

# Resource Allocation Decisions for the Internationalization of Small and Medium-Sized Manufacturing Firms

by

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## **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ADEOYE ADEGORITE

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Signature

## **Abstract**

This research explores the problems of resource allocation during the process of internationalization by small and medium-sized manufacturing firms. The literature largely portrays a positive view of internationalization with respect to increased firm performance or growth. However, particularly for Small and Medium-Sized Enterprises (SMEs), growth through internationalization increases uncertainty and may jeopardize firm performance and even threaten survival of the firm. The literature indicates that some SMEs fail during the process of expanding to foreign markets (Brewer 1981; Ramaswamy 1992; Mudambi and Zahra 2007). Many of these failures are due, in part, to the challenges of allocating limited resources during and after internationalization (Chen and Hsu 2009).

Given the challenge of internationalizing, this research examines the influence of resource allocation on firm performance with the aim of providing recommendations on how entrepreneurs can make better resource allocation decisions that in turn may lead to improved performance. To address the problem of allocation of limited resources during and after internationalization, theoretical propositions are developed based on modern portfolio-theory (Markowitz 1952; 1959; 1991) that explains the risk-return tradeoffs with regards to resource allocation to domestic, U.S., and foreign markets and possible effects on firm performance.

This research applies a multiple case-study approach based on critical realism, a qualitative philosophical research paradigm. Data collection is through in-depth interviews with executives of twenty-two small- and medium-sized manufacturing firms located in Canada. Within-case and cross-case analyses findings are used to confirm or modify the propositions, resulting in a descriptive model that best explains resource allocation decisions and the effects on performance.

The findings indicate that resource allocations to domestic, U.S., and foreign markets have different contributions to overall firm performance. However, the way in which resource allocation trade-offs are decided between these markets is largely dependent on the firms or owners/manager's disposition to risks and returns. Findings from this research also show that decisions by firm managers to allocate resources to a particular market depend on their assessment or anticipation of risks and the potential mitigation strategies that are required in order to maximize returns. This, consequently, determines the firm's performance during the process of internationalization.

This research contributes to the literature in international entrepreneurship, management of technology, and decision analysis. While there is an extensive body of literature that focuses on the output of internationalization (i.e., where, when, and how firms export their products), few studies have specifically examined the inputs that make this happen (one of these being the allocation of resources). Rugman *et al.* (2008) examines the resource allocation decision between domestic and foreign markets for Multinational Enterprises (MNEs) and the impact on firm performance. No known study has specifically explored resource allocation decisions between domestic, U.S., and foreign markets for SMEs and the influence on firm performance. This research fills the identified gap by making a significant theoretical contribution to this field by adopting portfolio theory to the challenge of allocating resources between domestic and foreign markets.

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## **Dedication**

To my Lord and Savior Jesus Christ who straightened all the rugged and crooked paths. I am forever indebted to you.

To my charming wife, Kennie: someone was once asked to distinguish between two words: “complete” and “finish”. His response was that when a man finds the right partner, his life is “complete”, if otherwise, the man is “finished”. My life became complete the day we found each other. None of this would have been possible without your tremendous support. Thank you so much Kehinde Olukolade Apeke Adegorite!

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# 1. Introduction

Internationalization has largely been portrayed as a positive initiative for a firm's performance. However, with regard to SMEs, there appears to be inconsistent and conflicting findings. Some researchers posit that internationalization has negative effects on firm performance due to the challenges inherent in the process of internationalization, particularly for small and medium-sized enterprises (Brewer 1981; Collins 1990; Kumar 1984 and Ramaswamy 1992). Pangarkar (2008) argues that, typically, most SMEs lack the experience and resources needed to enter and operate successfully in international markets.

Other studies, however, disagree with these negative outcomes. For example, Han and Lee (1998), and Grant (1987), declare that internationalization impacts the performance of a company positively. These studies are based on the findings by Kogut (1985) that indicate that internationalization allows a firm to capture the economies of scale or geographic scope. Also, Hout *et al.* (1982) posit that internationalization can result in greater cost efficiencies due to larger volumes of business; and Teece (1986) discusses how the greater the number of countries a firm serves, the better its appropriability regime becomes.

In addition, a study by the Organization for Economic Co-operation and Development (OECD 2008, p. 25) suggests that indicators of internationalization are trending upwards. Another part of the OECD study predicts that the internationalization of businesses will accelerate in the 21st century and that more than a quarter of the world's small and medium-sized manufacturing firms will derive greater than 10 per cent of their revenues from foreign markets.

The literature on international entrepreneurship documents reasons why some ventures fail and why others succeed in the process of internationalization. Contractor *et al.* (2003) argue that some of the failures and negative outcomes could be due to over-internationalization by expanding into too many countries. For instance, Chen and Hsu (2009) suggest that these failures could be caused by inaccurate resource allocation. SMEs in the process of internationalization are usually faced with the challenge of allocating resources that are already sparsely available to both domestic and foreign-market activities. The move into international markets is still considered essential because both domestic and foreign business opportunities have the potential to increase the firm's overall performance and as well as the wealth of the company. Therefore, ignoring one or the other may not be optimal; while both may be important for the growth of the firm, apportioning resources to either of the markets more often than not constitutes a challenge.

An entrepreneur who has a well-established local market, and who can maintain or improve performance in the local market with more resources, may not be willing to consider giving more attention to new international business activities. They would then forfeit the potential opportunities that could have been gained from the international market (Arbaugh *et al.* 2008). He/she is faced with the stiff challenges of how to effectively allocate resources both to the existing local business (that must continue to do well for sustainability) and the international activities (that could possibly grow the business). The task is especially complicated when resources are scarce.

In this research, I examine how resource allocation during the internationalization of small and medium-sized manufacturing firms influences the

performance of the firm from the perspective of modern portfolio-theory (hereafter referred to as “portfolio theory”). Firm performance in this study is defined as the firm’s financial performance (i.e. sales revenue/returns from markets). I specifically examine how resource allocation trade-offs are made between the Canadian domestic market (hereafter called the “domestic market”), American market (hereafter referred to as the “U.S. market”) and other international markets such as Europe, Asia, Africa, Middle East (hereafter called “foreign market”), and the influence of these decisions on the firm performance. Given the uniqueness of the U.S. market, for Canadian firms, this market is considered and treated as a distinct and separate market in this study.

### **1.1 Research Questions and Objective**

The objective of this study is to investigate how an entrepreneur can make better resource allocation decisions in order to improve firm performance during the process of internationalization. Using multiple case studies, this study investigates the relationship between resource allocation among various markets and the effects on performance. To achieve this objective, this study explores and examines the following research questions:

1. How did resource allocation decisions affect firm performance in the case studies under investigation?
2. In what ways did resource allocation to domestic, U.S. and other foreign markets affect firm performance?
3. With the conclusions reached from the above two questions, what does this suggest to SMEs about resource allocation decisions to domestic, U.S. and foreign markets?

4. How can the challenges and problems encountered by the SMEs while making various resource allocations be avoided, anticipated and/or addressed by other companies?

To address these questions, I develop theoretical propositions based on portfolio theory reasoning as a starting point for theory development. Portfolio theory provides a good starting framework to simplify the issues, because of the complexity of the phenomenon being studied. A review of the literature on relevant resource allocation decision-making theories such as the Resource-based View theory (Barney 1991), the Transaction Cost theory (Williamson 1975), the Opportunity Cost theory (Samuelson 1967), the Real Option theory (Myers 1977), and the Portfolio theory (Markowitz 1952) reveals that Portfolio theory is most appropriate because it provides a framework for an entrepreneur to strategically optimize the trade-off between return and risk associated with a portfolio of opportunities under consideration.

Resource allocation is analogous to financial investments in a portfolio of opportunities, each associated with different levels of potential return and risk. In finance, it may be possible to express return and risk in quantitative measures. However, with resource allocation for SMEs, quantitative measures may not be sufficient to capture the reality of their situation. My investigation, therefore, takes a critical realist perspective to constructing a theory of how firms make resource allocation decisions and trade-offs. Heary and Perry (2000), argue that theories built from a positivist perspective are insufficiently nuanced to adequately characterize the “real world”.

Based on my ontological stance and epistemological position, this research applies a multiple case-based qualitative approach to investigate resource allocation decisions during the process of internationalization. The multiple case-studies provide an opportunity to seek an in-depth understanding of resource allocation decisions during the process of internationalization in different small and medium sized manufacturing companies within their various unique contexts. Twenty-two (22) small and medium-sized manufacturing firms are purposefully selected across Canada based on pre-defined criteria. Data collection from secondary and primary sources forms the basis for the 22 case studies in this research. Primary data collection is through in-depth interviews with firm executives and insights gained from related internal documentation provided by these companies. The findings from within-case analysis and cross-case analysis are used to modify the initial theoretical propositions, resulting in a descriptive model that best explains resource allocation decisions and the effects on firm performance during the process of internationalization.

## **1.2 Theoretical Justification and Positioning**

This dissertation seeks to investigate the selected SMEs' challenges of allocating limited resources by viewing resource allocation decisions from the perspective of the portfolio of opportunities with returns and associated risks. Such an approach fills a gap in the existing literature by using portfolio theory to explain the risk-return trade-offs inherent in the decision-making process. The explanation presented in this study provides a theoretical framework for researchers and practitioners who are interested in obtaining a good understanding of how to allocate limited resources to various markets in order to enhance their performance. Due to the



fact that most SMEs operate with limited resources, solid performance is necessary to ensure the continuity of a firm's operations in the domestic, U.S., and foreign markets. The challenge is how to appropriately allocate resources to both frontiers without jeopardizing the firm's opportunities and thereby impeding good performance.

This research addresses a perceived gap in the international entrepreneurship, international business, decision analysis, and technology management literatures by increasing our understanding of some of the issues and challenges faced by internationalization initiatives and its influence on a firm's performance. While a number of studies have focused on the outputs of internationalization (i.e., where, when, and how firms export their products), this research specifically focuses on one of the inputs that make this happen (i.e., the allocation of resources). The research applies portfolio theory to develop an explanation for resource allocation decisions and the influence on firm performance.

The review of the existing literature reveals an incredible number of instances in which resources are cited as important to overall firm performance (i.e., influence of Resource-Based View). It also reveals the lack of research that directly addresses the allocation of resources: (Jones *et al.* 2011; Armstrong and Shimizu 2007; Newbert 2007; Makadok 2001b; Peteraf and Barney 2003). Jones *et al.* (2011), for instance, systematically reviews the International Entrepreneurship literature and cited instances of the role and the importance of resources such as the process of assembling resources, resources and market opportunities, resource-based view theory, social capital as a resource for innovation, and strategic renewal in new venture internationalization, coordination of resources across multiple countries, resources and networks, and the resource dynamics of International New Ventures (INV), to mention but a few. There is

an apparent lack of information on the issue of allocation of resources during the process of internationalization. This study also extends portfolio theory into the area of International Business and Management Sciences, a domain outside its original root, finance. The proposed “resource allocation portfolio” presents resource allocation to domestic, U.S. or foreign markets during the process of internationalization as analogous to financial investments in Markowitz portfolio theory that consists of three types of individual assets. The theoretical framework examines the risk-return trade-offs associated with resource allocation decisions. Within the context of international business literature, Rugman *et al.* (2008) examines the resource allocation decision between domestic and foreign markets for MNE and the impact on firm performance. However, no known study has explored resource allocation decision between domestic, U.S., and foreign markets for SMEs and the impact on firm performance. This research fills this gap by making a significant theoretical contribution to this field.

### **1.3 Practical Justification for Research**

From a practical point of view, findings from this research provide insights for managers and decision makers who need to make strategic decisions in allocating resources during the process of internationalization. The explanation provides a framework that can be utilized by managers to make an informed decision for allocating resources between domestic, U.S., and international markets when a firm is in the process of internationalization. The ability to anticipate, assess, and manage or mitigate risks is an important component of resource allocation decisions to various markets. This study provides insights on how entrepreneurs can devise ways of anticipating and assessing risks associated with doing business in various markets. It

suggests various methods of reducing or mitigating risks inherent in certain markets in order that resource allocation to such markets can yield return on investments that is worthwhile.

The specific framework for this research is centered on small and medium-sized manufacturing firms in Canada. The characteristics of manufacturing firms make it relatively easy to produce commodities in their domestic market and internationalize through exports or foreign direct investment (Lu and Beamish 2006). In addition to the ease of access to the Canadian manufacturing firms used in this study, this segment of the manufacturing sector also represents excellent examples of firms that are actively engaged in exports and with resource allocation challenges. The “Key Small Business Statistics” from Industry Canada (2012, p. 40) suggests that manufacturing and exporting firms in Canada contribute to the economy; any research specifically focusing on this industry could potentially provide practical insights to improving export performance.

Industry Canada (2011, p. 11) indicates that there are approximately 54,160 manufacturing firms in Canada, out of which about approximately 53,835 (99.4%) are small and medium-sized companies. The majority of these manufacturing firms, (93%), are small-sized companies; and most of these companies are privately held. Industry Canada uses a definition of firm size based on the number of employees, depending on the sector. For manufacturing sector, a firm is considered “small” if they have fewer than 100 employees, whereas the cut-off point for the service sector is 50. If a firm has above 100 employees and up to 499, the manufacturing firm is considered medium sized. Firms with 500 employees or more are considered “large” companies; thus, the

term “SME” (small and medium-sized enterprise) refers to companies with fewer than 500 employees.

Internationalization of manufacturing firms is mainly through exporting rather than foreign direct investments. Lu and Beamish (2006) suggest that for small and medium-sized manufacturing firms, it is a relatively cheaper and easy way of entering a foreign market due to comparatively low level of commitment and risk. According to “Key Small Business Statistics” from Industry Canada (2012, p. 40), manufacturing is the largest exporting industry in Canada, with small manufacturing firms accounting for about 12 per cent and medium-sized manufacturing firms accounting for 23 per cent of total manufacturing exports. This is also supported by the information available in the Canadian Company Capabilities (CCC) database (<http://strategis.ic.gc.ca>). This database holds information for more than 60,000 firms in Canada. McNaughton (2003) suggests that the primary purpose of this database is to assist foreign customers who may be interested in Canadian companies that can provide particular products or services. This research focuses primarily on SMEs in the manufacturing sector that are actively internationalizing through exports to foreign countries.

Table 1 shows the distribution of the value of exports by industry and by firm size documented in “Key Small Business Statistics”. Using internet search engines to extract additional information about these firms reveals that most of them are privately held and have not published their pertinent information publicly. Exports by manufacturing firms in Canada can also be examined in terms of their contribution to Canada’s economy. “Key Small Business Statistics” from Industry Canada (2012, p. 40) indicates that in 2010, the total value of exports by Canadian enterprises is

approximately \$400 billion. Out of this, manufacturing firms account for 56.2% (\$227 billion). For the \$227 billion in manufacturing, small manufacturing firms account for 11.3%, medium sized for 19.9% (\$45.4 billion) and large manufacturing firms for 68.8%.

Industry Grouping (By NAICS)		Employer Businesses				
		Total Value (\$ millions)	Size of Business Enterprise — Number of Employees (Percentage of Total)			
S/N	Industry Name		Total (all business)	Small (<100)	Medium (100-499)	Large (500+)
1	Agriculture, Forestry, Fishing and Hunting	3,811	0.9	63.6	11	25.4
2	Mining, Oil and Gas Extraction/Utilities	60,650	15.2	4.7	8.9	86.5
3	Construction	1,138	0.3	76	19.6	4.3
4	Manufacturing	224,740	56.2	11.3	19.9	68.8
5	Wholesale Trade	40,552	10.1	70.8	13	16.3
6	Retail Trade	2,034	0.5	85.5	3	11.5
7	Transportation and Warehousing	24,069	6	X	X	X
8	Information and Cultural Industry	519	0.1	49.5	43	7.5
9	Finance and Insurance	17,312	4.3	68.9	5.2	25.9
10	Business Services	22,922	5.7	37.8	8.1	54.2
11	Other	2,526	0.6	51.6	14	34.4
	Industry Aggregate Total	400,273	100	21	14.8	64.2
		Total Number of Firms	Total	Small (<100)	Medium (100-499)	Large (500+)
	All Industry Exports	65,921	100%	86.90%	10.20%	2.90%

Note: Data that are confidential are denoted by X

Table 1- Distribution of Total Value of Exports by Industry and by Size of Business  
(Source: Statistic Canada Exporter Register, 2008 and Industry Report for  
“Key Small Business Statistics- July 2010)

Although, when positioned within the broader context of the overall contribution to the Canadian economy, manufacturing is decreasing in significance as

an employer and contributor to export activity, and more than 70 per cent of GDP is accounted for by firms outside of manufacturing. Industry Canada (2012, p. 28, 29) indicates that, when taking into account both the public and the private sectors, small businesses in the private sector account for about 31 per cent of GDP, while medium-sized businesses account for 9 per cent. The small and medium-sized manufacturing sector is a fraction of these businesses. Industry Canada (2012, p. 40) also indicates that Industries in the goods-producing sector account for 24.9 per cent of total employment in the private sector and 23.8 per cent of employment in small businesses.

However, despite the decline in the contribution of the manufacturing sector to the GDP, the actual volume of goods produced has not declined only the price and thus value. The Service Industry has grown at a higher rate, so relatively; manufacturing contribution to GDP has declined. Baldwin and Macdonald (2009, p. 10) argue that “Between 1961 and 2005, the volume of manufactured goods produced, relative to total goods and services, was approximately constant. More important, the actual volume of goods produced (the volume index of GDP in manufacturing) increased”. Also productivity increases are greater in manufacturing than in services. Baldwin *et. al.*, 2001 claims the manufacturing sector in Canada has had higher productivity growth than average and makes the largest contribution of any sector to productivity growth. The demand for inputs used in manufacturing has also grown (Gu *et. al.* 2002). For instance, due to the fact that most goods have surrounding services, exports of goods often pull service firms into international markets (i.e., to provide support, training, maintenance and other services).

Also methodologically, due to the differences in the mode of internationalization between goods and services, I could not do both within the scope of this dissertation. For instance, trade in the manufacturing sector is different than trade in services and modes of exporting are more explicit. The manufacturing industry also provides a suitable boundary to make the research problem possible. For instance, in the manufacturing sector, there are fewer business models; the nature of risk is more constrained, there are fewer varieties of resources, internationalization is mostly through export or strategic partnership with other firms in foreign markets and firms are mostly manufacturing and exporting physical products, which are easier to account for.

The research problem may be different or complicated if the choice is to deal with the service industry. In converse, the service industry operates with varieties of business models. The nature of risk is very diverse. Also there is more variety of resources in the service industry and the international entry mode is more diverse. Therefore, considering the implications for the key constructs in this study (e.g., risk, return or resources), the choice of the manufacturing industries eliminates the potential complications that may create loose boundaries around the research problem. However, examining resource allocation decision in the service industry is an interesting future research; and is discussed in my conclusion.

#### **1.4 Thesis Outline**

This thesis contains six chapters. Following the Introduction in Chapter One, in Chapter Two, I review the relevant literature pertaining to resource allocation and internationalization, portfolio theory and its extensions, internationalization entry strategies, and the internationalization-performance relationship in both SMEs and

MNEs. The theory development is presented in Chapter Three. The chapter highlights the philosophical research paradigm for this research and defines all the key constructs for the theory development. It concludes by presenting the theoretical propositions as building blocks for this study.

Chapter Four focuses on the research method and approaches used in the theory development with detailed discussions on the research design, data collection, and analysis. Chapter Five summarizes results and findings of this research based on data collection from 22 small and medium-sized manufacturing firms in Canada. This dissertation concludes with Chapter Six where research findings are discussed and compared with the literature. That chapter highlights the contributions of the results of this research to the theory, methodology, and practice and discusses both the research limitations and recommendations for future research opportunities.



## 2. Literature Review

The purpose of this study is to examine resource allocation to activities associated with domestic, U.S., and foreign markets and the impact on firm performance. To achieve this objective, it is important to understand the current state of multiple literature streams. First, I review the various relevant theories on resource allocation and internationalization. Specifically, I critically examine portfolio theory, its extensions, and analogous applications in different areas. I also review literature that pertains to the internationalization of SMEs, their modes of entry and entry strategies that play an important role in understanding the various factors that characterize the internationalization of small and medium-sized manufacturing firms. Finally, I review, compare, and contrast findings on internationalization and performance relationship for SMEs and MNEs. Figure 1 depicts the structure of the literature review.

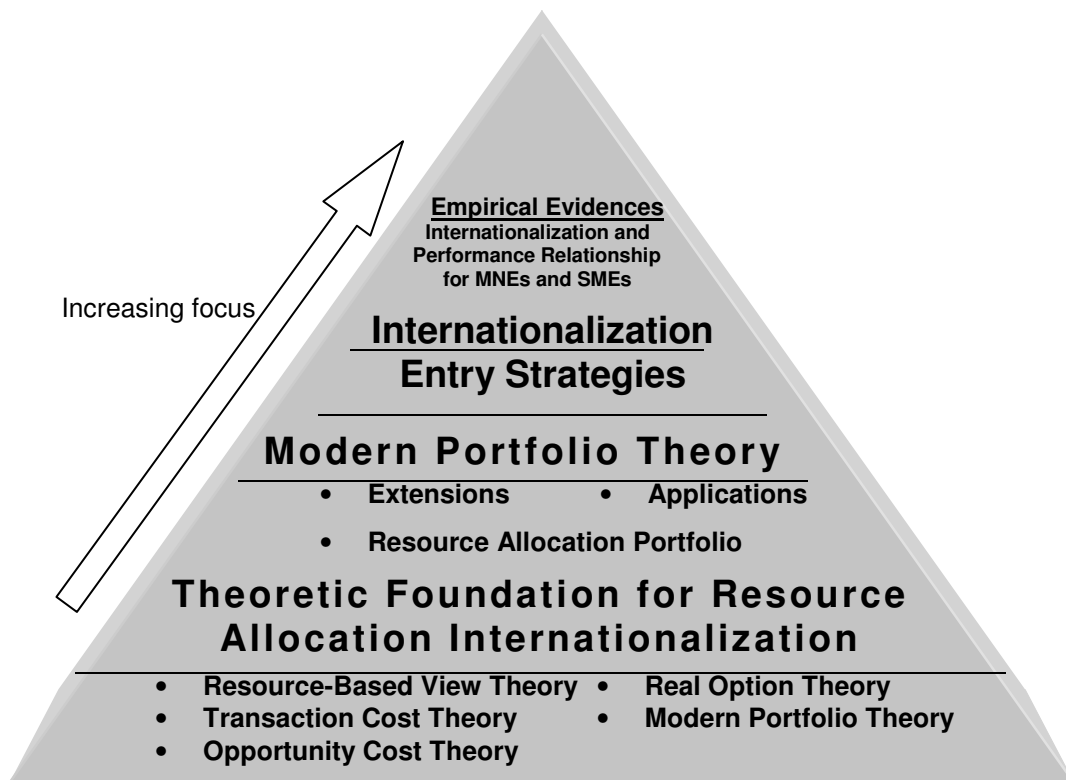


Figure 1 - Literature Review Structure

## **2.1 Theoretic Foundation for Resource Allocation and Internationalization**

It is fundamental to have an overview of theories that are relevant to resource allocation and internationalization. With this overview, we gain an understanding of how researchers have examined this subject from different perspectives. Reviewing the literature on the resource-based view helps to establish and define the scope of the term “resources” for this study. Transaction cost theory helps to establish the notion of cost associated with resource utilization. Opportunity cost theory, on the other hand, helps to establish the forgone cost of resource allocation and the constraint of limited resources. Although these theories are relevant and necessary key constructs, they are not sufficient to build a theoretical resource allocation framework for the purpose of this research.

Literature on real options provides the ability to viewing uncertainties as comprising of both challenges and opportunities. And portfolio theory provides an understanding of how resource allocation is examined in the face of multiple alternatives and various degrees of uncertainty. In particular, reviewing the various extensions and analogous applications of this theory strengthens its choice as the most appropriate theory for this research. The literature on internationalization of SMEs provides context for the application of portfolio theory in solving an internationalization decision problem. Furthermore, the review of literature on the relationship between internationalization and performance provides an overview of empirical findings based on various theoretical perspectives. Table 2 is a summary of these theories: it highlights their perspectives, assumptions, contributions, and key publications. Each of these theories is discussed in detail in the following subsections.

<b>Theory</b>	<b>Main Theme</b>	<b>Assumptions</b>	<b>Contributions</b>	<b>Key Publications</b>
Resource-Based View Theory	VRIO resources provides sustainable competitive advantage	-Resources are key drivers of firm performance - Sustainable competitive advantage (SCA) is achievable	Provides scope and definition for firm resources, which captures both tangible and intangible resources	Barney 1991; Barney 1991a: 101; Barney 2002: 155; Penrose 1959; Grant 1991; Amit and Schoemaker 1993; Roth 1995; Luo 2000; Akohangas 1998.
Transaction Cost Theory	Costs associated with exchanging resources -Asset Specificity -Uncertainty -Transaction frequency	-Markets are frequently inefficient - Firms try to minimize the costs of exchanging resources with the environment	Provides explanation for uncertainty as a source of transaction costs and propose some mechanisms to minimize the cost	Williamson 1975, 1981, 1985, 1991, 1996; Anderson and Gatignon 1986; Ghoshal 1987; Allen and Pantzalis 1996; McNaughton 1996; McNaughton and Bell 2001.
Opportunity Cost Theory	Firms should use cost allocations to attribute the cost of shared resources to decision alternatives	- All cost components are explicit - All cost components are readily available for analysis	-Establish the notion of forgone cost of allocating resources in the face of multiple alternatives -Helps to uncovers the next best alternative	Solomon 1966; Becker 1968; Buchanan 1969; Becker <i>et al.</i> 1974; Hoskin 1983; Northcraft and Wolf 1984; Horngren and Foster 1987.
Real Option Theory	Framework for contingency investment in an asset with future decision rights	-Current sunk investments create real options -Real Assets -Mostly non-tradeable Assets	-Provides insights into investments that may be regarded as real options. -Presents uncertainties as comprising of both challenges and opportunities	Chi and McGuire 1996; Tong and Reuer 2007. Trigeorgis 1993; Myers 1977; Buckley and Casson 1998; Buckley <i>et al.</i> 2002; Kogut and Kulatilaka 1994.
Portfolio Theory	Optimal selection of assets in a portfolio considering Risk-Return Trade-off	-Non or low correlation of assets within portfolio	-Provides the overall theoretic framework for risk-return trade-off of two risky assets (e.g., domestic and foreign markets)	Markowitz 1952, 1959, 1991; Elton <i>et. al.</i> 2003, Levy and Lim 1994; Levy and Sarnat 1970.

Table 2 - Summary of Relevant Theories

### **2.1.1 Resource-Based View Theory**

Resource-Based View (RBV) theory focuses primarily on resources as the key driver of firm performance (Barney 1991). RBV theory posits that firm resources include all assets, capabilities, organizational processes, firm attributes, information, and knowledge controlled by a firm that enable the firm to conceive of, and implement, strategies that improve its efficiency and effectiveness (Barney 1991a: 101; Barney 2002: 155). This theory asserts that owning, controlling, and allocating key resources to various strategic initiatives within a firm constitute a major source of sustainable competitive advantage (Barney 1991). Potentially, a firm with such strategic resources can deploy these resources to the international market and gain competitive advantages. The rationale behind this is that these resources cannot simply be acquired on the market, but must be developed in-house and then deployed. Based on the work of Barney (1991) the RBV theory characterizes a particular firm's resources as being valuable, rare, inimitable, and organizationally non-substitutable (VRIO). VRIO may include tangible or intangible assets such as brand names, proprietary processes or patents, efficient procedures, knowledge of technology, skilled personnel and machinery (Wernerfelt 1984). A tangible resource (e.g., tools, software and machines.) is easier to imitate compared to intangible resources. Intangible resources are more difficult to copy (Grant 1991). In this research, I refer to “resource” as defined by RBV theory, which captures both tangible and intangible resources of the firm.

Various other classifications of resources have been suggested in the literature. For example, Amit and Schoemaker (1993) suggest seven main categories of resources: Financial (size and type of capital), Physical (location, plant, access to raw materials,

and transportation), human (personnel and management), technological (product and process-related), reputation (image, brands, loyalty, trust and goodwill), organizational resources (management systems), and relationships of the firm. The seventh category was added by the advocates of the network perspective. Some relationships of the firm may include suppliers, domestic and foreign customers, authorities, and may constitute competitive advantage to the firm during the process of internationalization. Building on this classification, Wernerfelt (1997) reduced the classification to three groups: physical, financial, and intangible resources. Barney (1991) brings a different perspective to resource classification by considering the firm as a bundle of resources, and that different firms are endowed with different resource bundles (resource heterogeneity). These bundles may provide the basis for competitive advantage to the extent that they are VRIO and not easily substituted. Although these classifications may vary, they all complement each other and consistently uphold the relationship between firm resources and competitive advantage as a theme.

Given that resources are assumed to be key drivers of firm performance, identifying the VRIO resources and allocating them appropriately to gain competitive advantages during the process of internationalization is very important. Competitive advantage becomes significant when a firm entering the international market has a resource base and a resource combination that are superior to that of the local firm (Oesterle *et al.* 2008). RBV suggests that firm-specific resources and relatedness of activities are important variables in entering the international market. The literature provides examples of resource-based research of SME internationalization (e.g., Roth, 1995; Luo, 2000; Akohangas, 1998). The most common resource-based research in

SME internationalization is the model developed by Akohangas (1998). The model examines SME internationalization behaviour and resource development by combining strategic and network perspectives of resources. This model assumes that SMEs rely on the development of VRIO internal and external resources. These resources can be reconfigured or developed within the firm and between the firms and their environments. Figure 2 illustrates the Akohangas model.

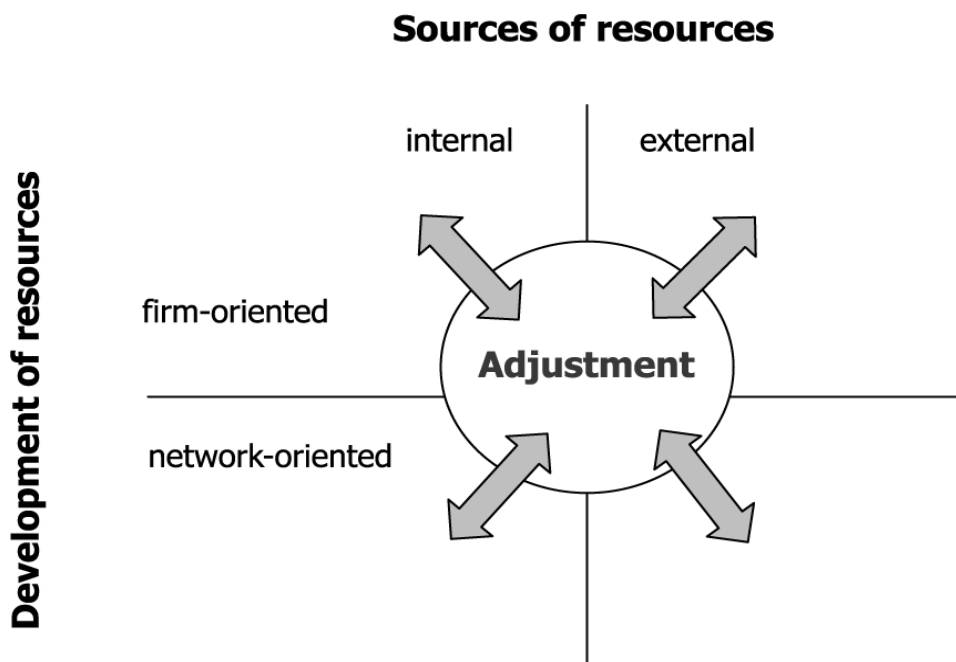


Figure 2 - Akohangas Resource Based Model (*Source: Akohangas 1998*)

The RBV theory has helped researchers to understand the relationship between firm resources and sustainable competitive advantage. However, it has also received criticism from some scholars. RBV is criticized for lacking substantial managerial implications or operational validity (Priem and Butler 2001a). It gives entrepreneurs the responsibilities of identifying, developing and deploying VRIO resources, without specifying “how” these should be done. A second critique is that RBV entails an

infinite regress (Collis 1994; Priem and Butler 2001a). The theory suggests firms should strive to obtain such higher-order capability, which may lead firms into an endless search for ever higher order capabilities.

A third critique concerns the generalizability of the RBV. Researchers argue that the notion of resource uniqueness denies the RBV any potential for generalization (Gibbert 2006a; 2006b). RBV assumes that sustainable competitive advantage (SCA) is achievable. This assumption has become the source of a fourth type of critique. Eisenhardt and Martin (2000) and D'Aveni (1994) argue that inimitability is progressively compromised by “spillovers” as the firm’s products and services continue to reveal strategic information about the processes that produce them. The fifth critique is that RBV is not a theory of the firm. Foss (1996a; 1996b) argues, as does Kraaijenbrink *et.al.* (2010), - that RBV stands up tolerably well to the first five critiques. In Foss’ opinion, as long as the theory is applied with some caution there is no real problem based on these criticisms. Table 3 gives a summary and assessment of critiques to the RBV theory.

Other critiques in the literature include: whether VRIO is a necessary or sufficient condition for SCA (Armstrong and Shimizu 2007; Newbert 2007); the value of resources, (Lockett *et al.* 2009) and definition of resource (Priem and Butler 2001a). These last three criticisms threaten the RBV’s status as a core theory and therefore have provoked suggestions for further theorizing and research. The major concern is the indeterminate nature of two concepts fundamental to the RBV, resource and value, as well as various problems with the RBV’s narrow explanation of a firm’s competitive advantage (Kraaijenbrink *et. al.* 2010).

S/N	Critique	Assessment	Key Publications
1	The RBV has no managerial implications	Not all theories should have direct managerial implications. Through its wide dissemination, the RBV has evident impact.	Priem and Butler 2001a; Connor 2002; Miller 2003; McGuinness and Morgan 2000.
2	The RBV implies infinite Regress.	Applies only to abstract mathematical theories. In an applied theory such as the RBV, levels are qualitatively different. It may be fruitful to focus on the interactions between levels rather than to consider higher levels prior as a source of SCA.	Collis 1994; Priem and Butler 2001a; Collis 1994: 148; Lado <i>et al.</i> 2006; Mahoney 1995; Teece 2007.
3	The RBV's applicability is too limited	Generalizing about uniqueness is not impossible by definition. The RBV applies to small firms and startups as well, as long as they strive for an SCA. Path dependency is not problematic when not taken to the extreme. The RBV applies only to firms in predictable environments.	Gibbert 2006a, 2006b; Connor 2002; Miller's 2003.
4	SCA is not achievable.	By including dynamic capabilities, the RBV is not purely static, though it only explains <i>ex post</i> , not <i>ex ante</i> , sources of SCA. Although no CA can last forever, a focus on SCA remains useful.	Fiol 2001: 692; Eisenhardt and Martin 2000 and D'Aveni 1994.
5	The RBV is not a theory of the firm.	The RBV does not sufficiently explain why firms exist. Rather than requiring it to do so, it should further develop as a theory of SCA and leave additional explanations of firm existence to TCE.	Barney 1996; Conner and Prahalad 1996; N. J. Foss 1996a, 1996b; Kogut and Zander 1996.
6	VRIO is neither necessary nor sufficient for SCA.	The VRIO criteria are not always necessary and not always sufficient to explain a firm's SCA. The RBV does not sufficiently consider the synergy within resource bundles as a source of SCA. The RBV does not sufficiently recognize the role that judgment and mental models of individuals play in value assessment and creation.	Armstrong and Shimizu 2007; Newbert 2007; Makadok 2001b; Peteraf and Barney 2003.
7	The value of a resource is too indeterminate to provide for useful theory	The current conceptualization of value turns the RBV into a trivial heuristic, an incomplete theory, or a tautology.  A more subjective and creative notion of value is needed.	Lockett <i>et al.</i> 2009; Priem and Butler 2001a, 2001b.
8	The definition of resource is unworkable.	Definitions of resources are all inclusive. The RBV does not recognize differences between resources as inputs and resources that enable the organization of such inputs. There is no recognition of how different types of resources may contribute to SCA in a different manner.	Priem and Butler 2001a; Wernerfelt 1984: 172; Barney 1991a: 101; Barney 2002:155; Amit and Schoemaker 1993: 35.

SCA = sustained competitive advantage; TCE = transaction cost economics; VRIN/O = valuable, rare, inimitable, and non-substitutable resources and capabilities plus organization.

Table 3: Summary and Assessment of Critiques to the Resource-Based View (RBV)  
(Adapted from Kraaijenbrink *et. al.* 2010, p. 360)



### **2.1.2 Transaction Cost Theory**

Williamson's (1975, 1981, 1985, 1991, and 1996) research on transaction cost economics forms the theoretical foundation for the study of internationalization from a transaction-cost perspective. Building on this theory, other researchers have studied different areas of internationalization through the lens of transaction-cost analysis (see Anderson and Gatignon 1986; Ghosha 1987; Allen and Pantzalis 1996; McNaughton 1996; McNaughton and Bell *et al.* 2001; McNaughton 2002; Zhao *et al.* 2004). For example, Anderson and Gatignon (1986) examine the modes of foreign entry from a transaction cost standpoint and suggest guidelines for choosing the appropriate mode of entry, given certain characteristics of the firm, the product, and the environment. McNaughton and Bell (2001) develop a transaction cost model that examines the circumstances in which small knowledge-intensive firms switch from the channel they use in the domestic market to a different channel in a foreign market. Findings from this study suggest that in a channel selection decision, emphasis should be placed on the conditions under which firms switch modes: thus linking the choice of modes in a foreign market to experience in the domestic market.

Transaction cost theory suggests that internationalization poses more challenges to a firm and can lead to an increase in coordination and communication cost (Ghoshal 1987). However, researchers argue that the benefits of internationalization outweigh the increased costs and therefore in the long run enhance the firm performance (Allen and Pantzalis 1996, Gomes and Ramaswamy 1999). Benefits from internationalization are often associated with tangible measures such as revenue, assets, and profits. Some benefits, however, of internationalization are intangible and cannot be quantified. Firms

that have internationalized also enjoy the benefits from the diverse environment in which they operate (Ghoshal 1897; Rugman 1979). Zahra *et al.* (2000) argue that these firms enjoy learning opportunities through the process of interaction with diverse kinds of customers and competing with other international players in the global market

Transaction cost theory identifies three cost attributes that affect internationalization: control (internal) uncertainties, investment (external) uncertainties, and asset specificity (Zhao *et al.* 2004). Brouthers *et al.* (2003) suggest that aligning internationalization entry mode choice decisions with these three transaction cost attributes will lead to superior subsidiary performance. The transaction cost is initially high for international market entry, but as firms master their routines, processes, procedures and other transactions, the cost reduces and benefits of internationalization are more evident (Zahra 2005).

The applications of transaction cost theory in internationalization have dealt with uncertainty; but most view uncertainty as risks associated with transaction costs that should be minimized (Anderson and Gatignon 1986). These applications view uncertainty as a source of transaction costs and propose some mechanisms to minimize the cost. Contrary to the argument of real option theory that views uncertainty as a potential source of opportunities and challenges (Chi and McGuire 1996), transaction cost theory does not fully recognize potential opportunities embedded in uncertainty or value the managerial flexibility in adjusting investment decisions in response to new information over time, under uncertainty.

Asset specificity, instead of uncertainty, is the main variable for transaction cost theory. Uncertainty raises attention only when asset specificity is high. For instance,

when asset specificity is low, uncertainty will not cause transaction costs. When asset specificity is high, however, uncertainty could cause substantial transaction costs, which makes high ownership control necessary. For example, when facing the combination of asset specificity and international risks, a firm should employ high-control market entry modes in order to curb potential partner opportunism related to country risks (Anderson and Gatignon 1986).

A thorough examination of resource allocation decisions during the process of internationalization may not be fully realized using the transaction cost theory. This is due to its approach to uncertainty as a construct. Transaction cost theory treats uncertainty as a source of cost that needs to be minimized, which is not sufficient to fully analyze the impact of uncertainty. Neither transaction cost theory nor the resource-based view provides a method to resolve the problem of resource allocation (Huang *et al.* 2005, p. 712).

### **2.1.3 Opportunity Cost Theory**

Opportunity cost theory has been defined as arising from a “foregone opportunity that has been sacrificed” where the sacrifice of making a choice is called “opportunity cost” (Samuelson 1967, p. 447). The notion of cost as an obstacle to decision making in the face of multiple options is not new and there are researchers who have dealt with the theory of opportunity cost more extensively (For example, see Solomons 1966; Becker 1968; Buchanan 1969; Becker *et al.* 1974; Hoskin 1983; Northcraft and Wolf 1984; Horngren and Foster 1987; March 1987; Zimmerman 1995; Vera-Munoz 1998). Drawing from these streams of literature, Chenhall and Morris (1991) posit that opportunity cost is a concept that is fundamental to choosing what

items should be included in the analysis of resource allocation decision. Therefore, opportunity cost can be seen as arising from alternative future uses of existing assets.

From an accounting standpoint, opportunity cost is defined as the maximum alternative earning that might have been obtained if a productive good, service, or resource had been applied to some alternative use (Horngren 1972, p. 948). Balakrishman *et al.* (2004) argue that opportunity cost is central to a resource allocation decision because it uncovers the next best alternative. Therefore, firms should use cost allocations to attribute the cost of shared resources to decision alternatives. The full spectrum of available options for consideration in any resource allocation decisions can only be achieved when all the opportunity costs associated with each option are explicit (Chenhall and Morris 1991).

Economic theory stresses the importance of opportunity costs in resource allocation decisions (Vera-Munoz 1998). That said, the basic understanding of the concept and how it is treated in decision making differs. Empirical evidence indicates that some entrepreneurs include opportunity cost in their analysis (Neumann and Friedman 1978; Friedman and Neumann 1980). Others question the correctness of how they include the concept in their resource allocation decision (Becker *et al.* 1974; Buzzell and Chussil 1985; Kaplan 1986). Some studies suggest that entrepreneurs only include this cost component when it is explicitly provided (Friedman and Neumann 1980; Northcraft and Neale 1986). March (1987), on the other hand, suggests that even though entrepreneurs want to incorporate this cost component in their analysis, they do not have relevant and explicit information on a well-defined set of alternatives. The outcome of inappropriate treatment of opportunity cost in any resource allocation

decision is an incorrect evaluation of the available options, which will lead to sub-optimal resource allocation decision. In this study, when resources are allocated to either foreign or domestic markets, or vice-versa, there is a forgone cost associated with such allocation which must be considered in taking the decision.

#### **2.1.4 Real Option Theory**

SME internationalization comes with an inevitable variety of uncertainty that may include both unfavorable conditions and potential opportunities. When allocating resources to foreign markets, firms are interested in the associated risk, uncertainty, and volatility of the foreign markets. Real Option theory provides a framework that recognizes uncertainty as a construct that is not only associated with the downside risks, but also with potential opportunities the firms can exploit (Chi and McGuire 1996; Tong and Reuer 2007). Real Options theory conceptualizes and quantifies the determinants of real options. This theory has contributed to the development of theories in MNEs' decision making under uncertainty (e.g., Buckley and Casson 1998; Buckley et. al. (2002); Kogut and Kulatilaka 1994).

The concept of real option originates from financial options (Myers 1977). Trigeorgis (1993) defines "real options" as contingent investment commitments in an asset or capability, rather than in a financial contract, that secure decision-making rights in the future. Financial options allow option holders the right, but not the obligation, to exercise the option at a predetermined price for a predetermined period of time. Real options, however, differ from financial options in several ways (Buckley, Casson and Gulamhussen 2002). For example, real options are based on real assets and are often non-tradable, and their value is influenced by managerial actions. Also, the rules for

exercising real options are often not as clear as those for financial options (Adner and Levinthal 2004). Table 4 gives a summary of the differences between financial options and real options.

S/N	Attributes	Financial Options	Real Options	Key Publications
1.	Type of Assets	Monetary Assets Assets are tradable	Real Assets Mostly non-tradable	Buckley <i>et al.</i> 2002.
2.	Managerial actions	Owners have no influence over the value of financial options.	Managerial actions can influence a variety of aspects of the value of real options, such as the NPV of underlying assets or volatility structure	Roberts and Weitzman 1981; McGrath 1997.
3.	Contracts	Presented in form of contracts, which explicitly specify options exercise prices and expiration dates.	Often not included as a clause in formal contracts (e.g., joint ventures). Some are not even contractual	Reuer and Tong 2005.
4.	Realization of Potential benefits from the exercise of options	Financial option holders can always realize potential gains when they choose to do so, due to specifications in the formal contracts.	Holder sometimes cannot realize potential benefits of exercising real options due to the lack of formal contracts.	Chi 2000.
5.	Exercising rules	Financial options have clear-cut exercising rules.	Sometimes do not have a clear set of exercising rules when these options are created.	Adner and Levinthal 2004; Zardkoohi 2004.

Table 4 - Differences between Real Options and Financial Options  
(Adapted from Ji 2007)

Myers (1977) suggests that characteristics of capital investments are analogous to financial options. He argues that current sunk investments create real options because

they provide future discretionary opportunities. Bowman and Hurry (1993) further argue that a firm's resources, its capabilities and assets, can be viewed as a bundle of real options for future strategic choice. Following the lead of Myers (1977) and Bowman and Hurry (1993), I suggest that making resource allocation (investment) to foreign markets creates real options for SMEs when their entrepreneurs have the right but not the obligation to take a future action (e.g., deferring, expanding, contracting, or abandoning).

There are two characteristics that determine whether a strategic investment is a real option or not. Firstly, there is volatility regarding future payoffs of the project. Secondly, there is managerial flexibility in increasing commitment or controlling losses due to the downside risks, according to the resolution of uncertainty in foreign markets (Ji 2007). For instance, a company may benefit from its worldwide business network in terms of switching locations of production in response to exchange-rate volatility (Kogut and Kulatilaka 1994). A multi-staged investment undertaking, such as sequential internationalization, satisfies both criteria and provides real options (Copeland and Antikarov 2001).

Real option theory recognizes uncertainty as a construct which may include challenges and opportunities. The literature reveals two types of uncertainties: exogenous and endogenous (Roberts and Weitzman 1981; Folta 1998). Exogenous uncertainty is not affected by a firm's actions and can only be revealed over time (Chi and Seth 2001; Roberts and Weitzman 1981). Uncertainty in the macroeconomic environment such as foreign exchange rate, political conditions, recession and economic climate are exogenous in nature and their resolution is not dependent on

firm's actions (Campa 1994). On the contrary, endogenous uncertainties can be resolved to some extent by the actions of the firm (Ji 2007). This sort of uncertainty at the microeconomic level contains such things as consumer needs and competition condition; and at the firm level entails such things as relationships in partnerships.

Cuypers and Martin (2010) argue that while real options theory should apply in the case of exogenous uncertainty resolution, it need not when uncertainty resolution is endogenous. They further argue that exogenous uncertainty is similar to exogenous uncertainty in financial options, where it is assumed that uncertainty is resolved independently of the investor's behavior. The application of real option theory to SME internationalization is to provide a framework for resolving the associated uncertainty with the foreign market operations. Moreover, since real options theory values managerial flexibility in response to new information, it has the potential to contribute to the development of theories in sequential internationalization decisions. For example, Johanson and Vahlne (1977) promote incremental international expansion, but they are not entirely clear about how to handle the associated uncertainty.

### **2.1.5 Portfolio Theory**

Resource allocation during internationalization is analogous to financial investment in a portfolio of opportunities, each associated with different levels of potential return and uncertainty around that return. This approach, rooted in portfolio theory has been applied to investment decisions for MNEs (Levy and Lim 1994). This theory suggests diversification and resource allocation strategies in the face of uncertainties and varying level of returns for the investor. This theory has been applied extensively in international business, particularly with MNEs. Applying portfolio



theory to resource allocation, an entrepreneur can strategically optimize the trade-off between return and risk associated with a portfolio of opportunities under consideration. Based on portfolio theory, researchers claim that a firm can reduce its internationalization risk by spreading its foreign investment activities across uncorrelated foreign markets (Annarajula and Beldona 2000, p. 50-53; Ramírez-Alesón and Espitia-Escuer 2001, p. 296; Hennart 2007, p. 425).

Portfolio theory, developed by Harry Markowitz in 1952, is one of the most influential economic theories dealing with financial investment in the face of multiple alternatives and various degrees of uncertainty. This theoretical model of portfolio selection provides an explanation and normative rules for diversification of risky investments (Levy and Sarnat 1970). The investor is concerned about risk and return. Variance (standard deviation) is a measure of risk of the portfolio, while the expected return on a portfolio is a weighted average of the returns expected on the individual assets (Elton *et. al.* 2003).

