the respondents in this study, the SME firms are larger than average with 75 full-time employees
- the firms are lead by older entrepreneurs (74% > 40 years of age) who have experience in business (65% with more than 10years)
- although reflecting a profile of entrepreneurial activity (serial and portfolio entrepreneurs (Isthead and Wright, 1998), 35% of the entrepreneurs show longevity of ownership with one firm with 75% being start-ups (i.e. 'sticking to the knitting')
- positioned in region of Atlantic Canada, the firms represent robustness; over 60% have sales above \$1.0M with over 33% posting revenue gains above 20% over the past three years
- external advice was used but sparingly in the case of accessing government resources (this aligns with the literature (Robson and Bennett, 2000)
- networking was seen as an important behaviour for learning (Gibb, 1967; Carson, Gilmore and Rocks, 2004)

### **6.2.2 Results from the Web-Based Survey (Part 1): Factor Analysis of the Knowledge Management Scales in Part 1**

For a more detailed analysis of the firms' responses, the respondents were classified in two clusters: 1) "Fully Oriented Knowledge Management SMEs" and 2) "Lowly Oriented Knowledge Management SMEs" with the former demonstrating, through their responses, that they embraced KM practices, in contrast to the latter cluster. It must be noted again, that the sample represented 'growth-oriented SMEs', not the general SME population. Key findings are as follows:

- a pro-active behaviour was found for the way the sample approached the knowledge acquisition, knowledge dissemination and responsiveness to knowledge activities
- however, when firms were clustered as 'Fully Oriented Knowledge Management SMEs' and 'Lowly Oriented Knowledge Management' SMEs, and cluster analysis undertaken, differences in Knowledge Management Orientation appeared; with the Fully Oriented KM SMEs showing a greater market orientation
- 50% of the Fully Oriented SME owners had ownership experience with only one venture, compared to 28% with the Lowly Oriented SMEs. This finding could reflect

that the more highly oriented KM entrepreneurs ‘stuck to the knitting’ (Peters and Waterman, 1982) and focused on developing one enterprise. More than twice the number of lowly KM oriented entrepreneurs owned more than one enterprise at the same time; were they spreading themselves too thinly?

- Fully KM Oriented SMEs placed greater emphasis on networking than Lowly SMEs; the former also saw the merits in targeting those firms who had active network relationships.

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### **6.2.3 Does Knowledge Management Activities Foster Firm Performance?**

This question was explored using two sub-propositions of SMEs’ knowledge management process through the use of discrete choice modelling technique. The two propositions were:

*Proposition 1:* Engaging in external knowledge acquisition is positively related to entrepreneurial success of growth-oriented SMEs.

*Proposition 2:* Involving in intra-knowledge dissemination is positively related to entrepreneurial success of growth-oriented SMEs.

The main findings suggest that knowledge management practices - external acquisition, intra-firm dissemination and responsiveness do vary across the levels of entrepreneurial performance among the Atlantic Canadian SMEs investigated in the study. According to the base line model, knowledge about the market changes as measure of knowledge acquisition practices indicates to be more significant for enterprises with gross sales under 1 million dollars relative to the reference group. The estimated odds ratio accounts for 21.68.

Among the considerable knowledge dissemination drivers are such as written communication and communicating knowledge. Written communication, for instance, reduces the propensity of an enterprise to generate higher gross sales by a factor of 3.03. In contrast, communicating knowledge raises the sales volume by 12.33 for the first and by 11.57 for the second level of venture performance. Finally, the well-developed marketing function as indicator for firm responsiveness is associated with a negative impact on the entrepreneurial performance relevant to the reference group.

How did our empirical evidence change when including firm-specific control indicators? I was surprised to encounter that founder's formal education has a positive impact on the gross sales only for enterprises in the second performance level while for the companies generating

under 1 million dollars the impact is negative. The estimated odds ratio yields 0.03 contrasted with 7.45 for companies generating 1-5 million dollars per year. Gender and industrial sectors do not impact significantly the entrepreneurial success. Finally, the effects regarding the knowledge management practices remain robust while incorporating the control variables.