The main thrust of portfolio theory is the allocation of resources to various assets to maximize the expected return of the portfolio and minimize the expected risk. Obviously, these two criteria cannot be optimized simultaneously. Markowitz (1952) in response to this concern formulated the portfolio problem as a choice between the mean and the variance of a portfolio of assets. He proved the fundamental theorem of mean-variance portfolio theory, namely holding constant variance (risk), maximize expected return, and holding constant expected return minimizes variance. With this the theory demonstrates how risk-averse investors can construct portfolios to maximize expected returns based on a given level of market risk (Markowitz 1991). Markowitz suggests

that it is not enough to look at the expected risk-return of one particular stock; but by investing in more than one stock an investor can reap the reward of diversification due to reduction in the riskiness of the portfolio. For this to work, however, the portfolio must be spread across uncorrelated markets. Figure 3 shows the risk-return efficient curve for two risky assets. The curve shows the set of optimal portfolios that is achievable based on Markowitz's (1952) portfolio theory. Portfolios above the curve are not attainable and portfolios below the curve not efficient.

There are two types of risk identified in the literature: systematic risk and non-systematic risk (Figue 2004). Systematic risk is related to the market (e.g., macroeconomic shocks, competitive environment). Non-systematic risk is unique to the asset (e.g., product and pricing strategies of the e-tailer). Non-systematic risk can be minimized through the use of diversification (Kundisch *et al.* 2007). Systematic risk is addressed generally through the utilization of non-correlated assets. When two assets are perfectly correlated then diversification cannot reduce risk (Beulah 2006).

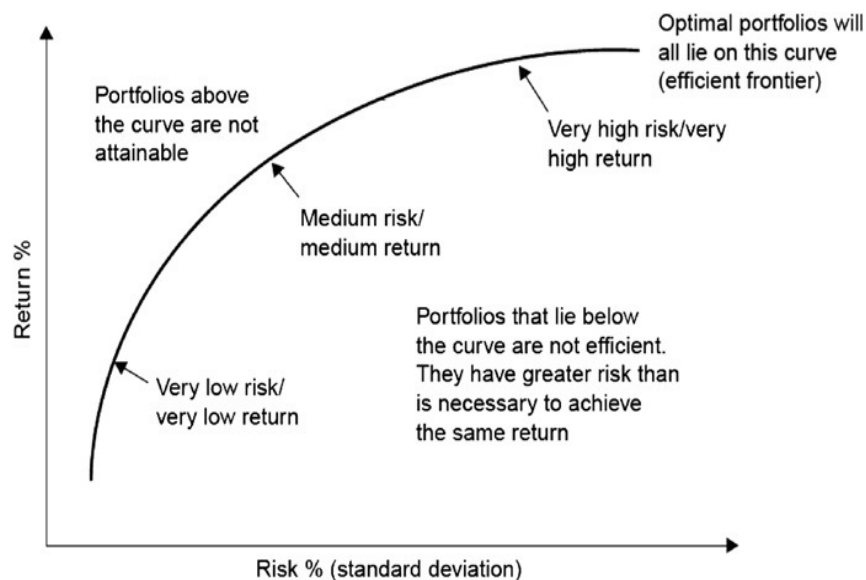


Figure 3- Risk-Return Chart  
(Adapted from Roques *et al.*, 2010)

International market entry is characterized with uncertainties and opportunities; therefore, an entrepreneur is concerned about minimizing risk and maximizing returns. Unlike investment in a financial market, it is more difficult to estimate the likely returns and volatility. Entrepreneurs must balance their desire for higher returns and their aversion toward risk (Aouni 2009). For internationalization, understanding how to create this balance in allocating resources to domestic, U.S., and foreign market segments is not straightforward. The objective of this study is to provide some guidance to decision makers by illustrating how portfolio theory can be used to achieve this balance. There is an opportunity to extend portfolio theory to resource allocation and internationalization decision; and this research will seize this opportunity.

In the next section I examine, in greater depth, the various extensions and applications of portfolio theory with particular focus on applications outside the domain of finance, where it was first developed by Markowitz.

## **2.2 Portfolio Theory- Extensions and Applications**

Markowitz's original work has been modified, expanded, and improved in both its conceptual and methodological perspectives (Elton *et. al.* 2003). The theory assists with facilitating decisions in the allocation of finite resources among different assets, be it financial investments, products, or strategic business units. Researchers took the basic concepts of the theory, added other variables and extended it to various decision problems. The initial area of application outside of the finance area is in auditing product programs (Marvin 1972). This application involves the analysis of products or groups of products in terms of their current and future market share, sales, volume, costs and investment requirements. Subsequently, it has received attention from other

researchers in Corporate Strategy (Ansoff and Leontiades 1976; Hedley 1977; Hofer and Schendell 1978; Wind and Douglas 1981), Marketing (Henderson 1979; Hambrick et. al. 1982; Fiocca 1982, Cardozo and Smith 1983), Information Systems (McFarlan 1981; Turner and Lucas 1985), and many more.

The extensions of portfolio theory can be classified into two major streams. The first category is the extensions that lead to other new theoretic frameworks. The second category is the analogous applications, which mirrors the key constructs of the theory into a particular domain of application. I expand more on both of these categories in the following subsections.

### **2.2.1 Portfolio Theory- Extensions**

The literature reveals many extensions of portfolio theory; however, my focus is on notable extensions that have been extensively used in many fields. Two of such notable ones are the product portfolio theory and the customer portfolio theory.

#### *Boston Consulting Group (BCG) Product Portfolio Matrix*

Building on portfolio theory and product life cycle theory, Henderson (1979) developed the now popular BCG Product Portfolio Matrix. This is another good extension of portfolio theory. The same concept of optimizing return-risk trade-offs in portfolio theory is present when dealing with the challenge of creating a product portfolio mix that maximizes return and minimizes risk using the range of the firm's products. Henderson (1979) postulates that, to ensure long-term value creation, a firm should have a portfolio of products that contains both high-growth product offerings that require cash inputs and low-growth product offerings that generate a lot of cash.

This is similar to the situation in this research with a portfolio of foreign markets that has a potentially high return with high-risk (high volatility) and domestic market with moderate to low return, but more stable and consistent due to lower risk.

In a product portfolio, the market share of the products and their market growth over the product life cycle are the two contingent constructs (Hambrick *et. al.* 1982). These constructs form the two dimensional planes for the BCG matrix. A typical BCG Portfolio Matrix is as shown in Figure 4. Positioning products in the BCG matrix results in a four-category portfolio. This framework categorizes products within a firm's portfolio as stars, cash cows, dogs, or question marks according to growth rate, market share, and positive or negative cash flow. By using positive cash flows a firm can capitalize on growth opportunities. The main idea of the BCG product portfolio matrix is how to allocate resources to businesses or product offerings within the four cells of the matrix to achieve a maximum performance for the firm. For example, the high growth products or businesses (Cash Cows) should be managed for maximum revenue and that revenue should be directed to newer, higher growth products or businesses.

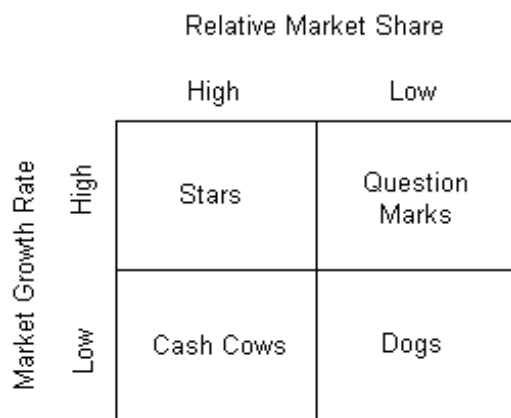


Fig 4 - BCG Product Portfolio Matrix (Adapted from Henderson 1979)

### *Customer Portfolio Theory*

Another extension of portfolio theory is customer portfolio theory. Leveraging on the concepts of portfolio theory, Fiocca (1982) explores a new industrial marketing strategy that has the customer as the core of the analysis and considers some of the important elements of industrial marketing, such as demand and buyer/seller relationships. Following the lead of Henderson (1979), Fiocca postulates that customer portfolio analysis consists of two-dimensional planes with the customer's business attractiveness on one axis and the buyer/seller relationship on the other. Fiocca proposes a two-step customer portfolio analysis with the first step done at a general level where the complete portfolio of customers of the supplier company is considered. This step facilitates the identification of key customers that may need special attention and therefore require more in-depth analysis. The second step focuses on an in-depth analysis of the customers identified in the first step. At this level of analysis, the two variables are considered, which form the dimensions of a nine-cell matrix. These variables are the customer's business attractiveness (high, medium, low), and the relative stage of the present buyer/seller relationship (strong, medium, weak). This same principle was extended to analyzing business strength against industry attractiveness, which is popularly known as the GE-McKinsey matrix. Figure 5 shows an example of the GE-McKinsey Nine-Cell Matrix. The purpose of the analysis is to formulate appropriate marketing strategies for different customers or groups of customers; and thus allocate the necessary resources for implementing them.

Similarly, Campbell and Cunningham (1983) extend the product portfolio matrix (Henderson 1979), the product-positioning matrix (Hofer and Schendel 1978),

and the product/performance matrix (Wind 1982) by conducting customer analysis for strategy development in industrial markets.

		Business Unit Strength		
		High	Medium	Low
Industry Attractiveness	High			
	Medium			
	Low			

Figure 5: GE-McKinsey Nine-Cell Matrix

Using customer portfolio concepts, they suggest that companies should develop their strategy from an analysis of existing customers. Based on their findings, they recommend that customer analysis should focus on the current allocation of resources to different customers and customer groups and identify the company's position with key customers relative to competition in different market segments. The purpose of the analysis is to improve the allocation of scarce technical and marketing resources between different customers to achieve the supplier's strategic objectives. In contrast to Porter (1980), who lays stress on the need to counteract buyers' bargaining power, their recommendation emphasizes the scope of developing relationships of mutual interdependent and shared objectives. This study also resulted in a nine-cell matrix similar to Figure 5 as in Fiocca (1982).

Other researchers have built on this concept. For example, Yorke (1986) also applies the theory and suggests that customer portfolio theory is more appropriate and useful where the product purchase is of low technology; continuously supplied the

perceived risk is relatively low, and the data available on customers and competitors is more complete. Again, it is the same concept that underlies the GE/McKinsey matrix. The difference is that the McKinsey matrix generalizes the axes as “Industry Attractiveness” and “Business Unit Strength”.

### **2.2.2 Applications of Portfolio Theory**

Over the years, portfolio theory has gained wide acceptance both within and outside of the financial sector. More recent applications also extend to Business and Management Sciences (Levy and Lim 1994; Levy and Sarnat 1970); Economics (Litman *et al.* 2000); Environmental Sciences (Beulah 2006; Roques *et al.* 2008); Agricultural Sciences (Figge 2004; Barkley *et al.* 2010). I elaborate more on some of these extensions in the following subsections.

#### *Business and Management Sciences*

One of the early applications of portfolio theory in International Business is the work of Levy and Sarnat (1970). Based on portfolio theory, they examine the international diversification of portfolio investments. A key concept of portfolio theory is that the individual assets within the portfolio must have little or no correlation. The benefit from investment diversification is apparent when there is no correlation between security returns. Levi and Sarnat argue that, no amount of diversification can affect risk, if security returns are perfectly correlated. They further posit that the existence of a relatively high degree of positive correlation within a domestic market economy indicates the possibility that risk reduction may be facilitated by diversifying portfolios internationally. Findings of this research propose a method for the empirical determination of the composition of optimal international portfolios and some of the



implications of international risk diversification for investment decisions. Building on this study, Levy and Lim (1994) examine the gains to the US investor from international diversification of investment portfolios by comparing portfolio strategies that hedge and strategies that do not hedge foreign exchange rate risk. They find that an internationally diversified portfolio that hedges exchange rate risk via the forward market does not consistently outperform an unhedged portfolio. While hedging decreases the portfolio's variance in most cases, its effect on the portfolio mean return may be favorable or unfavorable depending on the forward rates. A more recent and significant application of portfolio theory in Strategic Management is to alliances. Based on portfolio theory reasoning, Lavie (2007) examines the relationship between the portfolio of Strategic Alliances and the firm performance. Lavie argues that values of the individual network resources (assets) that constitute the portfolio of strategic alliances is more important in determining the value creation and appropriation and the corresponding impact on the firm market performance. Findings from this research highlight the trade-offs that strategic alliance portfolios impose on firms that seek to manage and leverage their alliances.

Portfolio theory has also been applied to strategic management of R&D investments. Xu (2006) explores the relationship between the R&D strategies chosen by biotech firms and their share price volatilities. He suggests that firms holding diversified drug portfolios are less risky than firms holding concentrated drug portfolios. The result indicates that firms that have more diversified drug portfolios are associated with lower share price volatilities; and lower stock returns. In contrast, firms that have a more concentrated drug portfolio are associated with higher share price

volatilities; and higher stock returns. This is consistent with portfolio principle of positive correlation between rate of return and risk.

### *Marketing Sciences*

As discussed earlier, one of the initial applications of portfolio theory outside of finance is in marketing. More recent applications include retail format portfolio (Brown 2010); hedging customers (Dhar and Glazer 2003) and customer portfolio of healthcare enterprises (Kutner and Cripps 1997). A very good example is the study by Brown (2010) who applies portfolio theory to managing portfolios of retail formats. The objective is to maximize overall portfolio return for a given level of portfolio risk. The study applies portfolio theory to three prominent hotel firms to determine the ideal mix of formats in their hotel brand portfolios, using revenue per available room as a proxy for return on investment. Findings from this research suggest that all three firms could improve their returns and reduce their risk by reallocating the number of hotel rooms (i.e., scarce resources) across their different retail formats. Risk in this case is the volatility in consumer demand. A retail format (which can be seen as the asset) is the retailer's type of retail mix, which may include the nature of merchandise and services offered by that retail format, pricing policy, advertising and promotion program, approach to store design and visual merchandising, and typical location (Levy and Weitz 1998, p. 161). Another typical example of retail format mix is Wal-Mart Stores, which operates several retail types or formats including supercenters, discount department stores, supermarkets (i.e., Neighborhood Markets), and warehouse clubs (i.e., Sam's Club). Through the operation of a portfolio of retail formats, a retail organization can adjust to the needs of different market segments (Mason *et al.* 1993).

Customer Portfolio Management is built on portfolio concepts. For instance, Kundisch *et al.* (2007) examine the question of how to determine an optimal mix of different customer segments within a customer portfolio viewing this from a value-based risk management perspective. They suggest a model that helps in determining the optimal configuration of a customer portfolio of transaction- and relationship-oriented customers. The analysis was performed using a publicly accessible data set of the online retailer CD-Now; which contains 2357 customers. In this study, the customer is the asset. In contrast, another research stream considers the company's relationships with its customers as one of its most important assets (Srivastava *et al.* 1997; Hunt, 1997; Kutner and Cripps 1997). This school of thought posits that management of the customer relationship leading to greater customer satisfaction can increase the profitability of the firm as a whole (e.g., Ittner and Larcker 1998). Building on customer relationship management (CRM) and portfolio theory, Ryals (2003) employs the portfolio management model of risk and return to explore the measurement of returns and of the risk of the customer and draws implications for CRM managers.

#### *Environmental Sciences*

Portfolio theory has also received enormous acceptance in Environmental Sciences. The literature reveals a wide range of analogous applications of this theory in environmental sciences such as in climate change (Crowe and Parker 2008); environmental policy (Antal 2008); energy policy (Roques *et al.* 2010); water management (Beulah 2006); water planning (Marinoni *et al.* 2011) and many more. For example, by explicitly considering volatility and correlations among water resource alternatives, Beulah (2006) explores how rational water resource combination can be

selected out of many alternatives. Water planners generally have two options for investments. They either invest in traditional ways to meet water needs such as surface and groundwater supplies or non-traditional, more expensive supplies such as recycling, conservation, and desalination. The challenge is how to achieve a balance between the two options. Applying portfolio theory enables explicit risk reduction of systematic risks due to the hydrologic cycle such as drought, and non-systematic risks such as water quality, climate, and energy. Drawing parallels between the key constructs of portfolio theory and water resource portfolio, cost per unit volume in acre–feet or cubic meters for water is analogous to the rate of return for an investment. Volatility is expressed by the standard deviation with respect to the hydrologic cycle. This is similar to systematic market volatility in financial portfolio theory. Correlation (covariance) is expressed by the correlation coefficient of an individual source of water compared to other water sources. This is analogous to correlation of an individual financial asset to other assets in the financial portfolio.

Another application in Environmental Sciences literature is in climate change research. Crowe and Parker (2008), design a decision support system for planned adaptation to climate change that uses the principles of portfolio theory to minimize risk and maximize return of adaptive actions in an environment of deep uncertainty over future climate scenarios. A major challenge of planned adaptation to climate change arises from the uncertainty of estimated changes in climate parameters. The objective of their research is to develop a method by which the selection of genetic seeds needed for regenerating or restoring a forest, is optimally adapted to multiple and equally probable future climates. The unique and innovative contribution of this study

rests in demonstrating how portfolio principles of quantifying and planning for risk and return in the uncertain environment of asset markets can be applied successfully to serve the objectives of planned adaptation to climate change.

A more recent and outstanding application of portfolio theory in Environmental Sciences is in energy policy. Roques *et al.* (2010) employ historical wind production data from five European countries and apply the Mean-Variance Portfolio theory to identify cross-country portfolios that minimize the total variance of wind production for a given level of production. This study introduces an approach that is complimentary to the conventional power system-planning models to optimize wind power investment portfolios across different countries by taking into account the correlation between wind farms output located in different areas. The major issue here is that there is a large discrepancy in the wind resource across European countries. This is further complicated by the intermittency and the regional variation in wind generation patterns and the limited integration of the European transmission system. Therefore, any wind power deployment at the European level should therefore take into account the regional variation in wind power resource and the decreasing correlation between wind farms output as the distance between these wind farms increases. Findings from this research indicate that countries with the best wind resource or whose size contributes to smoothing out the country output variability dominate optimal portfolios.

#### *Agricultural Sciences*

Portfolio theory has also been applied in various areas of Agricultural Sciences. This includes, but is not limited to, areas like Biodiversity (Figge 2004); Animal Sciences (Prattley *et al.* 2007); Agronomy (Barkley *et al.* 2010; Barkley *et al.* 2006);

Irrigation Management (English *et al.* 2002) just to mention a few. For instance, biodiversity is valuable; however, the resources to protect biodiversity are scarce. The allocation of resources to protect biodiversity can therefore be viewed as a typical economic problem (e.g., Weitzman 1992, 1993). Applying portfolio theory principles, Figge (2004), explores the combination of various species, genes or ecosystems in a biodiversity portfolio. Genes, species and ecosystems are considered as assets (e.g., Pearce and Barbier 2000). Portfolio theory thinking helps to link the return and risk of individual assets, i.e. genes, species and ecosystems in this case, to the return and risk of a portfolio of these assets. The expected return consists of the expected benefit which society derives from the species, genes or ecosystems. This includes, for example, the supply of food or use for tourism. This return is subject to risk. This risk is the ecological volatility, e.g. drought, wet weather conditions, dry and hot climate. However, this risk can be partially diversified by combining various species, genes or ecosystems in a portfolio (Groombridge 1992, p. 426-430; Heywood *et al.* 1995, p. 862).

Lastly, Barkley *et al.* (2006, 2010), uses portfolio theory to guide their search for the optimal yield maximizing and risk minimizing combination of wheat varieties in Kansas. They suggest that each wheat variety is characterized by average yield, end-use qualities and several other agronomic characteristics. Wheat varieties are the assets, which are subject to risk. The risk includes a set of growing conditions, including average rainfall, soil type, and agronomic practices. The returns are the wheat yields. The wheat variety selection is complicated by the unpredictable climate and diversity of soil conditions, since different varieties respond to weather and growing conditions in

different ways. The challenge is selecting the combination of wheat varieties that will give an optimal yield maximizing and risk minimizing result. Barkley *et al.* (2010) use the mean-variance efficiency frontier to estimate wheat produced based on portfolio theory as a systematic method of minimizing risk for a given level of expenditure. Results of their research shows that by selecting an “optimal” portfolio, Kansas wheat producers could have increased yields by 8.81 bu/acre in Eastern Kansas, 4.28 bu/acre in Central Kansas, and 6.29 bu/acre in Western Kansas. This increase in wheat production would add over \$137 million annually to wheat producer revenues, offsetting the cost of certified seed used in the portfolio. Table 5 provides the summary.

### **2.2.3 Criticisms of Portfolio Theory**

Portfolio theory has helped researchers to understand the relationship between risk and return and how to make trade-offs based on the efficient frontier. However, it has also received criticism from some scholars (Day 1977; Cardozo and Smith 1983; Devinney *et al.* 1985). For instance, one criticism involves the use of volatility as the “cost” to be minimized (Markowitz 1991). Some scholars argue that “risk” is the true price of higher returns and that risk is not adequately represented by volatility.

Another issue is that the portfolio approach is dependent on forecasts that too often rely on the assumption that the future will look like the past (Wind *et al.* 1983). To construct a properly diversified portfolio, Markowitz’s model requires three types of data: the expected return of each potential component of the portfolio, the expected

S/N	Category (Application Area)	Main Subject	Portfolio Variables and Parameters					Publications
			Individual Asset and Attributes	Risk (Variance) Source/Type of Risk	Return(Mean) Measures of Return	(Objective) Performance Measure	Portfolio Structure	
1.	Business and Management Sciences	International Diversification of investment portfolio	-Securities -Foreign -Domestic	-Foreign Exchange Currency Risk	diversifying securities portfolios internationally	Optimal diversification of securities portfolios internationally	International Portfolio	Levy and Lim (1994); Levy and Sarnat (1970).
2.		Alliance Portfolio and Firm Performance	Network Partner - Network Resources	-Intensity of Competition: Bilateral and Multilateral Competition	- Value Creation and Appropriation	Optimal Selection of Network Partners to maximize value creation and appropriation	Alliance Portfolio of Partners	Lavie (2007).
3.		Strategic Management of R & D investments in Biotechnology Industry	R & D Program - Research activities - Drugs for different diseases	- Stock price volatility - Conventional risk such as discovery and development process	-Expected benefit, e.g. increase profitability, access to more R & D funding.	-Maximize expected return such as profitability, R & D Funding, -Minimize R & D portfolio risk	R&D Portfolio with selection of different programs	Xu (2006).
4.	Marketing Sciences	Retail format portfolio	Retail format - Nature of merchandise - Pricing policy, - Promo prog. - Approach to store design - Typical location	Volatility in Consumer demands	Return on Investment on each Retail format portfolio	Optimal number of outlets within a particular retail format	Portfolios of retail formats	Brown (2010).
5.		Customer Portfolio Management	- Customer	-Risk of default -Risk of defection or purchasing swings	Expected Customer Lifetime Value E (CLV) (Customer profitability over the lifetime)	Optimal proportion of the different customer types to maximize shareholder value	Customer Portfolio with different Customer Types or Segments	Kundisch <i>et al.</i> (2007); Ryals (2003).

Table 5 - Summary of Some Applications of Portfolio Theory



S/N	Category (Application Area)	Main Subject	Portfolio Variables and Parameters					Publications
			Individual Asset and Attributes	Risk (Variance) Source/Type of Risk	Return(Mean) Measures of Return	(Objective) Performance Measure	Portfolio Structure	
6.	Environmental Sciences	Water Resource Portfolios	Water Resource alternatives -Traditional Sources, e.g. Surface and Ground Water Supplies -Non-traditional Sources, e.g. recycling, conservation	-Volatility in Climatic change, e.g. Dry and hot weather, - Water quality, Hydrologic cycle e.g. drought	- Cost per unit volume in acre–feet	- Optimal combination of water resource alternatives that reduce overall risk of water shortages and maximize value through reduction in cost per unit volume in acre-ft.	Water portfolios with combination of non-correlated water resource alternatives	Beuhler (2006); Marioni <i>et al.</i> (2011)
7.		Reforestation and restoration under climate change scenarios	-Genetic Seed Seed source	-Uncertainty over future Climate Scenarios	-Mean adaptive suitability.	-Optimal set of seed sources that min. risk and max. return of actions	Seed portfolio model with multiple seed sources	Crowe and Parker (2008)
8.		Energy Policy for wind power deployment	Wind Resource - Wind farms - Geographical location	- Volatility of wind power generation	- Wind power production	Optimal allocation of wind resources that minimizes the variance of wind power portfolios output	Wind Resource Portfolio containing geographically diversified wind farms	Roques <i>et al.</i> (2010)
9.	Agricultural Sciences	Biodiversity and Conservation	-Genes, species and ecosystems in agric. yields - Quantity - Degree of diversity	Ecological Volatility, e.g. drought, wet weather conditions, dry and hot climate	- Expected value/benefit to the society, e.g. supply of food or use for tourism	-To maximize the value of a species or of biodiversity	Biodiversity Portfolio with combination of various species, genes or ecosystems	Figge (2004)
10.		Wheat Variety Selection by Kansas Wheat producers	<i>Wheat</i> - Average Yield - Agronomic Qualities - User Qualities	-Unpredictable Climate Condition -Diversity of Soil Condition	- Yield of Wheat	-Optimal selection of wheat varieties that enhance profitability	Portfolio of Multiple Wheat varieties on different fields	Barkley <i>et al.</i> (2010) Garrett and Cox (2008)

Table 5 - Summary of Some Applications of Portfolio Theory (continued)

volatility of each component's return, and the expected correlation of each component with every other component. If all three types of data are provided, the model then identifies the blends of components that it anticipates will yield the best trade-offs between return and volatility for the portfolio overall (Markowitz 1959).

The question then is: How does one determine these expected returns, expected volatilities, and expected correlations? One suggestion, Markowitz proposed is to use the observed values for some period of the past. After sharing this suggestion, Markowitz was quick to note that he hoped better methods which take into account more information would be uncovered in subsequent work (Markowitz 1952), but he offered no practical alternatives. Today, almost 60 years after "Portfolio Selection", historical numbers remain a chief source of guidance for many investors using MPT-driven portfolio construction models.

Day (1977) suggests caution in applying portfolio theory. He argues that in many situations the basic assumptions are not satisfied and complications stem from uncertainties in the definitions of product-markets and the extent and timing of competitive actions. From a research paradigm point of view, critical realists have also taken issue with portfolio theory because of its unrealistic assumptions. One of the positions of critical realism is that portfolio theory is a highly simplistic view of reality. For instance, in a competitive market, assuming a complete knowledge of all the decisions of all other players is unrealistic. Therefore, based on insights gained from these criticisms, portfolio theory is being applied in this research with caution.

#### **2.2.4 Resource Allocation Portfolio**

To summarize, in order to lay the foundation for theory development, it is important to establish the parallels between the key constructs of portfolio theory and resource allocation. As already demonstrated in previous subsections, many researchers establish analogy between the key constructs of portfolio theory and specific areas of application. Following the lead of these researchers I suggest a “resource allocation portfolio” wherein resource allocation to the domestic, U.S., or foreign markets during the process of internationalization can be seen as equivalent to investments in Markowitz portfolio theory with three types of individual assets.

Resource allocation to either domestic, U.S., or foreign markets may take the form of, for example, a monetary budget, an available number of tasks or an available number of human-resource hours to carry out some assignments for the firm (Prattley *et al.* 2007). These firm resources, which may be tangible or intangible (Grant 1991), are company assets that can be allocated to domestic, U.S., or foreign markets. Drawing parallels between the Markowitz portfolio theory and this research, there are similarities and differences. These similarities and differences are highlighted in Table 6.

The firm resources are the assets. Similar to the objective of portfolio theory, the objective is to make investment decisions, allocating resources to either the domestic, U.S., or foreign market with the aim of maximizing the return on such investments given a particular level of risk (Figge 2004). Volatility is expressed by the standard deviation with respect to the market situation. This is similar to systematic market volatility in financial portfolio theory. Covariance is expressed by the correlation coefficient between individual

assets. This is analogous to the correlation of an individual financial asset to other assets in financial portfolio theory.

S/N	Key Construct	Portfolio Theory	Resource Allocation Portfolio	Key Publications
1.	Individual Asset	Monetary Assets or Securities - Assets are tangible such as stocks, bonds and shares.	Firm Resource -Assets are tangible and/or intangible such as funds, attention or man-hours given to domestic or foreign markets	Grant 1991; Wernerfelt 1984; Barney 1991; Penrose 1959.
2.	Expected Return(Mean)	- Weighted average of the returns expected on the individual assets	-Return on Investment (ROI) from Domestic Market -Return on Investment (ROI) from Foreign Market	Elton <i>et. al.</i> 2003; Prattley <i>et al.</i> 2007.
3.	Risk Variance) (Standard Deviation)	-A measure of the risk of a portfolio, e.g. systematic market volatility such as local interest rates fluctuation and inflation rates	-Risk associated with domestic market, e.g. volatility in local economy -Risk associated with foreign market, e.g. foreign exchange risk.	Levy and Lim 1994, p. 160; Levy and Sarnat 1970.
4.	Co-variance	-The correlation coefficient between individual assets	-The correlation coefficients between domestic and foreign markets in term of returns	Garrett and Cox 2008
5.	Objective (optimize both rate of return and risk)	Portfolio selection of assets that maximize return for a given level of risk, or minimize risk for a given level of return	Resource allocation that enhances firm performance for a given level of risk	Barkley <i>et al.</i> 2010; Xu 2006.

Table 6 - Portfolio Theory and Resource Allocation

With the key theoretical constructs identified and discussed from previous studies, the literature review now considers the various internationalization entry strategies of SMEs in the next section. This is very important to understand the various factors that characterize the internationalization of small and medium-sized manufacturing firms.

### 2.3 Internationalization Entry Strategies

There are two schools of thought regarding the internationalization of SMEs: planned and unplanned internationalization entry strategies. A significant amount of

research has examined both entry strategies extensively. However, the reality of the complex nature of internationalization is that most of them are not systematically planned as stipulated by traditional entry and/or INV theories. The following subsections examine the details of these theories.

### **2.3.1 Planned Internationalization**

The planned internationalization entry strategy refers to the term used for systematically planned entries into the foreign markets. This includes traditional incremental approach (Johanson and Vahlne 1977), International New Ventures “born global” (Oviatt and McDougall 1994) and “born-again global” (Bell 2001, 2003). The following subsections discuss these theories in detail.

#### **2.3.1.1 Traditional Incremental Approach**

Sequential internationalization is a process where a firm enters foreign markets over time in a sequential or incremental manner (Johnson and Vahlne 1977, 1990). Sometimes called “staged-internationalization,” (Hymen 1960), or the traditional sequential approach (Zahra, 2005), this process-based theory of internationalization explains that firms enter the international market gradually based on their knowledge and experience developed over time. The key idea here is the concept of physical distance (Johnson and Vahlne 1990), with firms expanding first into markets that are physically close and into more “distant” markets as their knowledge increases (Whitlock 2002). Sometimes these entries are driven by pressures or a perceived window of opportunity identified in the foreign market. The firm seeing the need to enter the foreign market, then gradually, in a calculated manner, commits resources to cross-border activities. In doing so, it carefully learns from prior

sequential entries to improve on the subsequent entries. For instance, companies can start their cross-border activities by exporting their finished products, and then proceed to licensing, and then evolve into establishing a local presence in foreign market through acquisitions, merger, or foreign direct investment (Vernon 1996; Czinkota *et al.* 1996).

One key benefit of following the path of incremental entry to foreign market is that it allows the firm to reduce or mitigate the risk surrounding the process of entering an international market. The company can take a step and then learn from that step before taking the next step. By using this approach, the entrepreneur accumulates experience and knowledge over time and reduces the odds of making mistakes. In other words, this knowledge and experience acquired over time potentially could improve performance and success in foreign markets. Another key benefit is that it allows the entrepreneur to develop the resource pool necessary for international expansion that reduces the strain on the firm's resources during the process of internalization (Sapienza *et al.* 2006). Since most entrepreneurs have limited resources, there is likely to be pressure on these resources when expanding internationally.

Despite the advantages of this approach, there are also shortcomings associated with incremental entry. Due to the lag between stages, it is possible for a firm to miss opportunities as it waits to gradually expand abroad (Zahra 2005). Also, the more delayed the entry, the more the likelihood of others entering before the firm. Entering in stages may also signal the intention to incumbent competitors thereby prompting them to intensify retaliation by raising barriers to entry (Mudambi and Zahra 2007).

### **2.3.1.2 Born Global or International New Ventures (INVs)**

International new ventures (INVs) or “born-global” firms challenge the traditional process theories of internationalization (Oviatt and McDougall 2005). These business organizations, from inception, seek to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries (Oviatt and McDougall 1994). There is a growing literature on the emerging phenomenon of born-global firms (Rialp *et al.* 2005; McDougall and Oviatt 1996). The basic idea in this framework is that the enterprise leverages on the foreign market to gain competitive advantage. Mudambi and Zahra (2007) argue that an INV quickly establishes an operational presence in more than one country and becomes international in its business activities.

Another form of this entry strategy is the “born-again global” firm. Bell *et al.* (2001) introduced the notion of “born again globals” as those firms that focus their attention on the domestic market for many years before beginning rapid and dedicated internationalization. A major benefit of this approach is that the INV is able to replace international market transactions with intra-firm operations that involve running a foreign subsidiary or division and undertake intra-firm exports, rather than exporting goods to foreign buyers (Mudambi and Zahra 2007). These firms also enjoy a competitive advantage through the link to their home country (Zahra 2005). Also, entering international markets provides more opportunities; therefore, the INVs are likely to experience rapid growth (Zahra and George 2002).

The process of INV, however, is prone to early uncovering of operational challenges due to serious strain on the resources of the firm. There is more pressure on the resources of the firm and this may hinder the entrepreneur from achieving the initial

purpose of entering the foreign market. Due to the same resource pool being utilized for both domestic and international markets, entrepreneurs may regularly run-out of resources. However, Mudambi and Zahra (2007) argue that firms with appropriate resources and competences can overcome these challenges. Zahra and George (2002) argue that the implicit difference between an INV and the traditional sequential approach is that the traditional sequential approach discounts the value of experience, knowledge or personal resources of founders and entrepreneurs, whereas the INV leverages the individual skills and experiences of entrepreneurs in the decision to internationalize. However, these two frameworks are complementary in the sense that the incremental approach can be viewed as the general case and the INV as a special class of firms that initiate international activities earlier in their life-cycle.

### **2.3.2 Unplanned Internationalization**

Internationalization is not always systematically planned as suggested by the “stage” (Johanson and Vahlne 1977), “born-global” (Oviatt and McDougall 1994) and the “born-again global” archetypes (Bell *et al.* 2001) models of Internationalization. In contrast to these rational and planned strategies, some internationalization evolves through the opportunistic behavior of an entrepreneur who identifies and explores opportunities at his/her disposal. In order to fully capture the realities of the complex nature of internationalization, some studies have explored other possible foreign market entry modes, which are not necessarily planned or predicted (Bell *et al.* 1998; Bell and Young 1998; Bell 1995; Knight and Cavusgil 1996; Turnbull 1987). For instance, some internationalization may occur due to an entrepreneur's response to unsolicited orders and contracts from potential customers and partners (Eisenhardt and Martin 2000).



Crick and Spence (2005) examine planned and unplanned internationalization strategies using 12 high performing U.K. high tech SMEs. Their results indicate that while entrepreneurial decisions about internationalization has received support from existing theories such as resource-based view, networking, dynamic capabilities, no single theory can fully explain this phenomenon. Findings from this study show that majority of the firms exhibit planned strategies. However, unplanned and unanticipated encounters were important to many firms during and after their internationalization efforts. Also, the study suggests that entrepreneurs are entrepreneurial enough to identify and exploit opportunities without necessarily having planned to do so.

Some SMEs may leverage the previous experience of members of the management team to explore international opportunities. Management teams react to opportunities as they present themselves or react to challenges that may arise during the firm's growth process. This approach, called 'reactive strategies' in the literature, has become a common strategy for survival during the process of internationalization in dynamic environments (Teece *et al.* 1997). Findings also indicate that expanding into the international arena for some SMEs takes place through the personal or business networks of the entrepreneur. Through these networks, SMEs select and expand into foreign markets as they gradually learn about these markets. They get an understanding of the foreign market, gain more insight on how business is conducted, and begin to build trust (Wilson and Mummalaneni 1990). Strong business relationships are then developed through these networks that act as a communication platform where common interests are shared (Hallen 1992). Entrepreneurial spirit leading to the seizing of opportunities when these present themselves through friends, family, or their business networks has positive influence on

internationalization (Karagozoglu and Lindell 1998). Boter and Holmquist (1996) also find that firms' internationalization strategies vary depending on the industry sector in which they operate.

## **2.4 Internationalization-Performance Relationship**

The purpose of this section is to review the relationship between internationalization and performance for SMEs and MNEs. Empirical evidence shows various forms of this relationship that are discussed in this section.

### **2.4.1 SME Internationalization-Performance Relationship**

The literature is in agreement that internationalization enhances firm performance in general. However, there is no consensus among researchers concerning the relationship between internationalization and performance for SMEs. This is mainly due to concerns around their internal constraints and ability to compete in the global market (Pangarkar 2008). Research shows that SMEs are not just smaller versions of MNEs; SMEs exhibit differences in management, ownership, resources, and organizational structure (Lu and Beamish 2001; Oviatt and McDougall 1995; Smith *et al.* 1988). Many SMEs lack the resources and experience to face the challenges associated with international market entries (OECD 2002; Bagchi-Sen 1999).

While some studies (e.g., Vernon 1971; Grant 1987; Han and Lee 1998) suggest that the relationship between SME internationalization and performance is positive and linear; Brewer (1981) and Ramaswamy (1992) suggest that a linear relationship exists, but posit that it is negative. Some other researchers claim an inverted U-Shape (Sullivan 1994 and Gomes and Ramaswamy 1999), while Capar and Kotabe (2003) and Lu and Beamish

(2001, 2006) propose a U-shape relationship. The differences in the results of these enquires can be attributed to the differences in strategies or perspective utilized in undertaking the studies and the metrics selected for measuring firm performance.

Pangarkar (2008) investigate the relationship between the degree of internationalization (DOI) and firm performance. He argues that the literature addressing this relationship is replete with problematic measures for the key constructs (DOI and firm performance) leading to conflicting and often inconclusive results. They propose a new measure for DOI (based on the dispersion of sales across geographic regions) and deploy a perceptual, multi-item measure of performance; and they find that DOI is positively associated with performance. Contractor *et al.* (2007) examines the relationship between internationalization and financial performance for firms in both the service and manufacturing sectors of an emerging economy. Their findings indicate a U-shape relationship between internationalization and financial performance. They argue that service sector firms tend to gain the positive benefits of internationalization sooner than manufacturing companies.

Similar to Contractor *et al.* (2007) and Lu and Beamish (2001) examine the effect of exporting and FDI on SME performance using return on assets (ROA) as a measure of performance and find a U-shape relationship. Specifically, they find that the positive impact of internationalization on performance extends primarily from the extent of a firm's Foreign Direct Investment (FDI) activity. They suggest that when firms first begin FDI activity, profitability declines, but greater levels of FDI are associated with higher performance. Exporting moderates the relationship FDI has with performance. Exporting and FDI had different impacts on firm performance. FDI had a nonlinear relationship with

performance while exporting had a negative and linear relationship with performance. This explains their U-shape suggestion.

Lu and Beamish (2006) extend the earlier work of Lu and Beamish (2001), by examining the different effects of the two internationalization strategies, (i.e. Exporting and FDI) on two other performance constructs: growth and return on sales (ROS). They find that exporting and FDI are positively related to growth. That is, while exporting has a negative impact on ROS, FDI has a U-shaped relationship with ROS. Note that while these two studies examine SME internationalization and performance, they do not explore the internal resource constraints associated with resource allocation decision during the process of internationalization.

Finally, a related study on internationalization and performance relationship is the work of Chen and Hsu (2009). They study the effects of internationalization and resource allocation on firm performance. They find an optimal level of internationalization, in terms of the number of countries and as well as the level of investment in advertisement that is necessary to start creating a positive impact on firm performance. Their study focuses on resource allocation between R&D and advertisement and the respective impacts of such allocation on firm performance. Although this research investigates resource allocation decision and firm performance the focus is on R&D and advertisement, which is just a segment of the firm. In this research I focus on resource allocation decision for the overall firm resource pool, examining allocation to domestic versus foreign markets and the corresponding effects on firm performance. Also, Chen and Hsu (2009) investigate MNEs, while I focus on SMEs where internal resource constraints is exacerbated (Qian 2002).

#### **2.4.2 MNE Internationalization-Performance Relationship**

The internationalization-performance relationship for MNEs has received extensive attention in the literature. The evidence in the literature is mixed in explaining the effects of internationalization on MNEs. For example, some researchers examining MNEs and firm performance find significant positive correlation between internationalization and performance (e.g., Capar and Kotabe 2003; Hsu and Boggs 2003; Ruigrok and Wagner 2003). The superior performance emerges from the ability to gain higher returns from exploring proprietary assets, such as brand equity, patents, or unique processes across a greater number of markets (Lu and Beamish 2001).

Some studies however, suggest a negative linear relationship (Ruigrok *et al.* 2007; Christopher and Lee 2005; Lu and Beamish 2004; Chiang and Yu 2005; Hsu and Boggs 2003), while others argue that the relationship is non-linear (Gomes and Ramaswamy 1999; Goerzen and Beamish 2003; Hitt *et al.* 1997). Gerpott and Jakopin (2005) conduct a literature review that revealed that 51 studies report a significantly positive linear relationship, 12 significantly negative linear, 15 significantly non-linear, and 18 with an insignificant association. However the general conclusion for most of the studies is that the relationship is an inverted U-shaped. It is convex with moderate levels of internationalization contributing the most to overall firm performance. MNEs enjoy significantly positive effects on firm performance to a certain point, beyond which further investments in internationalization may not have any positive effect on firm performance.

Performance metrics for MNE is another major controversial issue in the literature. Oesterle *et al.* (2008) argue that the primary question is whether to use accounting based figures or capital market based indicators. The broad range of possible performance

measures raises the question of which indicator should be chosen. This is especially so as most of the previous studies do not provide any explanation for the choice of the utilized indicator (Annavarjula and Beldona 2000). Oesterle *et al.* (2008) further posit that choosing a single indicator like profit, growth, or market share may not even be appropriate since “performance” is a multi-dimensional construct. Ruigrok and Wagner (2003) provide a summary of performance measures used in the majority of studies since 1970. Most studies have used foreign to total sales ratio as an indicator of the geographic dimension of MNE activities.

A notable study is the work of Rugman *et al.* (2008). They examine the MNE internationalization-performance relationship for 32 large UK MNEs. The unique aspect of their study is that they examine the relationship between return on foreign assets (ROFA) and return on home assets (ROHA) and return on total assets (ROTA) using geographically segmented data. With this strategy, return on investments (resource allocation) made to the home and foreign markets are evaluated separately with respect to their individual contribution to the overall firm performance. Obtaining segment data on both their degree of multi-nationality (measured as the ratio of foreign to total sales) and their performance, they show a linear relationship between multi-nationality and performance, using the new ROFA metric. This study builds on Daniels and Bracker (1989) who show that assets and sales converge as a measure of multi-nationality. I build on the work of Rugman *et al.* (2008) by examining resource allocation between home and foreign markets and the effects on SME performance. Whereas Rugman *et al.* (2008) focus on MNEs, my focus is on SMEs in the manufacturing sector.

## **2.5 Summary**

The literature review has provided a summary of the extant literature related to resource allocation, internationalization, and performance. It also provides a theoretical basis for resource allocation and firm performance based on portfolio theory. While resource-based view theory, transaction cost theory, and opportunity cost theory are relevant and contribute partly to building a theoretical framework for the planned research, they are not sufficient individually. The literature review also explored internationalization entry strategies and how these strategies impact the performance of the firms. Finally, the review explored the recent theoretical and empirical literature on internationalization and performance relationship for both MNEs and SMEs. While the recent literature records many relevant findings, none has explicitly examined resource allocation between domestic and foreign markets and the effects on firm performance. This research fills this gap and makes a theoretical contribution to this field by using portfolio theory. The next section of this thesis focuses on model development.

### **3. Theory Development**

This chapter focuses on theory development. The main objective is to explore the relationship between resource allocation to domestic, U.S., and other international markets and the effects on a firm's performance. To achieve this objective it is important to present the broad philosophical research paradigm that was used in my theory development. This chapter starts by laying a philosophical foundation, expressing my ontological and epistemological position against the dominant positivist and other paradigms. Thereafter, I define the key concepts in this study. In a scientific context, defining concepts can become quite difficult since there are several views and interpretations people bring to them. My aim, therefore, is to provide context to this study; but to still be open to other interpretations or meanings of these concepts. The definition of these key constructs is the basis for my theoretical propositions. Finally, I present some tentative theoretical propositions: an attempt to describe the relationships between these constructs, as a first step to theory development.

#### **3.1 Philosophical Foundation: Research Paradigm**

A research paradigm is the overall conceptual framework within which researchers work, that is, a world-view or "set of linked assumptions about the world is shared by a community of scientists investigating the world" (Healy and Perry 2000). It is a set of beliefs and feelings about the world and how it should be understood and studied (Guba 1990). Guba and Lincoln (1994) synthesize scientific paradigms into four major categories: positivism; critical theory; constructivism; and realism.

Positivism predominates in science and assumes that science quantitatively measures independent facts about a single reality (Tsoukas 1989; Guba and Lincoln 1994).



In contrast to the quantitative approach of positivism, the other three approaches are more relevant to qualitative research and are more appropriate when dealing with a social phenomenon like an entrepreneur's behaviour or decision-making process that involves humans and real-life experiences. To treat participants in social settings as independent and non-reflective objects is to ignore their ability to reflect on situations and act on them (Robson 1993, p. 60).

The second paradigm, critical theory, underscores social realities. Critical theorists believe in "multiple realities". Critical theory researchers, as such, aim at critiquing and transforming cultural, social, economic, political, ethnic, and gender values (Healy and Perry 2000). Assumptions are subjective and knowledge is grounded in historical routines and is value-dependent (Guba and Lincoln 1994). The planned research, in the vein of most other business and management research, aims to understand the actions of decision makers when allocating resource to domestic, U.S., and other international markets. The aim is not to try to change them; therefore, Critical Theory may not be an appropriate qualitative paradigm given that the objective is not a "transformative intellectual exercise" that liberates people from their historical mental, emotional, and social structures (Guba and Lincoln 1994, p. 112).

Constructivism, similar to critical theory, presumes that truth is a particular belief system held in a particular context. The belief here is that realities are local and specific in the sense that they vary between groups of individuals (Schwandt 1994, p. 125). Reality is socially and actively constructed, i.e., not merely discovered. Hence, the distinction between ontology and epistemology is blurred (Guba and Lincoln 1994). This paradigm

may be suitable for some social science research on politics, religion, culture, but may not be fully appropriate for marketing and management research due to its exclusion of economic and technological dimension of business (Hunt 1991).

Finally, realism assumes that there is a real world “out there” to be discovered, even though it is only imperfectly apprehensible (Easton 2010 1995; Godfrey and Hill 1995). In support of this position, Easton (2010) argues that there is no way that such an assumption can ever be proved or disproved, as social constructivists, pragmatists and even positivists are ready to argue. There are a number of different views and approaches to realism (Hunt 2003). One of the notable versions is the account of Sayer (2000) on critical realist ontology. In summary, Sayer (2000) argues that realists assume that the world exists independently of our knowledge. He further suggests that critical realists accept that reality is socially constructed and are context and concept dependent.

The central research question and the nature of the key constructs in this study necessitated a crucial choice of an appropriate research paradigm such as realism. As such, when evaluating resource allocation decisions during the process of internationalization in any firm the evaluation depends on the context and the perceptions of the key constructs (i.e., resources, returns, risk, uncertainty, markets, and firm performance) by the participating respondents. Also, given that the aim of most management and marketing research is to describe and explain complex social science phenomena, an appropriate scientific paradigm is realism (Hunt 1991; Perry *et al.* 1999).

A research paradigm combines the researcher’s belief about ontology, epistemology and methodology (Easton 2002; 2010; Guba 1990). The combination of these three

elements forms the framework and approach for theory development. In the following subsections, I make explicit my ontological and epistemological position. I outline the details of my research methodology in the next chapter.

### **3.1.1 Ontological Position**

Ontology is the “reality” that a researcher investigates (Healy and Perry 2000). It concerns the researcher’s belief about the nature of reality. Discussing ontology means looking at questions such as: What is the nature of reality and is there is a single or multiple realities *out there* waiting to be discovered? For this research, I adopt a critical realist ontological position. Critical realists propose an ontology that assumes that there is a reality “out there” that is independent of our fallible knowledge of it (Easton 2010; Denzin and Lincoln 2000). With critical realism, a participant’s perception is not a “reality” as constructivism and critical theory suggest. This paradigm assumes that a participant’s perception is a window to reality through which a picture of reality can be triangulated with other perceptions. Realism leverages multiple perceptions about a single reality (Heary and Perry 2000).

In evaluating resource allocation decisions for internationalization, I argue that there is a “reality” *out there*, which can be studied and discovered, leveraging multiple perceptions of participants. For instance, how entrepreneurs perceive resources, quantify returns on resource allocation, demarcate markets, assess uncertainty/risk, make trade-offs between different product-market opportunities, and evaluate firm performance is different from firm to firm. The evaluation of all these constructs is highly dependent on the context of each firm.

The ontology of realism assumes that the research is dealing with complex social science phenomena involving reflective people. Entities of the social settings such as organizations, people, resources, behaviour, and systems provide the basic theoretical building blocks for critical realists' explanation and causal statements about the nature of reality being studied (Easton 2002; 2010). These entities have causal powers, liabilities, structures, and relationships. Conceptualization in critical realism focuses on the entities, their relationships, causal power and liabilities. These entities stand in contrast to the idea of variables in the dominant positivism paradigm (Sayer 1992).

### **3.1.2 Epistemological Position**

Epistemology is our perceived relationship with the knowledge we are discovering or uncovering. It is the relationship between the reality being studied and the researcher. My epistemological stance is anchored on the critical realism paradigm. Easton (2010, p. 122) suggests that "Critical realists accept that our world is socially constructed but argue that this is not entirely the case. They construe rather than construct the world. Reality kicks in at some point". In support of this, I also argue that due to the inability to observe reality objectively, it is unrealizable to fully comprehend reality in all of its complexity. On the contrary, the dominant positivism views reality through a "one-way mirror", where the researcher is removed from the object or phenomenon under study. From a positivist perspective, reality is value free (Neuman 1997).

Critical realism acknowledges that social phenomena are intrinsically meaningful, and that meaning has to be understood. It cannot be measured or counted; and, hence, there is always an interpretative or hermeneutic element in social sciences (Sayer 2000). From an

interpretivist standpoint, one can aim at understanding well-defined parts of reality (Smith and Deemer 2000). The relationship between the phenomenon of interest and its context is crucial in order to make sure that the generated insights are rich enough that they serve as a tool to understand the same phenomena in similar contexts.

### **3.2 Definition of Key Constructs**

Based on my ontological position and epistemological stance, I argue that knowledge is contextual, provisional and strongly influenced by perspective. Resource allocation during the process of internationalization have different contexts and respondents in different environments have different perceptions and each of the key constructs such as “firm resource”, “returns”, “uncertainty”, “risk”, “volatility”, “domestic market”, “foreign markets”, and “firm performance” may likely have different meanings and interpretation, depending on the respondents using these constructs. Therefore, in this section my aim is to define these key constructs in order to give some context and perspective to the overall study. These definitions are the basis for formulating the theoretical propositions in the next subsection.

#### **3.2.1 Firm Resources**

Firm resources can be considered as the total assets available to a company for increasing earning, production output, or profit. From a Resource-Based View (RBV) perspective, Wernerfelt (1984, p. 172) defines resources as “anything which could be thought of as a strength or weakness of a given firm...those (tangible and intangible) assets which are tied to the firm”. Barney (1991, p. 101) expanded on this definition and suggests

that firm resources are strengths that enable firms to conceive of and implement strategies that improve its productivity, which include all assets, capabilities, organizational processes, firm attributes, information and knowledge.

Hall (1992) proposes a typology of intangible assets based on whether the resources are perceived as assets (things that a firm owns, i.e., intellectual property such as patents, trademarks, trade secrets or data bases) or skills (i.e. competencies, such as the know-how of employees, collective aptitudes, or culture), and whether the resources are people dependent or people independent. He suggests that most assets are independent of the people comprising the organization, but that all of the skills are dependent upon the people.

Amit and Schoemaker (1993) make another distinction and argue that the encompassing construct previously called “resources” can be divided into “resources” and “capabilities”, in which “resources” are tradable and non-specific to the firm. Whereas “capabilities” are firm-specific and are used to engage the resources within the firm, such as implicit processes to transfer knowledge within the firm (Makadok 2001, p. 388; Hoopes *et al.* 2003, p. 890). In reality, the definition of “resources” is contextual. I argue that firm entrepreneurs’ perception of what constitutes “resources” varies from firm to firm. Therefore, I use the definitions highlighted above as a “guide” while investigating resource allocation; but used them flexibly, with more nuanced, idiosyncratic descriptions, or definitions, that are unique to each environment.

### **3.2.2 Return on Investment**

At any point in time, when investments are made to any venture, it is expected that such investments will yield some form of return. These returns, generally called “return on

investment”, mean different things to different people depending on the context. Return on Investment is defined in management and marketing literature as an outcome performance measure of financial effectiveness that is concerned with returns on capital employed in business (profit-making) activities (Drury 2007; Moutinho and Southern 2010). This definition limits “returns” to financial effectiveness. However, other scholars suggest that returns are not necessarily quantifiable or measurable in monetary terms (e.g., Mudambi and Zahra 2007; Thorelli and Glowacka 1995; Mitchell *et al.* 1994; Rugman 1979).

Returns are often associated with tangible measures such as revenue, assets and profits. However, some returns could be intangible and cannot be measured. For instance it could be in the form of improved firm reputation, improved goodwill, intangible assets, experiential knowledge, learning, business “know-how”, value creation, multinational networks (for foreign investments), consumers’ interest, or loyalty (Zahra *et al.* 2000; London and Hart 2004; Rugman and Verbeke 2004; Hoskisson *et al.* 2000; Chang 1995; Delios and Beamish 2001; Craig and Douglas 1995; Chen and Chen 1998; Gomes and Ramaswamy 1999; Gholashal 1997). Depending on the specific context and situation of a firm at a point in time, expected returns from resource allocation convey different meanings and was therefore noted and evaluated differently.

### **3.2.3 Risk, Uncertainty and Volatility**

Risk can be defined as the likelihood that an event of interest or activity will lead to an undesirable outcome. Uncertainty is the lack of complete certainty. That is, the existence of more than one possibility (Hubbard 2007, 2009). Epstein (1999, p. 579) suggests that the distinction between risk and uncertainty is that “risk refers to situations where the perceived likelihoods of events of interest can be represented by probabilities, whereas

uncertainty refers to situations where the information available to the decision-maker is too imprecise to be summarized by a probability measure”. Whereas, in finance, volatility is defined as a measure for variation of price of a financial instrument over time. Essentially, the inability to predict financial variables (Jorion 1995).

While these terms have nuanced differences in the academic literature, unfortunately, they are poorly distinguished in the “real world”. The misuse of these words is typical of the everyday speech of those with little or no formal training in decision-making (Atkins and Anderson 1999). The key distinction between uncertainty and risk was made by Knight (1921), who proposed that although in both situations the future outcome is not known with certainty, in the situation of risk, the probabilities of alternative outcomes are either known or can be estimated. On the other hand, in the situation of uncertainty, the probabilities of the outcomes cannot be predicted even in probabilistic terms. In addition, Knight provides a test of “insurability” where he demonstrates that “uncertain” situations cannot be insured, but “risky” ones can. In finance and accounting, we use volatility as a measure of risk (Jorion 1995).

Despite the slightly different meanings in these terms, I discovered that they are used and understood differently in the “real world”. As defined in my theoretical propositions in the next section, the associated “risk” of resource allocation to either the domestic market or foreign markets is one of the key constructs in my portfolio theory framework.



### 3.2.4 Market(s)

There are various definitions in the literature for the term “market”. Scheffmann and Spiller (1987, p. 123) define a market as:

[...] a product or group of products and a geographic area in which it is sold such that a hypothetical, profit-maximizing firm, not subject to price regulation, that is the only present and future seller of those products in that area would impose a ‘small but significant and non-transitory’ increase in price above prevailing and likely future levels.

This definition characterizes “market” in terms of a particular product and geographic area.

Stigler and Sherwin (1985, p. 555) defines “market” in terms of supply, demand, and price. They suggest that:

[...] the role of the market is to facilitate the making of exchanges between buyers and sellers. The market is the area within which price is determined: the market is that set of suppliers and demanders whose trading establishes the price of a good... Consider the basic definition of the area of a market: A market for a good is the area within which the price of the good tends to uniformity, allowance being made for transportation costs.

These two definitions are some of the Economists’ definition of “market”.

In marketing, a “market” is generally defined as a group of consumers and producers who are involved in the manufacture, purchase, and use of the product. Lodato (2006) suggests that “a market is a set of organizations and/or people who could benefit from the products and services offered by a firm and other competitors and who have the purchasing power and authority to buy”. In other words, this definition captures the fact

that a “market” involves all customers with the resources and ability to purchase a product, any distributors or middle men involved, and any competing or collaborating firms involved in the manufacture of the product. From the firm’s standpoint, the “market” is those customers who are interested in the product and have the ability and legal means to purchase it.

In the context of this research, domestic, U.S., and international markets are the major types of markets under consideration. Based on the definitions of “market”, I can define these markets with respect to the internationalization of small and medium-sized firms in Canada. Following the lead of Schefmann and Spiller (1987) and Lodato (2006), *domestic market* can be defined as a market representing a set of organizations and/or people who could benefit from the products and services offered by a firm, and other competitors, and who have the purchasing power and authority to buy in a specific geographic area. From a firm’s point of view, a domestic market are those customers in its local geographic environment who are interested in the product and have the ability and legal means to purchase it. The geographical boundary, typically taken as the borders of a country, could potentially span through more than a country. For instance, some SMEs view U.S. and Canada as their domestic market and other nations as foreign markets.

In the same vein, the *American or “U.S.” market* represents the set of organizations and/or people who could benefit from the products and services offered by a firm and other competitors and who have the purchasing power and authority to buy them in the United States of America. The Canadian domestic and the U.S. markets are similar because they are both developed countries and are each other’s largest trading partners (Foreign Trade, 2008). The key differences lie in the population makeup, government policies and

productivity of these markets. There are easy pathways into the U.S. market that are different from non-North American markets, hence the need to separate this market from other international markets in this research. While undertaking the case studies in this research, attention was given to understanding how and why SMEs segment their markets and whether or not the U.S. market attracts special attention while allocating resources to markets.

Similarly, the concept of what is a *foreign market* may be contextual. With the advent of large global markets, and the disappearance of geographical and political boundaries, it is becoming more challenging to define the common conception of foreign market structures and boundaries. It is erroneous to define “foreign market” as the markets beyond the geographical boundary of the home country, when for example; some firms in Canada may not perceive the U.S. market to be “foreign”. The challenge posed by the “question of foreignness” is one of defining metrics for accurate measurement. The general use in the literature implies that a “foreign market” is one that is unfamiliar, or new, to a firm (e.g. Johanson and Vahlne 1977). Saxe (2007, p. 10) argues that the issue of how to measure “foreignness” is not clearly defined. “Should it be measured as a continuous variable, such that a market ranges in degree or extent of foreignness, based on some measure of fit between the entrant and the host?” The way firms perceive and operate with the concept of “foreign market” is likely be different from firm to firm.

### **3.2.5 Firm Performance**

Firm performance can be conceived of as the results or outputs of the activities or investments of a firm over a period of time. A wide variety of definitions of firm

performance has also been proposed in the literature (Barney 2002). In most of these definitions, firm performance is viewed in terms of non-financial and financial performance. Non-financial performance includes measures such as customer satisfaction, service quality, product quality, employee retention, stability, intellectual capital, and recognition in the markets (Ittner *et al.* 1997, 2003; Gibbs *et al.* 2004). However, due to the difficulty associated with evaluating non-financial performance, most firms rely on financial performance metrics for their assessment.

Major financial performance measures include percentage of sales resulting from new products, profitability, capital employed and return on assets (ROA) (Selvarajan *et al.* 2007; Hsu *et al.* 2007). Others include return on investment (ROI), earnings per share (EPS), net income after tax (NIAT), economic value added (i.e., return on equity less cost of equity), and return on equity (ROE) (Daniels and Bracker 1989; Kumar 1984; Lu and Beamish 2001; Riahi-Belkaoui 1998; Rugman *et al.* 1985; Shaked 1986; Vernon 1971). Another dimension of evaluating firm performance is the market-based measures. This includes measures such as Beta and Risk-adjusted returns (Buhner 1987; Collins 1990; Goerzen and Beamish 2003; Michel and Shaked 1986).

The definition of firm performance could vary from one firm to another. Depending on the situation and context, firm performance evaluation may even change from time to time. For instance, many SMEs, being in the early stages of their evolution, might place a strong emphasis on growth. A focus on their profitability might, therefore, understate the true performance achieved by these firms. Lu and Beamish (2001) suggest that firm growth is an important dimension of firm performance, especially for SMEs; therefore, it is

important to understand the influence that internationalization has on both the growth and profitability of SMEs.

In the context of internationalization, Delios and Beamish (2000) argue that firm performance is a multi-dimensional construct that is driven by the multiple motivations and goals that might accompany a firm's internationalization strategy. In other words, firm performance cannot be disassociated from the prevailing firm motivations and goals at a given point in time. Lu and Beamish (2006) contend that internationalization strategies could have differential effects on different dimensions of firm performance. While some firms perceive firm growth as a measure of performance, profitability may be the benchmark for other firms. There is a need for a contextual individual assessment of each firm in order to understand what is paramount to them.

### **3.3 Theoretical Propositions**

The current literature streams on resource allocation, as outlined in the previous chapter, provide the basis for tentative propositions to guide the theory building process. These propositions are based on observations about the existence of the phenomenon being studied (i.e., resource allocation decisions for internationalization) and perhaps about co-occurrence and possible relationships between observed phenomena (Becker and Geer 1982, p. 241). These propositions are an abstract explanation of the phenomena being studied. They are exploratory and may not necessarily be precise or perfect. The theory development process is iterative in nature. Data collection, analysis, and findings are used to confirm or modify the propositions. This results in a descriptive model that best explains resource allocation decisions during the process of internationalization.

The theory development is guided by portfolio reasoning; that does not necessarily mean that firm managers think logically in this way. The literature generally addresses market choice as an issue of market selection and entry mode. This focus does not acknowledge that market selection involves internal decisions about resource allocation and trade-offs that are inevitable in the process. The focus of this study is to investigate the challenges associated with resource allocation during the process of internationalization and the typical way to think about such allocation issues is in terms of portfolio theory.

Critical realists, however, have taken issue with portfolio theory because of its unrealistic assumptions (Day 1977; Wind *et al.* 1983). One of the positions of critical realism is that portfolio theory is a highly simplistic view of reality. For instance, in global financial markets the use of approaches based on perfect market predictions, completely flexible prices, and the complete knowledge of all the decisions of all other players in the market are increasingly becoming unrealistic. Based on my critical realism approach, I argue that portfolio theory, like any other major theoretical development, should be treated as a “springboard” for further development rather than an “end” in itself.

Therefore, my investigation takes a realist perspective to constructing a theory of how firms make resource allocation decisions and trade-offs, taking “portfolio reasoning” as a starting point for theory development. Some firm managers may not necessarily engage in “portfolio thinking” about product/market decisions. In general, realists claim that theories built from a positivist perspective are insufficiently nuanced to adequately characterize the “real world”. The complexity of the phenomenon being studied indeed cannot be contained within the portfolio theory framework. Portfolio theory provides a

starting framework to simplify the issues; but it is not sufficient to capture the complexity of the reality “out there”. For instance, for simplification, my propositions discuss the case of three assets (i.e., domestic, U.S., and other international markets). However, my analysis in the multiple case studies explores the case of multiple assets within portfolios (i.e., individual countries). Given that some firms create a clear distinction between the U.S. market, Asia, and other foreign markets, the issue of multiple assets in a portfolio is inevitable. In such a situation, each distinct market is an asset.

In order to demonstrate the basic framework behind the development of my propositions, a detailed mathematical formulation is provided in Appendix A. The formulation presents a general mathematical formulation of the research problem based on portfolio theory for a two-asset portfolio. This is then adapted to the special case of a three-asset portfolio (i.e., domestic, U.S., and foreign market) in this research. In formulating this problem and the subsequent propositions in this section, there are some assumptions made to simplify the problem. For instance, in the mathematical formulation, the assumption is that the domestic market is a risk-free market or a market with lower risk that is considered insignificant; however, in reality, this is not the case. There is no market that is absolutely free of risk. Therefore, as a starting point for formulating my propositions, I assume the level of perceived risk between the markets in ranked order; with the domestic market being the lowest, followed by the U.S., and the foreign market being the most risky market.

This assumption is based on findings from existing literature that suggest that most business owners are generally more comfortable doing business in their local environment compared to “foreign market” that they are not familiar with. The general use in the

literature implies that a “foreign market” is one that is unfamiliar, or new, to a firm (e.g. Johanson and Vahlne 1977); and is, therefore, considered more risky. In some cases, however, this assumption may not hold. For instance, some entrepreneurs who are immigrants from other countries may find it less risky and easier to export to such markets, due to their familiarity with such markets. In such cases, the foreign market becomes the market with relatively lower risk.

Another assumption inherent in my propositions is that the firms have relatively uncorrelated product-market opportunities in their export portfolio. Some may have products with little or no correlation in their portfolio, while some may have totally uncorrelated products. In any case, the degree of non-correlation determines how much risk reduction can be achieved through diversification. In a situation where this assumption is violated, that is, a firm having correlated product lines, this simply implies that risk reduction through diversification may not produce much result. However, the fact that the same product offering is being sold to different markets may still improve the firm performance. For instance, when products being sold to the U.S. market are not yielding good returns due to the economic downturn in the U.S. market, the same product may be yielding more returns in the domestic or foreign market.

The following subsections present the theoretical propositions supported with some empirical evidences from the literature.

### **3.3.1 Resource Allocation to Domestic, U.S. or International Markets**

Resource allocation to the domestic market, U.S., or international markets can be perceived as investment into assets with different levels of risk within the resource



allocation portfolio, depending on the context. There are two possible scenarios. The first scenario is a situation where the domestic market and/or the U.S. market are less risky relative to other international markets. A typical example is an SME based in Ontario that sees Canada and/or the U.S. as less risky markets versus other foreign markets. The whole of Canada may be large enough certain companies as a domestic market and therefore feels safer to sell within Canada. In other situations, some firms see the U.S. and Canada as their domestic market and feel more comfortable to sell within the U.S. and Canada compared to other parts of the world. Selling to the U.S. and Canada is a large market for the firm and therefore considers both countries as “local” due to the proximity and ease of border crossing between the U.S. and Canada. This ease of border crossing is also facilitated by the free trade agreement between the U.S. and Canada. Another example is Singapore versus other foreign markets. Chatterjee and Lim (2000) examine the relationship between the external factors and internal factors of SMEs in Singapore with the degree of internationalization and performance. The results show that a positive relationship exists between internationalization and performance. However, the level of risk for internationalization is higher compared to selling within the domestic market.

The second scenario is a situation where selling within the domestic market or U.S. is riskier versus other foreign markets. For instance, some domestic markets that are considered small may be riskier compared to larger foreign markets. Studies show that many high-tech born-global SMEs perceive their domestic markets as riskier and prefer to sell into the U.S. or other foreign markets, particularly SMEs from the Nordic countries — Norway, Finland, Sweden, Denmark, and other smaller, open economies (e.g., Gabrielsson *et al.* 2008; Madsen and Servais 1997; Rasmussen and Madsen 2002; Andersson *et al.*

2004; Freeman and Cavusgil 2007). Andersson *et al.* (2004) suggest the fact that Sweden has a small domestic market (8.9 million people). Whereas North America has historically influenced the Swedish SMEs to increase their international activities in order to grow and increase their profit margins.

For the first scenario, the expected return in less risky assets is potentially low (Markowitz 1952). However, even though their expected returns are low, they bring stability and heterogeneity to the overall portfolio (Figge 2004). Figge in his research suggests that a species that has a low return–risk ratio but clearly differs from the other species may in certain circumstances be more valuable to the portfolio than a species that has a better return–risk ratio, but resembles the other species in the portfolio. Ideally, a portfolio should not contain all equally risky assets; otherwise the diversification of risk through the combination of different assets is not feasible (Levy and Sarnat 1970; Levy and Lim 1994). Complementary assets bring more value to the portfolio returns (Garrett and Cox 2008). From a portfolio point of view, each asset within the portfolio has unique attributes that contribute to the return on the overall portfolio.

According to Markowitz (1959), a good financial portfolio is more than just a list of stocks and bonds. It is a complete package, providing investors with protection and opportunity with respect to a wide range of contingencies. The less risky assets provide the protection, while risky assets have opportunities for greater gains. Return on investment in less risky assets has a strong positive correlation to the subsequent investments in the assets, particularly when the risk is low. When the risk is high, the return on investment may have a negative relationship with resource allocation.

Despite the low return, risk-averse investors are likely to invest more in less risky assets when the return on investment is increasing or to invest less into the assets when the return on investment is decreasing due to high risk. For instance, Brown *et al.* (2010, p. 25) apply modern portfolio theory to managing portfolios of retail formats. “A retail format is the retailer’s type of retail mix (nature of merchandise and services offered, pricing policy, advertising, and promotion program, approach to store design and visual merchandising, and typical location)” (Levy and Weitz 1998, p. 161). Their study uses the lodging (i.e., hotel) industry to illustrate the application of portfolio theory to managing retail formats. A sample case is ICHG (InterContinental Hotels Group) that runs the mid-market Holiday Inn as well as the luxury InterContinental Hotels. Similarly, Marriott owns the luxury Ritz-Carlton brand as well as the more modest Fairfield Inn brand.

The number of rooms available in any hotel at a given time is the resource that yields revenue for the hotel. Therefore, the study takes revenue per available room (RevPAR) as a proxy for its return on investment. Their findings show that all three firms in the study could improve their returns and reduce their risk by reallocating the number of hotel rooms (i.e., scarce resources) across their different retail formats. An interesting part of the results of this study shows two retail formats within the portfolio; but one has higher return on investment than the other. They suggest that resources (in this case, number of rooms) should be redirected away from the retail brand with lesser returns to the brand which generates higher returns.

Kundisch *et al.* (2007) extends portfolio theory to customer portfolio management using an e-tailer as a case study. They examine the question of optimal mix of two different

customer segments: transaction-oriented customers (risky asset) and relationship-oriented customers (less risky asset) within a customer portfolio. Plotting Expected Customer Life Value (ECLV), which is the return against standard deviation of CLV (variation in customers' behaviour). Part of their findings suggest that customer acquisition efforts (i.e., their resources) should be directed to relationship-oriented customers with higher ECLV compared to transaction-oriented customers with lower ECLV, when there is disparity in risk between the two assets.

Similar to these examples, my proposition is that there is a strong relationship between resource allocation to the domestic, U.S., and international markets and the corresponding return on investments from each market segment. Firms allocate resources to a market based on the return from that market and its perceived risk. The returns are also affected by the prevailing risk for each market. Therefore, for the first scenario, that is, when the domestic market or the U.S. market is perceived to be less risky and other foreign markets are perceived as riskier, I expect that:

*Proposition 1a:*

*Firms will allocate relatively more resources to the domestic or U.S. market when the domestic or U.S. market generates relatively higher returns at perceived lower levels of risk.*

*Proposition 1b:*

*Return on investment from the domestic or U.S. market is negatively related to perceived increasing level of risk in the domestic or U.S. market.*

*Proposition 1c:*

*Firms will allocate relatively fewer resources to U.S. or foreign markets when the U.S. or foreign markets generate relatively higher returns at perceived higher levels of risk.*

*Proposition 1d:*

*Return on investment from the U.S. or foreign market is negatively related to perceived increasing level of risk in the U.S. or foreign market.*

In other words, the relationship between resource allocation to the domestic market, and return on investment from the domestic market, is positive at a perceived lower level of risk, but negative at a perceived higher level of risk. The same logic also holds for foreign markets as depicted in the propositions.

Empirical evidence also indicates that, for small and medium-sized manufacturing firms that are already in a foreign market, investments made to this segment of the business results in higher returns. Shoham (1998) suggests that export effort and resource allocation to international markets have a positive impact on sales revenue from foreign markets and therefore enhances the firm's export performance. Baird *et al.* (1994) examines internationalization and firm performance of SMEs. The results of their research show that internationalization is positively related to return on investment, but negatively related to growth.

Therefore, for the second scenario, that is, when foreign markets are perceived to be less risky and domestic market is perceived as riskier, I suggest that:

*Proposition 2a:*

*Firms will allocate relatively more resources to the U.S. or foreign markets when the U.S. or foreign markets generate relatively higher returns at a perceived lower level of risk*

*Proposition 2b:*

*Firms will allocate relatively fewer resources to the U.S. or domestic market when the U.S. or domestic market generates relatively higher returns at a perceived higher level of risk.*

### **3.3.2 Resource Allocation Risk-Return Trade-Off**

Return and risk are the two major characteristics of assets under consideration in portfolio theory (Markowitz 1952). The efficiency frontier, i.e., the locus of efficient portfolios, for which combinations of resource allocation can be made to the two markets, is shown hypothetically in Figure 6. The curve, labelled A-Z, summarizes the efficient volatility-return combinations that were attainable to a firm that had the opportunity to invest in both international and domestic markets. This curve demonstrates the risk-return trade-off in a portfolio containing two assets (e.g., resource allocation to domestic and foreign markets) for a specified correlation coefficient (in this case, I arbitrarily choose a correlation coefficient of 0.6 for illustration). This is analogous to two assets (e.g., stocks) in financial portfolio analysis. Foreign Market (F) is riskier, taking into consideration both the systematic and non-systematic risk involved in going international. As illustrated in Figure 6 a portfolio consisting entirely of “F” has an expected return of 14% coupled with a standard deviation of its historic returns of approximately 0.67. Domestic Market (D) is less risky, with an expected return of about 2.2% and standard deviation of 0.28.

The Curve A-Z is the Mean-Variance Efficient Frontier, a set of optimal portfolios that a firm can choose from (Markowitz 1959). Any point on this curve is optimal, depending on the acceptable risk level of the firm. Points below the curve are not optimal, while points above the curve are not feasible or achievable. Starting with a portfolio of 100% of Asset “D” (i.e., 100% resource allocation to domestic market) and introducing increasing amounts of resource allocation to foreign market, one will observe that portfolio risk at first decreases until the minimum variance portfolio is reached — Portfolio E.

The initial risk reduction is driven by the correlation of the returns of these two assets, which implies that sometimes the return of one rises while the return of the second falls (e.g., initial sunk cost of entry the foreign market). This means that the variations in annual returns on these two assets sometimes cancel each other so that overall portfolio risk initially falls as more investments are made to foreign market is added to existing domestic investments in the portfolio (Brealey and Myers 1991).

From a portfolio theory perspective, for the first scenario in Proposition 1, (i.e., where the domestic market is perceived to have lesser risk), it is less attractive to stay in the domestic market only (i.e., allocate 100% resources to domestic market), when there exists combinations of resource allocation to both markets that produces superior results. A firm that invests into the domestic market only is an extreme case of the allocation of all resources to one national market.

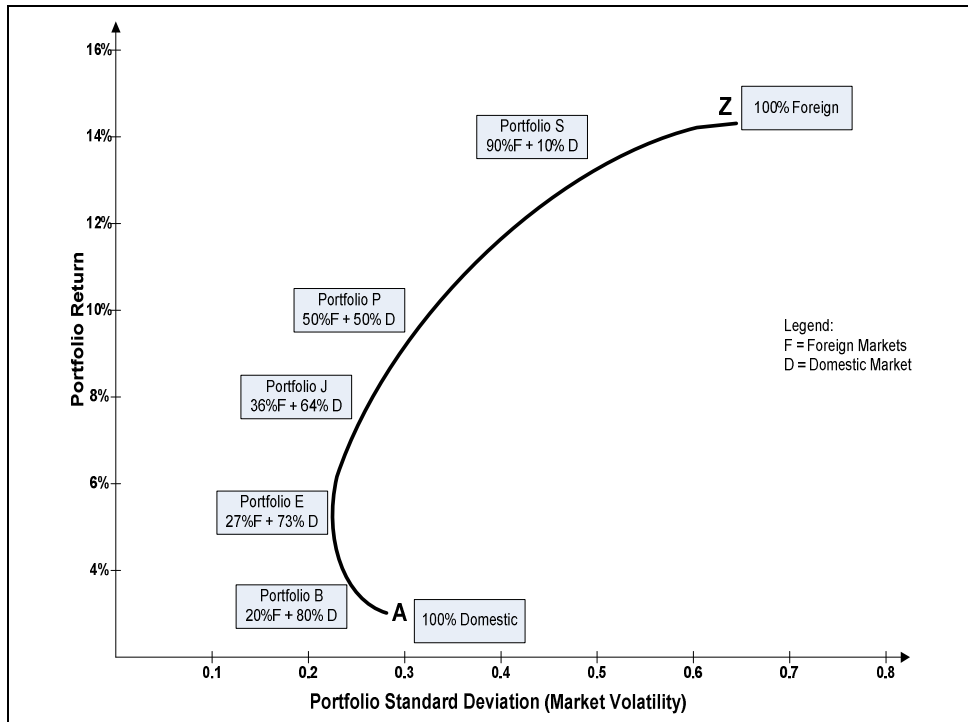


Figure 6 - Hypothetic Mean-Variance Efficiency Frontier with two assets

Firms seeking returns greater than those provided by Portfolio J and P must be ready to accept greater risk by allocating more resources into foreign markets within their portfolio. This moves them along the risk-reward curve to portfolios like S. Given the two assets in this framework and their associated risk, it may be challenging to prescribe a single optimal portfolio combination: rather a range of efficient choices. Firms choose a risk-return combination based on their own preferences and risk aversion. More risk-averse investors would be inclined to own relatively conservative portfolios such as E, while less risk-averse individuals operate at S or Z. From this efficiency curve, it is obvious that there is a strong positive relationship between the expected return of a resource allocation decision and the associated risk needed to realize those returns. The higher the risk the greater the expected returns.



Therefore, based on these observations about the efficiency frontier curve, with two assets, I anticipate that:

*Proposition 3:*

*Firms will generate higher returns from the domestic market at perceived higher levels of risk and lower returns from the same market at perceived lower levels of risk.*

*Proposition 4:*

*Firms will generate higher returns from the U.S. market at perceived higher levels of risk and perceived lower returns from the same market at perceived lower levels of risk.*

*Proposition 5:*

*Firms will generate higher returns from foreign markets at perceived higher levels of foreign market risk and lower returns from the same market at perceived lower levels of foreign market risk.*

### **3.3.4 Influence of Resource Allocation on Firm Performance**

Performance is a multi-dimensional construct, given the various possible motivations and goals that might accompany any internationalization strategy (Lu and Beamish 2006). From a qualitative standpoint, what firm managers consider and evaluate as firm performance is different from firm to firm. However, in general, two of the most common goals attributed to internationalization are achieving firm growth and improving a firm's profitability (Oviatt and McDougall 1994; McDougall and Oviatt 1996).

In this section, I explore the relationship between resource allocation, the return on investments, and the impact on firm performance. Archibald *et al.* (2002) argues that a firm could become insolvent when the cash flow falls below some prescribed value, which is conventionally taken as zero. For example, this could be the cash reserve used for day-to-day running of the business or other liquid assets. During the period of internationalization, by allocating resources to both domestic and foreign markets of the company, it is expected that the return on investment from both segments of the business contribute to the performance of the firm, that is, the cash reserve in Archibald's study. Although any new venture (a new firm or entry into a new market by an existing firm) is likely to initially experience negative cash flows. The firm has to invest first (from retained earnings, borrowing or new equity investment) to enter the international market. Following the lead of Archibald, I suggest that there is a positive relationship between return on investments from each segment of the business and the overall firm performance. Therefore:

*Proposition 6:*

*Firm performance is influenced positively by higher returns from the domestic market and negatively by relatively low returns from the same market.*

*Proposition 7:*

*Firm performance is influenced positively by higher returns from the U.S. market and negatively by relatively low returns from the same market.*

*Proposition 8:*

*Firm performance is influenced positively by higher returns from the foreign market and negatively by relatively low returns from the same market.*

My detailed analysis when conducting the case studies outlines what managers consider as “returns” and how they attribute or link “returns” to enhanced firm performance.

In conclusion, this chapter focuses on theory development based on critical realism — a qualitative philosophical research paradigm. The unique nature of the phenomenon being studied necessitated the choice of such a paradigm that enables me to study resource allocation to domestic, U.S., and foreign markets and the influence on firm performance in their natural settings. Based on my research paradigm, I express my ontological position and epistemological stance.

Defining the key concepts is very crucial to the formulation of the propositions. This helps to put each construct in context of the planned research. Finally, based on the concepts defined, I presented some tentative theoretical proposition, as a starting point for theory development. These propositions are based on existing phenomenon in the literature. Having established the theoretical framework for the planned research, the next section focuses on methodology and approach that is used to carry out this research.

## **4. Research Methodology and Approach**

Building on the broad philosophical research paradigm established in the previous chapter, this chapter describes the methodology used to carry out this research. As established in the previous chapter, critical realism, as a qualitative approach, is an appropriate research paradigm for investigating the central phenomenon in this study. Easton (2010, p. 118) describes critical realism as “a coherent, rigorous and novel philosophical position that not only substantiates case research as a research method but also provides helpful implications for both theoretical development and research process”. In this study I apply a multiple case-based qualitative approach based on the critical realism paradigm to investigate resource allocation decisions during the process of internationalization. The chapter starts with a discussion of qualitative research methods. Thereafter, I focus specifically on the case-based approach. Finally, I discuss the details of my research design and analysis: as well as the appropriateness of this research methodology.

### **4.1 Qualitative Research Method**

Qualitative research methods are becoming more acceptable and regarded as appropriate for studies in international entrepreneurship, since most studies in this emerging field tend to focus on the decisions and behaviour of entrepreneurs and the impact on their organizations (Coviello and Munro 1997; Welch and Welch 1996; Nordstrom 1990). Loane *et. al.* (2006) suggest that these qualitative approaches reflect the need to develop a solid theoretical base for an under-researched area in order to create theories that provide a greater understanding of the phenomenon, rather than to test them (Jones and Coviello, 2005). Given the complexity of realism theory’s world, realism-based

research is primarily theory-building in nature, rather than theory-testing, which is the primary concern of positivism (Yin 1994).

As pointed out more elaborately in the subsections of this chapter, the unique nature of the phenomenon being studied in this research necessitated the choice of a methodology and approach that can study concepts and things in their natural settings: in an attempt to make sense of, or to interpret phenomena in terms of the meanings people bring to them (Denzin and Lincoln 2000, p. 3). Many of the concepts in this study have different meanings in various environments. Qualitative research is also an appropriate method when the aim of the research is to seek a deeper understanding of the underlying phenomenon of interest (Hoepfl 1997). Or to gain more in-depth information that may be challenging to obtain through quantitative data collection instruments (Strauss and Corbin 1998). Most of the key constructs in this research are not easily quantifiable or measurable. Hoepfl (1997) also points out that qualitative research is appropriate in situations where the researcher has determined that quantitative measures cannot adequately describe or interpret a construct, which is the situation with constructs such as “resources” and “uncertainty” in this research.

It is also the most suitable approach in situations where the researcher would like to understand any phenomenon about which little is known (Strauss and Corbin 1990). Relatively little is known about how firms make their resource allocation decisions between domestic and foreign markets. Access to such information through secondary sources becomes more challenging when considering portfolios of product-market opportunities. Resource allocation decisions within most firms are sensitive, private, and not readily available in annual reports or other secondary data sources (Carson and

Coviello 1996). Such information can only be obtained by interviewing the decision-makers within the firm (Loane *et. al.* 2006). Therefore, this study uses a multiple case-based approach to investigate resource allocation decisions within a firm and the effect on the firm's performance.

## **4.2 Case-based Qualitative Approach**

Case-based study as a qualitative approach is descriptive in nature in terms of the methodological treatments that suggests particular approaches to research design, data collection, and analysis (Yin 2003). Easton (2010, p. 119) defines case-based study research as “a research method that involves investigating one or a small number of social entities or situations about which data are collected using multiple sources of data and developing a holistic description through an iterative research process”. However, Piekkari *et al.* (2009) argue that it is difficult to arrive at a single definition, given the contested nature of case-based study. Rather than giving a single definition, Piekkari *et al.* (2009) suggest that case-based study research can be conceived of as a research strategy that examines, through the use of a variety of data sources, a phenomenon in its naturalistic context with the purpose of “confronting” theory with the empirical world. This confrontation can take the form of either identifying constructs for later theory testing or searching for a holistic explanation of how processes and causes “fit together” in each individual case (Ragin 1992).

Case-based study is also appropriate when the situation being studied is complex and needs to be understood in relation to its context, with the understanding of the particular giving a hint to the general (Stake 1995). Eisenhardt and Graebner (2007, p. 30) claim that this method is an increasingly popular one and a relevant research strategy in the

field of management. This methodology investigates contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are clearly evident (Yin 1994). Yin (2003) and Eisenhardt (1989) have justified the use of case-based studies as a scientific method and provided researchers with specific guidelines for conducting rigorous case-based studies.

There are different types of case-based studies. Stake (2000) classified them into three types: intrinsic, instrumental, and collective case-based study. In intrinsic case-based study, the case itself is the focus. The researcher searches for understanding of the particular in the case. In an instrumental case study, the case is being used to understand something else; that is, the researcher is searching for the general through studying the particular. The case is not an “end” in itself, but a means to an “end”. In other words, participants’ perceptions are studied not for their own sake, but because they provide a window of opportunities to understand a reality that is beyond their perceptions. Lastly, the collective case-based study is an instrumental case study that includes multiple cases. The approach in this study can be seen as a collective case-based study or multiple instrumental case studies where I seek an in-depth understanding of resource allocation decisions during the process of internationalization by studying multiple cases of such decisions in different small and medium-sized manufacturing companies in Canada.

In order to increase the robustness of the findings as well as achieve analytical generalization of theory, Eisenhardt (1989) and Yin (2003) recommend studying multiple cases. They posit that the case researcher can add more cases until “theoretical saturation” is attained. However, there are different views in terms of what should be the ideal number of cases. While Eisenhardt (1989) recommends that cases should be added until

“theoretical saturation” is attained, Lincoln and Guba (1985) recommend sampling selection “to the point of redundancy”. Morse (1995, p. 147) also suggests that “saturation is the key to excellent qualitative research”; but at the same time he noted that “there are no published guidelines or tests of adequacy for estimating the sample size required to reach saturation”. In summary, it appears that there is no consensus on the ideal number of cases. Researchers have used their own experience to recommend a range within which the number of cases for any research should fall.

Easton (2010) argues that it possible to research several cases; but this is not done in order to increase the sample size in the conventional sense of generalization by positivism. The logic of generalizability is totally different for case research, which points to “analytical generalization” rather than “statistical generalization” (Yin 1989, p. 21). Yin (2003) claims that the main rationale for multiple data sources is that it allows for triangulation and enhances the construct validity of the study. They also increase the richness of the capability to generalize our theory. The idea of triangulation stems from positivism (Greene 1990). However, in critical realism, triangulation techniques not only helps to confirm or disconfirm information from various sources or multiple methods, it also helps to gain new insights (Richardson 2000).

The next section describes my research design that includes details on selection of firms for case development, sample population and sampling process, some preliminary sample cases, participants’ recruitment from the firms, interview protocols and processes, analysis (i.e., interpretation, which involves within-case and cross-case analysis), and conclusion.



### **4.3 Research Design and Data Collection**

This study employs a three-phase approach. *Phase one* starts with the pre-screening of candidate SMEs from the sample population. In this case, phase one involved the identification of a pool of firms, from which a subset was selected for the case studies. Interview protocols and tools such as an interview recruitment letter and interview protocol were also created in this phase. A copy of each is shown in Appendix B and C respectively.

*Phase two* involves the final selection of firms and the definition and development of cases using purposive sampling based on a set of criteria outlined in this thesis. The second part of this phase is the in-depth interviews with entrepreneurs at the selected firms. This involves telephone interviews and/or visits to these companies for face-to-face interviews when necessary.

*Phase three* focuses on detailed analysis (interpretation) and conclusions. For my analysis, I adopt the five-stage approach for analyzing qualitative data by Pope *et al.* (2000). The analysis is at two levels: within-case and cross-case analysis. The conclusion provides implications for theory and practice, as well as recommendations for future research. The overall research design is shown in Figure 7. I build on the framework by Loane *et al.* (2006, p. 442).

#### **4.3.1 Selection of Firms**

In this research, 22 SMEs were selected from the manufacturing industry in Canada based on the set of criteria outlined later in this section. The choice of 22 cases is consistent with prior studies in the literature and even exceeds recommendations of some scholars. These studies show that the idea of attaining “theoretical saturation” in practical terms usually falls within 10–25 cases. For example, Eisenhardt (1989) recommends about 4–10

cases. Miles and Huberman (1994) suggest 15 cases. Burbitt and Rondinelli (2004) utilized 26 firms in their study on location and entry mode choice. Knight and Cavusgil (2005) used an interview-based case study of 24 firms generated a model that was then tested in a survey.

#### **4.3.1.1 Sampling Population**

The sample population for this study are SME manufacturing firms in Canada. Limited resources and internationalization challenges characterize the small and medium-sized manufacturing sector in Canada. The variety of the firms (in terms of the diversity of the products they manufacture) in this sector makes it an attractive one for this study. Moreover, this sector contains firms with varying degrees of internationalization and performance levels; therefore, the research conclusions stand to benefit many firms from this sector. Particularly so in making appropriate resource allocation decisions during the process of internationalization.

#### **4.3.1.2 Sampling Process**

The first step in the sampling process is pre-screening SMEs that are engaged in manufacturing in Canada. Industry Canada (2011, p. 11) indicates that there are approximately 54,160 manufacturing firms in Canada out of which 99.4% are SMEs. Thereafter, purposive sampling was used to select the candidate firms for this research.

This is one of the sampling strategies used in qualitative research with preselected criteria relevant to a particular research question. Purposeful sampling approach is used when the researcher actively selects the most productive sample to answer the research question (Perry, 1998). This sampling approach also helps in defining boundaries around the type of cases or samples that are selected for a study (Coyne 1997). Sample sizes,

which may or may not be fixed prior to data collection, depend on the resources and time available, as well as the study's objectives (Pope and Mays 2000).

Purposive sample sizes are often determined based on theoretical saturation i.e., the point in data collection when new data no longer bring additional insights to the research questions (Strauss and Corbin 1990). Using a non-probabilistic and purposive sampling approach, the following criteria were used for selecting SMEs in Canada:

1. Primary business activity: Manufacturing
2. Canadian firm: Firm is registered provincially or federally as a Corporation (i.e., "Canadian" refers to ownership and independence of mandate, rather than the locus of their market)
3. Main office and manufacturing plant in Canada
4. Firm Size:
  - A single establishment
  - Employs between 5–500 Employees
5. Manufactures more than one product
6. Sells multiple products to multiple markets
7. Export portfolio of product-market combinations
8. Public or private firm
9. Internationalization experience

These criteria are defined to place boundaries on the research problem and context, which helps to manage and control the complexity of the phenomenon being studied. The focus is on small and medium-sized manufacturing enterprises in Canada; however, preference is given to firms with a single establishment and that employs between 5–200 employees.

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**PHASE I**

**Pre-Screening from Sample Population**  
Identification of potential SMEs from Secondary Source only

**Development of Interview Protocols**  
- Interview Questionnaire & Recruitment tools

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**PHASE II**

**Final Selection of Firms**  
(From Secondary Source only)

**Definition and Development of Cases**  
(Selection and development of cases for in-depth investigation)

**In-depth Interviews with Firm Managers**  
(Face-to-face or Telephone Interviews)

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**PHASE III**

**Analysis (Interpretation)**  
Within Case Analysis  
Cross Case Analysis

**Conclusion**  
- Implications for Theory and Practice  
- Recommendation for Future Research  
Dissertation write-up

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Figure 7 - Research Design

This a subset of SMEs as defined by Industry Canada (2011). The portfolio decision-making becomes more complex and starts to be multi-tiered when dealing with firms with multiple subsidiaries or larger firms with more employees. Therefore, limiting my case selections to firms with a single establishment and employs between 5–500 employees was necessary to minimize the likelihood of having to deal with the complexity of multi-tiered portfolios.

An example to illustrate this complexity is a typical firm like Firm X1. Firm X1 is a medium-sized manufacturing firm with about 200 employees. Firm X1 is headquartered in Alberta, Canada, with operations in Ontario and Florida. The company has three (3) separate divisions and six (6) lines of multiple products. Similar examples include Firm X2, a leading global manufacturer in Ontario with facilities in other provinces and five (5) lines of products; and Firm X3 a Canadian biotechnology equipment manufacturing company with headquarters in Alberta and multiple facilities across Canada.

In most of these examples, the portfolio is multi-tiered with each subsidiary potentially having different product and market mandates. Resource allocation decisions are either made at the corporate level or subsidiary level. Whether the decision-making authority resides with the management at the corporate level or at the subsidiary level there is a feedback mechanism between these two levels, which makes the decision-making process very complex. The portfolio decision-making becomes more complex with multiple subsidiaries and foreign direct investments due to the multi-tiered portfolios that emerge from it. The multi-tiered structure is beyond the scope of this study and is suggested as an avenue for further research.

#### **4.3.2 Definition of a Case**

Given that most of the manufacturing firms in the sample population for this research manufacture more than one product and also export to more than one foreign market, there are various possible combinations of product/market situations. I am particularly interested in the way product/market combinations are assembled into the firm's export portfolios and how this influences the resource allocation decisions of the managers. Therefore, a typical case is the firm's export portfolio with product/market combinations as individual "assets" in the portfolio. Given that the firms that were selected are manufacturing firms with a single establishment, the issue of dealing with foreign direct investments (FDI) portfolios due to multiple subsidiaries has been eliminated. However, examining resource allocation decision for FDI portfolios is an interesting future research; and is discussed in my conclusion.

#### **4.3.3 Preliminary Sample Cases**

In order to get a picture of what is available within my sample population, I obtained preliminary sample cases of ten companies. This was accomplished by using the sampling process outlined in the previous subsection. Obtaining these sample cases started with pre-screening SMEs that are engaged in manufacturing in Canada using the Canadian Company Capabilities (CCC) directory, firms' corporate websites, and other online trade directories. Thereafter, using the pre-defined criteria highlighted in the previous section, I selected ten firms out of the firms that met the criteria as shown in Table 7.

<b>S/N</b>	<b>Company</b>	<b># of Emp.</b>	<b>Year Est.</b>	<b>Location</b>	<b>Primary Industry</b>	<b>Domestic Market</b>	<b>Foreign Markets</b>
1.	Firm Y1	35	1957	Alberta	Plastic Manufacturing	Canada	Algeria; Antarctica; Argentina; Australia; Belgium; Brazil; Chile; Colombia; France; Germany; Italy; Japan; Luxembourg; Netherland; Peru; Puerto Rico Spain; Caribbean Island; UK&US
2.	Firm Y2	35	1973	Ontario	Cable Manufacturing	Canada	Australia; Japan; New Zealand; United States
3.	Firm Y3	30	1987	Manitoba	Electronic device manufacturing	Canada	Argentina; Australia; Chile; China; Egypt; Hungary; Japan; Korea; Mexico; Netherlands; Pakistan; South Africa; Switzerland; USA
4.	Firm Y4	48	1940	Ontario	Heating Equipment manufacturing	Canada/ USA	Brazil; Colombia; Cuba; El Salvador; Guatemala; Japan; Korea; Mexico; Panama; Peru; Philippines; Poland; Russia; Taiwan; UK; Venezuela
5.	Firm Y5	30	1958	Alberta	Cleaning materials manufacturing	Canada	Australia; Belgium; Denmark; Finland; Hong Kong; Iceland; Iran; Japan; Korea; Luxembourg; Netherlands; New Zealand; Norway; Philippines; Sweden; United Arab Emirates; UK and USA
6.	Firm Y6	24	1988	Ontario	Industrial mold manufacturing	Canada	Brazil; Cuba; France; Germany; United States
7.	Firm Y7	41	1960	Ontario	Pump and Compressor Manufacturing	Canada	Algeria; Australia; Brazil; Iran; Japan; UK and USA
8.	Firm Y8	40	1976	Prince Edward Island	Wood manufacturing	Canada	Antigua and Barbuda; Barbados; Iceland; Japan; Saint Lucia; Saint Pierre and Miquelon; UK and USA
9.	Firm Y9	15	1963	Ontario	Office Equipment manufacturing	Canada	Australia; Bahamas; Bermuda; France; Germany; Ireland; Portugal; Switzerland; UK and USA
10.	Firm Y10	22	1979	Ontario	Communication Equipment manufacturing	Canada/ USA	Algeria; Anguilla; Antigua and Barbuda; Brazil; Chile; Cuba; Ethiopia; French Guiana; Ghana; Iran; Jamaica; Japan; Liberia; Libya; Malaysia; Mexico; Montserrat; Nepal; Netherlands Antilles; Sierra Leone; Caribbean Island; United Arab Emirates

Table 7 – Preliminary Sample Cases

#### 4.3.4 Recruitment Exercise and Response Rate

The sample selection exercise utilizes the Canadian Capabilities Company (CCC) database for recruiting potential firms that may eventually be part of the final dataset. Interview recruitment letters were sent out by email and fax to prospective firm executives to solicit their participation in this research. These executives include Owners, Presidents, CEOs, CFOs, Exports Managers, and Marketing Managers. The specific role varied from one firm to the other. The initial email requested their participation in the research study, while subsequent emails or phone calls addressed specific questions. The initial e-mail contains a full description of the study, consent form, and University of Waterloo’s Office of Research Ethics approval.