Overall, the empirical evidence shows that different knowledge management practices are associated with different levels of venture performance according to the growth-oriented SMEs operating in Atlantic Canada. Firm-specific characteristics such as formal education, industrial sector and region do not play a significant role on the entrepreneurial success.

In conclusion, the findings from this section showed that knowledge management practices do vary across the growth-oriented businesses considered by this thesis.

#### **6.2.4 Conclusion for Quantitative Research**

To recap, the research objectives of this study were:

**H1:** Do knowledge management processes positively affect innovation in growth-oriented SMEs?

**H2:** Do firms in Atlantic Canada differ according to the extent to which knowledge management practices have been adopted?

**H3:** What knowledge management practices are associated with different levels of performance?

**H4:** Are different approaches to the use of external advice associated with different levels of performance?

In support of these hypotheses the key findings were:

**H1:** a positive knowledge management orientation resulted in higher sales revenues;

- 71% of Fully Oriented Knowledge Management SMEs achieved sales growth over the past 3 years of more than 20% compared to the Lowly Oriented KM firms' 58% increase in results

**H2:** knowledge management practices differ within Atlantic Canada SMEs however this study has shown that growth-oriented firms have a similar orientation; both focused on market and knowledge management:

**H3:** both market and knowledge management orientation has been seen to contribute to firm performance

**H4:** growth oriented SMEs used external advice judiciously, however orientation to the use of accountant, suppliers, friends and industry networks were favoured over the use of government resources.

## **6.3 Summary of the Qualitative Findings**

The Qualitative Research section, Phase 2, of this thesis, presents themes and specific comments obtained from twelve (12) entrepreneurs representing the entrepreneurial leadership and/or ownership of their growth-oriented SMEs. The results shed light and enhance the findings of the study's Quantitative Research work, completed in Phase 1.

The overall objective of this thesis was to explore how market orientation, learning orientation and entrepreneurial orientation are systematic contributors to and sources of competitive advantage in growth-oriented SMEs. Of the firms interviewed in Phase 2 of the research, this position was supported by their 'world view'.

Phase 2 builds up on and explores findings of Phase 1 and allowed the author to delve deeper into the behaviour of the firm, the entrepreneur and the employees. The following is a summary of the key points derived from the interviews:

- Intangible resources such as leadership, human resource management, and organizational culture are key to the growth-oriented firm
- These intangible assets are seen to contribute to both innovation and performance of the firm
- The practice of marketing in growth-oriented SMEs focused on product/service development and positioning of the firm
- In growth – oriented SMEs, customer focus is the first priority
- Firms are interested in their competition but not to the distraction of customer-focus
- The entrepreneurs interviewed placed a high importance on encouraging their employees to seek to improve their personal and business performance; supporting and celebrating their unique needs and objectives

- The entrepreneur/owners were positive role model ; they ‘worked on their business not just ‘in’ their business’
- For growth and competitive advantage, the firms saw recruiting as a key function. However, retention via programming to instill in the employees, the entrepreneur’s and the firm’s values , was critical for the employee to fulfill her potential
- The entrepreneurs recognize that personnel are the most important asset for the success of their organization and an essential source of CA.
- These growth-oriented SMEs emphasized product/service development, a key driver of innovation and firm performance.
- Marketing in growth-oriented SMEs is an important area of the marketing/ entrepreneurship interface theory and is reflected in the respondent firms. However, the role and responsibility for marketing is broad and spans all personnel in the firm
- A customer-focused orientation is valued more than fixation on the firm’s competition. Building relationships with customers is viewed as a key part of many in the organization.
- Competitor benchmarking was not followed within these firms.
- Performance by the firm is not measured against the competition but rather evaluated against by planned metrics and goals
- The firms used external advice judiciously plus greatly valued the benefits derived from external networks plus the information derived from suppliers and customers as a whole.