Based on my desire for recruiting from all the provinces, I started out with small and medium-sized manufacturing firms in Ontario. The choice of Ontario as a starting point seems reasonable since Ontario is my base and I could start by driving to local firms around me and continue to build momentum that will eventually lead me into travelling to other locations, given the sometimes very long distances between some provinces to another starting from Ontario. My strategy was to target one province at a time. While interviewing firms in a province, recruitment exercises were underway for another province. Sometimes, there were overlaps in recruitments and interviewing between two provinces due to rescheduling and unavailability of interviewees. Figure 8 provides an illustration of the recruitment and interviewing exercises.

Schedule/ Tasks	December 2011	January 2012	February 2012	March 2012	April 2012	May 2012	June 2012	July 2012
Recruitment Exercise	1 <sup>st</sup> Batch only for Ontario	1 <sup>st</sup> and 2 <sup>nd</sup> Batch for Quebec	2 <sup>nd</sup> and 3 <sup>rd</sup> Batch for Ontario	All Batches for Manitoba	Alberta And Atlantic Canada Provinces	Atlantic Canada Provinces	British Columbia and Saskatchewan	End of Recruitment
Interviews	No Interview	Ontario	Quebec & Ontario	Ontario	Manitoba	Alberta	Atlantic Provinces (NS, NB, NFL and PEI)	British Columbia and Saskatchewan

Figure 8: Recruitment Exercise and Interview Schedules



The recruitment exercise involves customizing the standard recruitment letter already drafted and approved by my supervisor, using the firm's information obtained from CCC. This information includes the name of the entrepreneur, the designation, the address of the firm, phone number, fax number and email address. The letters are then sent by email or faxed to the companies. I usually will start by sending out emails and then follow-up with faxes or phone calls. Some emails sent out sometimes returned messages that indicate that the email addresses are no longer active. In such cases, I started sending faxes to the companies and then follow-up with a phone call. The letters were sent out in batches of 50s, 40s, 30s, or sometimes even lower depending on the responses from the previous batch. Table 8 shows the summary of the number of letters sent out per batch for each province and the response rate for each province.

A total of 652 letters were sent out, out of which 106 entrepreneurs responded. After much effort, I successfully interviewed entrepreneurs from twenty-two (22) small and medium-sized manufacturing firms across the major provinces in Canada. From the perspective of those who responded to all the letter sent out, the response rate is 0.16 (106/652). From the perspective of those firms that ended up in my final sample out of those who responded, the response rate is 0.21 (22/106). These rates may be perceived as low, however, the purposive sampling which is targeted at getting firms that meet the criteria defined upfront, makes the recruitment exercise more challenging.

One of the major challenges faced as a researcher engaged in SME investigations is the lack of readily available published data, as many of the firms in this category are not publicly listed. For instance, financial information, internal resource allocation information, and employment data are not available on corporate

website or at other public information repositories. The only option left to collect these data is through direct interviews with executives of these firms. I discovered, however, that most SME decision-makers had little or no interest in responding positively to invitations to participate in research studies. This is partly due to the sensitive nature of the required data that are considered private and internal to the firms and are only accessible through interviews with decision-makers within any organization.

For the most part, these executives are not willing to release private and confidential information despite the assurance of strict confidentiality and the use of information for research purposes only. For some executives, time is of the essence and must be devoted to ventures that directly translate to profit for their firms. In this research, some managers responded and declined to participate in the study, while some of them discussed with me and we both agreed that the firm is no longer appropriate for my research. For instance, one of the entrepreneurs returned my call and indicated that the firm is no longer in the business of manufacturing goods in Canada anymore, rather the firm now imports finished goods and only sells to the Canadian domestic market. This is due to the invasion of goods imported from Asia that has flooded the market. This particular entrepreneur discovered that it was no longer profitable for her to manufacture and sell clothes locally in Ontario due to stiff competition caused by imported fabrics from China.

Having in mind to recruit 20 to 25 firms for the research, my aim is to get at least two or three firms from each province. I also use the statistics provided by Industry Canada on the number of manufacturing firms that are engaged in exports in each province as a guide to figure out how many firms I should consider as being

appropriate based on the overall number of manufacturing firms available in such province. Industry Canada (2011, p. 19) shows that 88% or more of the value of small business exports came from Quebec, Ontario, Alberta and British Columbia. Despite the recent decrease in the value of exports in the manufacturing sector, mainly in Ontario, these four provinces combined still house the largest number of manufacturing firms in Canada. This information was used as means of anticipating the proportion of firms from each province that may end up in my final sample.

S/N	Province	1st Batch			2nd Batch			3rd Batch			Total		
		T	R	I	T	R	I	T	R	I	TT	R	I
1	Ontario	50	7	2	32	4	2	20	3	2	102	14	6
2	Quebec	40	6	2	25	3	1	0	0	0	65	9	3
3	Manitoba	30	5	2	30	6	2	0	0	0	60	11	4
4	Alberta	30	5	0	20	4	1	30	4	1	80	13	2
5	Newfoundland	30	4	0	25	6	1	25	2	0	80	12	1
6	New Brunswick	30	6	2	0	0	0	0	0	0	30	6	2
7	Prince Edward Island	30	5	0	20	5	1	30	5	0	80	15	1
8	Nova Scotia	25	3	0	15	4	0	20	1	0	60	8	0
9	British Columbia	30	7	1	20	4	1	0	0	0	50	11	2
10	Saskatchewan	25	5	1	20	2	0	0	0	0	45	7	1
	<b>Total</b>	320	53	10	207	38	10	125	15	3	<b>652</b>	<b>106</b>	<b>22</b>
<b>Legend:</b>		TT = Total number of letters sent out per province											
		T = Total number of letters sent out by fax and email											
		R = Number of responses received (including declines)											
		I = Interviewed and part of final selection											

Table 8 – Recruitment Exercise and Response Rate

After sending out letters in batches, I usually waited for about a week in order to give invitees sufficient time to review my letter and make a decision on whether they want to participate in the research or not. After about four to five days I usually begin to make phone calls to follow-up on my previous email or fax and ask if they will be willing to participate in my research. Getting the consent of 2-3 potential participants in a province is an indication to commence scheduling of interviews with these

entrepreneurs. The intention is to schedule all the interviews in a province together in such a way that they fall within the same period so I travel to a province at a time.

Once I receive a confirmation from any of my prospective interviewees and schedule a time to visit the company, I would immediately book my flight, car rental and hotel accommodation. I also explored the possibility of scheduling all the interviews within the same geographical area together so I could make trips in one long haul. For instance, I covered all the 4 provinces in the Atlantic Canada in one long trip which lasted for about a week. I left Toronto Airport on Monday morning at 7:00 a.m. to Newfoundland and came back to Toronto on Friday night at 9:40 p.m. from New Brunswick, having covered all the four provinces in one travel.

A summary of the 22 case firms in this research is shown in Table 9. In order to protect the privacy and confidentiality of these firms, anonymous names have been coded to represent these companies. Names of the cities are also deliberately omitted to protect the identity of the firms, but the province is provided. The primary source of data therefore is in-depth, face-to-face, interviews with firm executives with follow-up telephone interviews to ask more questions. In addition, a questionnaire was left with each executive after the interview; each questionnaire was completed and mailed to the interviewer at a later time.

The questionnaire facilitates the collection of quantitative data from the firms. Also, the fact that I was able to visit each company location provides a robust and rich understanding of the context in which each company operates. In-depth information about a company's products and understanding how resources are allocated cannot be

sent by email; I was physically present at each company's premises, met with the employees, and toured their manufacturing plants.

S/N	Company	Interviewees	Prod Lines	Employees	Year Est.	Province
1	Firm A1	President/Owner	2	7 <sup>1</sup>	1974 <sup>2</sup>	Manitoba
2	Firm A2	General Manager	3	15	1990	P.E.I
3	Firm A3	Vice President	3	15	1956	Quebec
4	Firm A4	Owner/CEO	2	15	1997 <sup>3</sup>	Manitoba
5	Firm A5	General Manager	2	18	1988	Ontario
6	Firm A6	President	2	20	1985	New Brunswick
7	Firm A7	General Manager	2	20	1964	Manitoba
8	Firm A8	CEO	2	20	1983	Quebec
9	Firm B1	President	3	22	1987	Alberta
10	Firm B2	General Manager	5	24	1988	Ontario
11	Firm B3	President/Owner	2	25	1987	Saskatchewan
12	Firm B4	General Manager	3	25	1978	Quebec
13	Firm B5	President/Owner	2	25	1986	British Columbia
14	Firm B6	President	3	25	1987	Ontario
15	Firm B7	President	2	30	1965	Ontario
16	Firm B8	Treasurer	2	35	1973	Ontario
17	Firm B9	CEO/Owner	4	35	1972	Newfoundland
18	Firm B10	President	3	55	1973	British Columbia
19	Firm B11	General Manager	2	60	1979	New Brunswick
20	Firm B12	CEO	3	65	1986 <sup>4</sup>	Manitoba
21	Firm C1	President	2	175	1947	Alberta
22	Firm C2	Chairman/CEO	3	200	1996 <sup>5</sup>	Ontario

Table 9 – High-Level Summary of 22 Case Studies

Footnotes: The primary source of data for this table is the Canadian Capabilities Company (CCC) database, but for the following information that were modified due to new insights gained from interviews:

<sup>1& 2</sup>Firm A1 was initially established in 1947, but was “reborn” by the son of the initial owner in 1974, therefore this date has been modified from what is available through CCC. The number of employees reported in CCC is 35, but the current owner has downsized to 7 employees due to his personal financial difficulties which affected the firm.

<sup>3</sup>Firm A4 was originally started by the current owner's boss in 1971, but was handed-over to the current owner in 1997 through a deal between the two parties.

<sup>4</sup>Firm B12 was originally started by the current owner's father-in-law in 1945, which is the information available through CCC, but was bought over by the current owner in 1986.

<sup>5</sup>Firm C2 was incorporated in Canada in 1972, which is the information available through CCC, however the current owner took over the company through a leverage buy-out in 1996 and therefore assumed this start date.

Some discrepancies were also observed between the number of employees reported in CCC and the number of employees provided during the interviews. If the difference is not significant enough to change my classification of SMEs, the information on CCC is retained.

These key information sources and other available information from websites as well as other secondary data sources constitute the bulk of the data used for this research and consequently formed the basis for the results presented in this section. Other sources of information include internal documentation provided by firm executives during the interviews. Table 10 provides an anonymous list of interview participants and the details of data collection from each of the case firms. This table contains the same information as Table 9, along with interview dates and notes regarding data capture. As before, pseudonyms are used for interview participants and the companies they work for have been disguised. However, their job titles have not been concealed. These entrepreneurs are the ones making resource allocation decisions for their firms and therefore seem to be the best for this purpose. The pseudonyms used also capture the gender of the interviewees. For instance, Susan and Cindy are the pseudonym names used to capture the two women entrepreneurs interviewed in this research. All the other interviewees are males. The specific dates of face-to-face interviews are also provided. All the face-to-face interviews were recorded, transcribed and coded in my analysis tool — Nvivo software. Follow-up telephone interviews were done as and when needed after reviewing the initial interviews, however the telephone interviews were not recorder as they are mostly clarifying or reiterating points already made during the face-to-face interviews.

These manufacturing companies selected for this study are from different subsectors within the manufacturing sector. This can be broadly categorized into five categories, namely: Clothing and Textiles; Machinery and Equipment; Commercial and Heavy Duty Industrial Machinery; Fabrication and Metal Products; and, Agricultural

Generic Code	Pseudonym	Actual Job Title	Date of Interviews	Details of Data Collection				
Firm A1	Dickson	President/Owner	2012-April-19	☺	👤	📝	☎	-
Firm A2	Susan	General Manager	2012-June-28	☺	👤	📝	-	📄
Firm A3	George	Vice President	2012-February-20	☺	👤	📝	☎	📄
Firm A4	Lawanson	Owner/CEO	2012-April-30	☺	👤	📝	☎	📄
Firm A5	Harrison	General Manager	2012-March-16	☺	👤	📝	☎	📄
Firm A6	Edward	President	2012-June-29	☺	👤	📝	☎	📄
Firm A7	Masoud	General Manager	2012-April-30	☺	👤	📝	☎	📄
Firm A8	Larry	CEO	2012-February-21	☺	👤	📝	☎	📄
Firm B1	David	President	2012-May-17	☺	👤	📝	☎	📄
Firm B2	Charles	General Manager	2012-February-24	☺	👤	📝	☎	📄
Firm B3	Roland	President/Owner	2012-July-5	☺	👤	📝	☎	📄
Firm B4	Mark	General Manager	2012-February-20	☺	👤	📝	☎	📄
Firm B5	Daniel	President/Owner	2012-July-6	☺	👤	📝	-	📄
Firm B6	Khaled	President	2012-February -9	☺	👤	📝	☎	📄
Firm B7	Cindy	President	2012-February -9	☺	👤	📝	☎	-
Firm B8	Scott	Treasurer	2012-January-17	☺	👤	📝	☎	📄
Firm B9	Victor	CEO/Owner	2012-June-26	☺	👤	📝	☎	-
Firm B10	Stephen	President	2012-July-6	☺	👤	📝	☎	📄
Firm B11	John	General Manager	2012-June-28	☺	👤	📝	☎	📄
Firm B12	Frank	CEO	2012-April-30	☺	👤	📝	☎	📄
Firm C1	Michael	President	2012-May-30	☺	👤	📝	-	📄
	Tommy	Production Manager	2012-May-18	☺	-	📝	-	-
Firm C2	James	Chairman/CEO	2012-January 31	☺	👤	📝	-	📄
				<p style="text-align: right;"><b>Legend:</b></p> <p style="text-align: right;">☺ - in person interview</p> <p style="text-align: right;">👤 -interview audio recorded, transcribed and coded in Nvivo</p> <p style="text-align: right;">📝 - interview notes taken by hand</p> <p style="text-align: right;">☎ - telephone interview</p> <p style="text-align: right;">📄 - questionnaire returned by interviewee</p>				

Table 10 - List of Participants and Details of Data Collection

Implements. This categorization is important, as resource allocation decisions are influenced by the nature and type of products being manufacture by the companies. For instance, some of the case firms in this research deals mainly with standardized or

commodity items compared to others that focus on custom-made or customized products. Figure 9 shows the distribution of Case Firms by Subsector in Manufacturing, while Table 11 shows the categories of SMEs by Subsector in Manufacturing Industry.

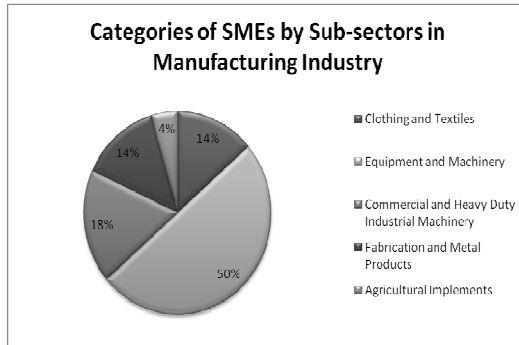


Figure 9 - Distribution of Case Firms by Subsector in Manufacturing

Category	Company	NAICS	Description of Primary Industry
Clothing and Textiles	Firm A1	315990	Clothing Accessories and Other Clothing Manufacturing
	Firm B3	315990	Clothing Accessories and Other Clothing Manufacturing
	Firm B8	314990	All Other Textile Product Mills
Machinery and Equipment	Firm A6	333416	Heating Equipment and Commercial Refrigeration Equipment Manufacturing
	Firm A3	334512	Measuring, Medical and Controlling Devices Manufacturing
	Firm A4	333416	Heating Equipment and Commercial Refrigeration Equipment Manufacturing
	Firm B6	332510	Hardware Manufacturing
	Firm B7	327910	Abrasive Product Manufacturing
	Firm A5	339110	Medical Equipment and Supplies Manufacturing
	Firm A7	333519	Other Metalworking Machinery Manufacturing
	Firm A8	333990	All Other General-Purpose Machinery Manufacturing
	Firm B9	333920	Material Handling Equipment Manufacturing
	Firm B10	339950	Sign Manufacturing
Commercial and Heavy Duty Industrial Machinery	Firm C1	336410	Aerospace Product and Parts Manufacturing
	Firm B5	333299	All Other Industrial Machinery Manufacturing
	Firm B2	333511	Industrial Mould Manufacturing
	Firm B1	333310	Commercial and Service Industry Machinery Manufacturing
Fabrication and Metal Products	Firm C2	332420	Metal Tank (Heavy Gauge) Manufacturing
	Firm B11	326198	All Other Plastic Product Manufacturing
	Firm B12	332619	Other Fabricated Wire Product Manufacturing
Agricultural Implements	Firm B4	339999	All Other Misc and Fabricated Steels Manufacturing
	Firm A2	333110	Agricultural Implement Manufacturing

Table 11 - Categories of SMEs by Subsector within Manufacturing Industry



#### **4.3.5 Interview Procedures, Protocols and Tools**

Prior to conducting the interviews, some data had been collected using other secondary data sources such as government export promotion websites, the Canadian Company Capabilities (CCC) directory, firms' corporate websites, and online trade directories. This helped to understand the firms' exports activities, which enables a better interaction during the interviews

In order to get a good grasp of the phenomenon of interest and in preparation for an in-depth analysis on each case study, I followed up with phone calls to conduct more interviews and asked specific questions in order to gain more clarity on some of the issues discussed during the interviews. Gubrium and Holstein (2002) suggest that interviews should continue until the interviewer gets no new information, similar themes keep emerging, and the interviewer has learned all there is to learn. A number of scholars require that theoretical saturation be a criterion by which to justify adequate number of interviews in qualitative inquiry (e.g., Morse 1995; Sandelowski 1995; Bluff 1997; Byrne 2001; Fossey *et al.* 2002).

Seidman (1991) suggests that qualitative interviewing involves the use of open-ended questions that can be varied based on the situation. However, Patton (1990) argues that qualitative interviews fall into three categories: informal or conversational, semi-structured and standardized open-ended interviews. In conversational interviews, the interviewer prepares some set of questions, but makes the releasing of each question conversational. The order or wording can change; but the objective of each question is maintained and achieved. Whereas, standardized interviews involve asking the same pre-defined questions in each interview without any variation.

Between these two approaches is the semi-structured interview that involves a base set of questions for inclusion in each interview with additional questions that can be used depending on the responses and discussion. This is more adaptive and interactive in nature. The qualitative interviews that were conducted in this study utilized both the open-ended and semi-structured approach with probing questions in order to elicit pertinent information from the interviewees. This gave participants the opportunity to respond in their own words, rather than forcing them to choose from fixed responses, as quantitative methods do (Seidman 1991).

Open-ended questions have the ability to evoke responses that are meaningful and salient to the participant, unanticipated by the researcher, and rich and explanatory in nature (Denzin 2000; Pope and Mays 2000). Flexibility was built into the interview questionnaire, such that the questions are dynamically adaptive to responses and situations of each case, without compromising the integrity of the underlying phenomenon being studied. The semi-structured interviews allowed deeper investigation based on respondent's answers and it also ensured that each interview maintains a degree of consistency.

With respect to how the interview should be conducted, a major issue of controversy among researchers is whether or not to use a recording device to capture information being provided by interviewees. Patton (2002) suggests that using a tape recording device is indispensable as it helps in capturing what was said and how it was said. He further argues that it also helps the interviewer to focus on the interview rather than getting distracted with taking notes. Hoepfl (1997) argues that the use of an electronic device for recording versus note taking is a matter of preference. However,

Lincoln and Guba (1985) do not support the use of recording devices due to the possibility of technical failure during the interview.

Thomas *et al.* (2005) suggest that unless the issues being investigated are highly sensitive respondents usually feel comfortable with the recording after a little while. For the purpose of this research, I sought permission from each interviewee and tape recorded all the interviews and also took notes at the same time. Small digital recorders are not intrusive and virtually eliminate the technical failure issue highlighted by Lincoln and Guba. Modaff and Modaff (2000) suggest that conversation analysts, discourse analysts, ethnographers, linguists, rhetoricians, and many other qualitative researchers often use audio recordings as a primary means of gathering and analyzing data. With the advancement in technology, it is easier to record and index the recorded audio files into text.

A sample of the semi-structured interview protocol is shown in Appendix C. A sample of the questionnaire left with each executive after the interview is as shown in Appendix D. Appendix E provides a sample of a typical product-market opportunity matrix used in mapping and discussing with interviewees. Appendix F provides a sample of the consent form required to be signed by every participant, while Appendix G is a sample of letter of appreciation sent to the participants after the interviews. A typical summary of a case firm is as shown in Table 12. Appendix H shows the details for all the 22 case studies.

#### **4.4 Data Analysis and Interpretation**

This section describes the analysis that was carried out on the materials and information gathered from the interviews with the firm managers. The aim of my

analysis is to generate a deep, rich and contextualized understanding of resource allocation decisions during the process of internationalization of the participating firms.

<b>Firm's Demographics</b>			
Code Name:	Firm A1	Location:	Manitoba
Year Established:	1974	Employees:	7
Industry	Manufacturing	SME Category	Very Small Firm
Method of Exports:		Direct export by courier services	
Primary Industry (NAICS):	315990 - Clothing Accessories and Other Clothing Manufacturing	Number of Product lines	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	65%
US Market:	Alaska, California, Indiana	US Sales:	30%
Foreign Markets: Saudi Arabia, Aberdeen, Ecuador, Scotland, Greenland, Venezuela,		Foreign Sales:	5%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with President/Owner at the Company premises 2. Follow-up telephone interview		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A1 was initially established in 1947, but was "reborn" by the son of the initial owner in 1974; therefore this date has been modified from what is available through CCC. The number of employees reported on CCC is 35, but the current owner has downsized to 7 employees due to economic reasons. All of the firm's products are manufactured and customized locally. Firm A1 manufacturers clothing and Accessories and Other Clothing. They have two product lines and clients from three continents have sought their products. Firm A1's marketing effort is directed towards Schools, Clubs and households. Resource allocation decisions principally lies with the owner who runs the day-to-day affairs of the companies and make decisions based on his intuitions, which may be rational or irrational depending on the situation.</p>			

Table 12 - Summary of Case 1 (Firm A1)

In qualitative research, with a critical realism paradigm, data analysis involves looking at the phenomenon being studied from many dimensions, with attention to the dynamics involved and tolerance for both predictable patterns and one-off events or

outliers. The progression from various interview notes and extracts to the final detailed description of each case is an iterative process moving between the theoretical propositions initially proposed to the reality obtained from the interview. Thus, I applied a combination of deductive and inductive theory-building approaches in my analysis iteratively.

A combination of deductive and inductive theory-building approach was used iteratively in my analysis, given the approach of examining resource allocation decisions from the standpoint of critical realism. My analysis is not just identifying a statistically representative set of respondents; but it is also engaging in interpretative analysis based on the context of each case. The meaning of the key constructs must be understood and in the prevailing context of each firm (Sayer 1992).

There are various methods outlined in the literature for content analysis, which provide guidelines for analyzing and interpreting narrative data (Krueger 1998; Miles and Huberman 1994; Patton 1990; Pope *et al.* 1999). Such methods include word frequency, word coincidence, manual template analysis and software based coding of categories. However, critical realism is not interested in just identifying a statistically representative set of respondents; thus, expressing results in relative frequencies may be misleading. Meaning must be understood in a particular context (Sayer 1992). Simple counts are sometimes used and may provide a useful summary of some aspects of the analysis. In qualitative analysis, the data are preserved in their textual form and “indexed” to generate or develop analytical categories and theoretical explanations.

Pope *et al.* (2000) propose a five-stage approach for analyzing qualitative data, which I find very interesting and utilized for this research:

- *Familiarization* — This involves getting familiar with the details of notes and other materials gathered from the interview. This will involve reading through the interview transcripts many times with an eye for themes, categories, patterns, and relationships.

- *Identifying thematic framework* — This involves identifying the key concepts, categories, relationships, key issues, and emerging themes by which the data can be evaluated and referenced. This is carried out drawing on the initial theoretical propositions formulated in this study and the main research questions, as well as additional issues raised by the firm managers, their perceptions and views of the phenomenon being studied. The end product is a detailed index of the data that positions the data in manageable pieces for subsequent analysis.

- *Indexing* — Based on the thematic framework developed in step two above, this stage involves applying the framework to all the data in textual form by annotating the transcripts with numerical codes from the index. This is supported by short text descriptors to elaborate the index heading.

- *Charting* — This process involves re-arranging the data according to the appropriate part of the thematic framework to which they relate. Each theme or key subject will, likely, have a chart with entries from several respondents.

- *Mapping and interpretation* — The final stage of this analysis involves using the charts developed in the last stage to define concepts, map the range and nature of the phenomenon being studied, create typologies, find relationships and associations between themes with a sense of interpreting the situations and providing explanations

for the findings. All this must be guided and shaped by the research questions and propositions, as well as by the emerging themes from the interview data.

My analysis is in two levels: within-case analysis and cross-case analysis. The following subsection elaborates more on these two types of analysis.

#### **4.4.1 Interview Transcription and Coding**

For context analysis, I used software-based coding of categories. With this method, the data are preserved in their textual form and “indexed” to generate analytical categories and theoretical explanations. Nvivo qualitative analysis software is the main tool used in this research for content analysis. Nvivo version 10.0 provides a structured framework to receive narrative data and facilitates the process of managing, exploring, and finding patterns in an unstructured or semi-structured dataset. Figure 10 shows the data analysis framework. After transcribing all the audio files in text, the following steps were taken to analyze the data. Steps 2 to 6 are in line with Pope *et al.*'s (2000) proposed five-stage approach for analyzing qualitative.

1. **Import:** I imported all the transcribed interview files into Nvivo as well as information from other sources such as corporate websites and internal materials released during the interview.
2. **Explore:** I explore the textual data to identify key concepts, categories, relationships, key issues, and emerging themes by which the data can be evaluated and referenced based on the phenomenon being studied. This was done by drawing on the initial theoretical propositions formulated in this study and the main research questions, as well as on various issues raised by the firm

managers, including their perceptions and views of the phenomenon being studied.

3. **Code:** Based on the themes and categories uncovered in step two above, I coded materials by themes, topics, and emerging patterns. For example, selecting a paragraph about resource allocation decisions for a domestic market and coding it at the node “resource allocation decision (domestic market)”.
4. **Analyze and Query:** This steps involved analyzing the information to extract facts and insights from the textual data. Interpretation of the key constructs in the context of each firm’s operations is very important for a meaningful analysis at this stage. I executed this analysis iteratively going back forth from my findings to the textual data for progressive insights.
5. **Extract Findings:** This involved extracting pertinent information from the data based on the analysis carried out in step 4. Considering the phenomenon being studied, I extracted facts, established relationships and associations between themes with a sense of interpreting the situations, and providing explanations for the findings. All these were guided and shaped by the research questions and propositions, as well as by the emerging themes from the interview data.
6. **Report Findings:** The final stage of this analysis is reporting the findings and insights gained from analyzing the data for each firm. The findings from this analysis are outlined in the next section.



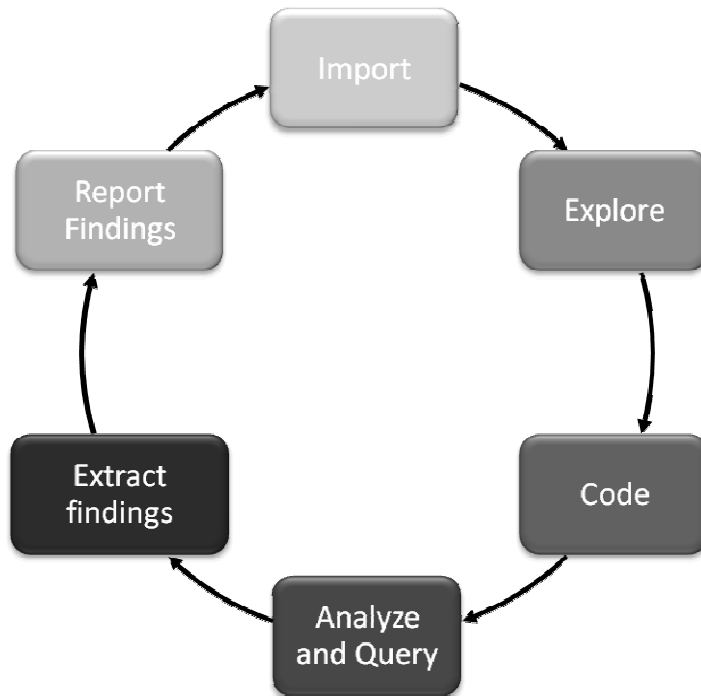


Figure 10 –Data Analysis Framework  
(Adapted from QSR International (2012) – Nvivo)

#### 4.4.2 Within-Case and Cross-Case Analysis

The first level of analysis is within-case analysis. The importance of within-case analysis is driven by one of the realities of case-study research: a staggering volume of data (Eisenhardt 1989). This level of analysis enables the researcher to focus on a single case at a time and conduct a detailed analysis and interpretation on it as a “stand-alone”. It involves case study write-ups for each case or firm. These write-ups are simply pure description; but they are central to the generation of deeper understanding and insights (Pettigrew 1988). The idea of focusing on a case at a time enables the researcher to become very familiar with each case as a “stand-alone entity”. Eisenhardt (1989, p. 540) argues that “this process allows unique patterns of each case to emerge, before investigators push generalize patterns across cases”.

The second level of analysis is cross-case analysis. This process enables the investigator to conduct analysis and interpretation across multiple cases. It prevents investigators from reaching premature and poor conclusions as a result of limited understandings gained from one or two cases. Bourgeois and Eisenhardt (1988) suggest that researchers should select categories or dimensions and then look for within-group similarities coupled with inter-group differences. That is, looking inward into each case for similarities coupled with cross-case differences.

Eisenhardt (1989) also suggests an option to select pairs of cases and then list the similarities and differences between each pair. She argues that this tactic forces researchers to look for subtle similarities and differences between cases, which can lead to more sophisticated understanding and fresh insight.

In conclusion, the unique nature of the phenomenon being studied and the research questions necessitated the choice of a methodology and approach that can study concepts in their natural states. By doing so, different perceptions of a single reality are taken into consideration, which is influenced by the meanings people bring to the concepts. This is the peculiar nature of all the constructs in this study. The preliminary sample case selections already indicate the peculiar nature of how firms view and interpret these constructs. For instance, as indicated in Table 7, the definition of domestic market cannot be assumed to be “Canada” for all the SMEs in Canada. Some firms view U.S. and Canada as their domestic market and other countries as foreign markets. Whereas, for some other firms, not shown on Table 7, Canada is their domestic market and the U.S. is the only foreign market they export to.

The multiple instrumental case studies hopefully provide insights, not initially anticipated, on resource allocation decision-making between domestic and foreign markets during the process of internationalization. The within-case and cross-case analysis helps to compare and contrast between firms and also establishes commonalities between these firms. Iteration is an important part of all these analyses. I iterate between within-case and cross-case analysis using the five-stage approach proposed by Pope *et al.* (2000).

#### **4.5. Evaluation of Trustworthiness of Research Methodology**

Quantitative researchers evaluate the rigor in research using the concepts of reliability and validity (Nunnally 1978). The equivalent of this is “trustworthiness” in qualitative research. Guba and Lincoln (1998) define trustworthiness as “the efforts by the researcher to address the more traditional quantitative issues of validity (i.e. the degree to which something measures what it purports to measure) and reliability (i.e. the consistency with which it measures it over time)”. To establish trustworthiness, Guba and Lincoln (1998) suggest four criteria: credibility, dependability, confirmability, and transferability. I elaborate more on each of this item in the next subsection.

##### **4.5.1 Credibility**

Credibility suggests whether the findings are accurate and credible. Lincoln and Guba (1985) suggest a variety of techniques to “make it more likely that credible findings and interpretations will be produced”. These techniques focus on establishing a match between the constructed realities of respondents and those realities represented by the researcher. These methods include prolonged engagement, persistent

observation, triangulation, peer debriefing, referential adequacy, negative case analysis, and member checks. Six of these methods were applied in this study to ensure the credibility of this research. I expand more on each of this the next few paragraphs.

Prolonged engagement implies spending enough time with interviewees or informants and within their empirical context to learn more and to gain familiarity. For this study, I travelled to the location of each of the individual informants and conducted face-to-face interviews. Follow-up phone calls were made to ask more specific questions and clarifications. A fairly persistent observation was performed. After each interview, I spent time taking the tour of manufacturing plants and observed their regular daily activities. According to Lincoln and Guba (1985) “prolonged engagement provides scope, persistent observation provides depth”.

To improve the methodological validity of study, researchers triangulate data sources and data-collection methods (Mason 1996). Triangulation refers to “the use of multiple sources of data to be able to cross-check information and receive coherent accounts of the phenomenon of interest” (Guba and Lincoln 1989). Apart from the interviews, which act as the main source of data, data collection was also done using secondary data sources such as company websites, online directories, export directory/database (i.e. Canadian Capabilities Company). In addition, a questionnaire was left with each executive after the interview; each questionnaire was completed and mailed to the interviewer at a later time. The questionnaire facilitates the collection of quantitative data from the firms.

Peer debriefing was done with some of my friends and colleagues with the purpose of exposing oneself to “disinterested peers”. Guba and Lincoln (1985) suggest

that peer debriefing is “a process of exposing oneself to a disinterested peer in a manner paralleling an analytical session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer’s mind”. This enabled me to receive comments, suggestions, and feedback that helped in viewing this research in different perspectives.

Lincoln and Guba (1985) propose the concept of referential adequacy. This involves the keeping of reference material that can be used by potential skeptics to “satisfy themselves that the findings and interpretations are meaningful by testing them directly and personally against the archived and still “raw” data”. Lincoln and Guba (1985, p. 314) suggest “member check” as the idea whereby data, analytic categories, interpretations, and conclusions are tested with members of those stakeholder groups from whom the data were originally collected as being the most crucial technique for establishing credibility. In this study, some of the interviewees were willing to provide further assistance; and so the sharing of transcripts with these informants and clarifying follow-up interviews assured the credibility of the information received with regard to individual interviews. The more analytical aspect of this thesis was not exposed to any of the interviewees. The “members” who have checked the analytical interpretations were my supervisor and the members of my doctoral committee who are identified as the “stakeholder group” of this aspect of the thesis.

#### **4.5.2 Dependability**

Dependability is a criterion that is considered equivalent to reliability and similarly concerned with the stability of the results over time. For qualitative research, Lincoln and Guba (1985) suggest that the important question is whether the findings are

consistent and dependable with the data collected. To address this, I have ensured a very consistent coding pattern. In some instances while coding, I have observed some inconsistencies in the data provided by the interviewee and what is available on their corporate website. A follow-up phone call to the executive concerned clarified the inconsistency.

Lincoln and Guba (1985) also suggest that to enhance dependability, researchers should also maintain an audit trail that chronicled their thoughts and document the rationale for all choices and decisions made during the research process. Merriam (2002) describe this as offering “transparency of method”. As much as possible, I keep a record of memos, notes, and all the detail accounts of my data collection and analysis.

#### **4.5.3 Confirmability**

The concept of confirmability corresponds to the idea of objectivity in quantitative research. This suggests that the findings are the results of the research, rather than an outcome of the biases and subjectivity of the researcher. Ghauri (2004) posits that researchers need to demonstrate that their data and the interpretations drawn from it are rooted in circumstances and conditions outside from the researcher’s own imagination and are coherent and logically assembled.

The continuous on-going reflection on notes, records of field notes and interviews, and the theoretical framework helps with the final match between the framework and the cases. According to Healy and Perry (2000), a methodologically trustworthy study will include relevant quotations and matrices summarising the data. In the findings section, I include as many quotations as possible to confirm that the results reported are not just my imaginations.

#### **4.5.4 Transferability**

Transferability is considered parallel to external validity or generalizability in quantitative research (Sinkovics 2008). Lincoln and Guba (1985, p. 316) argue that “whether descriptions hold in some or other context, or even in the same context at some other time, is an empirical issue, the resolution of which depends upon the degree of similarity between sending and receiving contexts”. To facilitate transferability, a qualitative case researcher therefore relies on “the thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility”. Patton (1990) promotes thinking of “context-bound extrapolations”. He defines this as “speculations on the likely applicability of findings to other situations under similar, but not identical, conditions”. He suggests that a researcher should attempt to address the issue of transferability by way of a thick, rich, description of the participants and the context. For this study, I have provided a description of each case firm with the details of their demographics, location, markets and products. It is also important to note that in case-based research the goal of the researcher is to expand and generalize theories (analytical generalization) and not to enumerate frequencies (statistical generalization) (Yin 1989, p. 21).

In conclusion, this section provides an evaluation of the trustworthiness of the research process and the findings of this dissertation. However, I acknowledge the fact that assessment of research rigor is with the reader. I therefore hope that this methodological description has provided all readers an opportunity to assess the findings of this research.

In summary, for this chapter, I discussed the overall research methodology and approach based on critical realism paradigm. I specifically focused on qualitative case-based approach, which is the major methodology that was used to study resource allocation decisions for SME internationalization in this research. The multiple instrumental case studies utilize in-depth interviews with firm managers as the major means of data collection, in addition to any other form of documentation or materials provided by the firms. The overall research design is dynamic and iterative, from selecting and developing cases to interviews and analysis and selecting more cases as deemed necessary. Lastly, I also discussed the issue of evaluation of the trustworthiness of this research methodology and approach. The next chapter reports the findings of this research based on the analysis carried out in this segment of the study.



## **5. Findings**

The primary objective of this research is to investigate resource allocation decisions during the process of internationalization of small and medium-sized manufacturing firms. Specifically, I examine resource allocation between domestic, U.S., and other foreign markets and the influence on firm performance. While the previous chapter described the research methodology and the approach used for data collection and analysis, this chapter presents findings from interviews conducted with executives of small and medium-sized manufacturing firms across Canada. The main findings can be divided into five categories, namely: Resource Allocation to domestic, U.S., and foreign markets; Resource Allocation Risk-Return Trade-off; the Influence of Resource Allocation on Firm Performance; SMEs Challenges and Shortcomings in making Resource Allocation and SMEs Approach to Addressing Challenges. I discuss each of these items in greater depth in the next subsections. Given that I have interviewed people with different designations in the 22 firms, I will simply refer to my interviewees as entrepreneurs.

### **5.1 Resource Allocation Decisions to Domestic, U.S. and Foreign Markets**

To a large extent, the strategic focus of the SMEs drives their day-to-day operations and decision-making process. The executives of firms, whose objectives are more rational and growth-seeking, tend to engage in portfolio thinking for resource allocation decisions. However, for firms that have other kinds of objectives, resource allocation is driven by some other principles. For example, one of the SMEs interviewed runs a manufacturing plant inherited from her father. Because of the origin of the business, the life experiences gained from the implications of running a family

business, satisfying the desires of her extended family members are of utmost importance.

Another key finding reveals that the larger the firms become, the more rational they think and the more they lean towards the application of portfolio theory. Figure 11 shows the relationship between the firm size and the demonstrated portfolio theory reasoning observed during the interviews with the entrepreneurs. From statements made by these entrepreneurs, it seems that the larger the firm, the more there is a sense of risk and return; as well as the conscious effort towards the evaluation of risk and return while making resource allocation decisions. Sixteen of the twenty-two firm executives interviewed for this research demonstrated either full or partial engagement in portfolio-theory reasoning when making resource allocation decisions.

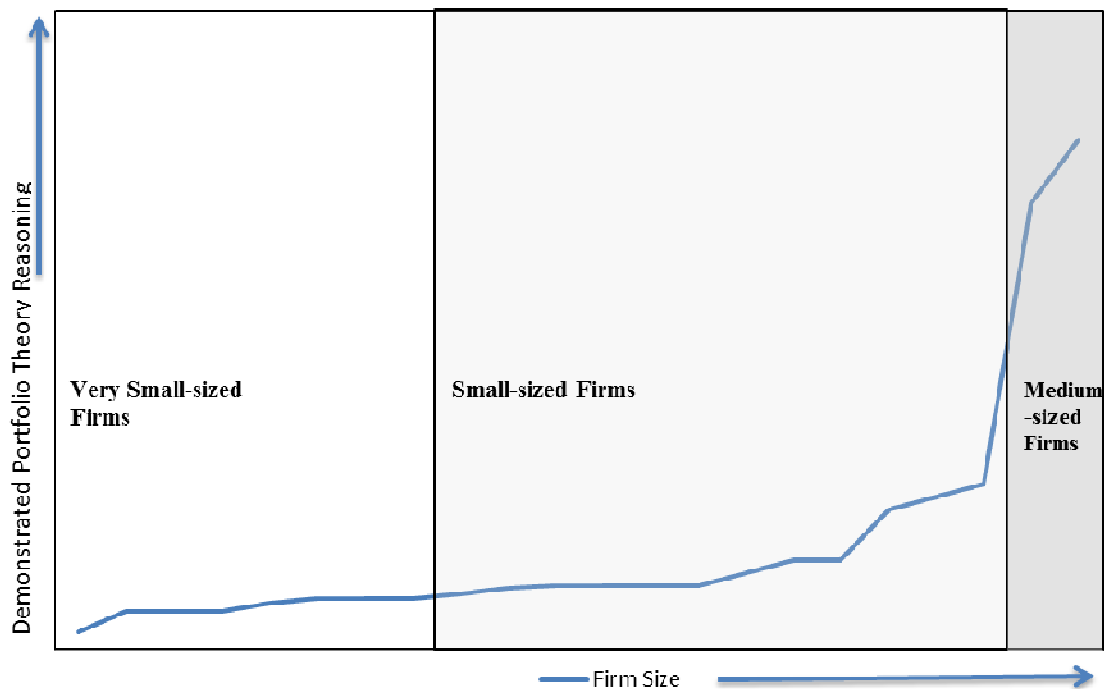


Figure 11 – Demonstrated Portfolio Theory Reasoning and Firm Size

Table 13 presents the 22 case firms sorted in ascending order according to the number of employees and on the basis of the category of SMEs that they belong to. Industry Canada (2011) uses a definition of firm size based on the number of employees, depending on the sector.

S/ N	Comp. Code	SME Category	Foreign Markets	Prod Lines	Employees	Year Est.	Province
1	Firm A1	Very Small	3	2	7	1974	Manitoba
2	Firm A2	Very Small	2	3	15	1990	P.E.I
3	Firm A3	Very Small	11	2	15	1956	Quebec
4	Firm A4	Very Small	7	2	15	1997	Manitoba
5	Firm A5	Very Small	19	2	18	1988	Ontario
6	Firm A6	Very Small	5	2	20	1985	New Brunswick
7	Firm A7	Very Small	47	2	20	1964	Manitoba
8	Firm A8	Very Small	9	2	20	1983	Quebec
9	Firm B1	Small	3	3	22	1987	Alberta
10	Firm B2	Small	4	5	24	1988	Ontario
11	Firm B3	Small	9	2	25	1987	Saskatchewan
12	Firm B4	Small	1	3	25	1978	Quebec
13	Firm B5	Small	21	2	25	1986	British Columbia
14	Firm B6	Small	2	3	25	1987	Ontario
15	Firm B7	Small	5	2	30	1965	Ontario
16	Firm B8	Small	3	2	35	1973	Ontario
17	Firm B9	Small	7	4	35	1972	Newfoundland
18	Firm B10	Small	27	3	55	1973	British Columbia
19	Firm B11	Small	32	2	60	1979	New Brunswick
20	Firm B12	Small	3	3	65	1986	Manitoba
21	Firm C1	Medium	9	2	175	1947	Alberta
22	Firm C2	Medium	1	3	200	1996	Ontario

Table 13 - Categories of SMEs in the Case Studies by Firm Size

The table is segmented into three parts; which I classify as:

- Very Small-sized Firms: This is the set of very small manufacturing firms, i.e. firms with 1 to 20 employees. SMEs in this category A are Firm A1, Firm A2, Firm A3, Firm A4, Firm A5, Firm A6, Firm A7, and Firm A8.

- Small-sized Firms: This is the set of small manufacturing firms, i.e. firms with 21 to 99 employees SMEs in this category B are Firm B1, Firm B2, Firm B3, Firm B4, Firm B5, Firm B6, Firm B7, Firm B8, Firm B9, Firm B10, Firm B11, and Firm B12.
- Medium-sized Firms: This is the set of medium-sized manufacturing firms, i.e. firms with 100 to 500 employees SMEs in this category C; are Firm C1 and Firm C2.

Small and medium-sized manufacturing firms deal with challenges of resource allocation on a regular basis. Findings from the interviews conducted with entrepreneurs in the case firms show that resource allocation to either domestic, U.S., and foreign markets may be in the form of allocating financial resources (budget allocation and actual spending), human resources (personnel skill sets, expertise and man-hours) technological resources (processes and systems), physical resources (machines, manufacturing floor space and raw materials), and organizational resources (management, administration and marketing).

Figure 12 shows the various types of resource allocation and the frequency of related coded statements made by entrepreneurs that were interviewed across the 22 case firms. For most of the entrepreneurs financial and human resources play a major role in their resource allocation decisions. In particular, intangible resources such as personnel skill sets and expertise seem to play a strong role in achieving and sustaining competitive advantage and have therefore become the pivot for resource allocation. When asked, “What are the key resources that are critical to the success of the company

or that have given the firm a competitive advantage over the years?"; one of the entrepreneurs in Firm B8 puts it this way:

Having a lot of expertise in the manufacturing area and sales area and the way the whole operation is run has really helped us. I think that we are able to change very quickly, we are able to, and I guess develop new products, that sort of thing, because we can deploy our expertise in different directions, depending on the need of the business. We're able to ascertain what we want to do quickly and adapt immediately. And there is that aspect of it...I think part of our success is focusing on the things that we can make money on.

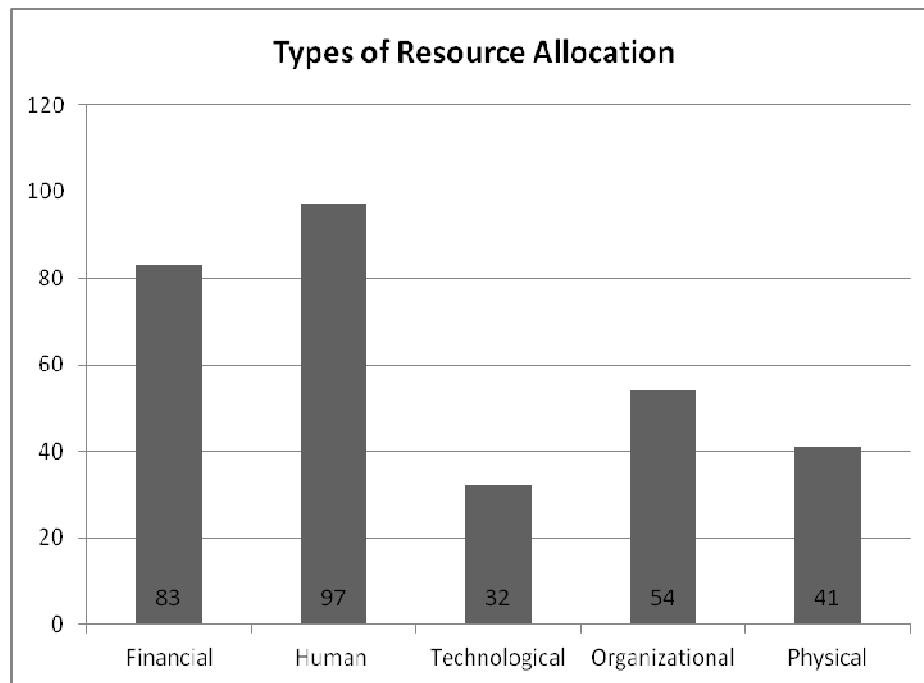


Figure 12 – Type of Resource Allocations

Consequently, for entrepreneurs that fall within this category (Firm A2, A3, B5, B7, A5, B8, and B4), resource allocation to various markets means allocating firm capabilities or expertise to associated tasks or operations for such markets. Also, due to the fact that many of the case firms are small and medium-sized, it is easier to make

resource allocation decisions and implement the same easily. Decision makers or management teams are mostly co-located around the manufacturing plant and can easily meet, discuss and make decisions. With some other entrepreneurs, resources such as physical assets like machines, plants, and materials are fairly constant, while human and financial resources happen to be very critical during resource allocation decision. The Entrepreneur at Firm A2 puts it this way:

Due to the fact that most of our manufacturing processes are already automated, the machines run on their own, all I have to worry about is where to put the guys. The machines and materials are for specific purposes, it's only the guys that I can move around from one product line to the other.