In conclusion, using a ‘mixed-methods’ research approach this thesis set out to explore how market orientation, learning orientation and entrepreneurial orientation are systematic contributors to and sources of competitive advantage in Growth-oriented SMEs. The findings support these orientations plus present opportunities to improve and enhance investigations into this critical contributor to our economy and communities.

## **6.4 Implications for Theory from This Research**

- For the first time a survey instrument, grounded in Kohli et al.'s (1993) MARKOR scale and enhanced by Darroch, was applied to SMEs
- Enhanced the instrument by incorporating investigations into the use of external advice by the firms and the SMEs' approach to networking.
- Applied this instrument in a peripheral, economically 'have-not' geographic region of Canada which is transitioning from a natural resource depleted economy to more of a knowledge-based economy.

## **6.5 Limitations**

The conclusions drawn from the results of this study should be viewed within the limitations of the methodology and dataset. As with any research, limitations exist. The most critical is the small sample size. The small size restricts the power of significance testing.

Secondly, ideally a longitudinal study would allow the firms to be studied overtime, providing a clearer picture of their behaviour and results.

Finally, except for the interviews, the data is based on self-reporting of all variables; therefore validity could be an issue.

## **6.6 Suggestions for Future Research**

This research will be useful to entrepreneurs, government policy makers and advisers to SMEs alike. For the entrepreneur, it will provide a view on managing and orienting one's firm in a pro-active and systematic knowledge-management orientation. Policy makers will benefit by examining the development and use of advice; programming not inclined to be used by growing SMEs. Confirming the literature, advice providers need to tailor their offerings to specific need of the SME; a difficult task.

Given its small sample size, and a specific geographic and economic study area, the use of this study may have some limits. However, researchers and stakeholders of economies in transition will find this study of interest useful.

Future work incorporating a more robust survey scale of innovation and performance themes would be useful. Additionally, this study should be replicated to the broad SME population, rather than just growth oriented firms, plus as a comparison within other nations.

This study is important as it looks at SME's knowledge management orientation, a contributor to firm performance. It uses for the first time with a developing survey instrument. Stakeholders can apply the study's findings to each of their settings.

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## **APPENDICES**

## Sample Letter of Invitation 1 of 2:

### Original printed on Bissett School of Business, Mount Royal College letterhead

June 20<sup>th</sup>. 2007

Mr. SME Entrepreneur  
Atlantic Provinces  
Canada

Dear Mr. Entrepreneur,

I have contacted you and your firm to seek your participation in a study on the knowledge management behaviour of Atlantic Canadian firms. This study is part of my PhD work at the University of Stirling, Scotland.

Until recently I have been a life-long resident of Atlantic Canada. However, like many, I have had to move outside the region to find opportunities; specifically to Calgary where I now teach in the Bissett School of Business at Mount Royal College. Nevertheless I have a keen interest in the ongoing development and prosperity of Atlantic Canada. I believe, with your assistance, that my research can contribute to the sustainability and growth of entrepreneurial firms like yours.

My research is directed at Atlantic Canadian firms who are engaged in or contemplating an internationalization strategy. Your firm has been drawn and invited, via this letter, to complete a web-based survey. I have adhered to the strictest level of confidentiality and your responses are completely anonymous.

Please access this user friendly web-based survey: <http://survey.mtroyal.ca/smesurvey>  
The survey will take approximately fifteen (15) minutes, depending on your answers, and needs to be completed at one sitting before July 9<sup>th</sup>. 2007.

As a thank you for your participation a summary of the survey's results will be posted to this web-site by September 10<sup>th</sup>. 2007. This can serve as a resource for your strategic planning

I look forward to receiving your completed questionnaire. Thank you for your assistance with this important survey. Please contact me on [dhmacdonald@mtroyal.ca](mailto:dhmacdonald@mtroyal.ca) if you have any questions or comments.

Yours sincerely,

H. Douglas MacDonald, MBA, PhD (Candidate)



UNIVERSITY OF  
STIRLING



**Sample Reminder Letter of Invitation 2 of 2:  
Original printed on Bissett School of Business, Mount Royal College letterhead**

July 4<sup>th</sup>. 2007

Mr. SME Entrepreneur  
Atlantic Provinces  
Canada

Dear Mr. Entrepreneur,

Re: Knowledge Management Survey

I posted you a letter dated June 20<sup>th</sup>. seeking your assistance by completing a web-based survey which I plan to use for my Ph.D. work. If you have already completed the questionnaire, thank you for your input and support. If you have not completed the survey please read on:

I have already received a positive response to my survey invitation from Atlantic Canadian firms. However, I am seeking input from as broad a sample of firms as possible and I am counting on your confidential insights to complete my work. Without your response I cannot shed valuable insights on the sustainability and growth of Atlantic Canadian entrepreneurial firms like yours. If you are unable to complete the survey, I ask that the next senior manager in your firm complete the questionnaire. Please log-on the survey at: <http://survey.mtroyal.ca/smesurvey>

In order to obtain your valued input the due date for completion of the survey has been extended to Tuesday, July 17<sup>th</sup>. 2007.

As a reminder, I have adhered to the strictest level of confidentiality and your responses are completely anonymous. Finally, as a thank you for your participation a summary of the survey's results will be posted to this web-site by September 10<sup>th</sup>. 2007. This can serve as a resource for your strategic planning.

I look forward to receiving your completed questionnaire. Thank you for your assistance with this important survey. Please contact me on [dhmacdonald@mtroyal.ca](mailto:dhmacdonald@mtroyal.ca) if you have any questions or comments.

Yours sincerely,



UNIVERSITY OF  
STIRLING



MOUNT ROYAL COLLEGE

## *Knowledge Management Processes of Small and Medium Enterprises (SMEs) in Atlantic Canada Survey*

Welcome! Thanks for signing on to the survey. This survey is directed at Atlantic Canadian firms who are engaged in or contemplating an internationalization strategy. As you recall from your letter of invitation this web-based survey is to be completed by the president or majority shareholder of this firm. All the information you will provide in the following questionnaire will remain strictly Confidential.

Your firm will not be identified as all questionnaires will be coded upon receipt so that no links are possible between the data and the identity of the firm. This five part survey will take approximately 15 minutes depending on the extent of your answers.

The survey is very user friendly.

Given the internet platform, the survey needs to be completed in one sitting before July 9th, 2007.

As a thank you for your participation and resource for your strategic planning a summary of the survey's results will be posted to The Bissett School of Business website (<http://business.mtroyal.ca/>) by September 10th, 2007. If you desire a reminder of this posting, a contact form, which again has been designed to assure confidentiality and anonymity of your responses is located within the survey.

Please follow the directions and explanations on each screen.

If you do not know the precise answer to a question please answer to the best of your knowledge. Approximations will be more useful to me than no answer at all. Also, if for some reason, you must stop filling out the survey, please log out and start at the beginning of the survey at another time.

If you have any questions, please do not hesitate to contact me at the numbers below. Thank you again for your support.

Yours Very Sincerely,

H. Douglas MacDonald, PhD Candidate

Tel: (902) 566-2283; E-mail: [dhmacdonald@mtroyal.ca](mailto:dhmacdonald@mtroyal.ca)

**Please click the start button below when you are ready to begin.**

[Start](#)

---

# Knowledge Management Processes of Small and Medium Enterprises (SMEs) in Atlantic Canada Survey

## Section A: About the Firm

Please complete the following questions about your firm; the firm where you spend the majority of your working time:

(1) Which industry sector best describes your firm's primary business? (Please tick only one)

- Agriculture, Fishing, Forestry and Hunting
- Mining, Oil and Gas Extraction and Utilities
- Construction
- Manufacturing
- Retail Trade
- Wholesale Trade
- Transportation and Warehousing
- Information (i.e., publishing), Cultural Industries, Arts and Recreation
- Finance and Insurance
- Information Technology Services

Professional, Management, Scientific and Technical Services

Other:

(2) Is your firm involved in research and development (R&D) or systematic improvement activities related to equipment, management procedures, production process and/or products?