The context may be different and resources may mean different things to different entrepreneurs. The underlining principle, however, of allocating resources that are critical to the success of the firm is the same, regardless of the type of resources and what they mean to the entrepreneur. Findings from the interviews highlight some key drivers of resource allocation to markets. I discuss these factors in the next subsections.

- ***Key Drivers of Resource Allocation to markets***

In the face of contending priorities and limited resources, SMEs consider many factors when trying to evaluate the risks and returns of making any decision, both in the short and long-term. These factors are the key drivers for allocating resources to various operations and for the tasks associated with product-market opportunity.

Themes	Supporting Coded Statements from Case Firms
Historical Facts	<p>The Entrepreneur at Firm B9 said:            “We check our records and we’ll talk to our sales people and see what they think, do they think this is a good customer or not and based on historical facts and evidence that we have about the customer, we can take a decision”</p> <p>The Entrepreneur at Firm B7 said:            It’s a low-value piece of equipment as far as our product line is concerned. However, even though it has low returns, we still keep it because our customers need it for their business and the risk on it is very low. With little or no effort we still make money from it”</p> <p>The Entrepreneur at Firm B9:            “This product is something that we have been making since the inception of this company and there are still a lot of people who rely on it for their operations”.</p>
Loyalty to Customers	<p>In the words of the Entrepreneur at Firm B2:            “Who the customer is will determine what we will do. We’ll take a customer, that’s a very good customer of ours and get something done for them that we are making no money on, in front of something from another customer that we are making lots of money on”. When asked why this Entrepreneur would take such a decision, he further explained: “...We cherish our loyal customers and we like to keep them happy”.</p>
Operations Sustainment	<p>The Entrepreneur at Firm B3 said:            By selling wholesale, we are making less margin for each one item, but we are doing more volume and so with all these guys here, had more volume going through which kept us busier in the back and the busier we are on the manufacturing floor, the lower our cost per minute, cause our overhead stays the same whether we got 500 pieces a week going through or 5000 pieces a week going through.</p> <p>The Entrepreneur at Firm A1, who only has seven employees, said: “So I know I have to be very smart on the price. I also know that I probably won’t make a lot of money per item. But it’s keeping my guys busy”.</p>

Table 14 – Key Drivers of Resource Allocation

<b>Themes</b>	<b>Supporting Coded Statements from Case Firms</b>
Operations Sustainment	<p>The Entrepreneur at Firm B3 puts it this way:  When we are quoting on jobs, we sometimes quote low on an opportunity, just to get the job, because we've got other product lines, we can produce more of such product, because it doesn't change our overhead cost, so it adds to the bottom line. Maybe it's not a bigger profit margin, but it keeps everybody busy and the staff like it when they are pushed a little bit. They really have to try and see what they can get out of the door and they like that challenge and it makes it a bit interesting....</p>
Customer's willingness to pay	<p>The Entrepreneur at Firm A5 said:  "The Industry where we sell our product is a very broad area, but within the broad spectrum, we've been able to carve a niche for our product that is specially made for high-pressured equipment and people are willing to pay for that quality. So when we have to prioritize, the niche products come first"</p> <p>The Entrepreneur at Firm B3 said:  Typically we are dealing with families with more disposable income, so therefore it's less of an issue to say, your warm-up suit is going to cost you 150 dollars versus going to buy from somebody with an in-store offshore product.</p>
Seasonality	<p>One of the Entrepreneurs said:  In our business, we're fortunate because, again, we have so many different sectors and several of them are seasonal and usually when one season finish[es] another one starts. That is why it is important for us to keep all of those segments in place even though some of them we don't make much money on them because if we didn't have them we'd be laying people off in the factory and we don't usually like to do that.</p> <p>The Entrepreneur at Firm B3 who is in the "apparel manufacturing" business said: "We have our low seasons and we have our high seasons. I mean there are times when we are very busy. For instance, you know one of our big seasons is before Christmas when everybody wants their product for Christmas".</p>

Table 14 – Key Drivers of Resource Allocation (*cont'd*)



Themes	Supporting Coded Statements from Case Firms
Resource fungibility	<p>The Entrepreneur at Firm B2 said:  ...those guys are also technicians as well on most of the machines. They can go out to a machine as a sales person and then actually audit their machine and take dimension[s] and do what they need in order to give us the information to engineer something. So they're information gatherers as well. Part of our strength is that most of our resources have multiple skill sets and we can easily deploy them to various jobs as and when required.</p> <p>The manager in Firm A7 puts it this way:  One the most important thing we have is the people: the people and the culture. We are a very service oriented company. We all are in the Industry and we've all done our apprenticeship, rose up through the ladder and then some of us moved into sales. In fact, there are no separate sales people in our company, so we're all a team. I'd say a lot of it is the culture as far as quality, product, and quality service.</p>
Retained Knowledge	<p>The Entrepreneur at Firm A7said:  It's not that it is tough to bring them in, we tend to be conservative because we don't like to bring people in, train them, and then have to lay them off. It's just...and it's not even the cost of training them or anything like that, it does take a long time to train the people on machines out there it's just we don't like laying people off.</p> <p>The Entrepreneur at Firm A6 said:  Many of them like the work, they like how we manage...we give them some independence, we give them some freedom to do stuff...and its good for us because that history, remember how you did things 15 years ago..."I remember how we used to do it...that way... and this is the problem that we ran into", that corporate knowledge is nice to have too. I think nowadays too many companies when they look around they get rid of all their senior guys, especially if you are in a technical environment, that goes out the door and that's not good.</p> <p>The manager of Firm B2 expressed his thoughts this way:  We have guys here that have been with us since 1995, and they've been with us the whole time. We don't lay off as a rule, when things are tight we run on what's called short week they work three, two days on an appointment insurance, but we've never laid anybody off.</p>

Table 14 – Key Drivers of Resource Allocation (*cont'd*)

- *Leveraging Historical Facts*

One of the inputs that are very valuable to SMEs when considering making a resource allocation decision is the drawing from the historical facts and information available at their disposal in relation to their clients or a particular product-market opportunity. Many of the executives interviewed in this study admit to the fact that whether consciously or unconsciously, when considering how to allocate scarce resources between various markets, one of the first steps is to leverage the information already in their possession. Past behaviour is one predictor of future returns; and, therefore, using historical data is not inappropriate in making decisions (Bodie *et al.* 2009). The firm's history of manufacturing operations may also be a factor when considering why resources are allocated to some product lines versus another product line. In a bid to continue to support and maintain good relationships with existing customers, these firms still allocate resources to some production lines over others.

- *Loyalty to Customers*

Another critical factor that comes to play in the decision-making process is "loyalty to customers". Portfolio theory postulates that a rational investor will evaluate the potential return on investment and make decisions that maximize the potential returns for a given level of risk (Markowitz 1952, 1991). In contrast, findings from the interviews reveal that sometimes the expected return is secondary and "relationship" is more of a determining factor. Over time, entrepreneurs develop strong ties with business customers and the relationship tends to influence the behaviours during the process of allocating resources to the domestic, U.S., or foreign markets. Some of the Entrepreneurs suggest that, potentially, good relationships with customers may

eventually yield greater returns relative to the immediate anticipated returns from internationalization efforts.

- *Operations Sustainment*

To many of the entrepreneurs, keeping the manufacturing plant running throughout the year is a factor in deciding which product-market opportunity to invest resources. This is of a particular importance with regards to writing off a part of the overhead cost, which is relatively the same regardless of whether the manufacturing plant is actively running or not. An economically rational entrepreneur may focus on allocating resources to operations that supports “high return–high risk” opportunities and then figure out how to deal with the risk. Findings from the interviews show that some of the entrepreneurs, particularly the very small companies (Firm A1, A2, A3, A4, A5, A6, A7, and A8), prefer to have continuous revenue from low return–low risk opportunities that sustain the company’s operation with the streams of income, even if the profit margin is relatively low. This is particularly convenient when SMEs have one or two other product lines that yield more profit margins. However, while working on low-return assets, if opportunities evolve that necessitates redeployment of resources to high return-high risk assets, SMEs may be able figure out how to temporarily increase their resource base in order to support such situation.

- *Willingness to Pay*

Some SMEs have carved a niche for their product within their product’s market. For this class of entrepreneurs, some of their customers are willing to pay extra for their products. Some other entrepreneurs have also targeted certain types of customers that will facilitate their being paid extra for their products. Findings from the interviews also

reveal that custom-made or custom-engineered products fall within the category of products that customers are willing to pay more for vis-à-vis an equivalent standard product.

- *Seasonality*

For some entrepreneurs, resource allocation is driven by seasonality. This is done by virtue of which of their products have seasonal demands. Resources are deployed and redeployed depending on the prevailing situation or season. For instance, during the winter period, some manufacturers are busy producing materials and products to support various demands from their customers, while during the summer, the demand is very different. In the same vein, the manager of Firm B3 who is in the “apparel manufacturing” business said: “We have our low seasons and we have our high seasons. I mean there are times when we are very busy. For instance, you know one of our big seasons is before Christmas when everybody wants their product for Christmas”.

- *Resource Fungibility*

The challenge of resource allocation is less burdensome when resources are fungible (i.e. able to substitute one resource for another). This is very significant, particularly for intangible resources such as human skills like experience and education. Therefore, when SMEs are faced with the challenges of allocating their resources, one of the first considerations is to prioritize the resources that are fungible and figure out the best possible ways for optimal utilization of such resources.

Findings from the interviews conducted for this research draw attention to the fact that SMEs train their employees to have required multi-skill sets such that they can

be deployed and redeployed to various manufacturing operations within the firm. There seems to be a trend whereby most employees start as “apprentices” and through continuous improvements, develop into “supervisors” after receiving different types of trainings in all the areas of manufacturing within the firm. With very strong technical backgrounds in their industry, some of these employees subsequently move into the sales area.

- *Retaining Corporate Knowledge*

Retaining corporate knowledge is another major factor that contributes to resource allocation decisions. Findings from the interviews illustrate that entrepreneurs prefer to retain their corporate knowledge in-house. One way to do this, if at all possible, is by not hiring temporary resources that may be trained while on the job but have limited time to remain as employees of the firm. When asked about hiring temporary resources where the firm is faced with the challenge of limited resources available to get jobs done, the feedback received indicate that entrepreneurs rarely hire to fill a temporary human resource need and then lay off the resource few months later. Several of those interviewed commented that they rarely lay off employees. One of them confirmed that they have not laid off any employee in 22 years. By retaining the corporate knowledge, the tasks related to resource allocation seem to be less burdensome. An old employee may only need a very few days to figure out what would take a new hire many laborious days to tackle.

- *Nuances of addressing Resource Allocation to Markets*

Several respondents generalized the resources required into two categories, manufacturing and sales. From the manufacturing operations standpoint, SMEs need to

allocate resources to support the manufacturing of products that are sold in various markets. In contrast, from the sales and marketing standpoint, entrepreneurs need to allocate their time or that of their sales team (if any) to support the selling of the products to various markets. Most of these firms manufacture and sell locally and export to the U.S. and other foreign markets.

Requirements for resource allocation for manufacturing operations can be finance, materials, human resources, and machine time. However, for sales and marketing, particularly for the foreign markets and due to the intrinsic nature of these markets, sales efforts may require some specific skills. For instance, the language and culture of the host country of the foreign market may be a major barrier. Responses from firm executives on how they address the unique requirements of entering foreign markets indicate that some of them deliberately hire resources that were originally from the host country of such markets, train them, and then redeploy them back to their country. A typical example is with Firm B2 when the firm needs to allocate a dedicated resource for the South American market. This is what the entrepreneur said:

At the time with South America when we were going into South America we had [a] gentleman here that was from Peru and he was our Latin America sales guy specifically. He is from that area so it's easier for him. He really helped us to develop South America, he's no longer with us; but we hired another person who is from Costa Rica. She's managing that part of the world right now.

The manager of Firm A8 also addressed their resource allocation to their Chinese market by hiring a Chinese person in Canada, trained her in Canada, and then later redeployed her to China. The manager said:

We now have a vibrant business operation in China. We hired a Chinese lady here, trained her, and then sent her to China. I used to travel to China a lot in the past, but now that we have our own person there, my trips are less frequent.

A number of SMEs also persuade some of their existing employees; that they can trust, to relocate to the new market. A few others utilize the services of what is known as the Manufacturer Representatives, typically called “Manufacturer Reps”. This is common and efficient for firms producing commodities. The products are advertised in magazines owned and managed by these manufacturer representatives. Firms that produce custom-made products are mostly not interested in using the services of manufacturer representatives due to the nature of their products.

- ***Product-Market Opportunities***

In the context of this research, domestic, U.S., and international markets are the major types of markets under consideration. The demarcation of geographical markets is different from one entrepreneur to other. Findings from the interviews demonstrate that these so called “markets” exist only in the abstract thinking and planning of these entrepreneurs; but the segmentation is, however, sometimes different. For some of the SMEs (all of which are Canadian), the U.S. and Canada are jointly considered as their domestic market, whereas some see Canada only as their domestic market. For those who see the U.S. and Canada as their domestic markets, it makes no difference whether they ship to Winnipeg in Canada or to Chicago in the U.S. The process is the same. Sometimes, it is even quicker for them to get to some parts of the U.S. than to some places in Canada. For instance, due to proximity, a manufacturer in Southwest Ontario

finds it easier to ship to New Jersey compared to shipping to Vancouver. In the words of the manager of Firm B8 in Ontario,

That's right, yep. We'll get a phone call from this company in Chicago and they'll say that they need to order and please get it made and shipped, and we'll do that...and in terms of cost...actually you'd be surprised, there isn't much difference. It'd be probably more expensive to ship to Winnipeg, yep...that's right, so to us both U.S. and Canada is the same and still considered domestic.

In other cases, some SMEs consider Canada as their domestic market and the U.S. as a separate, distinct market. This also affects the way they think about product-market combination and resource allocation to support these markets. When asked why they see the U.S. and Canada as separate distinct markets, one of the firm managers said:

Americans are just different people. You need to understand the way they think and how they do business, which is totally different from Canadians. Again, you must quote to them in US dollars; make the process of interacting with them very seamless and easy. Literally, you have to relate with them as if you are located in the US, otherwise you don't have their business.

Another interesting fact discovered while interviewing one of the executives in the Maritimes, is that his company perceives Atlantic Canada as their domestic market, while selling to a place like Western Canada is considered a foreign or export market. With this entrepreneur, the "perceived" distance is what determines what is considered local or foreign. To him, there are four different markets: Atlantic Canada is a domestic market; exports market is the other parts of Canada (Central Canada, the Prairies, Western Canada, and Northern Canada); the U.S.; and, to other foreign markets outside



of Canada (Europe, Asia, and Latin America). In the words of this manager of Firm B11:

Probably Atlantic Canada is local for us, and then next is Ontario just because it's fairly easy to get to, once you start going out to Vancouver, it is a little bit farther distance and it's a bit of a different set up, so it's not local to us, it's an export market. U.S. is slightly different that way to us too, because the business culture is slightly different...and you have rules and regulation that you have to worry about, they are the same for pretty much all of Canada; but in the U.S. you get some variations so we have to be aware of those things.

His statement also supports the fact that the business culture in the U.S. is different from that that of Canada and that there are variations in rules and regulations for doing business in both countries.

## **5.2 Resource Allocation Risk-Return Trade-off**

The risk-return trade-off is a major challenge in resource allocation decisions. Given that firm resources are limited and considering the daunting task of increasing and expanding the resource base, it is imperative for entrepreneurs to make trade-offs. When entrepreneurs face tight timelines to deliver to different product-market opportunities they estimate the returns and the associated risks for each opportunity and make some risk-return trade-offs in order to finally decide how to allocate their limited resources.

Resource allocation decision by entrepreneurs can be categorized into 4 major segments, depending on the entrepreneur's attitude to risk and disposition to returns. The entrepreneur's attitude to risk drives their perception of risk. Some entrepreneurs



favourably disposed to low return-low risk assets that provide some form of economic stability to the firm.

However, if the level of risk in a market is perceived to be decreasing, entrepreneurs become more inclined to allocate more resources to such a market. Some of the firms in this category are more interested in keeping the manufacturing plant up and running to meet their customers' needs. One of the entrepreneurs interviewed said: "We need to keep the guys busy all the time; therefore we don't turn down the small orders. They keep us running when the big orders are not yet in".

Entrepreneurs recognize the fact that low-return assets also contribute to the firm's performance and are not willing to lose such contributions. The Entrepreneur at Firm A6 said:

Yes, we recognize that both segment[s] of our business contribute to the bottom line and we don't want to lose them. For us, sales are our priority, every sale is really key because it feed[s] on itself and hopefully [he/she] is a customer for the next project. We really want to build long-term relationships with those guys and we do have a lot of them in there.

Findings for this category of entrepreneurs indicate that the low return-low risk assets mostly consist of commodity goods that are easier to manufacture and less expensive to produce. Customer orders that fall within this product category are frequent and keep the manufacturing plant busy. Due to their low return on investment, however, the sales volume must be high in order to have a positive influence on firm performance.

Expanding the resource base to meet pressing demands is an option that this

category of entrepreneurs is not willing to entertain. Findings from the interviews reveal that the cost of increasing resource capacity and retaining such is not worthwhile. Entrepreneurs from Firm A1, A6, A2, A5, and B3 fall into this category. Concerning expansion of resource base, the Entrepreneur at Firm B3 puts it this way:

You just simply tell the customer this is what we can deliver and this is when it's going to be ready. You don't hire extra men to lay them off three months down the road. So rather than make a quick fix of getting some people in to expand the resource, we try to negotiate timelines.

Another finding from the interviews conducted with entrepreneurs on this research is that the subsector a firm belongs to shapes the type of products they manufacture and the risks that come with such products. Some products are less risky to manufacture because they are mostly standardized items with little or no demands on strict precisions. Whereas for some products; precision and customization is of high priority, which makes the manufacturing more risky. As highlighted earlier in chapter 4, there are five categories of firms in this study namely: Clothing and Textiles; Machinery and Equipment; Commercial and Heavy Duty Industrial Machinery; Fabrication and Metal Products, and Agricultural Implements. The Clothing and Textiles Industry comes the least level of risk and Commercial and Heavy Duty Industrial Machinery has the highest risk.

The content of a firm's portfolio is driven by these underlining factors. For the entrepreneurs that are risk-averse and have low expectation of returns tend to allocate more resources to less risky markets, which is mainly their domestic market. They also carefully observe the trend of risk in the more risky markets before making any

allocation to support such a market. If an entrepreneur perceives that the level of risk in the riskier market (whether U.S. or foreign) is decreasing, he or she is then encouraged to allocate resources to support such a market. A detailed description and analysis of a representative case firm is captured in the following subsection.

#### **5.2.1.1 Sample Case Description: Firm A6**

This subsection provides a detailed description and analysis of one of the cases in category 1. This description is provided as a representative of cases in category 1, since the cases in this group are sufficiently similar in their resource allocation decisions patterns and approach. The case has been developed using data from multiple sources for this firm.

- **Background Overview**

Located on the eastern coast of Canada, the four Atlantic provinces of New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island house many small-sized and medium-sized manufacturing firms in Canada. One of such companies is Firm A6, a small-sized manufacturing firm that was started by Benson's father (Pseudonym, not real name) in 1985 in New Brunswick. Benson, who is the current President and CEO, runs the day-to-day business of the firm and makes resource allocation decision for both marketing and manufacturing processes, while his aged-father who is the Chairman and founder works in an advisory role supporting marketing and business development initiatives. Benson has been part of the company right from inception and worked with his father as the Vice President, Operations, until mid-2008 when he took over the leadership of the firm as the President. The firm currently has 20 employees.

In 1987, the firm extended beyond Canada by opening another manufacturing plant in the U.S. to serve their U.S. customers. As of then, about 70-80% of the firm's sales revenue was from the U.S. market; therefore, the leadership of the firm decided to move into the U.S. and retained the administrative arm in Canada. However, about three years later, the U.S. plant was closed down, having realized that there were too many regulations and constraints on what they could do and undo as a licensed Canadian manufacturing firm operating in the U.S. Firm A6 is in the business of electric heating equipment manufacturing, an industry that is highly regulated in the U.S. The firm wanted to implement some changes to the product lines, wanted to expand into other areas, and discovered that they have limited rights to make such moves. These regulations and constraints, rather than helping the firm, became impediments to the firm's growth, which led to the management's decision to close down the plant and move back to continue their operations in Canada. The firm consolidated back to one location in Canada for both their administrative activities and manufacturing in the early 1990s and have been operating from Canada, manufacturing locally and selling across the globe. However, 60% of their sales revenue is still from the U.S. market. Sales revenue from Canadian market is about 30% and the remaining 10% is from other foreign countries.

- **Firm Export Portfolio: Product-Market Opportunities**

Firm A6 has two major product lines. Product 1 category consists of electric heating equipment designed and manufactured for usage on residential properties. The product line is standardized, however, based on client's specifications; the product can be customized to address various needs. Product 2 category consists of electric heating

equipment designed and manufactured for usage on commercial properties. This product category comes in different shapes and sizes with enormous customization request from clients. Orders for Product line 1 are more frequent and is considered as a low return-low risk asset in Firm A6's export portfolio, while orders for Product category 2 is less frequent. It takes about six to nine months to process orders for Product category 2, while it takes one or two months to process orders for Product category 1. However, when Product 2 comes through the return is worthwhile; but it also comes with a lot of manufacturing risk, due to the precision in customization required by customers. Product 2 is considered as a high return-high risk asset in Firm A6's export portfolio. The export portfolio for Firm A6 is as illustrated in Figure 14.

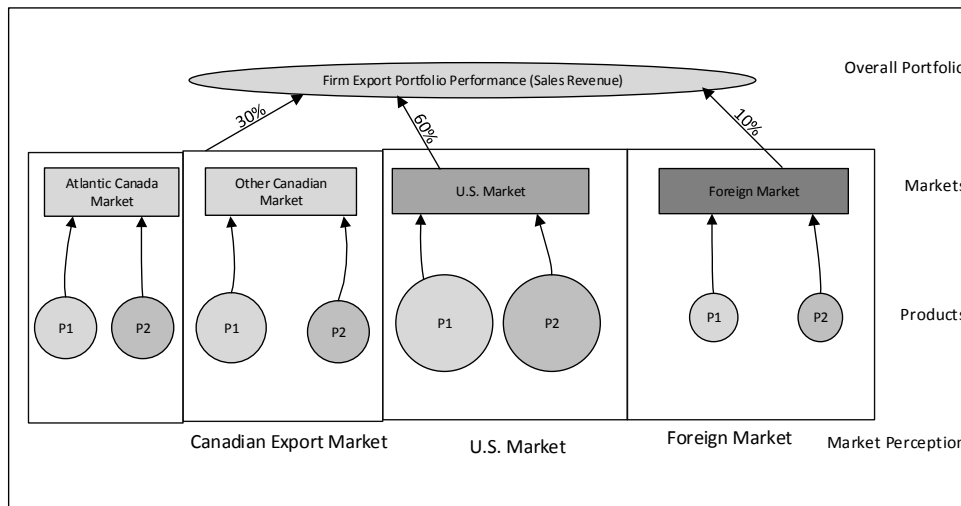


Figure 14: Sample Case Export Portfolio – Firm A6

Both product categories are sold to the Canadian, U.S., and foreign markets. Market perception and segmentation in Firm A6 is associated with physical distance from the firm's location. The leadership of Firm A6 considers the Atlantic Canada as the firm's domestic market. Any shipment made to distant locations in Canada such as British Columbia and Saskatchewan is considered the export market. The U.S. is a separate market and other countries around the World are considered foreign markets.

The two lines of products are sold to all these markets; however, Product 2 is associated more with markets beyond their Atlantic Canadian domestic market. The sizes of the circles in Figure 14 represent, relatively, the proportion or volume of each product being sold to the respective markets. Products are sold through strategic partnership with dealers and manufacturer representatives, as well as through direct exports to these markets.

- **Resource Allocation Decisions**

Resource allocation decisions for Firm A6 resides mostly with Benson, the President, who believes in “Management by walking around” to coordinate and allocate resources as and when required. From his office, located at the top floor of the manufacturing plant, Benson can easily oversee, manage, and monitor manufacturing operations on the factory floor. Benson and his father are principally in charge of marketing activities with the support of a dedicated salesman, who was fired due to the recession in the U.S. about three years ago. Benson aggressively pursues various product-market opportunities; but being a risk-adverse entrepreneur, only takes risks that are well-calculated, or avoids taking risk when possible. His preference is for less risky ventures that come with some form of continuity and economic stability. This is reflected in the resource allocation strategy employed within Firm A6.

Given that the order for the low return-low risk product line 1 is frequent, but with lower profit margin compared to Product 2, the sales volume must be substantial for it to make significant influence on the firm performance. Therefore, the leadership of the firm will not turn down any order regardless of the product category. That said, they always try to accommodate every order, at all cost. Continuous flow of jobs is



more important to keep the employees on the manufacturing floor busy, as well as to increase the sales revenue, which very important to sustain the firm. The hope is that one customer may be the source for the next order. However, if while working on Product category 1, the firm receives orders for Product 2, resources are re-allocated to meet the needs of both orders. To meet the challenges of resource constraints, workers are encouraged to put in extended working hours in the evening and sometimes on weekend with extra pay rate. As much as possible, the firm avoids hiring temporary resources to meet demanding needs. Other ways of easing the challenges of resource allocation includes planning ahead of time, ensuring there are enough materials in stock, prioritizing orders based on the sense of urgency from clients, as well as negotiating timelines with their clients on delivery dates.

Resources identified include material, human, financial, physical, and technological. Resources are allocated to operations that support various product-market opportunities based on the President's assessment of the prevailing situation. Human resource is the most critical resource when undertaking resource allocation decisions. Firm A6 enjoys good employee retention. Human resource turnover is very low, as people stay a lot longer with the firm. There are employees that have been with the firm from inception and are still with the firm 27 years later. This provides a rich pool of retained corporate knowledge, which makes the challenges of human resource allocation less burdensome. The President expressed his excitement this way:

“...it's good for us, because that history is very important. I'll ask my staff: Remember how you did it 15 years ago? ...and he'll say “Yes...I remember how we used to do it”...and that is the problem that we ran into in our work

many times”...that corporate knowledge is nice to have to...makes life a lot easier”.

The leadership classified some of their employees as “knowledgeable and utility resources”. This class of resource includes employees that have been with the firm for more than 20 years. These employees are critical when making resource allocation decisions. Benson ensures to reserve them for “mission critical” tasks. They can be allocated and re-allocated to various manufacturing operations as and when necessary. Other firm resources are also allocated to various operations to support markets as and when necessary based on the President’s assessment in consultation with his father.

- **Resource Allocation Risk-Return Trade-offs**

The leadership of Firm A6 is risk-adverse and if given the opportunity, wants to avoid risk. With the influence of Benson’s aged-father who is always warning Benson to be careful about taking too much risk, the process of risk-return trade-offs while allocating resources is carefully done through various discussions between Benson and his father, exploring possible sources of risks, weighing all risk mitigating options, calculating potential returns, and ensuring that they have done their assignments very well before making a final decision. Even after making resource allocation decisions for manufacturing, administrative, and marketing activities, both of them, having worked together for many years, continues to assess the situation and re-allocate resources as and when necessary.

If a product-market opportunity is considered too risky, it is likely that resources would not be allocated to support such opportunity. However, such opportunity is placed under radar for monitoring the level of risk in order to ascertain if it is worthwhile to

reconsider the situation. A typical example is an order received for Product category 2 from one of the countries in the Middle East in 2008. After a careful analysis of the political situation in the Middle East, despite the potential high returns that would have improved the firm's performance significantly for that year, the leadership of the firm eventually turned down the order after spending about three months processing the order.

Sources of risk identified by Firm A6 are different for Canada, U.S., and Foreign market opportunities. One risk that is common to all these markets is "installation risk". Different states within the U.S., provinces in Canada, and other foreign countries, have regulations and restrictions on who must handle and how electrical installation must be done. Firm A6 has a need to comply with all these regulations and had to produce installation manuals with all the nuances required for each client location. Despite a well-detailed and step-by-step instruction provided in the installation manuals with all the contingencies, customers still make installation errors and expect the firm to take on the liability of their errors. Firm A6 would have loved to deploy an employee to every of their client's locations; but the cost implication are considered unfavorable. Moreover, Product category 1 are mostly standardized products that can easily be installed with their installation guide. If value of the project or customer order is large (orders over \$40,000 are considered large), then the firm will deploy resources to handle the installation.

Firm A6 have always known that their domestic market is too small and the firm cannot survive with such a small market. Both product categories have an indirect association with population, since these products are used in residential and commercial

properties. With the population of 750,000 people in New Brunswick and a total of 2.3 million for the whole of Atlantic Canada, there is a limit to how much order can come from such market per annum. This is why the U.S. is still the firm's largest market. For the domestic market, the firm faces the risk of non-payment, delayed payment, truncated orders, violation of payment terms and infrequent orders. Sources of risk identified for their export market to other parts of Canada and other foreign markets include shipping and handling risk, credit risk, and violation of payment terms. For the U.S. market, the aforementioned potential sources of risk also apply; however the major point of concern highlighted is the risk of litigation.

In order to address these risks, the firm operates with some mitigation or risk reduction strategies. For instance the firm will always conduct a background check before making a commitment to work with a new client. The firm will always insist on 100% payment on any order before shipment whether local or foreign market. For opportunities from foreign markets, the firm's preferred option is to use EDC, which guarantees the payment. In situations where this is not viable or workable, the client must be ready to make full payment before shipment.

- **Influence on Resource Allocation on Firm Performance**

Sales revenue is the key measure of performance for Firm A6. The leadership believes that if they are able to grow sales, the bottom line will also be good. According to Benson, the firm keeps track of revenue streams from various markets and what each is contributing to the firm performance on a weekly and monthly basis. This statistics is kept for three years in order to observe the trend and make adjustments in resource allocation to support markets. In the monthly and annual assessment of firm

performance, the firm leverages historical records to determine how to handle future matters.

In order to boost the sales revenue, Firm A6 will take a cut in their margin when quoting for new projects. The consideration is “the bigger, the better”. Since there overhead cost is not impacted considerably, it is always advantageous to more jobs. Another consideration is that such initiative will keep the plant busy, which also boost the worker morale and enhance their performance. The President puts it this way:

“Sometimes we take a cut in our margin, when we are quoting our projects...we can produce more because it doesn’t change our overhead cost, so it adds to the bottom line. Maybe it’s not a bigger profit margin, but it keeps everybody busy.... The staff likes it when they are pushed a little bit, they really have to try and see what they can get out there and they like that; I wouldn’t do that every month, but when it gets to that point they like that challenge and it makes it a bit interesting”

The questionnaire completed by the President gives more information on the results obtained from tracking contribution from various markets to overall sales revenue. Table 15 the contribution from the Canadian, U.S., and Foreign market to the overall sales revenue for three years (2009-2011).

<b>Year</b>	<b>Overall Sales Revenue</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	\$4.7 million	25%	60%	15%
2010	\$4.2 million	25%	60%	15%
2009	\$3.6 million	25%	57%	13%

Table 15: Financial Performance and Contribution from Markets – Firm A6

Table 16 shows the resource allocation to support markets, as a percentage of overall firm resources. These are approximate aggregates across all the firm resources.

<b>Year</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	40%	40%	20%
2010	40%	35%	40%
2009	45%	30%	25%

Table 16: Resource Allocation to Support Markets for Firm A6

The President confirmed that his resource allocation decisions on manufacturing and marketing activities have influence on the firm's performance; however, in some instances, despite more efforts allocated to marketing activities, the impact is not significant. A typical example is effort expended at growing the U.S. market, which yielded little or no increase due to the challenges with the real estate market in the U.S. in the last few years. Given that the U.S. is the firm's largest market, the firm took deliberate steps to pursue a lot of opportunities in the U.S.; but the impact has been very minimal. Due to the recession, U.S. sales had been down to 50-55%, which used to be 70-80%; however, even with more marketing effort allocated to support the U.S. market, the increase is not very significant.

- **Data Sources for Case Analysis:**

- Export trade directory – Canadian Capabilities Company (CCC) Database
- Company's Website
- In-depth in-person interview the President
- Follow-up telephone interview
- Questionnaire
- Product Brochures

### **5.2.2 Category 2 — Risk-Averse: High Expectation of Returns**

This is the second category of entrepreneurs interviewed for this research. Findings show that those entrepreneurs in this category are conservative and are hesitant to take risk. However, they are liable to maximize every opportunity to get high returns. Their resource allocation decisions are driven by high returns from the market, but in a very careful and calculated manner. They prefer low risk to high risk ventures. Based on this attitude, they toss in between allocating more resources to support the operations of markets with high returns and high risk, versus markets with low returns and low risk.

The entrepreneurs in this category make risk-return trade-offs on their respective export portfolios. These portfolios contain low return-low risk and high return-high risk assets (product-market opportunities). The need to make these trade-offs is apparent from the responses of some of the entrepreneurs. For every decision to allocate a resource to an operation or task associated with a market there is a sacrifice of making that choice. Samuelson (1967) called it “opportunity cost” or “foregone cost”. SMEs may unknowingly focus on developing a product-market opportunity at the expense of other product-market opportunities. Respondents indicate that they always discover that when trying to develop a particular market, sometimes the sales revenue from the other markets begins to drop and it becomes apparent that they need to re-focus. The Entrepreneur at Firm B8 puts it this way:

Yeah, so now we are trying to focus on Canada...didn't realize that it takes time to redevelop any market, 'cause as we were in the U.S., we lost a lot of our local business 'cause we were too excited about that extra money, and too excited

about meeting new people from all over the place, it was very interesting but it was bad.

This statement also means that, sometimes, when these entrepreneurs focus their attention or resources on high return product-market opportunities it may imply that their low-return product-market segment will suffer the loss. Their final decisions on allocation of resources depend on their perception of increasing or decreasing level of risk in product-market opportunities. One of the entrepreneurs in Firm C2 said: “My job is to reduce or eliminate risk from the equation. I need to get high returns, but my risk must be well calculated”

Contingent on these decisions, they also explore various options of resolving the conflicting demands that may include renegotiating final order delivery dates, prioritization of orders based on urgency, extended working hours and supplementing resources with temporary resources. In essence, entrepreneurs typically try their best to meet the needs of all their customers most of the time, in order to avoid lower returns. In the words of the Entrepreneur at Firm B2: “We never say 'No' to any order no matter how busy we are. We always find a way of meeting their demands by exploring various options”.

Entrepreneurs want to keep the low return-low risk product-market opportunities as well as those with high return-high risk. Both assets are essential and needed to sustain the firm. Entrepreneurs from Firm B5, B6, B2, B7, B8, A4, A7, B12, B9, and C2 fall into this category.



### **5.2.2.1 Sample Case Description: Firm C2**

This subsection provides a detailed description and analysis of one of the cases in category 2. This description is provided as a representative of cases in category 2, since the cases in this group are sufficiently similar in their resource allocation decisions patterns and approach. The case has been developed using data from multiple sources for this firm.

- **Background Overview**

This case study is about Firm C2, a medium-sized manufacturing company based in Ontario, Canada, specialized in manufacturing and selling of various fabricated structural metal products. Information available through the Industry Canada Database — Canadian Capabilities Companies (CCC) — indicates that the firm was established in 1972; however, an interview with the current Chairman and CEO of the company, James (pseudonym, not real name), reveals that the company has been in existence since the early 1920s and has passed through four owners up till date. The firm started out as a portable welding company established by an 18-year-old farm boy who wanted to do something different other than farming. It remained a family business until the mid-1960s when it was passed on to another owner. The firm was incorporated in Canada in 1972 and was later sold in 1988 to a public company, who was then on the Toronto Stock Exchange. James, an entrepreneur who has keen interest in leverage buy-outs of companies that are in trouble and turning them around, bought Firm C2 through a leveraged buy-out in 1996.

James, originally from the U.K., was formerly with one of the big players in the automobile industry in the U.S. before relocating to Canada in 1975. He became the

President and CEO of a leading manufacturing firm in Ontario in 1979. In 1985, he made an attempt to buy-out the company, but was unsuccessful. Thereafter, he got into the business of leveraged buy-outs, understanding finance and other aspects of such ventures in the manufacturing sector. This was what led to his purchase of Firm C2 that was going through some financial difficulties at that time. The firm, under the management of James, has gone through various transformations over the years. What started out as a small welding shop in the early 1920s, with a few hundreds of dollars, has now developed into a multi-million dollar manufacturing firm; about ninety years later. Table 17 provides a summary of historical facts and major events

S/N	Year	Event
1.	1920s	Started as a welding shop by an 18-year old farm boy
2.	1960s	Sold to another owner
3.	1972	Incorporated as a legal entity in Canada
4.	1988	Bought by a public company on Toronto Stock Exchange
5.	1996	Bought by the current Owner, Chairman & CEO through a leverage buy-out
6.	1998	Acquire a company in New Brunswick, now the manufacturing plant serving the Maritimes
7.	1999	Acquire two companies in Alberta to serve the Western market
8.	2004	Acquire a Canadian company with existing distribution channels in the U.S. as a means of entry the International markets
9.	2008	Acquired another company who became bankrupt and expanded the firm's manufacturing capacity in Ontario through this acquisition.

Table 17: Historical Facts and Major Events - Firm C2

- **Firm Portfolio: Product-Market Opportunities**

Firm C2 is a leading company in the fabricated structural product manufacturing industry, with the biggest market share in Ontario for one of their product lines. Firm C2's line of products can be broadly categorized into three types; Product 1, Product 2

and Product 3. Product 1 consists of high quality, heavy machined fabrications, and sheet metal components for the heavy equipment manufacturing industry. Product 2 consists of small-sized custom-engineered metal products and components, while Product 3 consists of containment solutions for the agriculture, petrochemical, municipal, mining, and pulp and paper markets. These are very broad categorizations. The product brochure provided by firm shows that they produce more than thirty (30) types of products. The distinction is in the shapes, sizes, features and customizations based on customers' needs. At the component level, the number of products could run into thousands, depending on specifications and business requirements from clients. The export portfolio for Firm C2 is as illustrated in Figure 15.

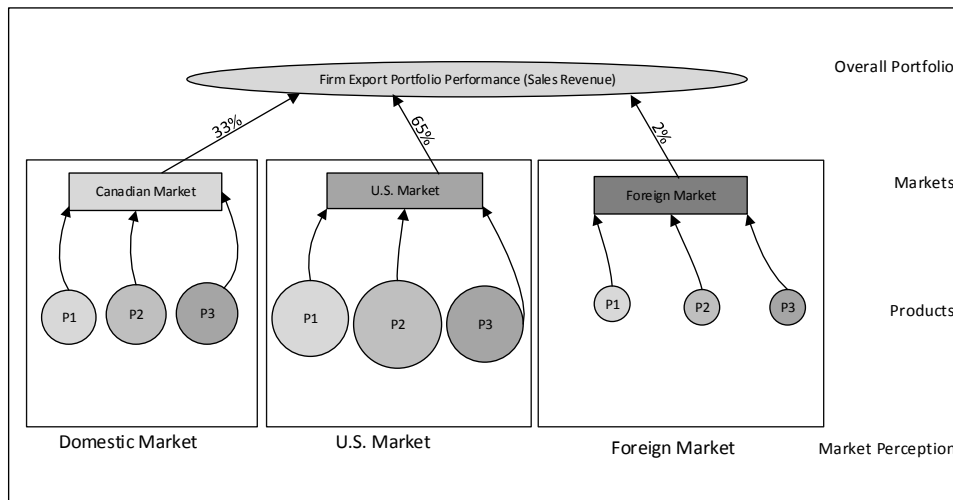


Figure 15: Sample Case Export Portfolio – Firm C2

The sizes of the circles in Figure 15 represent relatively, the proportion or volume of each product being sold to the respective markets. These products are sold directly to the Canadian market (33%), U.S. market (65%), and about 2% to foreign markets on the average in the last five years. The Canadian market is further classified into the Ontario, the Northwest, and the Atlantic Canada market. To effectively serve these markets, Firm C2 has six manufacturing plants strategically located across

Canada. The two plants located in Alberta predominately produce Product 3 and related components to serve the Oil and Gas, Mining and Petrochemical Industries in Northwest Canada. One manufacturing plant is located in New Brunswick producing Product 1 and Product 2 to serve the Atlantic. The head office and the remaining three plants are located in Ontario and they produce Product 1, Product 2, and Product 3 to serve Ontario, the remaining parts of Canada, U.S., and other foreign markets. Firm C2 operates an export portfolio with the product lines representing the three uncorrelated assets in the portfolio. There is no direct foreign investment portfolio, all sales to the US and foreign markets are exports by shipping, rail and truck.

- **Internationalization and Growth**

When James bought Firm C2 in 1996, the firm had a reputation for technological knowledge, service, and variety of products. There were no international sales at all. All sales were domestic (i.e. within Canada). Being a risk-averse entrepreneur, initially, going international was too risky for him. The firm continued to grow within Canada until 2004 when the firm started selling to the US. Entry into the U.S. market was through the acquisition of a company that was already exporting to the U.S. The question in the mind of the CEO and his executive team was how to maximize the utilization of every resource without taking on too much risk. For instance, shipping directly to foreign markets or having a Foreign Direct Investment (FDI) is too much risk. Rather than export directly to foreign markets, the risk mitigation strategy established as a policy by the leadership of the firm was to avoid selling abroad directly where possible; but they establish strategic partnership with firms in Canada or the U.S. who already had existing sales and distribution channels to other foreign markets.

Although firm C2 has 65-70% of its sales to the U.S., more than 50% of this ends up in other foreign countries. The CEO puts it this way:

“We have a policy. We have an approach to marketing that we don’t go after international markets on a direct basis, typically. Except for the US, where we look for companies in the US whose mother plant is in the US, who are international in scope and who sell their products around the world. So we prefer to play by supplying the US companies, who build or assemble the products that are shipped all over the world. So if you looked at our sales, 65-70% of our sales would be to the US. And 50% of those sales would be to customers who assemble or build products that are ultimately shipped internationally”

Based on this statement, one can infer that sales to the foreign markets could be up to 37% of the total sales taking into consideration the indirect sales through the U.S., as opposed to 2% foreign sales stated by James, the CEO. James took over Firm C2 with about 130 employees and only one manufacturing plant. Annual sales revenue was approximately \$9 million dollars. Although, Industry Canada database indicates that firm C2 currently has about 200 employees with total revenue of \$10-\$25 million dollars, my interview with James confirmed otherwise: the firm has about 500 employees with expected sales revenue of \$103 million dollars for the 2012 fiscal year. The leadership of Firm C2 grows the firm business in two ways: internally, through optimal allocation of resources to the three segments of the business with an objective of maximizing profitability; and, externally, by exploring options of acquiring companies with complementary products to expand their product offerings. Such

products must be uncorrelated in terms of their associated risk and return and must have the potential to provide up to 10% firm growth over the long haul. For instance, the two manufacturing plants in Alberta and New Brunswick are businesses acquired and transformed to manufacturing plants that meet the business needs.

- **Resource Allocation Decisions**

Decisions on how to allocate the firm's resources to manufacturing, marketing and other business operations are done by the CEO and his management team which includes the business managers in charge of the three product lines. The firm has multiple manufacturing plants, but centrally coordinated and resourced from the same pool. Resources include human capital, finances, manufacturing facilities, materials, technology, and processes, out of which finances, materials, and human capital are most critical. The firm sees its human capital as a tight campus of welding, fabricating, and engineering knowledge that must be judiciously allocated to meet various contending demands. Resource allocation decisions are made based on an assessment of the long term benefits or returns from initiatives and the associated risks involved, while having the overall firm performance in view.

Performance targets are set for each product-market combination at the beginning of the fiscal year based on the overall firm performance's objective to maximize profitability. The management team evaluates the expected returns and the associated risk for each segment of the business and based on their assessment; allocate resources to each product-market opportunity. The business managers are tasked with the responsibilities to make further resource allocation on specific tasks for manufacturing operations and marketing in order to achieve the targets set for such

business segment. The leadership of Firm C2 has a well-established model used in assessing risk and return. To predict the associated risk on their expected returns, the firm regularly obtains market research reports from their bank on all of their markets, information from their existing customers on the likely direction of their future investments and the economic trends for the industries being served. The CEO puts it this way:

We base our decision on where we're going to spend our attention and in what markets and in what regions based upon, to the best extent we can gather market information about what's going to happen in that business. For instance, if Alberta and the oil patch is going flat and not much activity and we're thinking about where we're going to expand, we wouldn't be going to Alberta.

Expected returns are estimated based on historical facts, market trends, customers' capability, and willingness to pay: as well as the overall cost of doing such business. All these parameters are plugged into their financial system to make a final decision. Apart from regular management meetings for on-going decision making on the firm's operations, the management meets quarterly to re-visit and re-assess the firm's annual strategic plans and make adjustments based on prevailing internal and external situations. The CEO puts it this way:

We do an annual plan, but it's actually a broad benchmark. Our financial system is based upon four quarters forward planning. So we allow our business managers re-load the plan every three months. So they see things changing in the marketplace, they're not committed and held accountable for that big, overall annual plan. They're accountable for what the profit contribution is. So

they have to adjust manpower or cost and focus it appropriately over the four quarters coming up.

Constant analysis every three months to adjust and or re-allocate resources based on what is happening in the market place provides the opportunity for continuous assessment and re-assessment of risk and expected returns, which leads to a more accurate resource allocation and improved firm performance.

- **Resource Allocation Risk-Return Trade-offs**

The process of making risk-return trade-offs by the management of Firm C2 is a continuous process of constantly seeking the best risk-return combinations that is possible in allocating their limited resources. The CEO and the management team, although risk-averse are always seeking ways to maximize every opportunity for high returns. Their resource allocation trade-offs is a process of finding efficient risk-return combinations that are attainable by the firm, given the opportunities to invest in operations to support the domestic, U.S., or foreign markets with the objective of maximizing firm profitability.

The leadership of firm C2 engages in detailed analysis before making resource allocation trade-offs. This analysis involved calculations on return on investments on all the different aspects of their business, for instance, return on assets, return on equity, return on sales, and profits per employee. The firm also garnishes as much information as possible, particularly more of statistics on the risk associated with all the product-market opportunities in their portfolio and then explores opportunities to eliminate, mitigate or manage the risks. This is evident in the CEO's words:



Well, you always assess, in any situation, you assess and look at the elements of the situation that have risk associated with it. You always want to think and manage that risk out of the equation.... but most people around the world, or in Canada and the US, let's say, think that entrepreneurs like myself, are risk-takers. The good entrepreneurs are risk-averse. They think the risk out, they figure out what it is, and they manage it before they make the commitment.... So I'm risk-averse, there's no question about that.

The management spends a lot of time and effort on analyzing the returns and risks in any resource allocation decision before going ahead to commit resources to any product-market opportunity under consideration, with the other product-market opportunities in view and the objective of maximizing firm profitability. The essence of this analysis is to balance their desire for higher returns and their aversion toward risk. All the calculations on various returns and the risk information are plugged into their financial system in order to make a final decision. Even when the decision is made, the situation is constantly under review in order to determine if there is a need for adjustments. The CEO stated this fact as quoted below:

We are always looking at how much we have invested in a business. We do return on investment, return on all the different aspects, how much our sales are, how much profits are per employee. What the trend is — that's more important than any particular statistic at any given point in time, it's what the trend is. When we make an investment decision or an expansionary decision, these factors go into that analysis of that element of our portfolio, to make the decision whether or not it's a good place to invest our money.

The trade-offs are made based on the assurance that such resource allocation in a particular segment of the business will lead to growth in that business that will take the firm to the next higher level of earning or cash flow, which will greatly improve the firm performance.

- **Influence of Resource Allocation on Firm Performance**

The overall firm performance's objective is to maximize profitability. To achieve this objective, the firm established a business model that specifies four major performance measures to evaluate segments of the business. These measures are used as the yardstick to measure the contribution of each segment to the overall firm performance. The first performance measure is contribution margin. Contribution margin is the fraction of sales revenue from the business segment that contributes to pay the corporate overhead. This money gets pulled from each business unit into a pool which then pays the corporate overhead. The target is 15% contribution.

The second performance measure is growth margin. Over a long period, a segment has to grow 10% a year. If any segment of the business does not grow 10% in a year, the management will investigate and re-evaluate their resource allocation decisions to determine what could be the cause of the setback. Over the years, some units over-achieve and some under-achieve. If the business is matured and is under-achieving the target, the management triggers a major investigation. However, if it is a new business, usually the expectation is that the initial investments are sunk cost. The firm allows up to three years before expecting to returns on new investments.