Yes  No

If yes, indicate the approximate % of your sales revenue spent for R&D and improvement activities:

(A) Most recent year:

(B) Previous year:

(3) In which province is your firm's head office?

Nova Scotia  Prince Edward Island  New Brunswick  Newfoundland & Labrador

Other:

(4) Is your firm a franchise?

Yes  No

(5) This firm trades with its customers on: (Please choose one of the following)

A year round full-time basis  A year round part-time basis  A seasonal basis

**The following questions relate to your firm's personnel and their work activities.**

(6) In the spaces provided, please indicate a numeric answer for the following questions:

	Full-time	Part-time
(A) Total number of employees	<input type="text"/>	<input type="text"/>
(B) Number of employees engaged in marketing activities	<input type="text"/>	<input type="text"/>

[Send Answers](#)

[Clear All](#)

**Section B: Gaining Knowledge in the Firm**

**For each of the following items please indicate the extent to which you agree or disagree with each statement.**

(7) Employee Engagement

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) Managers frequently try to find out employees' true feelings about their jobs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(B) We have regular staff appraisals in which we discuss the needs of our employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C) Employees are encouraged to attend training seminars and conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(D) We encourage employees to take time to think about our business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(E) We have regular meetings with employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(8) Financial Knowledge

Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree	Disagree (2)	Strongly Disagree (1)	N/A
-----------------------	--------------	----------------------------------	-----------------	--------------------------	-----

(A)	We know exactly how much each of our products or services cost us	<input type="checkbox"/>					
(B)	We know exactly how much it costs us to service each customer	<input type="checkbox"/>					
(C)	We have good financial information on our organisation	<input type="checkbox"/>					
(D)	We often analyse the contribution of our products or services	<input type="checkbox"/>					

**For each of the following items please indicate the extent to which you agree or disagree with each statement.**

(9) Awareness of the Marketplace

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) Real market needs rather than internal politics usually drives new product development	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(B) The key task of managing a business is the daily handling of transactional and other relationships with the firm's network of stakeholders (e.g. customers, suppliers, bankers, advisors, workers, friends)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(C) People, other than those in the marketing area, interact directly with customers to learn how to serve them better	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(D) We are quick to detect changes in our customers' preferences	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(E) We acquire knowledge on a 'need-to-know', 'how to' and 'who with' basis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree	Disagree (2)	Strongly Disagree (1)	N/A

Information about our competitors is collected by more than one department within our firm

(F)

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

We often collect industry information by informal means (e.g. lunch with industry peers, talks with trade partners)

(G)

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Government initiated training and educational initiatives "have not" assisted our firm in solving problems

(H)

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Our firm seeks "key business relationships" with individuals who themselves have active network relationships

(I)

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

We have a large number of people employed here who are trained in math, science, technology, information technology or engineering

(J)

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

For each of the following items please indicate the extent to which you agree or disagree with each statement. When reflecting on the statements think of your firm's primary customers:

(10) Scanning Market

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) We meet with customers at least once a year to find out what products or services they will need in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(B) We often acquire new ideas through export activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C) Our organisation does a lot of market research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(D) We survey end-users at least once a year to assess the quality of our products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(E) We develop a network of mutually beneficial relationships with our firm, our customers and our stakeholders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Section C: Sharing Knowledge in the Firm

For each of the following items please indicate the extent to which you agree or disagree with each statement.

### (11) Sharing Information

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) Marketing people in our organisation frequently spend time discussing customers' future needs with people in technical departments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(B) When people in our organisation need information about marketing issues they know exactly who to ask	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C) There are regular meetings between departments to discuss market trends and developments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(D) We keep a database of customer information that is easy to access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(E) Information about customer satisfaction is disseminated to all levels of our	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

organisation on a regular basis

(F) We often record internal best practices

(12) Techniques to Share Knowledge

Strongly Agree (5)    Agree (4)    Neither Agree Nor Disagree (3)    Disagree (2)    Strongly Disagree (1)    N/A

(A) Our workspace is set up to make it easy for people to talk to each other

(B) We encourage people with similar interests to work together to solve a problem

(C) We frequently step back and reflect on what went well or did not go well in aspects of our business

(D) Our organisation actively encourages mentoring or coaching

For each of the following items please indicate the extent to which you agree or disagree with each statement.

(13) Communicating Knowledge

Strongly Agree (5)    Agree (4)    Neither Agree Nor Disagree (3)    Disagree (2)    Strongly Disagree (1)    N/A

(A) We make good use of technologies (e.g. tele/video-conferencing, group ware) to share information on products and processes within the organisation

(B) A large number of written reports circulate within our organisation

(C) We frequently update policy and procedure manuals

(D) Employees are expected to provide feedback to others whenever they attend conferences, seminars or exhibitions

(E) We periodically circulate documents (e.g., reports and newsletters) about our business to external stakeholders

(14) Customer Service

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) When we find our customers are unhappy with the quality of our services, we react immediately	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(B) We usually respond to changes in our customers product or service needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C) When we find that a customer would like us to modify a product or service, the departments involved make a concerted effort to do so	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**For each of the following items please indicate the extent to which you agree or disagree with each statement.**

(15) Marketing & Technology Practices

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A) Market research, rather than technological advances usually drives our business	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

direction							
(B)	Our organisation seems to be able to implement marketing plans effectively	<input type="radio"/>					
(C)	We frequently look for ways to improve the cost effectiveness of our selling and promotional activities	<input type="radio"/>					
(D)	We manage to keep up to date with technological developments that could affect our business	<input type="radio"/>					
(E)	Information about new technological developments that might affect our business is circulated quickly	<input type="radio"/>					

(16) Responsiveness

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(A)	When something important happens to a competitor, the whole organisation knows about it quickly					
(B)	We are quick to implement strategies in response to significant changes					

in our competitors  
pricing structures

(C) If a major competitor launches an intensive campaign targeted at our customers, we would implement a response immediately

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

(D) We often change our procedures for doing things

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

(E) We often change the range of products or services that we offer

<input type="checkbox"/>					
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

[Send Answers](#)

[Clear All](#)

**Section D: Your Firm's Experience with External Advice**

(17) For each of the time frames below, please indicate if you received **general** business advice from the following sources:

	Past Year	Two Years Prior
(A) Accountant	<input type="checkbox"/>	<input type="checkbox"/>
(B) Business or Industry Association	<input type="checkbox"/>	<input type="checkbox"/>
(C) Financial Institution	<input type="checkbox"/>	<input type="checkbox"/>
(D) Friends/Associate/Mentor	<input type="checkbox"/>	<input type="checkbox"/>
(E) Supplier	<input type="checkbox"/>	<input type="checkbox"/>
(F) Customer	<input type="checkbox"/>	<input type="checkbox"/>
(G) Family	<input type="checkbox"/>	<input type="checkbox"/>
(H) Government Official	<input type="checkbox"/>	<input type="checkbox"/>
(I) Lawyer	<input type="checkbox"/>	<input type="checkbox"/>
(J) Educator/Trainer	<input type="checkbox"/>	<input type="checkbox"/>
(K) Private Sector Business Consultant (i.e., general)	<input type="checkbox"/>	<input type="checkbox"/>
(L) Private Sector Marketing Consultant	<input type="checkbox"/>	<input type="checkbox"/>

Other:

The following questions relate to the use of external advice for **strategic**

**(i.e., non-routine) purposes.**

(18) Have you used external advice for a strategic purpose in the past three years?