The third performance measure is return on equity. Return on equity (ROE) for each business unit for Firm C2 is a financial ratio that measures the return generated on

firm's equity invested in that business. The standard is 30% ROE. The fourth internal standard that the firm tries to achieve from each business segment is 30% gross margin. If a business is not achieving a 30% gross margin, the management will look into why this is not the case and what has gone wrong. They will examine their resource allocation model whether there is a need to make any adjustment. They also check their cost control or pricing model to figure out the problem. The firm recently invested in automation in order to reduce production cost in the long run and became the lowest cost producer of Product 2.

The questionnaire completed by the CEO gives more information on the results obtained from tracking contribution from various markets to overall sales revenue. Table 18 the contribution from the Canadian, U.S., and Foreign market to the overall sales revenue for three years (2009-2011).

<b>Year</b>	<b>Overall Sales Revenue</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	\$84 million	33%	65%	2%
2010	\$72 million	32%	68%	1%
2009	\$60 million	30%	70%	0%

Table 18: Financial Performance and Contribution from Markets – Firm C2

Table 19 shows the resource allocation to support markets, as a percentage of overall firm resources.

<b>Year</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	35%	60%	5%
2010	40%	60%	5%
2009	50%	50%	0%

Table 19: Resource Allocation to Support Markets – Firm C2

- **Data Sources for Case Analysis:**

- Export trade directory – Canadian Capabilities Company (CCC) Database
- Company's Website
- In-depth in-person interview the Chairman/CEO
- Questionnaire
- Product Brochure

### **5.2.3 Category 3 — Risk-Loving: High Expectation of Returns**

Findings from interviews conducted for this research show that those entrepreneurs in this category are generally risk loving or risk seeking. They are more interested in supporting ventures or product-market opportunities with high returns and high risk. They prefer risky opportunity with high returns to lesser risky opportunities with low returns. Based on this attitude, they allocate more resources to support the operations of markets that are risky versus other markets that are less risky. They are driven by high returns and would take the risk associated with high returns.

The high return-high risk product-market opportunities are mostly custom-made goods, with the exception of very few cases. This class of products require more attention and are costly to produce. They also have higher manufacturing risks due to the precision required to produce customized products. Orders in this product category are less frequent, but they come with high returns on investment. Even with less frequent orders, the overall influence on firm performance could be very significant. It is noteworthy that both classes of product in this research (low return-low risk and high return-high risk) could be associated with domestic, U.S., and foreign markets.

These profit-driven entrepreneurs who are risk lovers are more interested in pursuing opportunities that will yield high returns. If the associated risks of such opportunity are high, the major pre-occupation is finding ways to mitigate or reduce the associated risks. In his words, the manager of firm B1 said:

There is a constant pressure from the management level to push out more of the products with high returns out of the door in order to increase the bottom line.

We try to work around the risk and find a way of mitigating them.

Entrepreneurs from Firm A3, B4, B1 and C1 fall into this category

### **5.2.3.1 Sample Case Description: Firm A3**

This subsection provides a detailed description and analysis of one of the cases in category 3. This description is provided as a representative of cases in category 3, since the cases in this group are sufficiently similar in their resource allocation decisions patterns and approach. The case has been developed using data from multiple sources for this firm.

- **Background Overview**

This case study concerns Firm A3, a family-owned small-sized business established in Quebec in 1956 as a manufacturer's representative, but started its own manufacturing of heating equipment for large commercial and industrial applications in the early 1960s. Firm A3 was started by Todd's father (pseudonym, not real name) with only one line of product: heating equipment (mechanical machines) manufacturing. Todd, the current President and CEO, manages the firm with his son, George (pseudonym, not real name), a member of the management team and also the Vice President, Export Sales and Marketing. As the firm expanded in the 1970s, it added

another product category: detection device manufacturing (electrical machines). In the early 1990s, the firm launched their third product category: control device manufacturing (electronic machines) through the acquisition of another small company who was producing this third product but at that time was indebted to Firm A3 due to financial difficulty which led to its bankruptcy.

In the early years of Firm A3 and as a young and growing business, the management of the firm spent considerable amount of effort building and cultivating business relationships with customers in the U.S. and foreign markets through various trips to these places. Whereas, Firm A3 built the U.S. market predominately with manufacturer's representative, establishing business in foreign markets was through building good relationship with capable strategic partners in those countries, which involved proactive and deliberate marketing efforts to build these markets. However, with the advent of the Internet and the advancement in technology, for their already established and matured business markets, the Internet current drives and facilitates about 50% of their sales revenue.

Firm A3 also takes pride in being "small" and enjoys the benefits of being a very small firm. Apart from their third product category which is a growing business, Product 1 and 2 are matured and the market is saturated, but very fragmented. Firm A3 finds solace in focusing on the fragmented custom end of these lines of business. Also, due to the size of the firm, they are able to respond quickly to a customer's request and are willing to do the most difficult customized jobs that many of their larger competitors would not venture to do. The firm currently has about 20 employees and manufacturing locations in Quebec.

- Firm Export Portfolio: Product-Market Opportunities**

The firm operates three lines of business: Product 1 (mechanical machines), Product 2 (electrical machines), and Product 3 (electronic machines) and sees each of these businesses as assets in their portfolio. These products are sold to Canada, the U.S., and 11 foreign markets. Products are exported via rail, ship or truck to the US and other foreign countries and are sold through independent manufacturer’s representatives in the US and other strategic partners in foreign markets. These three lines of business are three uncorrelated assets, when one is trending down, the others may be trending up in terms of performance. Diversification in product and geographically diversified markets allows the firm to escape any macroeconomic catastrophes in any market or trading block. For instance, if the firm had been in the business of selling electrical machines only (Product 2), which is predominately sold to the U.S. market, the company would have plunged into a serious crisis after the economic downturn in the U.S. in 2008. The export portfolio for Firm A3 is as illustrated in Figure 16.

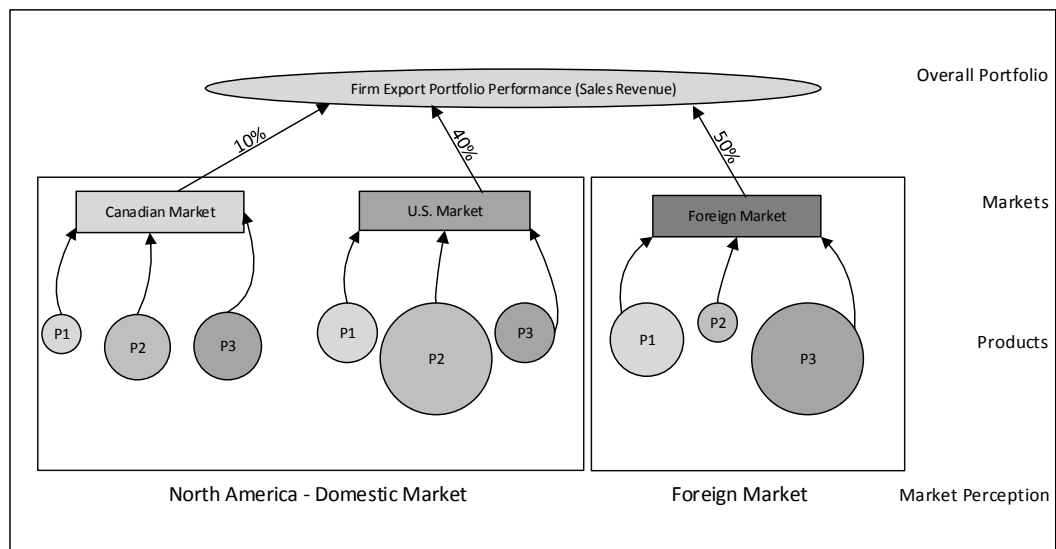


Figure 16: Sample Case Export Portfolio – Firm A3

The firm's overall sales revenue in the last five years is averagely 10% from Canada, 40% U.S., and 50% from foreign markets. Products 1 and 3 are mostly sold to the foreign markets. While Product 2 does not thrive in the foreign or domestic market, but only in the U.S. The product lines are in various different product life stages. Product 1 and 2 are more matured, but the third product line remains a growing business line. Building on the knowledge base of recruiting manufacturer representatives for their Product 2, the firm developed a network of manufacturer representatives for their third line of product that was acquired.

The company currently has about 50 manufacturer representatives for Product 2 in the U.S. and 40-50 for Product 3 with about 50% of each actively selling for the firm. The firm made an effort to increase Product 2 sales in foreign markets; however, due to shipping and handling costs, the product turned out to be more expensive when compared to similar products from local competitors in those markets. Also, there are various barriers to entry for this product. For example, Europeans generally prefer locally made detection machines to similar machines made overseas. The sizes of the circles in Figure 16 represent relatively, the proportion of each product being sold to the respective markets. Firm A3 perceives both the Canadian and U.S. markets as one single domestic market, while North America and the other international markets are their foreign market.

- **Resource Allocation Decisions**

Firm A3 is a relatively small-sized with the employees and management co-located within the same office and manufacturing plant making resource allocation decisions more organic and fluid. There is a constant and continuous communication



between the management and the employees and decisions are made based on whatever the management feels is the appropriate direction. There are ample opportunities for detailed analysis. Decisions are taken promptly as and when needed based on the prevailing situation. Here is what George, the VP, Export Sales and Marketing, had to say:

I've got to tell you, in a small business where you have 20 people and you have my father and I managing it, the process is not so sophisticated. We sort of know where the businesses are going, because we live them on a daily basis. It's not like I have to collect reports from a bunch of divisional managers to understand what's happening. So I would say that our decision making and resource allocation is more organic and fluid. On a regular basis, we know what's going on and we know instinctively where to put our efforts. It's not like I hold formal planning meetings. I see my father enough and we talk enough. Our offices are 30 feet apart. I think we know what to do.

The Leadership's decisions are based mostly on instincts. Resource allocation depends on whichever direction they feel that the business should be putting their resources at any particular time. For instance, even though 40% of Firm A3's sales revenue is currently being generated from the U.S. market, the firm allocates more effort and attention to building foreign markets, particularly China and Southeast Asia. Again, without reducing the efforts needed to support the U.S. market, the sales revenue from the U.S. market has been dropping by 5% per year in the last 5 years and foreign market growing by 5% per year. Firm A3 feels that the U.S. market is saturated and that

the next world economic power is shifting to the “Asian market”. George puts it this way:

[...] let’s face it, the future is in Asia. If you don’t have some kind of a presence there, you’re not going to survive for very long...when the US was growing at 3% and 4% a year; there was enough work for everybody. Now, that’s not quite the case. So, if you are purely reliant on the US and Canadian markets, you’re going to be suffering from declining margins...margins on Canadian and U.S. markets are not that great anymore and competition is very tough, because information about most opportunities are easily known, whereas in Asia, it is not so.

Resources identified by the firm as critical to success are physical resources (e.g. manufacturing floor or plant space, machines, equipment), financial resources, material resources, and human capital resources. Leveraging their suppliers’ physical space facilities, firm A3 outsources the manufacturing of some parts for Product 1 and Product 3, implementing an “On-demand”, “Just-In-Time”, strategy to alleviate resource allocation challenges. When additional physical space is required to complete larger projects or when faced with multiple orders at the same time, the firm utilizes the physical facilities of various suppliers within their network to meet clients’ demand.

Cash flow is very critical to daily sustenance of the business; therefore, the firm is very conscious about minimizing cost and if possible avoids tying down resources through inventory of their products. Manufacturer representatives only get paid when they sell the products. The advantage of this is that they act as small extension of the firm, similar to a Foreign Direct Investment (FDI); but without the associated cost of

running a typical FDI. However, the downside effect of this is that products in inventory, if not sold on time; ties down the capital resources that could have been utilized in other possible ventures that may yield greater gain.

Engaging human resources with multiple capabilities and potential good attitude is a top priority for hiring in Firm A3. Of uttermost importance to the firm is hiring individuals with multiple skillset in mechanical, electrical and electronic systems so that resources can be allocated and re-allocated to support the firm's three lines of business when required. With this approach, Firm A3's human resources are very fungible. Resource fungibility is a capability within this firm that eases resource allocation decisions to support product-market opportunities.

- **Resource Allocation Risk-Return Trade-offs**

The process of making resource allocation risk-return trade-offs is organic and is carried out on a case-by-case basis. There is no structured analysis or formal decision matrix used in the process, but mainly informal. For instance, when analyzing the international market, some key drivers of resource allocation risk-return trade-offs include macro-economic developments and how they affect the firm. The three members of the management team meet to discuss and make a decision based on their assessment of the risks and the potential returns associated with the product-market opportunities under consideration. Firm A3 is classified as a firm that loves to take risk, or is relatively less risk adverse, and has a very high expectation for returns from markets. George puts it this way: "Oh, I think we take a lot of risk. I think overall in this business, if you look at design risk, execution risk, geographical risk, political risk, we live with a lot of risk."

The leadership deliberately supports product-market opportunities with high returns and high risk. For instance, the firm currently allocates more resources to the foreign markets, which comes with a lot of risk. While the firm competes for orders for the high return-high risk products (i.e. Product 1 and 3), the low risk-low return asset (Product 2) provides sustenance in terms of constant cash flow to keep the firm going. Also, the leadership of the firm deliberately keeps the low return-low risk product line, because the firm gets a significant R&D tax credit on this business due to the significant R&D expenditures incurred on its manufacturing processes.

The main risk associated with the domestic market is related to non-payment. For the foreign markets, there two main sources of risk: execution risk, (i.e. how do you ensure that the machines manufactured in Canada are correctly installed with all safety precautions in a foreign land?) and cultural differences, (i.e. dealing with clients in foreign markets, relating and communicating with people with different values across long distance, how do you ensure that what you think is understood has been understood?). George, the VP, Export Sales and Marketing, puts it this way: “If you’re an inexperienced exporter, and you have enough trouble dealing with Americans, then for sure you shouldn’t be going anywhere else. It’d be worse.”

In dealing directly with the foreign markets, one of the risk mitigating strategies put in place is to ensure to always engage the EDC. Another strategy employed is that the firm sometimes partners with companies in the U.S. to sell their products to other foreign countries. Moreover, given that Firm A3 is not interested in foreign direct investment in most foreign markets, the only option to succeed in these markets is to

partner with existing firms who have all that it takes to operate successfully in such markets.

- **Influence Resource Allocation on Firm Performance**

The firm's main objective is to maximize profitability. As a result, the management most deliberately focuses on high return-high risk assets in order to boost performance. Undoubtedly, the firm has a more positive attitude towards allocating resources to the assets that bring in more high returns, which potentially could lead to more profit. In evaluating performance, the firm considers two major parameters: sale revenue and profit margin. A secondary measure is what the firm tagged as "pain-in-the-ass factor", which assesses the ease with which a particular project was executed. High sales revenue is required particularly for Product 2 which is a low-return low-risk asset in the firm's portfolio. For the product to make a significant influence on the firm performance, sales volume must be high. However, the firm may tolerate a substandard performance if the macro economy of such market would not have allowed any better performance. For instance, with the economic down turn in the U.S. market, there is little or nothing that can be done to improve the revenue from the market. George expressed his concern this way:

Okay, Product 2 was flat or it was down. What is the market really like? Well, construction in residential multi-level condos was down 40%. Ok! How much more could I have done? If there's no business, there's no business.

The profit margin is the major evaluation criteria for Firm A3's performance. Regardless of the prevailing situation, the firm will not cut down on prices in favor of sales volume. Therefore, even when the signals from the market show stiff competition

from other companies on the subject of pricing, the firm has a policy not to cut their prices in anticipation of more sales. The Leadership consciously observes profit margins made on each product-market opportunities regularly and seeks ways of improvement. Some of the options explored include cost-cutting measures in production efforts and resources, outsourcing the production of some parts, minimizing or eliminating associated risks, and resource re-allocation for maximum benefit.

The questionnaire completed by the Vice President, Export Sales and Marketing, provides more information on the contributions of the three markets to the overall firm performance. Table 20 the contributions from the Canadian, U.S., and foreign market to the overall sales revenue for three years (2009-2011).

<b>Year</b>	<b>Overall Sales Revenue</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	\$2.6 million	10%	40%	50%
2010	\$2.8 million	10%	45%	45%
2009	\$3.0 million	10%	50%	40%

Table 20: Financial Performance and Contribution from Markets – Firm A3

Table 21 shows the resource allocation to support markets, as a percentage of overall firm resources.

<b>Year</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	15%	20%	65%
2010	20%	30%	50%
2009	20%	30%	50%

Table 21: Resource Allocation to Support Markets – Firm A3

As indicated in tables 20 and 21, Firm A3 has shifted focus on building their foreign markets by allocating more resources to pursuing opportunities abroad. The downside effect of this is that the U.S. sales dropped in the last three years and the Canadian market has remained relatively unchanged over the same period.

- **Data Sources for Case Analysis:**

- Export trade directory – Canadian Capabilities Company (CCC) Database
- Company's Website
- In-depth in-person interview with V.P. Export Sales and Marketing
- Follow-up phone interview
- Questionnaire

#### **5.2.4 Category 4 - Risk-Loving: Low Expectation of Returns**

Findings from interviews conducted for this research show that those entrepreneurs in this category are risk loving, but their expectation of returns is low. They hope for the worst scenario. However, they are also contented with low returns from markets. They love taking risk, but not necessarily because of higher returns. Findings from the interviews conducted imply that risk-return trade-offs decision-making by firm these entrepreneurs is largely dependent on their perception of risk and returns, even when the return is low. When asked about the factors that determine how decisions are made especially when confronted with conflicting priorities, one of the firm managers said:

Yes, you don't want to lose them [the customers] and because especially in the agricultural world once you're gone they'll find another company...they won't come back. So that is always a difficult thing, juggling the production to look after both things. This is what we juggle all the time in our monthly and quarterly planning exercises...I have an excel sheet that we use in computing the numbers.

In this case keeping the customer base intact is more important for resource allocation decisions. Entrepreneurs from Firm A8, B11 and B10 fall into this category

#### **5.2.4.1 Sample Case Description: Firm B10**

This subsection provides a detailed description and analysis of one of the cases in category 3. This description is provided as a representative of cases in category 3, since the cases in this group are sufficiently similar in their resource allocation decisions patterns and approach. The case has been developed using data from multiple sources for this firm.

- **Background Overview**

Located in the Northwest of British Columbia (BC), Canada, Firm B10 is a small-sized sign manufacturing company established in 1973 with only one employee who is also the owner and President, Stephen (pseudonym, not real name). The firm started exporting to foreign markets in 1976. In the early days of the firm, the owner went from one client location to the other, manufacturing his products in his apartment and installing them himself on client sites. The business began to grow through referrals from existing satisfied clients to new customers. The entrepreneur succeeded in fulfilling customers' orders by getting materials and parts on a 90-day credit from the suppliers and maintained a good credit by ensuring to turn around the credit facility and pay back within 90 days. In 2012, almost forty years later, the company has grown to 55 employees and the materials which were initially obtained on credit are now made in-house.

The firm is situated in a massive facility of more than 25,000 square feet, which includes both the administrative office and manufacturing plant. As a family owned



business, the firm is predominately controlled by family members. With Stephen's wife and son being actively part of the management team, the major decision-making power on resource allocation to various product-market opportunities resides within the family. The firm has a strong reputation for high quality, customer service excellence and creativity. Although the firm has three major product categories, the innovation and creativity inherent as a culture in the firm facilitates customizations in various dimensions, such that the firm can manufacture products with all types of materials, using advanced methods and equipment. Most manual processes used during the early years of the firm have now been automated and or replaced with advanced technologies which have increased efficiencies and effectiveness in meeting clients' requirements in today's modern business era.

- **Firm Export Portfolio: Product-Market Opportunities**

Firm B10 is a leading manufacturer of signs domestically and sells both locally and around the world. The firm currently produces three major categories of products and sells to the U.S. and 27 foreign markets. The three lines of products have metamorphosed into hundreds of products due to extensive variations in client specifications and customizations which were required to meet specific needs. The first category consists of signs made with letters and numbers, while the other two categories are electric signs and non-electric signs. The export portfolio for Firm B10 is as illustrated in Figure X. The sizes of the circles in Figure X represent relatively, the proportion of each product being sold to the respective markets. Firm B10 sees the Canadian market as their domestic market; both the US and others are considered foreign markets.

Canadian domestic market constitutes 40% of the firm's sales revenue with the remaining 60% fluctuating between the U.S. market and the foreign markets. The U.S. market is 30-40% while foreign market has fluctuated between 20-30% in the last five years. The impact of the economic downturn in the U.S. has affected the sales of all these products for the last five years. The firm does not operate any direct foreign investment or employ manufacturer representatives. The use of manufacturer representatives does not seem appropriate given the fact that all their products must be designed and manufactured based on clients' specification, which comes with a lot of intricacies and specific customizations. The export portfolio for Firm A3 is as illustrated in Figure 17 and the sizes of the circles represent relatively, the proportion of each product being sold to the respective markets.

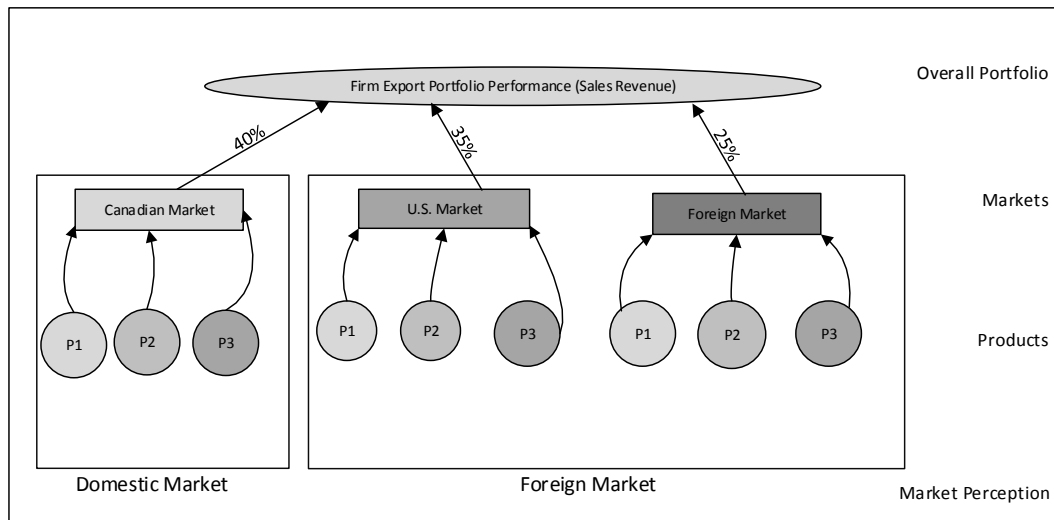


Figure 17: Sample Case Export Portfolio – Firm B10

- **Resource Allocation Decisions**

Due to the fact that Firm B10 is a small-sized family owned business, resource allocation decisions are Stephen and his wife as well as their son who is also a member of the management team that is responsible for day-to-day business operations.

Resources identified by the firm as critical to success are physical resources, financial resources, material resources and human capital resources. Of all these and due to the unique skillset required in crafting and designing signs based on client specifications, human capital is the most valuable resource to this firm. According to Stephen, most of the firm resources are standard and the once manual processes are now automated, therefore when faced with challenges of multiple projects from various markets, the major task is how to allocate the human resources available to meet the needs of all the opportunities.

The major key driver of resource allocation is usually how to allocate the resources and keep all the customers satisfied. For Stephen, getting a very high return from a product-market opportunity is not so much of a concern; he is more interested in the potential long term relationship with the customer. Risk and returns are considered and evaluated based on the company's knowledge of the client and the risk factors, but the final decision depends on the "gut feelings" of Stephen and the family. If the three people who are the only ones in the management team feel that the product-market opportunity is right and seems appropriate, the firm will move ahead with the venture. If they feel otherwise or less convinced that it is appropriate, the firm will back off and will not allocate resources or minimize the resources to support such ventures.

- **Resource Allocation Risk-Return Trade-offs**

The leadership of Firm B10 loves to take risk; but with cynical attitude towards return on investments. The entrepreneur, Stephen, is a risk taker, not risk adverse. While interviewing Stephen, he expressed his attitude to risk this way:

I do take risk, I am not risk adverse. If you are risk adverse, you're not an entrepreneur you don't have a business, you have to take a risk; but it has to be calculated you can't jump off a bridge without a parachutes, if it's a risk with a parachute.... You take risk and you trust that the other person will reciprocate appropriately.

Resource allocation risk-return trade-offs are mainly done by Stephen who works with his wife and son to figure out the risk involved in any product-market opportunity under consideration. Based on historical knowledge of the client and with other sources of risks identified, risk-return trade-offs are based on simple calculation of the risks factors and options of mitigating or minimizing the risks. Some of the sources of risk identified include risk of currency exchange and fluctuation, particularly for customer orders from the U.S. and foreign countries, execution risk in foreign markets and non-payment risk for both local and international clients.

Doing business in most foreign markets is considered risky; however Firm B10 has a track record of having sold to 27 foreign markets. This has been accomplished by putting in place some risk mitigation strategies. For most orders from foreign markets, a measure for risk mitigation employed is to engage EDC. If EDC does not work or support the initiative, the firm demands up to 50% advance payments from the customer before entering into any agreement to produce and ship orders abroad. For instance, in 2011, the firm demanded an upfront payment of 50% for an order coming from Indonesia and requested the remaining balance before shipment. In order to minimize execution risk, Firm B10 has a policy of ensuring that their products are installed by their trained employees. To install products at a foreign customer's

location, the firm usually sends a “supervisor” or a highly skillful or knowledgeable worker in order reduce the cost of service delivery, but hires the locals to support the product installation process. A typical installation could take between one to three weeks.

Regardless of the market, Firm B10 is more interested in the high end business from both the local and foreign markets. However, despite the fact that the firm is taking high risks by doing more business with the foreign markets, the firm will not put higher margins separately on products going abroad. Nevertheless, the firm ensures that the customers in those foreign markets are responsible for the shipping cost, duties and all the freight expenses involved. The firm has low expectation of returns even from risky ventures. The reason for this is because the firm is more interested in doing an excellent and high quality job that will maintain the integrity and reputation of the firm, rather than being greedy and charging exorbitant price in order to get high return on investments. Retaining clients for the long haul is more important to the company than short term high returns.

- **Influence on Firm Performance**

Being a small-sized and matured family-owned business that has been in existence for almost forty years, Firm B10 is more interested in sustenance and longevity, rather than quick growth. While sales revenue and good profit margin is important for the survival of the business, taking care of the people is more important to Stephen, the owner. According to him, once the people are happy, other items will follow. However, Stephen acknowledged the fact that sales revenue is pivotal to keeping the employees. He puts it this way:

If you only make 5% that's ok but if you make more that's better but I mean you need the sales to keep people working...but for me, it is more important to have work at a lower profit than to have no work, then you have no profit. You can try to do as much as possible but you still have to be fair.

Stephen believes in seizing opportunities to the maximum when the opportunities present themselves. For instance Firm B10 is currently debt free. All their facilities, machines and equipment have been paid for. Stephen paid all their debt when the U.S. dollar was still very strong, and the U.S. market constitutes a huge part of their business. Now that the U.S. economy is down, the party is over, but they had taken advantage of the good money and paid off their debt. The questionnaire completed by Stephen, the President, provides more information on the contributions of the three markets to the overall firm performance. Table 22 the contributions from the Canadian, U.S., and foreign market to the overall sales revenue for three years (2009-2011).

<b>Year</b>	<b>Overall Sales Revenue</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	\$6.519 million	40%	35%	25%
2010	\$5.249 million	40%	30%	30%
2009	\$7.406 million	35%	40%	25%

Table 22: Financial Performance and Contribution from Markets – Firm B10

Table 23 shows the resource allocation to support markets, as a percentage of overall firm resources.

<b>Year</b>	<b>Domestic</b>	<b>U.S.</b>	<b>Foreign</b>
2011	15%	45%	40%
2010	15%	35%	45%
2009	15%	40%	45%

Table 23: Resource Allocation to Support Markets – Firm B10

As indicated in tables 22 and 23, Firm B10 tries to allocate more resources to support the U.S. and foreign market given that 60-65% of the overall sales revenue comes from these two markets. However, due to economic downturn in the U.S., the impact of re-deploying more resources to this market is not significant. The Canadian domestic market is somehow stable and has been fluctuating between 35-40% in the last three years. The firm experienced a major plunge in due to major business opportunities lost in the U.S. market.

- **Data Sources for Case Analysis:**

- Export trade directory – Canadian Capabilities Company (CCC) Database
- Company's Website
- In-depth in-person interview the President/Founder
- Follow-up telephone interview
- Questionnaire

### **5.3 Resource Allocation and Firm Performance**

Findings from the interview conducted for this research show that resource allocation decisions directly affect returns from markets and consequently influence the firm's performance. Many of the executives interviewed admit that when more resources are allocated to a particular market the firm receives higher returns from such market segments, which subsequently contributes positively to the firm's performance. However, when lesser resources are allocated to the same market segment, they get lesser returns. For instance, the manager of firm B6 indicates that revenues from the U.S. market have increased from 20 per cent to 30 per cent over the last five years. This positive development was made possible by deliberate efforts at allocating more

resources to grow the U.S. sales. He indicated that the firm intends to put additional efforts with the aim to increase the sale numbers in the near future. In another case, a firm executive indicated that the company plans to allocate more resources to improve sales revenue from foreign markets with a higher and significant positive impact on the firm's performance.

With respect to how SMEs perceive and evaluate "Firm Performance", findings from the interviews show that SMEs have various ways of measuring and evaluating their performance. For some SMEs, there are indicators or performance metrics that are put in place to measure and determine their performance. For some, customer satisfaction is at the top of their list. They believe that once they can keep their customers happy, other items, such as profit or sales revenue, will be fine. For instance, the manager of Firm B2 puts it this way:

When employees are happy, shareholders are happy, and customers are happy. We look at those three things, as long as those three things are all in line, the rest falls into place, really. So profits hitting their business plan that keeps our owner happy. Employees, we do employee surveys every year to make sure they're happy with everything. We do profit sharing and have many different company functions and benefits and stuff that keep the employees happy. We treat them well. We do customer surveys as well to make sure in everything all the data analyzed as far as what are the trends, what are people happy with, what are they kind of trending down on, and we'll focus on those things and make sure that we're focusing on that. So we got the big guys to focus on, the



employee, and the customers. I mean for the most part if the customers are happy everybody else is happy.

The concluding statement here indicates that if the customers are happy, then the shareholders and employees will be happy. This also implies that the numbers are inline. SMEs also look at the ease or difficulty of doing business in markets. Performance measures are evaluated per market and country based on the objective of entering such market. Therefore, performance measures, particularly for foreign markets, are relative. For instance, one of the managers put his thoughts this way:

What we do with the markets is that we determine which one is the easiest to service. For instance, we've done a lot of work in Venezuela, there's certain things about doing business that are tougher in Venezuela. So we'll analyze that and say was it really worth having to go through this to do business in Venezuela? You know, it's not the same for every market...it's basically per country. How easy it is to do business with that other country is what we'll analyze.

With some SMEs, profit margin or sales revenue is not a performance measure. Some SMEs are more interested in increasing their assets. Rather than having huge profits, they reinvest money back into the business by acquiring more machines, manufacturing floor space, or facilities, materials. Firm Performance to this class of SMEs translates to "growing the business". Therefore, profitability is not a major issue. One of the managers expresses it this way:

We look into profits, but we don't give it tremendous importance. If we were a public company, and we had to report, in that sense then certainly, probably, the profitability indexes would be more heavily scrutinized. But since we are a small privately-owned company, our profits [...] belong to us, and it's a matter of managing those revenues and using them to grow the business. We have made some heavy investments in the course of the last years to bring manufacturing in-house in regards to handling sheet metal, so that you can see return on that investment in the upcoming years. This reduces our reliance on outside manufacturers and obviously you can say that if you have the equipment and tools you can make it cheaper yourself...so definitely an emphasis on putting the money back in the company to improve sustainability of the manufacturing and sustainability of the company as a whole.

In contrast to this class of SMEs are the set of entrepreneurs that do manage and deliberately control their growth. This set of SMEs take pride in being small. They enjoy the attributes of "smallness" and make them to be more efficient than their competitors; therefore they have always maintained a slow growth over the years. The manager of Firm B2 puts it this way:

It's been 15 years since we started and we've grown from 5 to 25 people. In the next 5 years, we're looking at about 30 people and this facility is probably going to be where we want to keep it. We don't want this business to get too big, because we don't want to become sluggish, we want to make sure that we're lean and we can react quickly to our customers' requests, so we control our growth.

Part of the benefits of being “small” is the SMEs in the category are able to respond to the need of their customer in a timely fashion. One of the managers expresses his excitement of smallness as such:

Because of the size of our company we can react very, very fast which gives us the advantage over everybody else; and, unfortunately, a lot of our customers when it does come down to somebody launching a new product or new bottle shape, the turnaround times are extremely fast everything is needed yesterday so a lot of time we are reacting to our customers’ needs as far as the delivery and when they go overseas a lot of the time you just can’t get that.

In another conversation with the manager of Firm A8, he puts it this way:

We’ve always had slow, controlled growth we never ever, we’ve always [made] sure that when we do hire the next people, when we invest in our new technology as far as equipment stuff. We do that because there has been an increase in the business and that it is sustainable that when we will take the next step as far as growing.

Regardless of how SMEs measure or evaluate their performances, findings from the interviews indicate that resource allocation to each market under consideration affects the overall firm performance differently. For the most part, the domestic market is associated with low return-low risk opportunity, while the U.S. and foreign markets are associated with high return-high risk opportunity. Table 24 shows the differential contribution of each market to the overall sales revenue for the firm. The drawback of

preoccupation with low return assets is that the sales volume must be significant for the effort to influence the sales revenue significantly. SMEs track revenue from various markets and are able to evaluate the overall contributions to the firm performance. All of the executives interviewed in this study admit that sales revenue is of topmost importance. Therefore, deliberate efforts were made to capture the sales revenue of the companies from each of their markets and the contribution to the overall firm's performance.

<b>S/N</b>	<b>Code</b>	<b>Domestic</b>	<b>America</b>	<b>Foreign</b>
1	Firm A1	65.00%	30.00%	5.00%
2	Firm A2	40.00%	20.00%	40.00%
3	Firm A3	10.00%	40.00%	50.00%
4	Firm A4	25.00%	40.00%	35.00%
5	Firm A5	20.00%	40.00%	40.00%
6	Firm A6	30.00%	60.00%	10.00%
7	Firm A7	10.00%	0.00%	90.00%
8	Firm A8	20.00%	25.00%	55.00%
9	Firm B1	10.00%	30.00%	60.00%
10	Firm B2	15.00%	65.00%	20.00%
11	Firm B3	75.00%	15.00%	10.00%
12	Firm B4	25.00%	25.00%	50.00%
13	Firm B5	50.00%	35.00%	15.00%
14	Firm B6	40.00%	40.00%	20.00%
15	Firm B7	35.00%	25.00%	40.00%
16	Firm B8	60.00%	30.00%	10.00%
17	Firm B9	55.00%	15.00%	30.00%
18	Firm B10	40.00%	30.00%	30.00%
19	Firm B11	15.00%	25.00%	60.00%
20	Firm B12	40.00%	30.00%	30.00%
21	Firm C1	30.00%	30.00%	40.00%
22	Firm C2	65.00%	33.00%	2.00%

Table 24 - Differential contribution of each market to the overall sales revenue

While not in the focus or scope of this research, the findings from the interviews uncover the relationship between the number of foreign markets and the influence on

firm performance. Table 25 is an extraction of all case firms that derive fifty (50%) per cent or more of their sales revenue from foreign markets. Firm A7, B11, B1, A8, A3, and B4 are in this category. It seems that the firms that derive significant portion of their overall sales revenue from foreign markets are selling to many foreign countries. For instance, Firm A7 derives 90 per cent of their sales revenue from the foreign markets and they export to forty-seven (47) foreign countries.

<b>Comp.</b>	<b>Prod. Lines</b>	<b># of FM</b>	<b>Domestic(DM)</b>	<b>America(US)</b>	<b>Foreign(FM)</b>
Firm A7	2	47	10%	0%	90%
Firm B11	2	32	15%	25%	60%
Firm B1	3	3	10%	30%	60%
Firm A8	2	9	20%	25%	55%
Firm A3	3	11	10%	40%	50%
Firm B4	3	10	25%	25%	50%

Table 25- Case firms with 50% or more foreign sales revenue

These findings build on the research of Pangarkar (2008). He investigates the relationship between the degree of internationalization (DOI) and firm performance. He argues that the literature addressing this relationship is replete with problematic measures for the key constructs (DOI and firm performance) leading to conflicting and often inconclusive results. He proposes a new measure for DOI (based on the dispersion of sales across geographic regions) and deploys a perceptual, multi-item measure of performance and finds that DOI is positively associated with performance.

The same argument is applicable to sales revenue from the U.S. market. There is a positive relationship between the number of states in U.S. markets and the sales revenue derived from the U.S. Table 26 is an extraction of all the case firms that derive

forty per cent (40%) or more of their revenue from the U.S. Firm B2, A6, A3, A4, B6, and A5 are in this category.

Comp.	Prod. Lines	# of FM	Domestic(DM)	America(US)	Foreign(FM)
Firm B2	5	4	15%	65%	20%
Firm A6	2	5	30%	60%	10%
Firm A3	3	11	10%	40%	50%
Firm B6	3	2	40%	40%	20%
Firm A4	2	7	25%	40%	35%
Firm A5	2	19	20%	40%	40%

Table 26 - Case firms with 40% or more US sales revenue

From these findings, I conclude that returns realized due to resource allocation to domestic, U.S. and foreign markets has a direct relationship to firm performance. When the returns from any of these markets are declining, the influence on firm performance is negative. When the returns are increasing, the influence on firm performance is positive.

#### **5.4 SMEs Challenges and Shortcomings in Making Resource Allocation**

Resource allocation to various markets comes with various challenges and is clouded by numerous shortcomings or limitations. For instance, the findings from the interviews conducted for this research demonstrate that managers do not have a perfect knowledge of the markets they are dealing with and therefore must make some assumptions in making decisions.

From the portfolio point of view, Markowitz (1991) postulates that there are three types of information needed to make a good investment decision: the expected return of each potential asset of the portfolio, the expected risk associated with each asset's return, and the expected correlation of each asset with every other asset in the portfolio. For all the case firms used in this study, the expected correlation of each asset

with every other asset in their portfolio is not a major issue as most of the assets are non-correlated assets. Most of the product lines are distinct and the product-market combinations are separate opportunities with associated returns and risks. The main challenge is being able to determine the expected return of each potential product-market opportunity of the portfolio and assessing and anticipating expected risk associated with each product-market combination's return. The following subsections discuss these issues in more detail.

- ***Anticipation and Assessment of Risks***

A very critical component of the decision-making process for entrepreneurs is being able to foresee and evaluate the risk associated with business opportunities available to them. Wrong judgement or inaccurate assessment could lead to resource wastage and subsequent bad firm performance. Systematic risks are related to the market and are considered non-diversifiable risks (Figge 2004). Findings from the interviews conducted for this research shows that SMEs deals with systematic risk such as the macroeconomic shocks, competition in the industry, recession, and volatility in the exchange market. Other findings include credit risk and transactional risk (i.e. liability involved in shipping product to customers). Firm reputation is very important to the small and medium-sized manufacturing firms interviewed in this study. Therefore, most of them take extra measures to protect their reputation. In fact, it is considered a major risk. The entrepreneur at Firm B12 said:

Another big risk that I guess we're all constantly battling against is losing our reputation as far as service and quality, if we lost that that's a huge risk, if we

lost that, we'd be done. So it's a constant battle every day to make sure that we are the best, the best quality, and the best services, so on.

Therefore, whether they deal with customers in their domestic, U.S., or foreign markets, there is a constant and deliberate effort to create and sustain good firm reputation.

Findings from the interviews conducted for this study show that, for the domestic market, which is mostly considered low risk; some of the sources of risks identified are associated with violations of payment terms signed by clients. Figure 18 shows the various sources of risk for the domestic market and the frequency of related coded statements made by entrepreneurs that were interviewed across the 22 case firms.

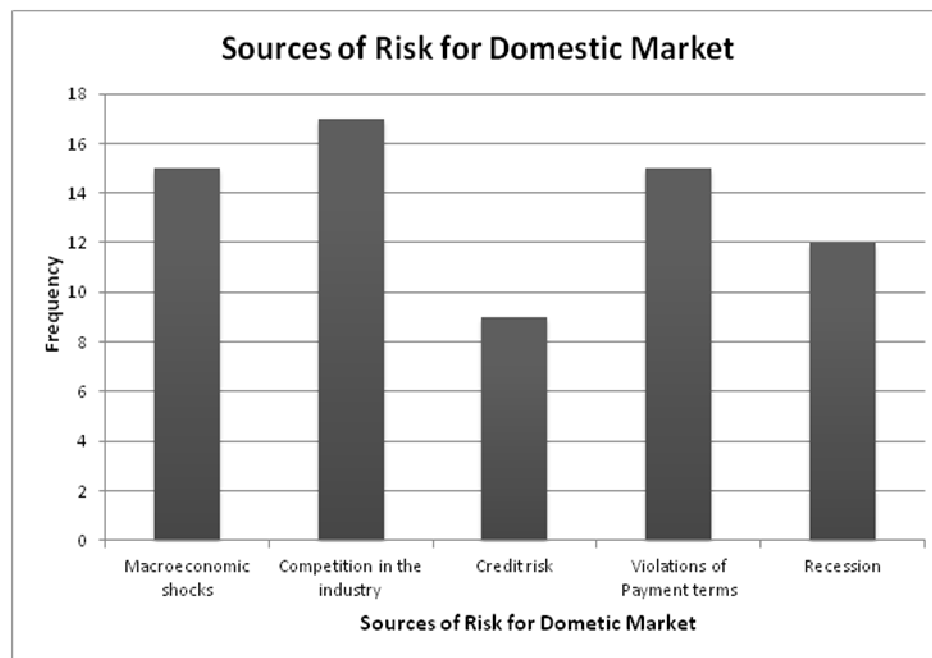


Figure 18 – Sources of Risk for Domestic Market

For the U.S. market, sources of risks include potential litigation threats for preventable and non-preventable shipping errors, negative implications of rules and regulations nuances, and currency and stock exchange volatility. Figure 19 shows the



various sources of risk for the U.S. market and the frequency of related coded statements made by entrepreneurs that were interviewed across the 22 case firms.

For other foreign markets, the aforementioned potential sources of risk also apply; but the greatest threat is related to the uncertainty of the political climate as well as the economic instability in many regions. Figure 20 shows the various sources of risk for the domestic market and the frequency of related coded statements made by entrepreneurs that were interviewed across the 22 case firms.



Figure 19 – Sources of Risk for U.S. Market

The entrepreneurs are not able to influence the market condition and therefore limited in accurately predicting the market condition. This is particularly pronounced when dealing with foreign markets.

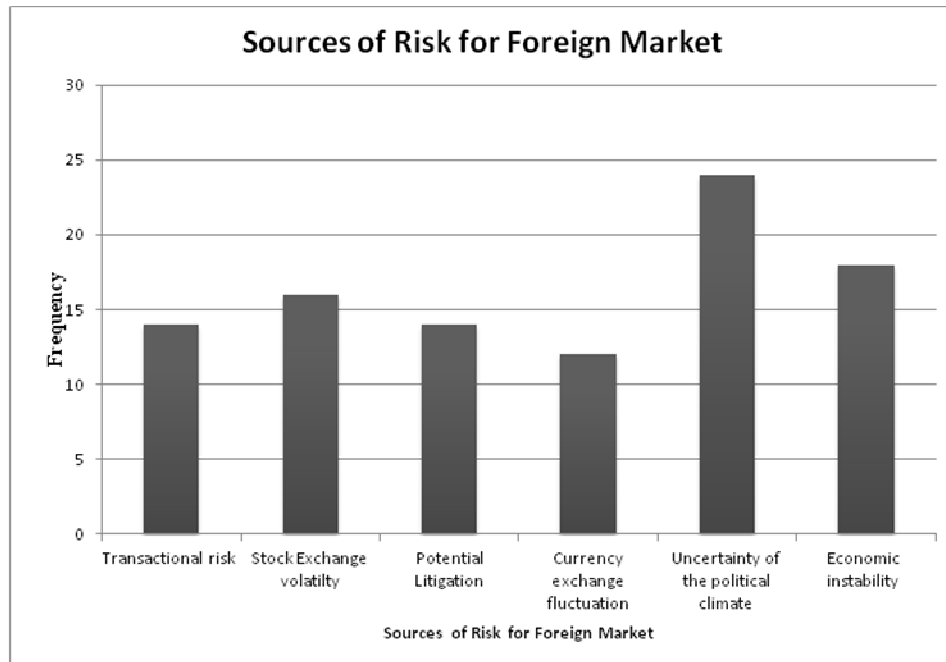


Figure 20 – Sources of Risk for Foreign Market

When asked how they anticipate and assess risk of various markets, particularly the U.S. and other foreign markets, responses from some of the executives (Firm A6, A3, B5, A7, B8, B9, C1) shows that these executives use multiple parameters including assessment of the economic and market conditions, historical facts, and political conditions. The manager of Firm A3 said:

For the local market, because I know the people, it's a lot easier for me to anticipate and predict what sort of risk is involved; but for our foreign customers, I try to look into the macroeconomic, sought of flipped back to my basic knowledge of economics, the political stability and news on economic development of that market and we check out information on the specific customer we're dealing with.

The executives leverage information from the stock market, macro and microeconomics of markets, major events, and news on political and economic developments in such markets to arrive at some conclusions. The manager of Firm A6 puts it this way:

Concerning the risk factor, there may be a couple of them, I guess the biggest risk factor, again, is that you know you're getting your money and now certainly there's always a liability risk especially when you're selling to the U.S. whereby you know if they have a problem with your product they'll come at you with all sorts of lawyers and again when you're selling stuff like cable fillers if somebody has a problem with a cable somewhere who knows what could happen.

Once the level of the systematic risk is evaluated and determined, an entrepreneur's pre-occupation becomes how to mitigate or manage the related risks. The task is more complicated with companies that have multiple product lines and business opportunities in many foreign markets. These firms have larger export portfolios with three to five product categories being sold to more than six foreign markets. Firm B6, Firm B2, Firm B12, Firm B9, Firm B4, Firm B1, and Firm C2 fall in this category.

Non-systematic risk is unique to the asset (e.g., product and pricing strategies) and can be minimized through the use of diversification. (Kundisch *et al.* 2007; Figge 2004). Findings from the interviews conducted for this research show that SMEs deal with non-systematic risk such as manufacturing risk, design risk, execution risk, and maintenance risk (Firm A6, A3, B5, B6, B2, A5, A7, B8, B9, and C1). This type of risk is unique to specific products and is different from product to product. For instance,

commodity products have lower risk compared to customized products that must be meticulously manufactured to precision. Due to its inherent nature, this type of risk can be controlled largely by the entrepreneur. By virtue of their knowledge of their products and what it takes to manufacture them, they are able to anticipate and assess the associated non-systematic risk. With the inclusion of more than two or three product-market combinations (with different returns and non-systematic risks) in a portfolio, SMEs are able to evaluate and diversify the associated non-systematic risk of a portfolio.

- ***Evaluating and Maximizing Expected Returns***

Another challenge is being able to determine the expected return of each potential product-market opportunity under consideration. Returns come in various dimensions. For every investment or resource allocation to product-market opportunities, the returns made by these firms are beyond the monetary gains or financial benefits that are expected from such investments. For many of the executives interviewed in this study, the responses indicate that their expectation in terms of returns on investments encompasses the short, medium, and long-term benefits of such decisions. For instance, some of the executives revealed that when assessing a typical product-market opportunity, they are not only interested in the immediate returns; they are particularly interested in whether the opportunity will lead to more business opportunities in the future. In the words of the manager of Firm B12: “When thinking about potential returns, one of the important things we consider is, is this going lead to more business in the nearest future”.

Therefore, the major concern of the executives interviewed in this study is how to evaluate the potential returns on a particular resource allocation decision on a short, medium, and long-term timeline. This evaluation may be in terms of financial returns, customer satisfaction, reputation, potential new business opportunities, legitimacy and credibility.

## **5.5 SMEs Approach to Addressing Challenges**

Given the associated risks with various product-market opportunities, SMEs are always exploring ways of mitigating or reducing the risk associated with any opportunity under consideration. They also try and maximize the returns by exploring various means at their disposal.

- ***Ways of Mitigating or Minimizing Expected Risk***

Some of the methods employed by entrepreneurs interviewed during this research are outlined below.

- *Creating and Sustaining Firm Reputation*

Building and sustaining the reputation of excellence, high quality services, and products is a top priority in the mind of entrepreneurs. This indirectly helps the firm minimize manufacturing or operations risk. Some SMEs deliberately build internal control measures to ensure that the products that are being sold to various markets are of excellent quality. The manager of Firm B12 puts it this way:

We create and continue to maintain [a] high reputation by putting in place some internal measures. Yes, internal measures. We're small, we talk to each other. Everybody knows what's going on. When there is a problem we all get together, we solve it as a team, and we document it and stuff like that; so with the internal

quality controls that we have and just by having the right people all the time and the culture too. As soon as you get the right culture in place, you know what, that's going to be all right. You change the culture of the company and the employees on quality and stuff, that's just going to be a downslide as well. So, you constantly have to be on top of our game.

In another conversation with the entrepreneur at Firm B6:

Yeah we've worked very hard and we don't allow things to happen that will mess up our reputation. We just worked too hard for it. And so we don't turn out sub-standard product, we don't ship things knowingly that are faulty and if something happens we fix it.

The benefit of a good reputation is that it also attracts more business opportunity to the firm. Customers that have enjoyed good service or a relationship with a firm will most likely refer friends and family to the same company. The manager of Firm B12 expressed it this way:

Where someone said to somebody else "go to that company, because they're good people" and so they come here. Any referral business is the best business in the world because when they come they're not looking at five other companies; they're talking to you because somebody they trust has said "you can trust them". And we try not to break that trust and so we've been successful that way as well. I think we have very good reputation in the industry.

- *Advance Payment Arrangements*

Due to the risk of violation of payment terms, SMEs have device various means of ensuring that their firm company is not exposed unnecessarily by insisting on advance payment of goods and services before delivery. Some requires 50% down payment before they start producing the goods and the remaining balance payment of 50% before shipment. Here is what one of the managers said:

We require a 50 per cent deposit before we start the order and they pay before we ship the product, so we're paid in full when the product goes out the door, customers that we deal with on a regular basis over and over again may get certain terms or whatever, eventually, but for the most part we get paid ahead of time right.

Another manager made a similar statement:

Yes, we say we are going to ship in three days, as soon as we receive your money we'll ship. We do a lot of that in the U.S., since a lot of people are using credit cards we say, you have to pay before we can ship, and they do.

The advance payments arrangement is usually more stringent when dealing with customer from foreign markets. One of the managers said:

We had a job we did in Indonesia many years ago, we said ok we want 50 per cent upfront and we want 50 per cent when we deliver and they came back and said we'll give you 25, 25, 25, 25; but we wanted the last 25 in that 30 days, and I said no, it will be before we ship and they agreed to that. I don't know how I am going to convince them that we are honest. I can always say we don't own

2000 hotels, we don't have that problem. When you get into the bank guarantees and the letter of credit and all that, then everybody understands.

From this statement, it is also apparent that some SMEs utilize bank guarantees, letters of credit (LOC), and the engagement of Export Development Corporation (EDC) to mitigate their transactional risks involved, particularly with foreign customers. One of the firm managers said:

It's been a learning career in the last 2 or 3 years, we use to do it on our own but it got a little messy and sometimes risky, so we went the EDC route, so EDC has been a great help. It took a while to get in; but once you're there, it's good.

○ *Background and Credit Check*

As a means of minimizing risk involved in any business opportunity, some SMEs also conduct background and credit history checks. This is to give them an idea of the credit and financial history of the firm. Particularly for foreign companies the background checks are more intensive. One the managers puts it this way: "We'll usually do a credit check and some background research on potential customers before we do business with them. It's just too risky not to do that".

Apart from the official means of checking through the credit bureau; entrepreneurs also use their personal contacts and networks to investigate a potential customer before making any business commitment. The manager of Firm A6 said;

We do a little bit of both credit bureau check and personal investigation. We did one actually this year, we ended up shipping some of the metal heaters to Lebanon, and it was legitimate. So we always check them out `cause you never know, it could be a scam, right? So he gave us his contact information, so we



were able to check and he actually was a legitimate engineer and he was working for this company and we were able to do all that background check... so they paid before we shipped.

Sometimes, SMEs rely on the knowledge of the Industry and the particular customer under consideration. When dealing with Multinational Enterprises (MNEs), they are more comfortable and generally exercise no anxiety of violation of payment terms. One of the managers puts it this way:

You generally tend to know, if we are dealing with a big electrical wholesale distributor or multinationals, these guys are billion dollar corporations, no issue there, you are going to wait a little bit for your money, but you are going to get paid, now if we are dealing with somebody else then we do a credit check, or we'll do whatever we have to do.

Interestingly, some SMEs have issues with some credit bureaus and claim that the information available through some of the credit bureaus is not current and accurate.

The manager of Firm B8 in Ontario puts it this way:

You know we used to do that in the past. I found that the information was so unreliable; in fact there were cases we were selling to a company where they went out of business and nearly two days before I had gotten a credit report from Don and Brad Street suggesting that they were the greatest thing, and we found out something different. We use to have Don and Brad reports all the time we also were finding them to be just kind of all over the place and not giving us accurate information so we kind of stopped using them.

- *Trade Partnership or Alliance with Foreign Representatives*

The risk associated with selling to foreign markets is high due to the distance and other factors associated with most foreign markets. To minimize this risk, findings from this study show that some SMEs prefer to enter into some trade partnership or alliance with foreign partners that are locally resident in such markets. The entrepreneur at Firm B7 puts it this way:

When dealing with foreign markets, you have to be prepared to negotiate terms that are mutually respectable for the client and for us; in cases where there's higher risk circumstances then you work on the terms or pre-payments or letters of credit, once we are able to put an independent agent or trade partner in that market and we have a good relationship with them, that will facilitate the whole process.

One of the managers also puts it this way:

Usually we wouldn't normally offer an end user in Korea open terms for purchase due to the trade risk. However, we would do so through a local agent; because we know his credit history and we have a good working relationship with him so it opens up a lot of possibilities for our equipment worldwide when we have that kind of trade partnership.

This ultimately opens up more opportunity in the foreign market and also allows the local users to enjoy after sales service and support that is facilitated by the local partner.

Entrepreneurs also explore opportunity to maximize expected returns from any business opportunity under consideration. I discuss this in more detail in the next subsection.

- Maximizing Expected Returns

For a given level of risk, SMEs evaluate opportunities to maximize the potential returns on their investments. However, one of the challenges they face is how to quantify the returns, which is more than the financial benefits. Even though it may be difficult to quantify return on investments in monetary terms, executives have a way of measuring returns based on their experiences and historical facts at their disposal. Resource allocation decisions are then made based on the assessment of the returns with the associated risks. Some of the means of maximizing expected returns uncovered from this study are outlined below.

- *Minimizing Cost*

Findings from the interviews conducted from this study show that SMEs are very critical about monitoring and tracking the cost of doing business. This includes the cost of production, day-to-day activities, cost of sales and marketing and overhead cost. One of the strategies that SMEs utilize in maximizing returns is by minimizing their cost. The understanding is that if the cost can be reduced it increases the profit margin. One of the managers noted that, in order to control and manage cost, they deliberately ensure that all manufacturing is done in-house. He puts it this way:

We have been manufacturing the whole time... and it's an important part of our business, especially being a custom manufacture to be able to deal with the customer, we have our own facility, we kind of consider ourselves a vertical operation, so we do as much in house as we can, so we can control the final outcome of the product, as well as the cost, the time frame, stuff like that.

- *Credit Facilities from Suppliers*

SMEs also seek to enjoy credit facilities from suppliers when possible. Rather than taking loans from the bank, they take materials from suppliers and negotiate to make payments at a later day. With this, they are able to play with time and save potential interest that could have been accumulated through bank loans. For the very small SMEs, any credit facility will go a long way to help their situation. One of the managers puts it this way:

The suppliers gave us 90 days credit, and we flew them in and then we sold and sold. And then we turned around and paid them within the 90 days, that's our survival key, the key to survival was the 90-day credit from the supply.

All the returns cumulate into the firm performance. In the next section I discuss the influence of resource allocation to markets on firm performance.

In summary, this chapter presented the results and findings from the interviews conducted with entrepreneurs in the 22 case firms. It also presented some anecdotal evidence obtained from some of the interviews conducted with entrepreneurs on how they allocate resources to task associated with the domestic, U.S., and other foreign markets. The next chapter discusses these findings, presents conclusions, and includes suggestions for future research.

## **6. Discussion and Conclusions**

The goal of this research is to investigate resource allocation decision-making during the process of internationalization by small and medium-sized manufacturing firms in Canada. Chapter 1 provided an overview of research relevant questions and the theoretical and practical justification for this study. Chapter 2 discussed the relevant bodies of existing literature in order to provide some insight on similar studies that have been conducted in the past on resource allocation and internationalization, internationalization of SMEs, and performance relationship for SMEs and MNEs. Chapter 3 focused on theory development and presented a number of theoretical propositions. Chapter 4 highlighted the methodology and approach used in executing the study. Chapter 5 was a summary of the results and findings. This final chapter discusses the findings of the study and presents an empirically-informed theory of how small and medium-sized manufacturing firms allocate resources between markets. It also presents the theoretical and methodological contributions as well as the managerial implications from this research. The chapter concludes by addressing some limitations associated with the research and suggests possible directions for future research before drawing the general conclusions.

### **6.1. Discussion of Results**

This study was designed to examine resource allocation decisions by SMEs when faced with the task of allocating limited resources to various markets. Four research questions were formulated to guide this investigation. A review of the literature based on these research questions resulted in the development of eight major

categories of theoretical propositions that directly relate to resource allocation decisions to various types of markets whether including domestic, U.S., and other foreign markets and the influence of such decisions on firm performance. These propositions are incomplete by themselves. They are intended to inform a theory of resource allocation that either rejects or modifies portfolio theory. The following subsections discuss findings of this research vis-à-vis the research questions and the theoretical propositions:

### **6.1.1 Resource Allocation Decisions to Domestic, U.S., and Foreign Markets**

From a portfolio theory standpoint, resource allocation to the domestic market, U.S., or foreign market can be seen as an investment into assets with different levels of risks within the resource allocation portfolio. Findings from this study illustrate that, for most of the SMEs, intangible resources seem to play a strong role in achieving and sustaining competitive advantage and have therefore become the pivot for resource allocation. This supports the understanding from existing literature (Prattley *et al.* 2007; Grant 1991; Wernerfelt 1984). Based on Resource-Based View (RBV), Wernerfelt, 1984 captures resources as “anything which could be thought of as a strength or weakness of a given firm...those (tangible and intangible) assets which are tied to the firm”.

According to Markowitz (1952, 1959 and 1991), a rational investor will evaluate and assess the returns of each asset in a portfolio and the associated risk for each return before making any investment decision. Subsequent applications of the portfolio theory to different research areas such as Marketing (Henderson 1979;

Hambrick *et al.* 1982), Corporate Strategy (Ansoff and Leontiades 1976; Hedley 1977), and many other areas have also supported this theory. It is noteworthy that the findings from this study agree with this postulation; but only if the firm is rational and performance driven or growth seeking. In contrast, firms that are not necessarily rational or performance driven make resource allocation decisions based on whatever is the key driver of their engagement in business. Some make decisions based on instinct and are not necessarily rational in their evaluation.

Portfolio theory provides a framework to explore various ways of maximizing the expected return of the portfolio and minimizing the expected risk. Optimizing these two criteria simultaneously is the challenge of entrepreneurs. To resolve this challenge, Markowitz (1952) suggests holding constant variance (risk): maximizing the expected return, and holding constant expected return minimizes variance (risk). This is what most decision makers try to achieve using different strategies that limit risks and maximizes returns. Consistent with the existing literature, results from this study reveal how entrepreneurs try to maximize their expected returns and minimize the associated risks. For instance, leveraging historical facts on customer satisfaction strategies or new product-market opportunities are different ways of minimizing the risk associated with such opportunities. In a similar scenario, Brown (2010), in his study of managing retail format portfolio, suggests that with time series analysis, analysts employ historical returns to infer what managers anticipated in the past. In another application of portfolio theory, Bodie *et al.* (2009) argue that using historical information is appropriate when implementing portfolio concept, since past behaviour is one predictor of future returns.

Loyalty to customers, which may cause an SME to allocate resources to a venture with lesser returns in preference to another opportunity with higher returns, will seemingly not support the idea of maximizing returns. However, I argue that SMEs sometimes consider “good relationship” with a loyal customer a higher return than a seemingly immediate high return. This finding agrees with the research of Kundisch *et al.* (2007) on “Transferring Portfolio Selection Theory to Customer Portfolio Management” in which “relationship-oriented customers” (loyal customers) are considered the assets with high returns in the Customer Portfolio. This finding also builds on the relationship marketing idea that lifetime relationships with customers are more profitable than short-term transactional relationships (Ryals 2003).

Another dimension of maximizing returns is to reduce the transaction cost. Researchers are consistent in their view that transaction cost minimization is a good strategy of maximizing returns or profit (Ghoshal 1987; Allen and Pantzalis 1996; McNaughton 1996; McNaughton and Bell *et al.* 2001; McNaughton 2002; Zhao *et al.* 2004). Findings from this study show that SMEs explore various means of minimizing various cost components such as manufacturing costs, overhead costs, design costs, sales and marketing costs. For instance, most entrepreneurs will not turn down any order from customers even when they are at full capacity of manufacturing or production. The economics of scale achieved through increased sales volume helps in reducing the overhead cost. In Beuhler’s (2006) study of applying the portfolio theory to water resources, the return is measured as cost reduction per unit volume of water. However, I argue that the downside of being contented with low return assets in order



to write-off overhead costs can be considered as potential missed opportunities that are capable of yielding high return assets.

Focusing on assets with high returns is another means of maximizing the returns of the portfolio. When SMEs focus their attention on customers that are willing to pay more than the standard price, the goal is to maximize returns. This finding agrees with many of the perspectives in the existing literature. For instance, Ryals (2003) views customer base as an investment portfolio and classify customers with higher profitability as high return–high risk assets. This study also reveals that the challenge of resource allocation is less burdensome where resources are fungible and/or where firms are endowed with a wealth of corporate knowledge gained over time by employees with many years of experience.

Conclusions from this study show that SMEs will allocate relatively more resources to the domestic or U.S. market when the market generates high returns at perceived low levels of risk. Once the expected returns from a product-market opportunity has been established, the goal of an entrepreneur is how to mitigate or reduce the associated risks. If the market begins to generate high returns due to an effective risk mitigation strategy, the SME is encouraged to allocate more resources to that particular market. This is also the case when foreign markets generate high returns at a perceived low level of risk. This finding agrees with some viewpoints in the existing literature (Brown *et al.* 2010, p. 25; Garrett and Cox 2008; Kundisch *et. al.*, (2007). Brown *et al.* (2010, p. 25) apply the modern portfolio theory to manage portfolios of retail formats. An interesting part of the results of their study shows two retail formats within the portfolio, but one does have a higher return on investment than

the other. They suggest that resources (in this case, the number of rooms) should be redirected away from the retail brand with lesser returns to the brand that generates higher returns.

However, based on the findings from this study, SMEs that are risk averse will allocate relatively fewer resources to the domestic, U.S., or foreign markets when these markets generate high returns at a perceived high level of risk. This discovery differs from the views presented in some extant literature (Elton *et al.* 2003; Figge 2004; Kundisch *et al.*, 2007; Roques *et al.* 2010). Most of these studies show that investors can allocate more resources to markets when these markets generate high returns at a perceived high level of risk. However, my findings show that for SMEs in the manufacturing business, the attitude to risk is a major determining factor. For SMEs that are risk neutral or a risk lover, this is possible. Nonetheless, if an SME is risk averse, he or she will likely allocate relatively fewer resources to such markets.

The return on investment for each market is an important issue for consideration. Results from this research confirm that any return on investments made in the domestic or U.S. market is negatively related to an increase in the level of risk in these. This also applies to the return on investments made in other foreign markets. The executives who participated in this study highlight that the lesser the risk level, the more likely there will be the expected returns. This is why entrepreneurs explore various means of minimizing the level of both systematic and non-systematic risks. This analogy supports the understanding from the existing literature (Figge 2004; Olson 1999, p. 83; Groombridge *et al.* 1992, p. 426–430; Swanson 1992, 1994; Heywood *et al.* 1995, p. 862). For example, the risks associated with dealing with customers in a

new foreign market are considerably reduced when resources that are originally from the host country are hired and re-deployed to such markets. This will facilitate unambiguous negotiations and transactions become easier with the absence of language or cultural barriers. This strategy could potentially lead to higher returns from such markets.

Based on these findings, the modified theoretical propositions for resource allocation to domestic, U.S., and foreign markets are as summarized in Table 27.

<b>S/N</b>	<b>Propositions</b>	<b>Contingent on:</b>	<b>Findings</b>
P1a.	Firms will allocate relatively more resources to the domestic or U.S. market when the domestic or U.S. market generates relatively higher returns at perceived lower levels of risk.	Firm is rational and performance driven or growth seeking	Supported
P1b.	Return on investment from the domestic or U.S. market is negatively related to perceived increasing level of risk in the domestic or U.S. market	None	Supported
P1c.	Firms will allocate relatively fewer resources to U.S. or foreign markets when the U.S. or foreign markets generate relatively higher returns at perceived higher levels of risk.	Firm is rational and performance driven or growth seeking, but risk averse	Supported
P1d.	Return on investment from the U.S. or foreign market is negatively related to perceived increasing level of risk in the U.S. or foreign market.	None	Supported
P2a.	Firms will allocate relatively more resources to the U.S. or foreign markets when the U.S. or foreign markets generate relatively higher returns at a perceived lower level of risk	Firm is rational and performance driven or growth seeking	Supported
P2b.	Firms will allocate relatively fewer resources to the U.S. or domestic market when the U.S. or domestic market generates relatively higher returns at a perceived higher level of risk.	Firm is rational and performance driven or growth seeking, but risk averse	Supported

Table 27 – Summary of Propositions and Findings-1

In general, the initial theoretical propositions are mostly supported, but with additional clauses based on findings. For instance, the manner in which resources are allocated to domestic and U.S. market (where the U.S. market is considered “domestic” and less risky) is contingent on whether the firm is rational, performance driven, or growth seeking. Resource allocation to the foreign and U.S. markets (where the U.S. market is considered “foreign” and risky) largely depends on whether the firm is rational, performance driven, or growth seeking as well as on the firm’s disposition to risk taking.

### **6.1.2 Resource Allocation Risk-Return Trade-Off**

Markowitz (1952) prescribes a mean-variance efficiency frontier for which combinations of resource allocations can be made to two markets with low return-low risk and high return-high risk assets. Due to the limited resources available to most firms, it is very crucial for entrepreneurs to make trade-offs. The method of making these trade-offs according to Markowitz is the same as the process of finding a feasible point on the efficiency curve, *i.e.* efficient risk-return combinations that are attainable by a firm that has the opportunity to invest in both domestic and foreign markets. Findings from this research imply that risk-return trade-offs decision-making by firm executives are largely dependent on the firm's disposition to risk and returns. In making these trade-offs, SMEs try to balance their desire for higher returns and their aversion toward risk (Aouni 2009).

The consequence of making a wrong decision is the likelihood of an existing optimal alternative that may give a better performance, and this alternative would have been missed. For every resource allocation decision, there is a sacrifice for making such

decisions called the “opportunity cost” (Solomon 1966; Becker 1968; Horngren and Foster 1987). An accurate risk-return trade-off will ensure that the opportunity cost is less expensive. When the potential returns that should have been obtained by choosing the next best alternative is more than the returns from the option chosen, then the chosen option is less attractive and not optimal. This argument is consistent with Markowitz’s assertion in the mean-variance efficient frontier, a set of optimal portfolios that a firm can choose from (Markowitz 1959). All the points below the “mean-variance” curve are not optimal, while points above the curve are not feasible.

It may be challenging to prescribe a single optimal portfolio combination because of the two assets in the portfolio framework and their associated risks; rather, a range of efficient choices may be a better solution. This study confirms that SMEs will choose a risk-return combination based on their own preferences and risk aversion. More risk-averse SMEs would be inclined to own relatively conservative portfolios with more low-risk and low-return assets. Less risk-averse individuals, on the contrary, will prefer portfolios with more high-risk and high-return assets. Consequently, this finding supports my proposition stating that firms will generate high returns from the domestic market at high levels of risk and low returns from the same market at low levels of risk. Similarly, firms will generate high returns from the U.S. market or foreign markets at high levels of risk and low returns from the same market at low levels of risk. The summary of the related theoretical propositions is as shown in table 28.

S/N	Propositions	Findings
P3	Firms will generate higher returns from the domestic market at perceived higher levels of risk and lower returns from the same market at perceived lower levels of risk.	Supported
P4	Firms will generate higher returns from the U.S. market at perceived higher levels of risk and perceived lower returns from the same market at perceived lower levels of risk.	Supported
P5	Firms will generate higher returns from foreign markets at perceived higher levels of foreign market risk and lower returns from the same market at perceived lower levels of foreign market risk.	Supported

Table 28 – Summary of Propositions and Findings-2

Another interesting finding that relates to seeking and achieving optimal portfolio combination is that entrepreneurs will very frequently not seek or research an optimal solution but they will still achieve good firm performance, which may or may not be optimal. For instance, most entrepreneurs will never turn down orders from their customers regardless of their resource constraints and limitations. And, because of this, they most likely may fall below or above Markowitz’s mean-variance efficient curve. According to Markowitz (1952; 1959; 1991), theoretically, the points below the curve are not optimal, while the points above the curve are not feasible or achievable. Nevertheless, in practice, firm managers always succeed in figuring out the best way to meet the needs of all their customers.

### 6.1.3 Resource Allocation and Influence on Firm Performance

One of the objectives of this study was to examine the how influence of resource allocation decisions to various markets affected a firm’s performance. The literature is in agreement that internationalization enhances firm performance in general (Pangarkar 2008; Capar and Kotabe 2003; and Lu and Beamish 2001, 2006). However, how firms evaluate and measure “performance” varies. Findings from this research

show that how firms perceive, evaluate, and measure performance is largely related to the firm's business objectives and strategic focus. This supports the understanding from existing literature (Lu and Beamish 2006; Contractor *et al.* 2007; Pangarkar 2008). For instance, Lu and Beamish (2006) suggest that performance is a multi-dimensional construct, given the various possible motivations and goals that might accompany any internationalization strategy (Lu and Beamish 2006).

It would be unrealistic to use the same performance measure to evaluate firms given their unique situation and context. Some firms manage small portfolios due to the fact that they only have a few number of product lines and also export to a few number of foreign markets: while some firms have very large portfolios containing many product lines being sold to many foreign markets. It is interesting to note that there are some SMEs that do manage and deliberately control their growth. This set of SMEs take pride in being small. They enjoy the attributes of "smallness" that make them to be more efficient than their competitors; therefore, they have always maintained a slow growth over the years. The differences in the results of these enquiries can be attributed to the differences in strategies or perspective utilized by managers in managing, evaluating, and measuring firm performance.

However, for some firms, depending on what stage they are in their life cycle and on the firm's business objectives, performance evaluations could be based on different factors. For instance, many SMEs that are currently in the early stages of their evolution could place a strong emphasis on growth and as a result focus on profitability that in turn may understate the true performance achieved by these firms. Lu and Beamish (2001) suggest that firm growth is an important dimension of firm

performance, especially for SMEs. So it is important to understand the influence that internationalization has on both the growth and profitability of SMEs.

Some SMEs define their performance in qualitative terms and connect this to the quantitative performance data available to them. For instance, in this study, customer satisfaction is a major performance measure for some companies. The understanding is that once they can keep the customers satisfied other quantitative measures such as profit and sales revenue will be fine. It is also assumed that once the customer is happy, both the stakeholders and the employees will be satisfied. This finding supports understanding from extant literature (Bowman and Narayandas 2004; Reinartz, Krafft and Hoyer 2004; Ryals 2005; Wilson, Daniel and McDonald 2002).

With some firms, their major focus is to grow the sales revenues, which consequently increases the profit margin, if the cost of growing the sales revenue is not significant. Some SMEs are more interested in increasing their assets. Rather than accumulating cash, they re-invest funds back into the business by acquiring more assets. Responses from the interviews conducted with managers show that, for the “rational thinking” firm that is growth seeking and performance-driven, sales revenue and profit appear to be the two major factors by which performance is measured. These findings are consistent with the understanding of the literature. In general, the literature agrees that two of the most common goals attributed to internationalization are achieving firm growth and improving a firm’s profitability (Oviatt and McDougall 1994; McDougall and Oviatt 1996).

During the period of internationalization, by allocating resources to domestic, U.S., and foreign markets of the company, it is expected that the return on investment



from these segments of the business will contribute to the performance of the firm. Based on finding in this study, I argue that resource allocation to domestic, U.S., and foreign markets has a different influence on the firm's performance. The findings reported in chapter five showed the different impacts in terms of sales revenue for an average of a five-year period. These findings support the proposition that firm performance is influenced positively when the firm generates high returns from the domestic market, U.S., and foreign markets. It is interesting to note that when resources are reallocated from one market to another market, the returns from the former plunges and it results in a negative influence to the firm's performance. Therefore, in the same vein, firm performance is influenced negatively when the firm generates low returns from the domestic market, U.S., and foreign markets. Table 29 shows the summary of related propositions and findings.

S/N	Propositions	Findings
P6.	Firm performance is influenced positively by higher returns from the domestic market and negatively by relatively low returns from the same market.	Supported
P7.	Firm performance is influenced positively by higher returns from the U.S. market and negatively by relatively low returns from the same market.	Supported
P8.	Firm performance is influenced positively by higher returns from the foreign market and negatively by relatively low returns from the same market.	Supported

Table 29 – Summary of Propositions and Findings-3

These findings are similar to some studies from existing literature. In a related study, Chen and Hsu (2009) investigate the effects of internationalization and resource allocation on firm performance. However, their study only focuses on resource allocation between R&D expenditures and advertisement and the respective impacts of such allocation on firm performance. Contractor *et al.* (2007) and Lu and Beamish

(2001) examine the effects of exporting and foreign direct investment (FDI) on SME performance using return on assets (ROA) as a measure of performance. Even though these studies are similar in nature, neither of these studies examine and uncover findings on resource allocation to support domestic, US and foreign market and the differential influence on firm performance. This study fills this gap.

In the next subsection, I will highlight the contributions of this study.

## **6.2 Theoretical contributions**

From a theoretical perspective, this research contributes to the existing literature on international entrepreneurship, international business, decision analysis, and management of technology. The research to date in international entrepreneurship focuses on the outputs of internationalization (i.e., where, when, and how firms export their products). I focus on the inputs that make this happen (i.e., the allocation of resources). This research fills the existing gap, making a significant theoretical contribution to this field.

Portfolio Theory, as a well-recognized phenomenon in investment decisions, has been applied in different areas of endeavour outside of its original root: finance, for example, as captured extensively in my literature review. No known study, however, has explored resource allocation decisions between domestic, U.S., and foreign markets for small and medium-sized manufacturing firms and the impact on firm performance. Resource allocation during internationalization is analogous to financial investments in a portfolio of opportunities, each associated with different levels of potential return and risk around that return.

This study is an extension of portfolio theory into International Business (IB), a domain outside of “Finance”. This theory has been applied to investment decisions for MNEs (Levy and Lim 1994). Also, Rugman *et al.* (2008) examine the resource allocation decisions between domestic and foreign markets for MNEs and the impact on firm performance. That said, as far as I know, there is no research that has examined resource allocation during the process of internationalization of SMEs from the standpoint of portfolio reasoning. This research addresses that gap.

### **6.3 Methodological contributions**

In this study, I apply a multiple case-based qualitative approach that in turn is based on the critical realism paradigm that aims at investigating resource allocation decisions during the process of internationalization of SMEs. This method has been applied to studies in international entrepreneurship and SMEs to a limited extent, despite its potential to generate “contextual and causal explanation” (Welch *et al.* 2011). According to Eisenhardt and Graebner (2007) “...building theory from case studies is a research strategy that involves using one or more cases to create theoretical constructs, propositions and/or midrange theory from case-based, empirical evidence”. Case studies are rich, empirical, descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Yin 1994). Using this approach to study resource allocation decisions contributes to methods in international entrepreneurship by exploring and enhancing the understanding of the theorizing potential of case study as a method.

Case-based critical realism as an approach to study the application of portfolio theory in resource allocation decisions during the process of internationalization

provides a framework that examines the nuances of resource allocation and the unrealistic assumptions of portfolio theory. One of the issues that critical realists have with the portfolio theory is that it projects a highly simplistic view of reality. For instance, as uncovered in this research, for firm managers who apply the portfolio reasoning to their resource allocation decisions, anticipating and calculating “risk” associated with “returns” from various markets is not a simple and straightforward task. Some firm managers do not even engage in “portfolio thinking” when making product-market decisions because they have different business objectives. Therefore, studying resource allocation decisions from the “portfolio theory” standpoint, which is predominantly a positivist’s concept, using a case-based critical realist approach not only contributes to the methodology in international entrepreneurship (IE), but it also enriches the context orientation of IE research.

In addition, this research makes a methodological contribution by providing a fully documented and replicable methodology for carrying out any similar or related research based on critical realism as a paradigm. The process of data collection, case development, and detailed analysis contributes to the standardization of the collection of international comparative data.

#### **6.4 Managerial implications**

From a practical point of view, executives, managers, entrepreneurs, and decision makers within the manufacturing industry can benefit from the findings of this research. Executives and individuals in leadership positions within firms can use the findings of this research to evaluate the firm’s resource allocation decision framework and explore how they can make better and more informed decisions based on accurate

assessments and the mitigation of risks associated with returns on investments from various markets, thereby improving their firm's performance.

One key implication of this study is that making resource allocation risk-return trade-offs, that is, decisions between "high return-high risk versus low-return-low risk" is an important piece that must be considered carefully based on the specific prevailing situation at a point in time. Focusing on product-market combination that is high return-high risk at the expense of the ones with low return-low risk may be dangerous to the firm on the long run. Managers need to do all that is possible to accommodate most of their customers' orders. For instance, timelines of delivery could be negotiated to spread out orders and still meet the needs of various product-markets. Low return-low risk assets tend to be regular and keeps the manufacturing plant busy when the high return-high risk asset tends to be less frequent or not in demand.

Anticipating, assessing, and managing risks are vital components of resource allocation decisions to various markets. Managers must devise ways of anticipating and assessing risks associated with doing business in various markets. They need to explore various ways of reducing or mitigating risk inherent in markets so that resource allocation to such markets can yield return on investments that are worthwhile. For instance, when dealing with customers in foreign markets, engaging with Export Development Canada (EDC) in their transaction may help in reducing the associated risk.

Resource fungibility, that is, the ability to redeploy or substitute resources from one product-market combination to another, helps considerably in resource allocation decision-making. This is particularly true for human resources, when resources are fungible they become "utility resources" that can fit in anywhere. Therefore, managers

should deliberately equip their human resources through a barrage of trainings such that they are appropriately positioned to be allocated or reallocated to different product-markets.

Evidence from this study shows that the small and medium-sized manufacturing firms tend to apply portfolio reasoning and the impact of this is shown in the firm's performance, particularly when they are able to anticipate and mitigate risks associated with diverse markets. The implication of this to managers who aspire to grow from very small to small and then to medium-sized firms, is to begin to apply the portfolio theory thinking early while still very small in order to improve the firm's performance and grow the business to the next level.

## **6.5 Recommendations for Managers**

The insights gained from best managerial practices observed in the case firms in this study provide a window of opportunity to make recommendations to managers who encounter various challenges and problems while making various resource allocation decisions to various markets during the process of a firm's internationalization. In this section, I provide some suggestions or recommendations on how some of these challenges can be avoided, anticipated, and/or addressed. I also provide specific recommendations to managers in each quadrant of my risk-return trade-off matrix (see Figure 12) on specific examples of actions that managers might take that could improve their decision-making about portfolios of product-market opportunities, and hence overall firm performance.

The first recommendation is on product diversification. Diversification into multiple product-market opportunities helps to reduce or minimize non-systemic risk.

For product diversification to be effective, it is recommended that the product lines should be uncorrelated. If the product-market opportunities are uncorrelated, then when the sales revenue from one product-market is low, the revenue from the other product-market opportunities may be high and keep the firm going. For instance, if sales revenue being generated from the product category being sold to the U.S. market is down, due to recession or other reasons and therefore impacts the firm performance negatively, the firm may gain financial strength from the other product lines or same product line being sold to the domestic and/or foreign markets. This recommendation is particularly useful for managers with firms who only focus on one product category, or products, that are correlated. A key concept of portfolio theory is that the individual assets within the portfolio must have little or no correlation.

The second recommendation is on strategic partnership for internationalization. For managers who consider the Canadian domestic market a “comfort zone” that is less risky and desire to export to foreign markets, but may be hesitant due to the perceived risk inherent in the process, I suggest strategic partnerships with firms in Canada or the U.S. that are already exporting to these foreign markets through their existing channels. Such partnership could generate more revenue, without necessarily taking on too much risk. While this recommendation is useful for all categories of managers in this study, managers in category 1 and 2 who are risk-adverse may find this more suitable. Lessons learned from this study show that some entrepreneurs in these two categories were able to successfully enter various international markets by partnering with other firms in Canada and the U.S. who have existing distribution or export channels to such markets.

The third recommendation is on how to avoid unnecessary delays in the process of exporting products to some foreign markets due to stringent export documentation requirements by the host countries of these markets. I recommend that managers should make extensive enquires about all the necessary documentation and paper work needed to export to any country before making any attempt to export. It may be at any firm's peril to assume that the required documentation is similar or the same for all countries. Managers should ensure that all documents are prepared correctly, down to the greatest detail, to avoid unnecessary delay and rejection. For instance, some countries require that all the exports documentation must be signed and stamped by the local embassy or consulate. However, not all consulate of countries are available in Canada, therefore such documentation must be sent to the U.S. which comes with a fee and additional time for processing. In the process of experiencing delays, currency exchange rate fluctuation may set in, leading to more losses in the expected returns from such endeavors.

The fourth recommendation is on expansion or growth through the usage of manufacturer agents or representatives. This is particularly relevant to managers in all the categories who manufacture and sell standardized products that require little or no customization. For instance, if you are a manager of Firm B4 (risk-adverse, with low expectation of returns), but desires to expand into new markets with minimal cost, I suggest the usage of manufacturer agents to sell more products in these markets. Manufacturer agents are like "mini-FDI", but without the associated overhead cost of running a typical FDI abroad. However, this must be carefully done such that products are not tied down in inventory for a long period of time. There is a need for managers to



carefully look out for manufacturer agents that have active sales men who would not just stock their products on the shelves, but aggressively market these products.

The fifth recommendation is on how to minimize or avoid installation or execution risk of products in various markets. This is particularly relevant to managers in all the categories in my risk-return trade-off matrix and who manufactures products with high level of customization and also required careful installation on client sites. Some of the installation may require the deployment of the firm's technical crew to the client's site, given the skillset required for such installation. The resource allocated to such assignments translates to additional cost. As a trade-off between the risk involved and the expected return, I recommend that if a firm is exporting products to foreign markets, which requires a need to also install the product with unique skillsets resident in the firm, one or few skillful or knowledgeable employee can be deployed abroad and the locals hired to support the installation. This will reduce the cost of installation, while still minimizing the risk of wrong installation.

The sixth recommendation is how to relieve the burden of resource allocation decisions through resource fungibility. I recommend that managers should deliberately build human resource pool with resources that have multiple skillset and expertise, such that resources can be allocate and re-allocated as and when needed to meet customer's conflicting demands. This can be achieved through both internal and external trainings, on-the-job mentoring and coaching programs. Employees can also be deployed and re-deployed from different units to other, so that they can build their skillsets through the process.

My seventh recommendation is on optimal utilization of resources. I suggest that managers should make careful choices about where to focus their energies for the best possible return. This is particularly useful for manager in category 3 and 4, who are relatively less risk adverse (risk-loving). There is a need to consider all the associated contingencies and several factors in the process of analyzing and determining where to focus attention for maximum benefit. Evidences from this research show that some even when the level of risk is appropriate and the potential return is considered good, other factors may determine whether it is optimal to allocate resources in a product-market opportunity versus another. Such factors includes macroeconomic condition of the market and how it affects the firm, recession, stock market and currency exchange rate fluctuation particularly for the U.S. and foreign markets.

The last recommendation is on how to minimize the risk of cultural difference when entering or dealing with some foreign markets. Cultural or language barrier may cause a major setback in dealing with some foreign markets, thereby jeopardizing the potential opportunities that could have improved the firm performance. Based on findings from this study, I recommend manager hiring resources that are originally from the host country of such market, train these resources and allocate the responsibility of dealing with such market to them. If needed, such resources can be deployed back to their country and continue to work on behalf of the firm. For instance, if you are a manager of Firm A4, and you desire to enter the Chinese market without necessarily have to go back to school to learn Chinese language, I suggest hiring a Chinese locally in Canada and let him or her deal with the Chinese market on your behalf.

## **6.6 Limitations of the study**

There are limitations associated with this study. First, the research applies the case-study method based on critical realism. As is commonly recognized, the possibilities to generalize from case results are limited. However, the aim of this research is not to achieve generalizations over the broad spectrum of SMEs; but, rather, to arrive at less far reaching analytical generalizations, to the extent achievable by a case-study research design. In addition, the logic of generalizability is very different for case research, which points to “analytical generalization” rather than “statistical generalization” (Yin 1989, p. 21), as in the positivist research paradigm. The main rationale for multiple data sources is that it allows for triangulation and enhances the construct validity of the study.

Secondly, given the multi-dimensional nature of this research, using case based critical realism approach helps to account for the context within which the research is carried out. For instance, this research utilizes manufacturing firms in Canada as samples; thus, generalization of the results to other types of firms in other countries may yield a different result. The manufacturing industry in the U.S. is very similar to Canada; but implementing a similar study focusing on U.S. small and medium-sized manufacturing firms may or not result in similar findings.

Thirdly, I focus primarily on export portfolios of SMEs because portfolio decision-making becomes more complex and multi-tiered when dealing with firms with multiple subsidiaries or larger firms with more employees. Other SMEs with multiple subsidiaries or FDI are not included in the case firms selected for this research.

Therefore, the result presented is presumably for small and medium-sized manufacturing firms in Canada with export portfolios only.

Fourthly, in considering the results and findings of this research, it should be noted that the primary data source is the in-depth face-to-face interviews with firm executives, which may be seen as a limitation. However, this was followed-up with telephone interviews to ask more questions. The questionnaire completed and submitted by the executives after interviews also provided additional insights into understanding the performance of the firms. My physical presence at each firm location helped in grasping the full context in which each company operates. These key information sources as well as other information gathering sources such as corporate websites contributed to the final data and consequently formed the basis for the research results.

Finally, while the key constructs used for the theory development of this research are clearly well defined and explained as they relate to the portfolio theory structure, researchers should be cautious when using the current research results as they may no longer be accurate when totally diverged from the context. I reiterate that knowledge is contextual, provisional, and strongly influenced by perspective. These constructs may have different meanings and perceptions in different contexts/environments depending on the respondents using these constructs.

## **6.7 Recommendations for further research**

The firms selected for the case studies in this research are small and medium-sized manufacturing firms in Canada. For future research, firms from other industries such as the mining or service industry can be used as case firms or other types of firms such as high-growth firms and gazelle enterprises, to carry out a similar study. The

mechanism for internationalization of firms is different from sector to sector. Therefore, such future enquiries done with firms from different industries may yield a similar or different result.

The business environment and culture in Canada and the U.S. are similar; however, the attitude of entrepreneurs regarding export to and from the U.S. and Canada or other parts of the world is different. Firms operating in a small economy such as Canada, Australia, New Zealand, and Finland may find it necessary to internationalize in order to generate sufficient revenue for sustenance. For example, most of the participating Canadian firms in this study may have prematurely entered into the international arena in order to achieve and sustain good performance. This postulation is not true for firms operating in a large economy such as the U.S. Therefore, a good opportunity for future research is to extend this study to small and medium-sized manufacturing firms in a larger economy such as the U.S. The result may not necessarily be the same.

In this research, I focus on small and medium-sized manufacturing firms with export portfolios only. Decision-making across multiple subsidiaries or multiple foreign direct investments is complex and considered out of scope for the current study. It will be interesting to carry out a future enquiry on how resource allocation decisions are done based on portfolio theory using firms with FDI and export portfolios as case studies.

Portfolio theory is the theoretical framework used in the current study to examine resource allocation decisions. Future research can be done using other decision-making theories such as the opportunity cost theory; transaction cost theory,

and real option theory. These theories can be explored to develop resource allocation decision framework for the internationalization of small and medium-sized manufacturing firms.

## **6.8 Conclusion**

This research examines the problem of resource allocation decisions during the process of internationalization of small and medium-sized manufacturing firms. Specifically, the research focuses on examining the relationship between resource allocation to domestic, U.S., and other foreign markets and the influence on firm performance. The research applies a multiple case-study approach based on critical realism, a qualitative philosophical research paradigm. Data collection was done through in-depth interviews with executives of 22 firms: using within-case and cross-case analysis the findings were used to accept/reject initial theoretical propositions.

Using portfolio theory as the framework for resource allocation decisions, evidence from the case studies in this research show that the small and medium-sized manufacturing firms usually apply directly or indirectly the “portfolio reasoning” in their resource allocation decisions. Whereas, the very small manufacturing firms appear not to be in any way engaged in this phenomenon. They simply make resource allocation decisions based on instinct and on historical facts. If put to use, findings from this research could potentially improve the resource allocation decision-making process of these young and averagely-sized manufacturing firms. Entrepreneurs of these firms will be able to achieve their desired firm performance if the principles uncovered by the findings of this research are properly followed.

Both the research approach and the findings of this research study make significant contributions to the literature in the areas of international entrepreneurship, international business, decision analysis, and management of technology. In addition, from a theoretical point of view, this study presents an extension of portfolio theory in International Business and Management Sciences. Researchers will benefit from the approach outlined in this study for investigating resource allocation decisions and the results of this study will contribute to the advancement in the development of a resource allocation theoretical framework.

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## Appendices

### Appendix A – Mathematical Formulation

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Consider a firm with a rational entrepreneur who has a pool of resources (P) that can be allocated to support the operations/tasks associated with various product-market opportunities with the expected returns from these product-market opportunities being  $r_1, r_2, r_3, \dots, r_n$ , and the variance of returns on these product-market opportunities being  $\sigma_1^2, \sigma_2^2, \sigma_3^2, \dots, \sigma_n^2$  respectively. The firm's expected export portfolio return ( $R_p$ ) is given as:

$$R_p = \sum_{i=1}^n w_n r_n \quad (1)$$

where  $w_1$  is the proportion of overall firm resources allocated to product-market opportunity  $i$  (alternatively called weight for  $i = 1, 2, 3, \dots, n$  and each product-market opportunity  $i$  are considered an asset in the firm's export portfolio), and

$$\sum_{i=1}^n w_n = 1 \quad (2)$$

The firm's export portfolio risk, measured by variance ( $\sigma_p^2$ ), is:

$$\sigma_p^2 = \sum_{i=1}^n \sum_{j=1}^n w_i w_j \sigma_i \sigma_j \rho_{ij} = \sum_{i=1}^n \sum_{j=1}^n w_i w_j \sigma_{ij} \quad (3)$$

Here  $\rho_{ij}$  is the correlation coefficient, and  $\sigma_{ij}$  is the covariance between the returns of  $i^{th}$  asset and  $j^{th}$  asset. In this n-asset portfolio, there are n terms involving variances of n assets, each multiplied by the squared value of its weight plus nC2 (= n (n-1)/2) terms

involving covariance terms (or correlation coefficient terms). In other words, expression (3) can be re-written as follows:

$$\sigma_p^2 = \sum_{i=1}^n w_i^2 \sigma_i^2 + \sum_{i=1}^n \sum_{i \neq j}^n w_i w_j \sigma_i \sigma_j \rho_{ij} = \sum_{i=1}^n w_i^2 \sigma_i^2 + \sum_{i=1}^n \sum_{i \neq j}^n w_i w_j \sigma_{ij} \quad (4)$$

Or

$$\sigma_p^2 = \left[ w_1^2 \sigma_1^2 + w_2^2 \sigma_2^2 + w_3^2 \sigma_3^2 \dots + w_n^2 \sigma_n^2 \right] + \left\{ \begin{array}{l} 2w_1 w_2 \sigma_1 \sigma_2 \rho_{12} + 2w_1 w_3 \sigma_1 \sigma_3 \rho_{13} \\ + 2w_1 w_4 \sigma_1 \sigma_4 \rho_{14} \dots + 2w_m w_n \sigma_m \sigma_n \rho_{mn} \end{array} \right\} \quad (5)$$

The terms within the square brackets ([ ]) in the first part on the right side of equation (5) is the non-removable component of the portfolio risk, that is, the non-systematic risk that is unique to the asset (e.g., product manufacturing risk, product and pricing strategies). This is the risk component that cannot be eliminated or minimized by diversification. The terms within the second brackets ({ }) on the right side of equation (5) is the systematic risk, which is related to the market (e.g., macroeconomic shocks, competitive environment). According to Markowitz (1952) and other portfolio theory scholars (e.g., Henderson 1979; Elton *et. al.* 2003; Figge 2004; Barkley *et al.* 2010), this part can be eliminated or minimized through diversification by having uncorrelated assets in the portfolio. If many of the correlation coefficients ( $\rho_{ij}$ s) in the second part of equation (5) in the brackets ({ }) are negative, and the negative terms are added to the first component of portfolio risk, then the total portfolio risk becomes smaller in value.

The riskiness of a portfolio that is made of different relatively risky assets is a function of three different factors: the riskiness of the individual assets that make up the

portfolio; the relative weights of the assets in the portfolio and the degree of co-movement of returns of the assets making up the portfolio (Markowitz 1991). This is why diversification is meaningful. When the individual assets have no correlation or negative correlation to each other, the overall portfolio risk is reduced due to diversified assets in the same portfolio. In a case of a two-asset portfolio, equation (5) is expressed as:

$$\sigma_p^2 = w_1^2 \sigma_1^2 + w_2^2 \sigma_2^2 + 2w_1 w_2 \sigma_1 \sigma_2 \rho_{12} \quad (6)$$

where

$$w_1 + w_2 = 1 \quad (7)$$

Combining (6) and (7), one gets:

$$\sigma_p^2 = w_1^2 \sigma_1^2 + (1 - w_1)^2 \sigma_2^2 + 2w_1(1 - w_1) \sigma_1 \sigma_2 \rho_{12} \quad (8)$$

By taking the first derivative of changes in risk of one of the assets, that is, differentiating  $\sigma_p^2$  partially with respect to  $w_1$  and setting that equal to zero;

$$\frac{\partial \sigma_p^2}{\partial w_1} = 0, \quad (9)$$

one can obtain the following risk-minimizing proportions of resources that should be allocated to asset 1 and asset 2:

$$w_1^* = \frac{\sigma_2^2 - \sigma_1 \sigma_2 \rho_{12}}{\sigma_1^2 + \sigma_2^2 - 2\sigma_1 \sigma_2 \rho_{12}} = \frac{\sigma_2^2 - \sigma_{12}}{\sigma_1^2 + \sigma_2^2 - 2\sigma_{12}} \quad (10)$$

and

$$w_1^* = 1 - w_2^* \quad (11)$$

Substituting equations (7) in equation (1) for a two-asset portfolio, the expected portfolio return is:

$$R_p = w_1 r_1 + w_2 r_2 = w_1 r_1 + (1 - w_1) r_2 \quad (12)$$

For simplification, if I assume that one of the assets (say, asset 2) is considered to be a risk-free asset or an asset with lower risk that is considerably insignificant, (that is,  $r_2 = r_F$ , which means  $\sigma_F = 0$ ), equation (6) reduces to

$$\sigma_p = w_1 \sigma_1 \quad (13)$$

Substituting (11) and (13) into (12) results in the following expression:

$$R_p = r_F + (r_1 - r_F) \frac{\sigma_p}{\sigma_1} \quad (14)$$

Equation (14) is a straight line with vertical (return) axis intercept of  $r_F$  and slope of

the expression  $\frac{(r_1 - r_F)}{\sigma_1}$  with the horizontal axis measuring portfolio risk. The

tangency point of line formed by equation (14) on the mean-variance efficiency frontier of Markowitz defines the optimum market portfolio.