- Yes (Please answer question 18A/B/C below)
- No (Please scroll down and click 'Send Answers' below)

(A) If yes, who has your firm used for strategic advice? (Choose as many as appropriate)

- Accountant
- Supplier
- Lawyer
- Business of Industry Association
- Customer
- Educator/Trainer
- Financial Institution
- Family
- Private Sector Business Consultant (i.e., general)
- Friends/Associate/Mentor
- Government Official
- Private Sector Marketing Consultant

Other:

(B) If yes, thinking of your firm's last use of strategic (non-routine) external advice, please indicate the scope of the advice sought. Advice was sought to:

- |   | Yes                                 | No                                  |
|---|-------------------------------------|-------------------------------------|
| (i) Deal with a specific problem                                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| (ii) Seek to capitalize on a business opportunity                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| (iii) Respond to pressure from competition to improve performance | <input type="checkbox"/>            | <input type="checkbox"/>            |

(iv) Qualify for private funding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(v) Qualify for government funding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

If you answered Yes to Question (v) above, indicate the extent to which you agree with the following:

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(vi) The advice was used to construct a business plan, but within six months, our firm didn't look at all like the plan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(C) Now, thinking of your firm's last use of strategic (non-routine) external advice, please indicate the extent to which you agree or disagree with each statement.

	Strongly Agree (5)	Agree (4)	Neither Agree Nor Disagree (3)	Disagree (2)	Strongly Disagree (1)	N/A
(i) The advice received satisfied our objective	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) The advice received confirmed our expectations before engaging the advisor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) The advice received matched	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

our ideal view of  
the advice sought

Send Answers

Clear All

---

**At this point, I have two questions which if you agree to answer require some contact information.**

**As mentioned earlier, all information is confidential and anonymous.**

**Firstly, would you like to receive an E-mail reminder that the survey's summary results are posted to <http://business.mtroyal.ca>? If yes, please fill in your E-mail address in the space below.**

**Secondly, we are keen to know more about your experiences with business advisors and their effect on your firm. May we contact you to participate in a short follow-up discussion? If yes, please fill in your contact information below.**

**To ensure confidentiality and anonymity, this contact information will be detached from the responses you've provided.**

Name:

Firm :

Phone:

Cell :

E-mail :

[Send Answers](#)

[Clear All](#)

**Section E. Your Firm & You**

(19) What is the age of the person with the largest share of ownership in this firm?

- Less than 30 years    30-39    40-49    50-64    65 years and over  
 Refused

(20) How many years does the majority owner have in business ownership or management?

- Less than 5 years    5-10 years    More than 10 years    Refused

(21) Gender

- Male    Female

(22) What is the highest level of education you have completed?

- |   |   |
|---|---|
| <input type="checkbox"/> Did not complete high school | <input type="checkbox"/> College Certificate/Diploma  |
| <input type="checkbox"/> High School Credential       | <input type="checkbox"/> Undergraduate Degree         |
| <input type="checkbox"/> Vocational/Trade School      | <input type="checkbox"/> Graduate/Postgraduate Degree |

Other:

(23) What is your current position in the firm?

(24) Do you hold an equity position in this firm?

Yes  No

(25) What year was this firm established:

(26) How was the firm established? (Choose one of the following):

- As a new start-up venture
- Purchased as an existing business
- Inherited or assumed a family business

(27) Which statement(s) best describes the entrepreneurial experience of this firm's owner: (please choose all applicable answers)

- Currently owns one business and has no prior business ownership experience, as a business founder
- Have sold or closed an original business but at a later date has inherited, established, and/or purchased another business
- Own two or more businesses at the same time
- Hold an equity position with several businesses but do not have a controlling interest in any
- None of the above

(28) Approximately what percentage of your firm's last year's sales were generated:

Percent

(A) The province where your head office is located

(B) Other Atlantic Canadian Provinces

(C) Other Canadian Provinces

(D) The United States of America

(E) Other International Markets

***'Total' Sales Revenue By Market = 100%***

(29) Please indicate your firm's approximate gross sales from last year:

- Under \$249,999       1 million to \$4,999,999       Over \$25,000,000
- \$250,000 to \$499,999       5 million to \$9,999,999       Decline to provide
- \$500,000 - \$999,999       10 million to \$24,999,999

(30) Over the past three years what has been the approximate change in your firm's sales revenue?

- No change       Increased by 20 - 49%       Decline to provide
- Increased by 1-9%       More than 50%
- Increased by 10 - 19%       Decreased

[Send Answers](#)

[Clear All](#)

*Thank you for your participation.*

Again, as a thank you for your participation and resource for your strategic planning a summary of the survey's results will be posted to The Bissett School of Business, Mount Royal College web site

<http://business.mtroyal.ca/> by September 10th, 2007.

If you have any further comments please feel free to contact me,  
Douglas MacDonald, Tel: (902) 566-2283; E-mail: [dhmacdonald@mtroyal.ca](mailto:dhmacdonald@mtroyal.ca).  
Once again, thank you for your interest and support.

## Phase 2: Qualitative Research: Interview Protocol

Interviews with twelve (12) entrepreneur/owners of SMEs were conducted in a “semi-structured” manner. The questions which are presented below, were used to set the framework of the interview. They are constructed in order to draw additional insights around this study’s hypotheses. For each question the Interviewees’ answers were probed to seek further insights (i.e. by asking such questions as why, how, when, what and also seeking additional information).

Entrepreneur and Position in Firm: \_\_\_\_\_

Business Name: \_\_\_\_\_ Head Office Location: \_\_\_\_\_

Interview Date and Duration: \_\_\_\_\_

### Context Variables:

All Interviewees agreed to have the classification and non-revenue data responses (i.e. firm demographics and size etc.) from their web-based survey (Part 1) extracted for administrative use by the author. No exploratory survey answers were accessed by the researcher in order to create as unbiased an interview environment for the qualitative research (Part 2) of this study.

### Interview Questions By Theme:

#### A. Entrepreneurial Orientation and Management Style

1. Would you consider you have an entrepreneurial firm? If so, how?
2. How would you describe the management style of your firm?
3. How do the employees of your firm approach innovation?
4. How do you reward workers for exceptional performance?
5. Do you encourage employees to solve problems in teams, or individually?
6. Do you include employees in the decision making processes of the firm?
7. Is your firm and employees involved in the development of the community(ies) where you trade? If so how and who participates from your firm?

#### B. Market Orientation

1. How do you/firm scan the market place for trends?
2. Are all functional areas of the business involved in the servicing of customers?
3. Why/Why not?
4. Do you determine your target customers? If so how?
5. Is market information disseminated throughout all functional areas of your firm?
6. What is your first priority, market information on customer wants/needs or product innovation?
7. Do you benchmark and track competitor activities in your market?

### **C. Innovation**

1. What does innovation mean to you and your firm?
2. Do you have a formal innovation process? Please elaborate if you do or don't.
3. How do you decide on products/services that need improvement or modification?
4. How many new products or services have you introduced in the last 3 years?

### **D. Use of External Advice**

1. Over the past 3 years what type(s) of external advice has your firm used? If advice was used, what was the most and least effective type? Why?
2. Have you accessed government programs in support of SME development? What type? What was your experience and results from the program?
3. Do you access advice from any other sources? (If not volunteered, ask about suppliers)

### **E. Firm Performance**

1. How would you describe your competitive environment and the place your firm occupies?
2. Where do most of your sales come from, "new" or "established" products/services? (by new I mean <3 years old).
3. Do you trade outside your home market? If so, into what markets and what has been your experience?
4. How turbulent has your market been over the past 3 years? (By turbulent I mean, changes in your market economy; changes in competition and their competitive advantage; technology; government involvement etc.)