The situation in this research is a special case of a three-asset portfolio, wherein each of the product-market opportunities (i.e., domestic, U.S., and foreign market) are individual assets in a firm's export portfolio. Let the expected returns from these three product-market opportunities be denoted with  $r_d$ ,  $r_u$  and  $r_f$  respectively and the variance of returns on these product-market opportunities being  $\sigma_d^2$ ,  $\sigma_u^2$  and  $\sigma_f^2$  respectively. The firm's expected export portfolio return ( $R_p$ ) is given as:

$$R_p = w_d r_d + w_u r_u + w_f r_f \quad (15)$$

where  $w_d, w_u$  and  $w_f$  are the proportion of resources allocated to support the operations/tasks associated with the domestic, U.S., and foreign market respectively, and

$$w_d + w_u + w_f = 1 \quad (16)$$

In order to obtain the firm's export portfolio risk, measured by variance ( $\sigma_p^2$ ), there is a need for three correlation coefficients between the domestic market (D) and the U.S. market (U); between domestic market (D) and the foreign market (F); and between the U.S. market (U) and the foreign market (F). The data requirements for a three-asset portfolio grow dramatically using Markowitz portfolio theory formulae. Figure 21 illustrates these requirements.

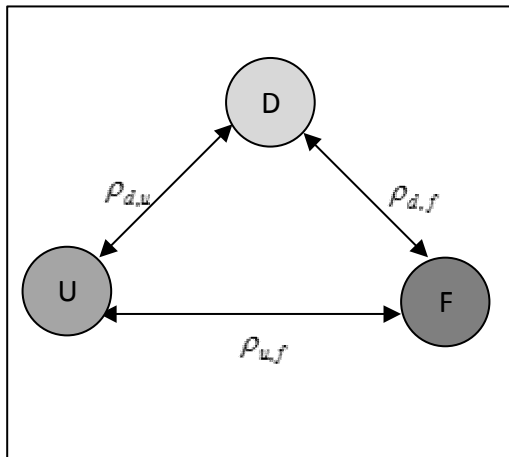


Figure 21: Correlation coefficients between domestic, U.S., and foreign market

In this case,  $\rho_{d,u}$  is the correlation coefficient, and  $\sigma_{d,u}$  is the covariance between the returns from the domestic market and the U.S. market;  $\rho_{d,f}$  is the correlation coefficient, and  $\sigma_{d,f}$  is the covariance between the returns from the domestic market and foreign market;  $\rho_{u,f}$  is the correlation coefficient, and  $\sigma_{u,f}$  is the covariance

between the returns from the U.S. market and foreign market. Therefore, the equivalent of equation (5) for my three-asset portfolio can be expressed as:

$$\sigma_p^2 = w_d^2 \sigma_d^2 + w_u^2 \sigma_u^2 + w_f^2 \sigma_f^2 + 2w_d w_u \sigma_d \sigma_u \rho_{d,u} + 2w_d w_f \sigma_d \sigma_f \rho_{d,f} + 2w_u w_f \sigma_u \sigma_f \rho_{u,f} \quad (17)$$

In the vein as shown with the two-asset portfolio, by taking the first derivative of changes in risk of one of the product-market opportunity, say the domestic market D, that is, differentiating  $\sigma_p^2$  partially with respect to  $w_d$  and setting that equal to zero;

$$\frac{\partial \sigma_p^2}{\partial w_d} = 0, \quad (18)$$

one can obtain the consequent changes in allocations across the three markets in order to maintain constant the overall level of risk

$$w_d^* = \frac{\sigma_u^2 - \sigma_d \sigma_u \rho_{d,u} - \sigma_d \sigma_f \rho_{d,f}}{\sigma_d^2 + \sigma_u^2 + \sigma_f^2 - 2w_d w_u \sigma_d \sigma_u \rho_{d,u} - 2w_d w_f \sigma_d \sigma_f \rho_{d,f}} = \frac{\sigma_u^2 - \sigma_{d,u} - \sigma_{d,f}}{\sigma_d^2 + \sigma_u^2 + \sigma_f^2 - 2\sigma_{d,u} - 2\sigma_{d,f}} \quad (19)$$

and

$$w_d^* = 1 - w_u^* - w_f^* \quad (20)$$

Substituting equations (16) in equation (15) for a three-asset portfolio, the expected portfolio return is:

$$R_p = w_d r_d + (1 - w_d - w_f) r_u + (1 - w_d - w_u) r_f \quad (21)$$

In the same vein as in two-asset formulation, assuming that one of the assets (say, the domestic market) is considered to be a risk-free asset or an asset with lower risk that is

considerably insignificant, (that is,  $r_d = r_F$ , which means  $\sigma_F = 0$ ), equation (17) reduces to

$$\sigma_p = w_u \sigma_u + w_f \sigma_f \quad (22)$$

Substituting (22) and (20) into (21) and re-arranging the equation results in the following expression:

$$R_p = r_F + (r_u - r_F) \frac{\sigma_p}{\sigma_u} + (r_f - r_F) \frac{\sigma_p}{\sigma_f} \quad (23)$$

Equation (23) is a straight line with vertical (return) axis intercept of  $r_F$  and slope of the expression  $(r_u - r_F) \frac{\sigma_p}{\sigma_u} + (r_f - r_F) \frac{\sigma_p}{\sigma_f}$  with the horizontal axis measuring portfolio risk. The tangency point of line formed by equation (23) on the mean-variance efficiency frontier of Markowitz defines the optimum market portfolio. The points on the efficient curve provides options of optimal choices for an entrepreneur; however, given the dynamic nature of risks and returns, resource allocation to domestic, U.S., and foreign markets will depend on the relative level of risk and returns. For instance, if a market is generating relatively higher returns at a perceived lower level of risk, the entrepreneur is encouraged to allocate more resources to such market. These framework forms the basis for the formulation of the theoretical propositions advanced in this research.



## **Appendix B - Interview Recruitment Letter**

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The Participant's Name  
XYZ Company  
Location, Province, Country

Date: Month, Day, Year

Dear Participant,

**Subject: Manufacturing Industry Research Study – University of Waterloo**

My name is Adeoye Adegorite and I am a Ph.D student at the University of Waterloo in the Department of Management Sciences under the supervision of Prof. Rod McNaughton. I am currently working on fulfilling the dissertation requirement for my Ph.D. My research is focused on studying resource allocation decisions for the internationalization of small and medium sized manufacturing firms in Canada. Specifically, the study focuses on investigating the relationship between resource allocation to domestic, U.S., and other foreign markets and the effect on a firm's performance.

Specifically, the research focuses on examining the relationship between resource allocation to domestic, U.S., and other foreign markets and the effect on a firm's performance. The purpose of this invitation is to seek your participation in this research. I am targeting participants who are experienced professionals in the manufacturing industry with a sound understand of exporting activities. Therefore, I would appreciate a one-on-one interview with you to gain insight into your exporting operations. Participation in this study involves an interview of approximately 60 minutes in length to take place at your company's premises or a mutually agreed upon location.

Your participation in the study is voluntary and you may decline to answer any of the interview questions if you so wish. You may withdraw from this study at any time without any negative consequences by advising the researcher of your decision. With your permission, the interview will be audio recorded to facilitate collection of information, and later transcribed for analysis. All information you provide is considered completely confidential. Your name will not appear in any thesis or report resulting from this study, however, with your permission anonymous quotations may be used. Data collected during this study will be retained for five years after the completion of my thesis in a locked office in the Conrad Centre. Only researchers associated with this project will have access. There are no known or anticipated risks to you as a participant in this study.

This project has been reviewed and has received ethics clearance through the Office of Research Ethics at the University of Waterloo. Should you have any questions about the study, please contact me by email at [aiadegor@uwaterloo.ca](mailto:aiadegor@uwaterloo.ca) or Dr. Rod McNaughton at 1-(519) 888-4567 ext. 32713, or by email at [rmcnaughton@uwaterloo.ca](mailto:rmcnaughton@uwaterloo.ca). If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes at 519-888-4567 Ext. 36005 or [ssykes@uwaterloo.ca](mailto:ssykes@uwaterloo.ca). As the researcher in charge of this part of the study, I will contact you within the next few days to discuss your potential participation in this research project. I can be contacted at (416) 826-9212. I look forward to speaking with you and thank you in advance for your time.

Yours Sincerely,

Adeoye Adegorite  
Department of Management Sciences  
University of Waterloo

## **Appendix C - Interview Protocol**

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### **Introduction**

I would like to thank you once again for agreeing to participate in this discussion. I appreciate you taking time out of your busy schedule to assist in this research effort.

Before we begin with the actual interview, I would like to give you an overview of this research study and the goals of this interview specifically.

### **Study Overview**

The study focuses on investigating the relationship between resource allocation decisions and the effect on a firm's performance. The purpose of this interview is specifically to seek a good understanding of your internationalization initiatives through exports, particularly as they relate to your resource allocation decision between domestic, U.S., and other foreign markets.

The research applies a multiple case-study approach. The first step in this approach is in-depth interviews with firm managers of carefully selected small and medium-sized manufacturing firms. The goal at this stage is to understand what resources you consider important when considering international opportunities and how you allocate them to various markets. I believe such understanding can only be gained through interviews with subject matter experts like you.

Following the interviews, the second step will focus on analyzing the interviews. The information from the interviews will be used to answer research questions and the results of this study will be shared with you, if you so desire

### **Interview Format**

The format of the interview is focused and somewhat structured. I will start by asking a question and you can take your time to collect your thoughts and respond. I may ask follow-up or clarifying questions based on your response. You will also have the opportunity to provide general comments, thoughts, and feedback both throughout the interview and at the end.

#### Consent to participate

- Participant is provided with a paper copy of the consent form to read, sign, and return.
- In some cases the consent form may be emailed out ahead of time and may have been returned prior to the interview. In this case a copy of the form is available for the participant's review.

### **Interview Questions**

#### **1. Firm Resources**

- a. Can you give me a brief historical background of the company?

- b. What would you say are the key resources that are critical to the success of the company or that have given your firm a competitive advantage over the years?
- c. In your opinion, as an experienced manager, when you think about firm capabilities, how do you categorize capabilities or resources in your mind?  
*Possible Follow-up question*
  - i. Is this resource classification applicable to your firm?
  - ii. If yes, how would you think about this categorization in the context of your company?
  - iii. If no, how do you think of categories of resources in your company?
- d. Out of these resources, which ones are most important when exploring international opportunities or entering a foreign market?  
*Possible Follow-up questions*
  - i. I noticed that all the ones you told me are important are all intangible (or tangible) resources. Do you agree that?
  - ii. Which of those resources are more or less tangible or intangible (alternative question to (i))
  - iii. Is this the same for addressing all international opportunities or different from market to market?
- e. In the context of the firm entering international markets, which of these resources contribute most to the success of markets?  
*Possible Follow-up questions*
  - i. Is this different when considering domestic vs. U.S. or other foreign markets?
  - ii. Would you say that the intangible resources are the ones that contribute more to your competitive advantage in these markets?

## 2. Markets

Now, we are moving on to discuss the way in which you think about markets.

- a. When planning your marketing activities, do you think about your domestic market as being separate from or distinct from the United States? Do you plan differently between Canada and the United States?  
*Possible Follow-up questions*
  - i. For the United States, do you address this as a single market?
  - ii. When considering the United States' market, do you address it as just a Country or a Regional market or do you see the United States as part of your domestic market?
  - iii. Why do you think about your markets this way? Is it because of the ease of entering the U.S. or due to the Regional trade agreement between Canada and the U.S.?
  - iv. Do you make more sales from the United States or Canada?

- v. What percentage of your total sales or revenue comes from your domestic market?
- b. Now let's talk about your foreign markets. What are your mechanisms for foreign sales? Do you invest in foreign sales offices or do you use distributors?
  - i. From the exports information available through the Canadian Capabilities Company (CCC) directory, I observe that you export your products to the following Countries. Is this information up to date?  
*(A printout of the CCC directory was handed over to the interviewees.)*

### **3. Product-Market Combinations**

- a. From your corporate website and other online resources I discovered that you manufacture the following products: List of products: abc, def, ghi, jkl... *(This list was adapted to the situation of each firm)*. Apart from these products, is there any other item you manufacture that I am not aware of?
- b. I have this matrix (table) showing your products lined up with the Countries you export to, can you help me confirm this information, or check if this is accurate?  
*(A printout of a table showing Product-Markets will be handed over to the interviewee.) – See Appendix E for a sample*
- c. Do you actually think about this and plan it as an overall portfolio or this is just a result of the historical pattern of how you do this?  
*Possible Follow-up questions*
  - i. How and why do you see or think of it that way?
  - ii. What do you think are the advantages of seeing it that way?  
*Possible question from Interviewee: What do you mean by portfolio thinking?*

### **4. Assessment of a Market Opportunity**

- a. As an experienced manager, when assessing international market opportunities, what are the factors you consider essential to your decision of investing in such markets?  
*Possible Follow-up questions*
  - i. Do you consider return on investment?
  - ii. What does return on investment mean to you and how do you measure it?
  - iii. In the context of your firm, what does this term mean and how is it measured?
- b. When assessing international opportunities, is risk also part of your assessment?  
*Possible Follow-up questions*

- i. What would you say are the factors that create risk in any market environment?
- ii. Are these sources of risk the same when you consider domestic vs. international opportunities?
- iii. How do you address or mitigate these risks?

## 5. Firm Performance

- a. What are the metrics you emphasize in managing or to keep track of your progress?

*Possible Follow-up questions*

- i. Do you emphasize different things in different markets?
- ii. Are these metrics driven by the firm's overall strategy or objective of entering a market?
- iii. If yes, can you provide an overview of various firms' objectives of entering markets and the associated metrics used in tracking how well you are meeting these objectives?

- b. In terms of the overall performance of the firm, do you consciously examine what each market contributes to the firm?

*Possible Follow-up questions*

- i. How do you track, measure, and segregate these contributions?
- ii. How do you benchmark performances from various markets, when the markets have different objectives?

## 6. Resource Allocation to Domestic, US or Foreign Markets

Now, let's talk about how you allocate resources to your markets

- a. How do you allocate your resources to markets?

*Possible Follow-up question*

Is your resource allocation based on return on investments from each market or you use other metrics to allocate resources?

- b. When allocating your resources to various markets, do you think in terms of an overall portfolio, by considering return on investments from each market and their associated risks?

*Possible Follow-up questions*

- i. If yes, can you explain how you do this?
- ii. If no, how do you think about your resource allocation?
- iii. How has this evolved over time? Is this an outcome of an unplanned sequence of events over the years?
- iv. Given the benefit of hindsight, would you allocate resources differently today?

- c. Have you observed any relationship between your resource allocation to markets and the return on investments from these markets?

*Possible Follow-up questions*

- i. If yes, how would you describe this relationship for each market?

- ii. If no, why is there no relationship between your resource allocation and return on investment?
- iii. How would you define the relationship between returns on investment from your markets and the associated risks? Explain this for each market.

**7. Resource Allocation Risk-Return Trade-Off**

Lastly, let's talk about how you make risk-return trade-offs between market opportunities

- a. How do you make a trade-off between different product-market opportunities?
- b. What sort of analysis (if any) do you carry out before making a trade-off?
- c. Would you say that your company is risk averse or otherwise?
- d. Today, if you had the opportunity to re-allocate your resources differently between markets, what would you do differently?

**Conclusions and Feedback**

- Summarize key points discussed
- Do you have additional questions or anything you would like to add or discuss?
- Thanks for your time, I really appreciate it. I will keep you posted with the outcome of my research

## Appendix D - Questionnaire

UNIVERSITY OF  
**WATERLOO**

### Questionnaire

#### Welcome

The purpose of this questionnaire is to seek a better understanding of your internationalization initiatives via exports, particularly as they relate to your resource allocation decision between domestic and foreign markets

#### Introductory Questions

S/N	Question Title	Answer
1.	When did you start your exports activities?	
2.	What are your distribution channels for foreign sales?	Please check one or more items from the list: <input type="checkbox"/> Foreign Sales Office <input type="checkbox"/> Distributorship <input type="checkbox"/> Strategic Partnership
3.	How many employees do you currently have as:  <input type="checkbox"/> Full-time <input type="checkbox"/> Contract <input type="checkbox"/> In Canada	  <input type="checkbox"/> Permanent <input type="checkbox"/> Part-time <input type="checkbox"/> In the United States
4.	What is your approximate total sales revenue for the last fiscal year? (CAD\$):	
5.	What proportion of your company's total sales revenue is derived from:	 <input type="checkbox"/> Domestic Market: <input type="checkbox"/> US Market: <input type="checkbox"/> Other Foreign Markets:

#### Resource Allocation and Return on Investment

6.	What proportion of your company's personnel works on your exports activities?  <input type="checkbox"/> Domestic Market: <input type="checkbox"/> US Market: <input type="checkbox"/> Other Foreign Markets:	
7.	What was the approximate annual percentage change in your company's sales and employment in ... (use negative numbers to indicate a decline)	
	Sales:	Employment:
	2011	
	2010	
	2009	

8. Please indicate what percentage of these resources you allocate to your Canadian market, US market and other foreign markets.

Resources\Markets	Canadian Market (% of Resource Allocation)	US Market/Foreign Markets (% of Resource Allocation)
Material		
Human( Personnel)		
Financial		
Physical (Plants, Assets)		
Organizational Resources		
Technological (product and process- related)		

9. Please indicate how well the following statements describe your company: (1=not at all, 7=to a great extent)  
1 2 3 4 5 6 7

We give more attention to foreign markets compared to domestic market:

We allocate more resources to our foreign markets compared to domestic or US Markets:

10. What proportion of your clients or customers is located in Canada, US and Other Foreign Markets?
- Canada:  
US:

Other Foreign Markets:

11. On the Average, what percentage of the overall company assets is located in the foreign markets over the last three years
- (% of Total Assets)  
0 5 10 15 30 45 60 75 90 100  
2011  
2010  
2009

12. On average, what percentage of your company's annual sales is invested into domestic market in the three years?
- (% of Total Sales Revenue)  
0 5 10 15 30 45 60 75 90 100  
2011



2010  
2009

13. Similarly, what proportion is invested into foreign markets in the three years using the scale provided? (% of Total Sales Revenue)
- 0 5 10 15 30 45 60 75 90 100
- 2011  
2010  
2009

**Income and Timing Questions**

14. What proportion of your company's total sales was derived from foreign markets in the last three fiscal years?
15. What proportion of your company's total sales is derived from the domestic market in the last three fiscal years?
16. When you enter a market, over what time horizon do you expect to see any return on your investment?

**Please mail the Completed Questionnaire to:**

Adeoye Adegorite  
Department of Management Sciences  
Faculty of Engineering  
University of Waterloo  
200 University Ave. W.  
Waterloo, Ontario  
N2L 3G1

## Appendix E –Product-Market Opportunity Matrix

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(Example)

Product/Markets	Canada (Domestic)	United States	Denmark	Finland	Germany	Iceland	Norway	Sweden	United Kingdom
Nickel parts and coatings									
Injection mould tool inserts									
Metal coatings and net shapes									
Ultra-pure metal powders and coatings									
Nickel Vapour Deposition									
Chemical Vapour Deposition of Nickel									

## **Appendix F –Consent Form**

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Month, Day, Year

### **Consent of Participant**

By signing this consent form, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

---

I have read the information presented in the information letter about a study being conducted by Adeoye Adegorite of the Department of Management Sciences at the University of Waterloo. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted. I am aware that I may withdraw from the study without penalty at any time by advising the researchers of this decision.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact the Director, Office of Research Ethics at 519-888-4567 ext. 36005 or [ssykes@uwaterloo.ca](mailto:ssykes@uwaterloo.ca).

With full knowledge of all the foregoing, I agree, of my own free will, to participate in this study.

---

Print Name

---

Signature of Participant

---

Date

---

Witnessed

## **Appendix G –Letter of Appreciation**

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Participant  
Chief Executive Officer  
Company A, Address  
Fax Number

Month, Day, Year

Dear (Name of Participant),

I would like to thank you for your participation in this study entitled “Resource Allocation Decisions for the Internationalization of Small and Medium-Sized Manufacturing Firms. As a reminder, the purpose of this study is to understand how firm managers allocate resources between their domestic and foreign markets and the effects of these allocations on the firm’s performance.

The data collected during interviews will provide insights on how shortcomings and problems encountered by the SMEs in making various resource allocations can be avoided, anticipated and/or addressed.

Please remember that any data pertaining to you as an individual participant will be kept confidential. Once all the data are collected and analyzed for this project, I plan on sharing this information with the research community through seminars, conferences, presentations, and journal articles. If you are interested in receiving more information regarding the results of this study, or would like a summary of the results, please provide your email address, and when the study is completed, anticipated by August 31, 2011, I will send you the information. In the meantime, if you have any questions about the study, please do not hesitate to contact me by email or telephone as noted below. As with all University of Waterloo projects involving human participants, this project was reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. Should you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes, Director, Office of Research Ethics at 519-888-4567, Ext., 36005 or [ssykes@uwaterloo.ca](mailto:ssykes@uwaterloo.ca).

Thank you

Adeoye Adegorite  
PhD Candidate  
Department of Management Sciences  
Faculty of Engineering  
University of Waterloo

## Appendix H –Summary of Case Firms

### 1. Firm A1

<b>Firm's Demographics</b>			
Code Name:	Firm A1	Location:	Manitoba
Year Established:	1974	Employees:	7
Industry	Manufacturing	SME Category	Very Small Firm
Method of Exports:		Direct export by courier services	
Primary Industry (NAICS):	315990 - Clothing Accessories and Other Clothing Manufacturing	Number of Product lines	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	65%
US Market:	Alaska, California, and Indiana	US Sales:	30%
Foreign Markets: Saudi Arabia, Aberdeen, Ecuador, Scotland, Greenland, and Venezuela.		Foreign Sales:	5%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with President/Owner at the company premises 2. Follow-up telephone interview		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A1 was initially established in 1947, but was “reborn” by the son of the initial owner in 1974. Therefore, this date has been modified from what is available through CCC. The number of employees reported on CCC is 35, but the current owner has downsized to 7 employees due to economic reasons. All of the firm's products are manufactured and customized locally, but sold to the Canadian domestic market, U.S., and a few number of foreign markets. Firm A1 manufacturers clothing and other clothing accessories. The firm has two product lines and clients from three continents have sought their products. Firm A1's marketing effort is directed towards schools, clubs, and households. Resource allocation decisions principally lies with the owner who runs the day-to-day affairs of the company and make decisions based on his instincts, which may be rational or irrational depending on the situation. Data was collected and analyzed on this firm's positions in category 1 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 2. Firm A2

<b>Firm's Demographics</b>			
Code Name:	Firm A2	Location:	Prince Edwards Island (P.E.I)
Year Established:	1990	Employees:	15
Industry	Manufacturing	SME Category	Very Small Firm
Internationalization Methods: Direct Export			
Primary Industry (NAICS):	333110 - Agricultural Implement Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	40%
US Market:	California, Alabama, Colorado Delaware, and Florida.	US Sales:	20%
<u>Foreign Markets:</u> Australia, Middle East		Foreign Sales:	40%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with General Manager at the company premises 3. Questionnaire completed by General Manager		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A2 is a private small firm in the business of agricultural implement manufacturing and it's located in Prince Edward Island, Canada. Firm A2 was originally established in 1985, before it was taken over by the current owner in 1990. They have operated for about 27 years and they are open year-round. The firm currently has 15 employees after downsizing due to the automation of their manufacturing processes. The staff strength was usually around 25 before the automation most of their manufacturing processes around 2006-2007, which eliminated many of their manual processes. Firm A2's location is a key component to their success because they are right in the middle of their market, that is, the huge farm land in P.E.I. They have a dedicated sales force on the road seeking business opportunities. Their location makes business easy and quick. Firm A2 manufactures three major products. Resource allocation decisions lies with the owner and the general manager. Since most of the manufacturing processes are automated, human resource allocation is the primary concern when allocating resources. Data was collected and analyzed on this firm's positions in category 1 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 3. Firm A3

<b>Firm's Demographics</b>			
Code Name:	Firm A3	Location:	Quebec
Year Established:	1956	Employees:	15
Industry	Manufacturing	SME Category	Very Small Firm
Internationalization Methods:	Direct Export by shipping and Manufacturer Representatives		
Primary Industry (NAICS):	334512 - Measuring, Medical and Controlling Devices Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	10%
US Market:	Alabama, Alaska, Arizona, Arkansas California, and Colorado	US Sales:	40%
<u>Foreign Markets:</u>	Algeria, China, France, Hong Kong, Japan, Portugal, Singapore, Spain, Taiwan, United Arab Emirates	Foreign Sales:	50%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with V.P, Export Sales and Marketing at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the V.P.		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A3 is a family-owned small-sized business established in Quebec in 1956 as a manufacturer's representative; but started its own manufacturing of heating equipment for large commercial and industrial applications in the early 1960s. Firm A3 started with only one line of product: heating equipment (mechanical machines) manufacturing. As the firm expanded in the 1970s, it added another product category: detection device manufacturing (electrical machines). In the early 1990s, the firm launched their third product category: control device manufacturing (electronic machines). Resource allocation decisions lies with the V.P Export Sales and Marketing, who is the son of the owner and responsible for running the day-to-day affairs of the company. Data collected and analyzed on the firm's positions in category 3 of the risk-return trade-off matrix developed in this research (that is, risk-loving with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 4. Firm A4

<b>Firm's Demographics</b>			
Code Name:	Firm A4	Location:	Manitoba
Year Established:	1997	Employees:	20
Industry	Manufacturing	SME Category	Very Small Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	333416 - Heating Equipment and Commercial Refrigeration Equipment Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	25%
US Market:	Alabama, California, Florida, and Illinois.	US Sales:	40%
Foreign Markets: Algeria, Brazil, Libyan, Arab, Jamahiriya, Mexico, and Peru		Foreign Sales:	35%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the Owner/CEO at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by Owner		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A4 was initially started in 1971 by the current owner's boss; but was sold to the current owner in 1997 through a deal between the two parties. This firm is in the business of heating equipment and commercial refrigeration equipment manufacturing. Firm A4 is based in Manitoba and they have a total of 15 regular employees and 5 part-time or seasonal employees. Firm A4 possess over 40 years of engineering experience and knowledge in the commercial industrial refrigeration industry. The key to their success is the fact that their customers can count on them to solve their problems. The firm designs, manufactures and installs equipment for their clients in Canada, U.S., and other foreign markets. Resource allocation decisions lies with the owner who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			



## Appendix H –Summary of Case Firms (cont'd)

### Firm A5

<b>Firm's Demographics</b>			
Code Name:	Firm A5	Location:	Ontario
Year Established:	1988	Employees:	18
Industry	Manufacturing	SME Category	Very Small Firm
Internationalization Methods: Direct Export			
Primary Industry (NAICS):	339110 - Medical Equipment and Supplies Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	20%
US Market:	US	US Sales:	40%
Foreign Market:	Australia, Brazil, Denmark, Finland, France, Germany, Iceland, India, Israel Japan, Democratic People's Republic of Korea, New Zealand, Norway, Spain, Sweden, Switzerland, Taiwan, and the United Kingdom.	Foreign Sales:	40%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with General Manager (GM) at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by GM		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A5 was established in 1988 and they are located in Ontario, Canada, Firm A5 manufactures medical equipment and sells to the Canadian domestic market, U.S. market and other foreign markets. Firm A5 has a total of 18 employees. They have about 2 main product lines. The product that they manufacture is a fairly broad piece of equipment in terms of its application and spectrum. Firm A5 has managed to find a niche market and become specialists in that area. This firm is now one of the few companies worldwide that is capable of producing this type of products used in the industry of medical equipment and supplies. Resource allocation decisions are made by the owner and the general manager, both of who are responsible for the day-to-day affairs of the company and makes decisions based on their assessment of risk and returns on product-market opportunities. Data was collected and analyzed on this firm's positions it in category 1 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 6. Firm A6

<b>Firm's Demographics</b>			
Code Name:	Firm A6	Location:	New Brunswick
Year Established:	1985	Employees:	20
Industry	Manufacturing	SME Category	Very Small Firm
Internationalization Methods:	Direct Export and Strategic Partnership		
Primary Industry (NAICS):	333416 - Heating Equipment and Commercial Refrigeration Equipment Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Atlantic Canada	Domestic Sales:	30%
US Market:	Maine, Iowa, Delaware, and others	US Sales:	60%
Foreign Markets:	Australia, Bulgaria, Croatia, Japan, Slovenia	Foreign Sales:	10%
<b>Data Collection:</b>			
<b>Primary Data Source:</b> 1. Face-to-face interview with the President at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by President		<b>Secondary Data Source:</b> 1. Canadian Capabilities Company (CCC) Database 2. Company's website 3. Product Brochure	
<b>Description of Company's Operations:</b>			
<p>Located in New Brunswick, Firm A6, a small-sized manufacturing firm that was started 1985 as a family business. Firm A6 has two major product lines. Product 1 category consists of electric heating equipment designed and manufactured for usage on residential properties. The product line is standardized; however, based on client's specifications; the product can be customized to address various needs. Product 2 category consists of electric heating equipment designed and manufactured for usage on commercial properties. This product category comes in different shapes and sizes with enormous customization request from clients. Resource allocation decisions are made by the President, in conjunction with his father, who is the owner and Chairman of the company. Data was collected and analyzed on this firm's positions in category 1 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with low expectation of returns). The key to the success of this firm is the fact that they have been able to master a unique product.</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 7. Firm A7

<b>Firm's Demographics</b>			
Code Name:	Firm A7	Location:	Manitoba
Year Established:	1964	Employees:	20
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods: Direct Export by shipping			
Primary Industry (NAICS):	333519 - Other Metalworking Machinery Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	10%
US Market:		US Sales:	0%
Foreign Markets:	Uruguay, Venezuela, Bolivarian Republic of, Algeria, Argentina, Australia, China, Bangladesh, Brazil, Chile, Colombia, Denmark, Ecuador, Finland, France, Germany, Greece, Hong Kong, Iceland, India, Indonesia, Iran, Islamic Republic of Ireland, Italy, Japan, Korea, Republic of Malaysia, Mexico, Morocco, New Zealand, Norway, Oman, Pakistan, Peru, Poland, Russian Federation, Saudi Arabia, Spain, Sweden, Switzerland, Taiwan, Thailand, United Arab Emirates, and the United Kingdom	Foreign Sales:	90%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the General Manager at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the GM		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm A7 is a small-sized manufacturing firm which started in Manitoba in 1964. The firm is in the business of manufacturing industrial machines and exports most of its products to foreign countries. Firm A7 started exporting their products in the 1970s, they have grown over the years majorly by referrals. They have been able to export to 38 countries. Ninety per cent of their products are shipped out of Canada because the market in Canada is too small for them. The key to Firm A7's success is their intellectual property, knowledge and their dedicated employees. Resource allocation decisions lies with the GM who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 8. Firm A8

<b>Firm's Demographics</b>			
Code Name:	Firm A8	Location:	Quebec
Year Established:	1983	Employees:	20
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export and Strategic Partnership	
Primary Industry (NAICS):	333990 - All Other General-Purpose Machinery Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	20%
US Market:	U.S	US Sales:	25%
Foreign Markets: Australia, Bahrain, Brazil, China, Greece, Mexico, Oman, Saudi Arabia, and Taiwan.		Foreign Sales:	55%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with CEO at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by CEO		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website 3. Product Brochure	
<b>Description of Company's Operations:</b>			
<p>Established in 1983, Firm A8 is a small private company located in Quebec, Canada. This firm manufactures various aluminum products, as well as engages in general purpose machinery. Demands from the local industries grew so much that Firm A8 had to broaden its activities, specializing in the aluminum industry. A comprehensive range of equipment and unsurpassed reliability and efficiency are the main factors that contribute to Firm A8's success. Firm A8's versatile team is constantly alert to new information and emerging technologies, this helps them to respond effectively to the changing demands of the market and to provide total satisfaction to customers. Firm A8 is renowned for its expertise in designing high performance and up to date machines. This firm manages projects of all sizes including design, foundations, manufacturing, installation, start-ups, testing and operations. Resource allocation decisions are made by the CEO who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions in category 4 of the risk-return trade-off matrix developed in this research (that is, risk-loving with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 9. Firm B1

<b>Firm's Demographics</b>			
Code Name:	Firm B1	Location:	Alberta
Year Established:	1987	Employees:	22
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	333310 - Commercial and Service Industry Machinery Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	10%
US Market:	Alabama, Alaska, Arizona, and Arkansa.	US Sales:	30%
Foreign Markets: Australia, Cuba, United Kingdom		Foreign Sales:	60%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the President at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B1 was initially established by the current owner's father in 1947, but was inherited by the current owner in 1987. This firm is privately owned small business producing commercial and service industry machines for preparing food. Firm B1's products are unique because they are safe and easy to operate, virtually odorless, they have a low operating cost and a low start-up cost. With a goal of total customer satisfaction, the firm's commitment to their customers is reinforced by exclusive sales and support distributors across North America and a few foreign markets. Firm B1 has become a leading supplier to the Commercial and Service Industry because of their innovative and simple-to-operate products. Firm B1 has continued to build on its leadership in technology and reputation for quality. Resource allocation decisions are made by the president who is responsible for running the day-to-day affairs of the company. Data was collected and analyzed on the firm's positions it in category 3 of the risk-return trade-off matrix developed in this research (that is, risk-loving with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 10. Firm B2

<b>Firm's Demographics</b>			
Code Name:	Firm B2	Location:	Ontario
Year Established:	1988	Employees:	24
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	333511 - Industrial Mold Manufacturing	Number of Product Categories	5
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	15%
US Market:	Alabama, Alaska Arkansas, California Colorado, and Florida	US Sales:	65%
<u>Foreign Market:</u> Cuba, Brazil, France, Germany		Foreign Sales:	20%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with General Manager at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by GM		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B2 is a private company established in 1988 as a small business and specializes in Industrial equipment manufacturing. Firm B2's greatest strength is in their dedication to personalized service and their ability to consistently meet critical lead times. This firm recognizes that to be a leader within their industry, they must focus on and remain committed to, continually improving innovation and customer satisfaction. The employees are motivated and driven to exceed customer expectations and they work tirelessly to provide whatever is required to make their customers happy. The firm's unwavering commitment to exceptional quality is what really sets them apart. Resource allocation decisions lies with the GM who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's position in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 11. Firm B3

<b>Firm's Demographics</b>			
Code Name:	Firm B3	Location:	Saskatchewan
Year Established:	1987	Employees:	25
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export	
Primary Industry (NAICS):	315990 - Clothing Accessories and Other Clothing Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	75%
US Market:	California, Colorado, Connecticut Florida, and Idaho	US Sales:	15%
Foreign Markets: Australia, Austria, Finland, Japan, New Zealand, Norway, Slovakia, Sweden, and Switzerland.		Foreign Sales:	10%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the President at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B3 is in the business of manufacturing various clothing and clothing accessories. With their cutting edge technology the firm has been able to introduce and modify new styles of clothing very quickly and efficiently. As a custom manufacturer, the firm strives to create their customers' visions. With the use of new innovative fabrics, creative designs, and the latest production technology the firm is one of the premier clothing accessories and other clothing manufacturers in North America. As demand for their products grew they started focusing and expanding their line of products until their corporate business became their only priority. Resource allocation decisions are made by the president, who runs the day-to-day affairs of the firm. Data collected and analyzed on this firm positions it in category 1 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with low expectation of returns). Over the years, firm B3 has refined their production process to a point where they manufacture hundreds of styles of their clothing on a custom basis. The key to Firm B3's success is their ability to customize to their client's requirements.</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 12. Firm B4

<b>Firm's Demographics</b>			
Code Name:	Firm B4	Location:	Quebec
Year Established:	1978	Employees:	25
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping, rail and truck	
Primary Industry (NAICS):	339999, All Other Misc Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	25%
US Market:	Arkansas, Iowa, Ohio, West Virginia, Georgia, and North Carolina.	US Sales:	25%
Foreign Markets: Germany		Foreign Sales:	50%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with General Manager at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by GM		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B4 started in 1978 as a small-sized distribution company helping other companies to distribute their products. However, in the early 1980s, the firm started its own manufacturing and specializes in manufacturing various types of metal and electronic devices. The existing distribution network within North America helps the firm in marketing and selling their own products since they started manufacturing. If any of their customer's requirements exceed their capabilities they can draw from their many extensive resources. Firm B4 is confident that they are capable of delivering their products, which will satisfy their customer's expectations in every way. They commit their resources to providing prompt deliveries of consistently high quality products at a competitive price. Resource allocation decisions are made by the general manager who is responsible for running the day-to-day affairs of the company. Data was collected and analyzed on the firm's positions it in category 3 of the risk-return trade-off matrix developed in this research (that is, risk-loving with high expectation of returns).</p>			



## Appendix H –Summary of Case Firms (cont'd)

### 13. Firm B5

<b>Firm's Demographics</b>			
Code Name:	Firm B5	Location:	British Columbia
Year Established:	1986	Employees:	25
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	333299 - All Other Industrial Machinery Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	50%
US Market:	Alabama, Colorado, Florida, Georgia, Idaho, and Kentucky	US Sales:	35%
Foreign Markets: Australia, Belgium, Brazil, Bulgaria, Chile, Czech Republic, Denmark, Finland, France, Germany, Ireland, Japan, Latvia, Luxembourg, Netherlands, New Zealand, Norway, Poland, Romania, Thailand, and Turkey		Foreign Sales:	15%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with President/Owner at the company premises 3. Questionnaire completed by Owner		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B5 was established in 1986 as a small-sized family business in British Columbia. The firm is in the business of manufacturing various types of industrial machines. Their products are manufactured for the benefit of oil companies worldwide. Over the years firm B5 has remained the undisputed leader through innovations and product upgrades. Their systems can also be modified or customized to suit the needs of their clients. Their systems have stood the test of time, especially in operations that demand round-the-clock production. Their products are able to maintain their strength and homogeneity in the physical properties. Their large inventory enables them to ship most standard parts or components within one business day. Resource allocation decisions lies with the President who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 14. Firm B6

<b>Firm's Demographics</b>			
Code Name:	Firm B6	Location:	Ontario
Year Established:	1987	Employees:	25
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	332510- Hardware Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	40%
US Market:	U.S	US Sales:	40%
Foreign Markets: Russia and Norway		Foreign Sales:	20%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with President at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by the President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B6 has been established since 1987, servicing a wide client list, and generating a variety of hardware products. Firm B6 is a manufacturer of hardware products. The firm has been successfully active in providing custom and specialty products that are engineered and tooled for particular customer requirements. They have the ability to take a product design from concept to production and they also recommend changes to the product that not only make it more economical to manufacture, but also improves the design quality of the end product. They operate on four basic priorities: health and safety, care of equipment, product quality, and productivity. Firm B6 is a completely self-sustained operation; they own their own facilities and also operate various departments. They also own assembly capabilities on-site in order to be flexible with unique customer requirements. Their principle focus is on small parts, generated in high volumes. Resource allocation decisions lie with the president who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-averse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 15. Firm B7

<b>Firm's Demographics</b>			
Code Name:	Firm B7	Location:	Ontario
Year Established:	1965	Employees:	30
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	327910 - Abrasive Product Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	35%
US Market:	California, Florida, Georgia, Illinois, Maine, and Massachusetts.	US Sales:	25%
Foreign Market: Jordan, Columbia, Mexico, China, Europe		Foreign Sales:	40%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the President at the company premises 2. Follow-up telephone interview		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>A family owned Canadian business, Firm B7 has been manufacturing abrasive products for over 37 years. Their abrasive products are used around the world and in industries such as the metalworking industry, saw sharpening industry, the automotive industry, the aerospace industry, and the stone and composite industries, which use it to cut, grind and shape some of today's most demanding materials. Their success lies in their ability to listen to what their customer needs are, and then design and manufacture the right product for those requirements. Over 75% of what they manufacture is a custom designed product made specifically to their client's needs. Their objective for the future is to enhance their product lines, develop new products, and meet the challenges presented by their customers. Resource allocation decisions are made by the president who is responsible for the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (*cont'd*)

### 16. Firm B8

<b>Firm's Demographics</b>			
Code Name:	Firm B8	Location:	Ontario
Year Established:	1973	Employees:	35
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	314990 - All Other Textile Product Mills	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	60%
US Market:	California, Florida, Hawaii, and Illinois.	US Sales:	30%
Foreign Markets: Australia, Japan, New Zealand		Foreign Sales:	10%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the Company's Treasurer at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by the Treasurer		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Founded in 1973, firm B8 is a manufacturer of various textile products. The firm has been operating for a variety of industries throughout North America for nearly 40 years. This firm used to be one of the biggest textile products manufacturers, in the 1970s. However, due to stiff foreign competition and influx of textile products from other countries, the performance of this firm has been terribly affected. Over the years they have succeeded by remaining highly responsive to their customers, providing consistent quality and being innovative in their product lines. Other factors that contribute to their sustenance include focus on customer satisfaction, being able to provide niche products and having a lot of expertise in the manufacturing area and sales area. Their textile products are strong and tough and are ideal for a range of applications. Resource allocation decisions lie with the treasurer, who is also the chief operating officer, and is responsible for the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 17. Firm B9

<b>Firm's Demographics</b>			
Code Name:	Firm B9	Location:	Newfoundland
Year Established:	1972	Employees:	35
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	333920 – Material Equipment Manufacturing	Number of Product Categories	4
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	55%
US Market:	Alaska, California, Indiana	US Sales:	15%
Foreign Markets: Saudi Arabia, Aberdeen, Ecuador, Scotland, Greenland, Venezuela, Cuba		Foreign Sales:	30%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with CEO/Owner at the Company premises 2. Follow-up telephone interview		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Established in 1972, Firm B9 is a material equipment manufacturer located in Newfoundland, Canada. Their modern facilities are equipped with Laser Cutting Machines and various computerized machines. Firm B9 has a qualified design and production team consisting of engineering and drafting staff, quality assurance managers, welders, machinists, laser operators, and administrative staff. They are committed to achieving customer satisfaction by delivering quality products that exceed their client's expectation. Their focus on continually improving their methods and processes is their means of achieving operational excellence and continuing customer trust. Resource allocation decisions are made by the owner who is responsible for the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-averse with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 18. Firm B10

<b>Firm's Demographics</b>			
Code Name:	Firm B10	Location:	British Columbia
Year Established:	1973	Employees:	55
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping and Manufacturer Representatives	
Primary Industry (NAICS):	339950 - Sign Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	40%
US Market:	U.S	US Sales:	30%
Foreign Markets: Algeria, Argentina, Australia, Bahamas, Barbados, Bermuda, Brazil, Cayman Islands, Cuba, Dominican Republic, France, Guam, Haiti, Hong Kong, Italy, Jamaica, Japan, Mexico, Netherlands Antilles, Panama, Puerto Rico, Russian Federation, Singapore, Taiwan, Trinidad and Tobago, Turks and Caicos Islands, and the United Kingdom		Foreign Sales:	30%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the President at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Located in the Northwest of British Columbia (BC), Canada, Firm B10 is a small-sized sign manufacturing company established in 1973 with only one employee. The firm started exporting to foreign markets in 1976. In the early days of the firm, the owner went from one client location to the other, manufacturing his products in his apartment and installing them himself on client sites. The business began to grow through referrals from existing satisfied clients to new customers. The Entrepreneur succeeded in fulfilling customers' orders by getting materials and parts on a 90-day credit from the suppliers and maintained a good credit by ensuring to turn around the credit facility and pay back within 90 days. Resource allocation decisions are made by the president who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 4 of the risk-return trade-off matrix developed in this research (that is, risk-loving with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 19. Firm B11

<b>Firm's Demographics</b>			
Code Name:	Firm B11	Location:	New Brunswick
Year Established:	1979	Employees:	60
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	326198 - All Other Plastic Product Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	15%
US Market:	U.S	US Sales:	25%
<u>Foreign Markets:</u> Algeria, Argentina, Australia, Bahamas, Bahrain, Barbados, Belgium, Bermuda, Brazil, Cameroon, Cayman Islands, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Haiti, Hong Kong, Iran, Islamic Republic of, Jamaica, Japan, Luxembourg, Mauritania, Mexico, Netherlands, Netherlands Antilles, New Zealand, Venezuela, and Republic of Bolivar		Foreign Sales:	60%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the General Manager at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the GM		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Established in 1979, Firm B11 is a leading global plastics manufacturer. Firm B11 manufactures a wide range of plastic products for packaging, chemicals, and pharmaceuticals, medical, automotive, heavy machinery, and electronic industries. Firm B11 incorporates many innovative production methods as part of their growth strategy. The firm is active in almost all leading plastic production methods. Resource allocation decisions are made by the General Manager who runs the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions in category 4 of the risk-return trade-off matrix developed in this research (that is, risk-loving with low expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 20. Firm B12

<b>Firm's Demographics</b>			
Code Name:	Firm B12	Location:	Manitoba
Year Established:	1986	Employees:	65
Industry	Manufacturing	SME Category	Small Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	332619 - Other Fabricated Wire Product Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	40%
US Market:	Connecticut, Michigan, Minnesota, New Jersey, and New York.	US Sales:	30%
Foreign Markets: Brazil, Germany, Italy		Foreign Sales:	30%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with the CEO at the company premises 2. Follow-up telephone interview 3. Questionnaire completed by the President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm B12 is a privately owned Canadian manufacturing company founded in 1986. This company is in the business of manufacturing various fabricated wire products. Firm B12 owns computerized equipment as well as classic hand operated machinery, enabling them to produce everything from prototypes to medium runs. They are able to produce and manufacture unique wire products to their customer's satisfaction. The company operates from four facilities totaling over 50,000 square feet of space. These facilities produce custom fabricated steel products. For over 10 years they have also been providing in-house custom powder coating of steel parts. Resource allocation decisions are made by the CEO who is responsible for the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			



## Appendix H –Summary of Case Firms (cont'd)

### 21. Firm C1

<b>Firm's Demographics</b>			
Code Name:	Firm C1	Location:	Alberta
Year Established:	1947	Employees:	175
Industry	Manufacturing	SME Category	Medium-sized Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	336410 - Aerospace Product and Parts Manufacturing	Number of Product Categories	2
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	30%
US Market:	U.S	US Sales:	30%
Foreign Markets: Australia, Belgium, Denmark, Iceland, Japan, Netherlands, Norway, Sweden, United Kingdom		Foreign Sales:	40%
<b>Data Collection:</b>			
<u>Primary Data Source:</u> 1. Face-to-face interview with Production Manager at the company premises in Calgary, Alberta 2. Face-to-face interview with the President at the company's manufacturing plant in Toronto, Ontario. 3. Questionnaire completed by President		<u>Secondary Data Source:</u> 1. Canadian Capabilities Company (CCC) Database 2. Company's website 3. Internal companies document on products and resources	
<b>Description of Company's Operations:</b>			
<p>Established in 1947, Firm C1 has been a world leader in the design, engineering, integration and delivery of systems for specialized roles. Firm C1 is located in Alberta, Canada, with manufacturing plants in Toronto and Calgary. And their world-renowned engineering team designs, analyzes, tests and certifies, with excellence gained from decades of experience. Firm C1's capabilities extend to a wide range of low, medium and high-speed products. Resource allocation decisions are made by the Production Managers in charge of the Calgary and Toronto manufacturing plants for their respective plants, while the President who oversees the day-to-day affairs of the company is responsible for allocating resources for marketing and administrative tasks. Data was collected and analyzed on the firm's positions it in category 3 of the risk-return trade-off matrix developed in this research (that is, risk-loving with high expectation of returns).</p>			

## Appendix H –Summary of Case Firms (cont'd)

### 22. Firm C2

<b>Firm's Demographics</b>			
Code Name:	Firm C2	Location:	Ontario
Year Established:	1996	Employees:	200
Industry	Manufacturing	SME Category	Medium-sized Firm
Internationalization Methods:		Direct Export by shipping	
Primary Industry (NAICS):	332420 - Metal Tank (Heavy Gauge) Manufacturing	Number of Product Categories	3
<b>Market Definition and Proportion of Annual Sales Revenue:</b>			
Domestic Market:	Canada	Domestic Sales:	65%
US Market:	U.S	US Sales:	33%
Foreign Markets:		Foreign Sales:	2%
<b>Data Collection:</b>			
<b>Primary Data Source:</b> 1. Face-to-face interview with CEO at the Company premises 2. Follow-up telephone interview 3. Questionnaire completed by CEO		<b>Secondary Data Source:</b> 1. Canadian Capabilities Company (CCC) Database 2. Company's website	
<b>Description of Company's Operations:</b>			
<p>Firm C2 is a medium-sized manufacturing company based in Ontario, Canada. The firm is a leading company in the fabricated structural product manufacturing industry, with the biggest market share in Ontario for one of their product lines. The firm started out as a portable welding company established by an 18-year-old farm boy who wanted to do something different other than farming. It remained a family business until the mid-1960s when it was passed on to another owner. The firm was incorporated in Canada in 1972 and was later sold in 1988 to a public company, who was then on the Toronto Stock Exchange. The current CEO, an entrepreneur who has keen interest in leverage buy-outs of companies that are in trouble and turning them around, bought Firm C2 through a leverage buy-out in 1996. Resource allocation decisions are made by the CEO and his management team, who are responsible for the day-to-day affairs of the firm. Data was collected and analyzed on the firm's positions it in category 2 of the risk-return trade-off matrix developed in this research (that is, risk-adverse with high expectation of returns).</p>			